Teaching One in the Presence of Many: A Design-Based Research Study on Developing a Multilingual Instructional Sequence in a Foreign Language Classroom in India

A dissertation

SUBMITTED TO THE FACULTY OF THE UNIVERSITY OF MINNESOTA

BY

Anuradha Gopalakrishnan

IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE DEGREE OF

DOCTOR OF PHILOSOPHY

Diane J. Tedick, PhD

June 2021
NOTE OF THANKS

Several people have been instrumental in the planning, conducting and completion of this dissertation. I would like to go beyond merely acknowledging their direct and indirect contributions to expressing my sincere gratitude in accomplishing this arduous task.

My academic family at the University of Minnesota have lent their unrelenting support through these last six years. My most heartfelt thanks are to Prof. Diane Tedick, my advisor. Dee, from the day I met you over seven years ago, I have always learned something new from you that makes me a better researcher, teacher, colleague and student. Our conversations have pushed me to question what I know and nudged me to think and do better. I am very grateful to you for being supportive through all the turbulent times I have had in my personal life. Your door was always open to me to listen to my personal problems. But I am most thankful to you for not letting my personal challenges affect the quality of my research work. I complete this dissertation knowing fully well that this is its best version, simply because you said so.

My sincere thanks to my committee members Prof. Elaine Tarone, Prof. Martha Bigelow and Prof. Sam David. Elaine, thank you for guiding me through any hurdles or hiccups I had during this long journey with your expert knowledge, kind advice and keen insights. Martha, thank you for the high expectations you set for me and your guidance in helping me achieve them. Sam, thank you for being such a perceptive scholar, pointing me in the right direction when I needed help.
My friends at the University of Minnesota have accompanied me as partners in this doctoral journey – Cory Mathieu, Caleb Zilmer, Leah Shepard-Carey, Amanda Swearingen, Maria Schwedhelm. Many thanks to Cory and Caleb for reading drafts, answering questions, thinking through complex data along with me. Special thanks to Cory for being an awesome partner in helping me navigate motherhood, grad student life and the pandemic.

Herzlichen Dank an allen Kollegen und Teilnehmern am GLI. Ich bedanke mich besonders bei Herrn Balaji, Herrn Naveen und Tara dafür, mir ihr Vertrauen geschenkt zu haben. Ihre andauernde Unterstützung und Beratung haben mir dabei geholfen, diese Doktorarbeit erfolgreich abzuschließen. Ich bedanke mich bei dem Kollegium am GLI für die Gasthoflichkeit und für all die Diskussionen und Debaten. Ich möchte schließlich den StudentInnen für Ihre Zeit und Geduld danken.
DEDICATION

To everyone struggling through the COVID pandemic that started in 2020!

To everyone facing challenges, small or large, personal or professional, mental or physical, near or far!

Together, we will get through this.
ABSTRACT

Multilingual instruction takes many shapes and forms depending on the affordances and limitations of the context in which it is implemented. Because multilingual instruction is often context-specific, it has to be designed in collaboration with local stakeholders and developed through multiple implementations in the context. While the field of foreign language education is inundated with research on multilingual pedagogies, very few studies elaborate the process of how multilingual instruction in a certain context is developed. This dissertation study sheds light on the evolution of a multilingual instructional sequence that was created through a practitioner-researcher collaborative initiative at a German as foreign language school for adult learners in India.

The dissertation traces the development of a multilingual instructional sequence which a research team consisting of local teachers, administrators and I designed together. Following a Design-Based Research methodology (McKenney & Reeves, 2013), the instructional sequence during which German grammatical features were taught was implemented three times in a beginner-level classroom. Following every iteration, data gathered from three vantage points namely learners’ perspectives, teachers’ perspectives and learners’ language performance served as feedback on the instructional sequence. Based on these data the research team redesigned the sequence. In this paper I detail the evolution of the multilingual instructional sequence through these three iterations and how feedback from various stakeholders informed the refinement of the sequence at every iteration.
A retrospective analysis (Gravemeijer & Cobb, 2006) of data from each of the three vantage points yielded useful insights into the interrelatedness of contextual features, learning processes and the learners themselves. Qualitative analysis of teachers’ perspectives suggested that they developed a deep understanding of the multidirectional connections between contextual internal processes and contextual external processes. Tracer analysis (Bismack, Arias, Davis, & Palincsar, 2015) of learners’ perspectives revealed that most of them perceived multilingual instruction to be advantageous to learning the target language. Finally, obligatory occasional analysis (Ellis & Barkhuizen, 2005) of learners’ language showed that their performance of the target grammatical features was more accurate in form-focused activities than in meaning-focused activities and that their performance varied depending on interlocutor and task.

At the end of the three iterations a quasi-experimental study was conducted analyzing the effect of multilingual instruction on learners’ metalinguistic awareness. Participants in control and experimental groups were given a translation activity, which they performed in pairs. Data from learners’ interactions during the translation activity and the stimulated recall session that followed were qualitatively analyzed to find out the number of times and the purposes for which participants mobilized their prior language knowledge. Findings show that while both groups leveraged their prior language knowledge, the number of times participants in the experimental group did so was greater. Experimental group participants also recognized cognates, false cognates and misinterpreted cognates more often than the control group. These findings suggest
that learners who received multilingual instruction demonstrated greater cognate awareness than those who did not.

Findings from this study further our understanding of the theory and practice of multilingual instruction. Findings from the quasi-experimental study add to the field’s knowledge of the connections between the metalinguistic awareness of learners and multilingual instruction. The design principles discussed at the end of the dissertation and the processual focus of the study itself are intended to serve as a blueprint and offer support in developing similar instructional sequences and/or activities in other contexts.
# TABLE OF CONTENTS

NOTE OF THANKS .................................................. I

DEDICATION ......................................................... IV

ABSTRACT .......................................................... V

LIST OF TABLES ................................................... XIII

LIST OF FIGURES .................................................. XIV

CHAPTER 1: INTRODUCTION ..................................... 1

1.1 Multilingual Pedagogies in Foreign Language Instruction .... 1

1.2 Linguistic Diversity in India .................................. 4

1.3 Foreign Language Learning in India .......................... 7

1.4 Theoretical Framework ....................................... 10

1.5 Research Objectives ......................................... 12

1.6 Significance of Study ........................................ 13

1.7 Terminology .................................................. 14

1.8 Overview of Dissertation .................................... 15

CHAPTER 2: THEORETICAL FRAMEWORK AND LITERATURE REVIEW ... 19

2.1 Multilingual Pedagogies .................................... 19

2.1.1 Complex Dynamic Systems Theory ......................... 20

2.1.2 Theory of Affordances .................................. 22

2.2 Multilingual Language Learning ........................... 26

2.2.1 Crosslinguistic interactions ............................... 26

2.2.2 Language learning process as variable and non-linear ... 27

2.2.3 Prior language knowledge plays a key role in TL learning 28

2.2.4 Metalinguistic awareness ................................ 29

2.2.5 Awareness of prior language knowledge .................. 31

2.3 Multilingual Pedagogies ................................... 32

2.3.1 Teachers’ Perspectives on Multilingual Pedagogies .... 32

2.3.1.1 Synthesis and Reflections ............................. 35

2.3.2 Learners’ Perspectives on Multilingual Pedagogies .... 37
CHAPTER 4: FINDINGS FROM DBR ANALYSIS AND DISCUSSION

4.1 Part I: Retrospective Analysis Related to Research Questions
4.1.1 RQ1: Findings
4.1.2 Discussion
4.1.2 RQ 2: Findings
4.1.2.1 Leveraging Linguistic Variety
4.1.2.2 Activating Latent Multilingual Awareness
4.1.2.3 Learner and Teacher Roles
4.1.2.4 “Let’s keep it simple”: Language of Interaction
4.1.2.5 Emphasis on Collaborative Learning
4.1.2.6 Discussion
4.1.3 RQ 3: Findings
4.1.3.1 Comprehension of Grammatical Feature
4.1.3.2 Leveraging Known Languages as a Learning Strategy
4.1.3.3 Comprehension through Discussion
4.1.4 RQ 4: Findings
4.1.4.1 Approach to Multilingual Learning
4.1.4.2 Learner and Teacher Roles
4.1.4.3 Emphasis on Collaborative Learning
4.1.5 Discussion

4.2 Part II: Evolution of the Multilingual Instructional Sequence
4.2.1 First Iteration: Design, Implementation and Assessment
4.2.1.1 Feedback from Ms. Tara
4.2.1.2 Learners’ Perspectives
4.2.1.3 Learners’ Performance
4.2.2 Second Iteration: (Re)Design, Implementation and Assessment
4.2.2.1 Feedback from Ms. Tara
4.2.2.2 Learners’ Perspectives
4.2.2.3 Learners’ Performance
4.2.3 Third Iteration: (Re)Design, Implementation and Assessment
4.2.3.1 Feedback from Ms. Tara
4.2.3.2 Learners’ Perspectives
4.2.3.3 Learners’ Performance
4.2.4 Discussion

4.3 Chapter Summary

CHAPTER 5: FINDINGS FROM QUASI-EXPERIMENTAL STUDY AND DISCUSSION

5.1 Overview of Findings
5.2 Multilingual Processing Instances
5.3 Lexical Processing
APPENDIX F: WRITING ACTIVITY AFTER SECOND ITERATION 255

APPENDIX H: FORM-FOCUSED ACTIVITY AFTER THIRD ITERATION: NOMINATIVE AND ACCUSATIVE PRONOUNS 258

APPENDIX I: WRITING ACTIVITY AFTER THIRD ITERATION 260

APPENDIX J: TEXT FOR TRANSLATION ACTIVITY 261
LIST OF TABLES

Table 1.1 Research Questions .................................................................12
Table 3.1 Focal Student Prototypes and Characteristics ..............................81
Table 3.2 Focal Participants in the Quasi-Experimental Study ......................82
Table 3.3 Ellis’ Categorization of Explicit Form-Focused Instruction .............90
Table 3.4 Weekly Research and Instructional Activities in Phase Three ..........102
Table 3.5 Activities for Learner Language Data .........................................107
Table 3.6 Definite and Indefinite Articles in German, Tamil, and English .......112
Table 3.7 Possessive Pronouns in German, Tamil and English ....................113
Table 3.8 Nominative Pronouns in German, Tamil, and English ..................115
Table 3.9 Accusative Pronouns in German, Tamil, and English ...................115
Table 3.10 Instructions for Learners’ Reflection Journals ............................118
Table 4.1 Average Accuracy of Focal Participants by Week ......................130
Table 5.1 Summary of Findings from Quasi-Experimental Study ................186
Table 5.2 German-English and German-Tamil cognates ............................192
LIST OF FIGURES

Figure 3.1 First Languages of Students ................................................................. 77
Figure 3.2 Languages in Students’ Linguistic Repertoires............................................ 77
Figure 3.3 Aronin and Singleton’s Affordances-generating Frame of Reference ........ 97
Figure 4.1 Learners’ Accuracy Performance after First Iteration ............................. 128
Figure 4.2 Learners’ Accuracy Performance after Second Iteration ......................... 129
Figure 4.3 Learners’ Accuracy Performance after Third Iteration ......................... 130
Figure 4.4 Themes and Codes from Qualitative Analysis ........................................ 135
Figure 4.5 Evolution of Multilingual Instructional Sequence using Feedback Loop ................................................................. 164
Figure 4.6 Instructional Sequence at First Iteration ............................................... 165
Figure 4.7 Changes to Instructional Sequence from First to Second Iteration .......... 171
Figure 4.8 Changes to Instructional Sequence from First to Third Iteration ...... 177
CHAPTER 1: INTRODUCTION

It is a well-known fact that the human mind looks to what it knows in order to learn the unknown. It utilizes the existent knowledge gathered through various experiences to perceive, process, and assimilate new information (Dochy, 1994; Roschelle, 2007). Language learning happens in a similar fashion. While learning a new language, the mind mobilizes information garnered from knowing and using other language(s). Language learners often seek to utilize their prior language knowledge to aid them in learning a new language (Ringbom, 2007). Over the last few decades, the “multilingual turn” (May, 2014) in applied linguistics has shifted the field’s focus to identifying and developing new instructional approaches that mobilize learners’ prior language knowledge in different ways. These instructional approaches differ in their conceptualization and implementation, as multilingual instruction factors in the characteristics of the specific context for which it has been designed. Careful customization of multilingual pedagogies is required to yield best results in a localized context.

1.1 Multilingual Pedagogies in Foreign Language Instruction

Foreign language instruction poses unique challenges in implementing multilingual pedagogies. Foreign language teachers often aim at maintaining a monolingual ethos in their classrooms (Kelly, 2015). The geographical distance between local languages and the target language (TL) and the consequent limited exposure learners have to the TL in their immediate environment make it important for them to have maximal TL input and output during instruction. The pedagogical perspective of maximizing TL exposure and use in foreign language
classes has also been supported by several researchers (Cook, 2001; Krashen, 1985; Lyster & Sato, 2013; Swain, 1985; Turnbull, 2001), who argue that such an approach can have a positive effect on learners’ proficiency. In addition, a foreign language teacher is tasked with the responsibility of familiarizing the student with the target culture. Finally, the motivation and need of learners in a foreign language classroom can mean that they are looking for quick functional knowledge of the TL. These are but some of the many reasons why teachers hesitate to allow other languages during TL instruction. Yet, it is difficult, unnatural, and even futile to ask learners for whom multilingualism is the norm not to draw on their multifarious linguistic, cultural, and learning resources in TL learning (Ringbom, 2007). This challenge of prioritizing the TL and culture over the multilingual norm can be daunting to teachers (De Angelis, 2011; Gopalakrishnan, 2020; Haukás, 2016).

Multilingual pedagogies aim at raising learners’ awareness of their own linguistic resources, prior language knowledge, and language learning strategies, and utilize these in learning the TL (Haukás, 2016; Otwinowska, 2017). However, finding the balance between achieving the learning outcomes while acknowledging the multilingual contextual reality is a challenge that many researchers and practitioners face head on and constantly strive to overcome. A common approach to allowing the use of learners’ known languages in the classroom is one described by Macaro (2001, 2009) as the ‘optimal position.’ The optimal position asserts that pedagogical principles surrounding the use of L1 can be developed in the classroom for the purpose of enhancing TL learning. In other
words, the use of other languages during TL instruction has to be purposeful, optimal, and carefully designed (Butzkamm & Caldwell, 2009; Levine, 2011; Macaro, 2001; Swain & Lapkin, 2013). Such an approach might offer a happy compromise between maximizing TL input and output, and heeding the multilingual characteristic of the context and the learner. There are very few empirical studies that explore the optimal position in instruction (for e.g., Brunen & Kelly, 2016; Butzkamm & Caldwell, 2009; Levine, 2011). This dissertation study adds to this growing body of literature in developing multilingual instructional activities that leverage learners’ multilingual knowledge while adopting an optimal position in allowing their known languages during instruction.

Context is one of the important factors that dictates the kind of pedagogy that is implemented in a classroom (Tudor, 2001; Ushioda, 2015). Every context poses unique affordances, limitations, strengths, and opportunities. Any form of multilingual pedagogy would have to carefully consider these contextual traits. This would mean that there is a special focus on designing multilingual instructional activities through close collaboration with stakeholders who understand the context well. Current literature in the field of multilingual education tends to focus more on the outcomes, with less attention being paid to providing details on how the instruction was developed. Such details on the design could help other teachers develop similar multilingual instruction that is fitting to their own context. In the current study, I describe how a multilingual instructional sequence was developed through an empirical, iterative process.
1.2 Linguistic Diversity in India

The Indian subcontinent exemplifies a linguistically superdiverse society, where multilingualism defines existence in these countries. India especially is home to several regional languages, each individually and combined with multiple dialects, pidgins, and creoles, yield a total of a few hundred language variations in the country. The country currently recognizes twenty-three official languages. According to the census data from 2011, there are an additional ninety-nine other languages that do not have official status as established by the Constitution (Census, 2011). There are two hundred and seventy languages identified as mother tongues with 10,000 or more speakers, and many more languages have been identified as mother tongues with fewer than 10,000 speakers (Census, 2011). According to the Summer Institute of Languages International diversity rankings, India scores 0.914 on the Linguistic Diversity Index, which refers to the probability of two speakers having different mother tongues (SIL International). A high Index score is indicative of higher linguistic diversity. The Linguistic Diversity Index of UNESCO also shows India to be extremely diverse with a score of 0.930 (UNESCO, 2009).

It is essential to understand the nature and functions of multilingualism in India, which differs from the multilingualism that exists in many Western nations. I grew up in a small town in Southern India with Tamil, the regional language, as my L1. Some of my earliest childhood memories include travelling to different states where different languages were spoken, interacting with neighbors who spoke a variation of Tamil, schoolmates from neighboring states with different
L1s, and learning three languages simultaneously at school. This meant that I was always surrounded by more than one language. Mohanty (2018) describes this experience as “accepting many languages as a fact of life and as integral aspects of a total communicative experience in which languages remain woven and merged into a totality” (p. 12). I also never treated languages as discrete units and understood them to always coexist in my surroundings. Naming languages was required “more for organizing the world of experiences than for acts of communication” (Mohanty, 2018, p.12).

Linguistic diversity in India pervades everyday life. Multilingualism in India is not developed or fostered merely in schools or educational institutions, but is a key characteristic of the social fabric of the country. Annamalai (2001) explains that

Indian multilingualism is motivated and sustained by the primary and secondary socialization processes at home and at the workplace; only a quarter of the multilingualism is contributed by formal learning in schools, and it is of the elite kind. It is bounded by the speaker’s needs of earning and living and he acquires enough language for specific purposes. (p. 36).

This quote illustrates the kind of functional multilingualism that can be found among Indians. Socialization into multilingual practices starts early at home. It is “sustained through a complementary relationship between languages and their smooth functional allocation into different domains of use, such as home, in-group and inter-group communication, marketplace transactions, religious rites,
formal communication, entertainment, media and so on” (Mohanty, 2018, p. 23). Multilingualism develops throughout one’s life based on existential needs, educational, and professional requirements, and to serve recreational purposes such as travel and tourism. India’s multilingualism is thus not only about the statistical data on the number of languages; it is also about the dynamic relationship between the languages and their users and the functional nature it serves in every domain in society.

In addition to this grassroots level multilingualism, learning different languages is encouraged through educational and language policies in India. The Three Language Formula, for example, is an educational policy that mandates that all schools teach Hindi, English, and a third language of their choice. However, research has found that the policy is implemented differently across the country (Hornberger & Vaish, 2009). Schools and states tend to make local decisions about which three languages are taught. The choice is often between English, Hindi, the regional language, and Sanskrit. In recent times, foreign languages such as French and German are also being offered at schools, widening the choice for students. Furthermore, the new National Educational Policy of 2020 promotes mother-tongue based education. It suggests that all instruction from Kindergarten through Grade 6 is conducted in learners’ mother tongues or the respective state language. Such top-down policies at the national level also ensure the development and use of many languages in the country.

As in any culture, a hierarchical order dictates the way in which the many languages in India are perceived. Mohanty (2018) explains that the linguistic
hierarchy among the languages in India exists in two tiers, or as he calls it the ‘Double Divide.’ As a postcolonial nation, it is unsurprising that English finds itself at the top of the order. English is the most privileged language in the country, associated with better employment opportunities and upward social mobility. Consequently, English-medium education flourishes in India and is always sought after by one and all. Following English are the major regional languages such as Tamil, Bengali, Telugu, Marathi, Punjabi, and so on. These languages are part of formal education and are spoken widely in their respective states. At the bottom of the hierarchical triangle are indigenous, tribal, and minority languages such as Kond, Santali, Ho, Sidi, and so on. These languages are spoken in small, often insular communities. They do not form part of the mainstream educational system, nor are they present in the society at large in any form. The dominance of English and the major regional languages have sadly led to heavy loss of the languages in the lowest tier (Mohanty, 2018). The power gap between the different layers of languages is actualized in various sectors of the society, affording and withholding opportunities to those who use them. The languages and their users thus coexist in constant negotiation, resistance, readjustment, and evolution, resulting in an ever-changing linguistic landscape.

1.3 Foreign Language Learning in India

Recently foreign languages such as French, German, Spanish, Japanese, and Chinese have been forming part of the linguistic diversity in India. Over the last three decades, there has been an exponential increase in the number of multinational companies in India, driven by new dynamics in business, new forms
of media connectivity resulting in new definitions of interpersonal relationships across borders. The 1990s witnessed a rise in employment opportunities in the service sector of banking, information technology, tourism, and call-centers. At the center of this economic growth and expansion was language, which was assigned new symbolic power in the twenty-first century (Heller & Dûchene, 2012). Growing international and cross-continental collaborations have established a market requirement for skilled language users to communicate with clients and colleagues. This need for proficient foreign language speakers has led to foreign language centers burgeoning across the country. Foreign languages such as French and German are also being offered at school, competing with regional and classical Indian languages such as Hindi and Sanskrit.

German certainly ranks high in the list of languages that Indians seek to learn. Indo-Germanic relations can be traced back to the 18th century, when German scholars travelled to India to learn the Indian classical language, Sanskrit. But the recent boom in international trade and business has led to a renewed interest in learning the language. A simple Google search for the number of educational institutions that offer German language classes would show that public and private schools, colleges, and universities offer them in large numbers. German language learning is sought for various reasons. First, German companies such as Bosch, Deutsche Bank, Bayer, BMW, Volkswagen, Carl Zeiss, and several others have many branches in India. Indians already employed in these companies need to communicate with colleagues in Germany, and sometimes clients in German speaking companies. Indians seeking employment in such
companies certainly present a more attractive application when they can
demonstrate German language skills. Second, every year numerous Indian
students apply to German universities to pursue higher studies. In the year 2019
alone, 25,149 Indian students were enrolled in various postgraduate programs in
Germany (Deustcher Akademischer Austauschdient, 2019). All German
universities mandate that incoming students demonstrate German knowledge at
least at the A1 level of the Common European Framework of Reference (CEFR)
for Languages (Council of Europe, 2001). Third, Indians who seek permanent
residence in Germany form a large group of those who wish to learn the language.
This number is not insignificant, given that many Indians relocate to German-
speaking countries to join their partners or simply wish to find new homes in
these countries. The above mentioned and other motivations drive several Indians
to enroll themselves in German language courses.

When students enter the German language classroom with such precise
goals, both they and the teachers are driven to learn as much about the target
culture and become as proficient in the language as possible. In addition, learners
have limited time to learn the language and often have to demonstrate their
language skills under high stress situations such as examinations or job
interviews. For these reasons, teachers strive to maximize learners’ exposure to
German during the time they spend in class, providing them with as much TL
input as possible and creating as many opportunities as possible for TL output. In
the midst of their single-minded learning and instruction, it is impossible for
teachers to ignore the unmistakably evident multilingual characteristic of the
learners present in the classroom. This trait of the learner that is inextricable from the person has to somehow be reconciled with the goal of learning German. In other words, the goal of learning one language has to be achieved in the heavy presence of several languages both in the learner’s minds and in the classroom as a whole. The best way to address this conundrum, in my opinion, would be to view the languages known to students as resources, as linguistic assets, and mobilize this knowledge to learn German. This is the theoretical and practical stance that I take in this study.

The interest to learn new foreign languages, especially German, has been increasing exponentially in India. Yet, the whole foreign language learning scenario in India remains untouched. An extensive review of the literature yielded no empirical studies that have explored how foreign languages are learnt, or why, or what materials are used, what challenges learners and teachers face, and so on. This study aims at pulling the curtain back on foreign language education in India, specifically on instruction, by tackling the challenge of teaching in this linguistically superdiverse context.

1.4 Theoretical Framework

Two holistic theories of multilingualism undergird this study – the Dynamic Model of Multilingualism (Herdina & Jessner, 2002; Jessner, 2008) and the Theory of Affordances (Singleton & Aronin, 2012). The Dynamic Model of Multilingualism (DMM) conceptualizes multilingual language development to be a holistic, dynamic, and non-linear process. The individual’s mind consists of various language systems that are interconnected and exert a great deal of
influence on one another. Change in any one of these systems or their subsystems leads to change in the entire language base. DMM proposes that multilingual awareness is an emergent property in the multilingual system. The two components of multilingual awareness are metalinguistic awareness and crosslinguistic awareness (Jessner, 2018). DMM defines metalinguistic awareness as “the ability to focus attention on language as an object in itself or to think abstractly about language, and consequently, to play with or manipulate language” (Jessner, 2006, p. 42). Crosslinguistic awareness is the declarative knowledge of different languages held at the explicit level of metacognition (James, 1996) and the “awareness of the relationships between languages” (Jessner et al., 2016, p. 160). Together, multilingual awareness has been described as a key factor in multilingual use and development.

The Theory of Affordances in multilingualism views the various languages in a learner’s linguistic repertoire as ‘affordances’ or tools that aid TL learning (Aronin & Singleton, 2007; Singleton & Aronin, 2012). Using many languages can afford an individual benefits in the form of linguistic knowledge, language learning strategies, and metacognition. However, the learner can realize these benefits only when he is made aware of his prior language knowledge. In other words, a learner has to perceive and activate his own multilinguality for it to serve as an affordance. This is where language instruction plays a key role. The role of the instructor is to help learners activate their prior knowledge of languages, perceive them as a resource, and utilize these resources in learning the TL (Otwinowska, 2017).
1.5 Research Objectives

The primary aim of this dissertation study was to design a multilingual instructional sequence in a foreign language classroom in a linguistically diverse context. This instructional sequence draws on learners’ prior language knowledge and helps them use this knowledge in learning the TL, German. Feedback gathered from three different sources – teachers’ perspectives, learners’ perspectives and learners’ language performance – informed the design of the multilingual instructional sequence. The first three research questions presented in Table 1.1 below guided the collection and analysis of feedback from each of these sources. A secondary objective of this study was to test the effect of such instruction on learners’ metalinguistic awareness. The fourth research question guided the quasi-experimental study that was conducted to achieve this objective.

Table 1.1

Research Questions

1. How accurately do foreign language learners use the chosen grammatical features during and post multilingual instruction?
2. What social, cultural, and linguistic considerations do foreign language teachers have in leveraging learners’ prior language knowledge in TL instruction?
3. What advantages and disadvantages do foreign language learners see in leveraging their prior language knowledge in learning German?
4. How does multilingual instruction impact the metalinguistic awareness of adult foreign language learners?
1.6 Significance of Study

Foreign language learning in multilingual contexts is best described as the teaching of one language in the heavy presence of several languages. This unique situation requires developing specific instructional approaches that would not only acknowledge the existing languages, but also leverage them. The current dissertation study aims at fulfilling this need for empirically designed and implemented instructional activities in a linguistically diverse foreign language classroom. The study describes the evolution of the instructional sequence through three iterations and explores the effects of multilingual instruction on the metalinguistic awareness of learners. The study adopts a design-based research methodology, which is a cyclical process of designing interventions to resolve local instructional challenges. These interventions are then implemented iteratively, assessed in the local context, and refined responsively (Brown, 2002; Collins, 2002; McKenney & Reeves, 2013; Reinking & Bradley, 2008). As is typical of any design-based research project, the contributions of this study are both theoretical and practical. Theoretically, this study adds to the field’s knowledge on how learners’ linguistic repertoires can be leveraged during TL instruction. It builds on prior research in exploring what impact multilingual instruction has on the metalinguistic awareness of language learners. The study also furthers our understanding of the multidirectional connections between language instruction and linguistic, social, and cultural factors within a context.

Through its detailed report of the design process the study adds to the practical knowledge in the field of multilingual pedagogies in foreign language
education. First, the project offers a blueprint for systematically developing context-specific multilingual instruction in foreign language classrooms through a researcher-practitioner collaboration. Second, the instructional sequence describes instructional activities through which learners’ prior language knowledge can be activated and their multilingual awareness can be raised.

The study is also significant to the local site at which it was conducted. In addition to adding to their repertoire of multilingual instructional activities, the project offers teachers at the research site an augmented understanding of how the use of learners’ known languages can be carefully and purposefully allowed during TL instruction.

1.7 Terminology

A constant debate in the field of multilingual education has been the question of how to denote each language in a learner’s/user’s linguistic repertoire. Commonly, we see the terms ‘first language’/‘L1’, ‘second language’/‘L2’ and so on to refer to the languages a multilingual uses. These terms, however, are problematic because they either signal primacy of one language over others or seem to refer to the order in which the languages were learnt (Dewaele, 2018; Hall & Cook, 2012). In a country like India where many languages are learnt and used concurrently, these terms might not apply. Even if there were examples where an individual perceives one language to be more important another, this importance constantly changes depending on social circumstances, domain of interaction, and purpose of use (Mohanty, 2018). Other terms have been proposed to refer to the languages in a multilingual’s repertoire. ‘Own language’ was a term
proposed by Hall and Cook (2012). I find the use of this term problematic because learners might know languages that they do not consider their own, but still know or use them. In other words, learners might perceive a language to be ‘foreign’ to them, maintaining an imaginary distance to it, but still might be proficient in it. The term ‘other language use’ has also been used (Anderson & Lightfoot, 2018; Chimirala, 2017). However, the use of the word ‘other’ assumes that there is an ‘own’ language. This would not apply to users who considered all languages they know as their own. 

In this dissertation I use the term “known languages.” This term refers to all languages a user knows, without assigning primacy to any one of them. Nor does it indicate that the languages were learnt in any specific order. It also circumvents the issue of whether learners consider a language to be their own or not. It simply refers to all languages that a multilingual might know, whether they use them or not.

1.8 Overview of Dissertation

This dissertation consists of six chapters. In this introductory chapter I have outlined the need for developing multilingual pedagogies in foreign language education. I have described in detail the kind of multilingualism that exists in India, the country where the study was conducted. This study aims at developing a multilingual instructional sequence in such a context through a practitioner-researcher collaborative project. I have also briefly explained the theoretical frameworks that undergird this study. This chapter also mentions the ways in which this study will contribute to the theoretical knowledge of the field
of multilingual education and to the practical knowledge of designing and implementing instructional activities both locally and in other contexts.

Chapter 2 serves two purposes. In the first half of the chapter, I delve into detail about the two main theoretical frameworks that inform this study – the Dynamic Model of Multilingualism (Herdina & Jessner, 2002; Jessner, 2008) and Theory of Affordances in multilingualism (Singleton & Aronin, 2012). I first summarize the basic tenets of these two theories and then present the overarching conceptualizations across the theories regarding multilingual language learning. In the second half of the chapter, I review literature on multilingual pedagogies. This section aims at understanding the perspectives of teachers and learners on multilingual pedagogies separately. I also examine studies to summarize what we currently know about the effects of multilingual instruction on language learning.

I conclude the chapter by bringing together all the findings from the literature review and how these will inform the design of a multilingual instructional sequence.

Chapter 3 begins by describing the design-based research methodology that was adopted in this study. I describe in detail the research site where the study was conducted, providing information about the research participants and the beginner-level course in which the instructional sequence was implemented. This is followed by a clear description of the instructional and research activities that were conducted throughout this course. I then explain how data were collected for each research question and how data were analyzed. Throughout this chapter I also reflect on how my own relationships with the teachers,
administrators, and students at the research site were intertwined with this research process, and how I was positioned at various stages of the study.

Chapter 4 presents the findings related to the first three research questions. These findings are presented together because of the nature in which the study was designed. The three questions and the corresponding findings were used to inform the design and refinement of the instructional sequence. The first half of the chapter presents the findings of each of the three questions separately, once the data were analyzed after the study ended. In the second half, I elaborate how the same findings from the three questions were analyzed periodically during the study and were triangulated to determine what changes would be made to the sequence design.

In Chapter 5 I describe the effects this study had on the metalinguistic awareness of the learners in the project, examined through a quasi-experimental study. The chapter presents both numerical data and excerpts from learner interactions to explain the findings from this study.

In Chapter 6, I synthesize the findings from the previous two chapters and review what insights the study has offered into implementing multilingual pedagogies. I explain the practical contributions made to the field of foreign language education by listing the design principles derived from the study in developing multilingual instruction. I also connect key findings to describe what theoretical contributions the study makes to further our understanding of how learners’ known languages can be leveraged in instruction, and on the effects of
such instruction on their metalinguistic awareness. I end the chapter with recommendations for further directions in research.
CHAPTER 2: THEORETICAL FRAMEWORK AND LITERATURE REVIEW

Multilingual pedagogies draw from multiple theoretical frameworks in their conception and implementation. In this section, I first explain the theories that undergird multilingual pedagogies, followed by how these theoretical frameworks shed light on multilingual language learning and on multilingual instructional practices. Finally, I critically review recent research on multilingual pedagogies in foreign language instruction from different parts of the world. In doing so, I identify gaps in the field and explain how the current study addresses some of them.

2.1 Multilingual Pedagogies

Multilingual pedagogies can be defined as an instructional approach that draws on a learner’s existing linguistic knowledge and learning experiences in target language (TL) instruction. The cumulative knowledge and skills that multilingual learners gain through the learning and use of multiple languages offer them unique advantages while learning a new language. While learners might not be able to draw on their existing language knowledge on their own, teachers can play a key role in helping them reflect on and become aware of their linguistic assets (Otwinowska, 2017). Learners’ linguistic knowledge, skills, language learning experiences, and self-developed learning strategies can all be activated during instruction and applied to learning a new language. But such an instructional approach requires a view of language learning and language use that is different from the monolingual outlook that dominated the field of foreign language.
learning for many years. More recent theoretical frameworks that view language learning as a holistic function undergird multilingual pedagogies. The next section discusses two such theoretical approaches.

2.1.1 Complex Dynamic Systems Theory

Over the last two decades Dynamic Systems Theory has offered researchers a new model in understanding language development. It has been acclaimed as a promising framework in bringing together sociolinguistic and psycholinguistic perspectives in studying second language acquisition (SLA) (Franceschini, 2011). Drawing from various strands such as complexity theory, chaos theory, dynamic systems theory and emergentism, this model has been adopted by language researchers in studying individual and multiple elements in SLA (e.g., de Bot, Lowie & Verspoor, 2007; Dörnyei, 2009; Herdina & Jessner, 2002; Larsen-Freeman, 1997). Taken together, the individual SLA theories drawing from dynamic systems theory are commonly addressed as ‘Complex Dynamic Systems Theory’ (CDST) (Dörnyei, 2014). A complex and dynamic system is defined as one that “(a) has at least two or more elements that are (b) interlinked with each other but which also (c) change independently over time” (Dörnyei, 2014, p. 81). These basic characteristics of a dynamic system are applicable to language development. Language development entails several elements such as linguistic features, pragmatic awareness, phonological training, and so on. These elements are interlinked and change independently over time in response to internal and external conditions. Thus, language development can be conceptualized as a dynamic process and language itself as a complex system.
As mentioned earlier, several SLA researchers have drawn from CDST to study language development. I turn specifically to the Dynamic Model of Multilingualism (Herdina & Jessner, 2002; Jessner, 2008) as this expounds cognitive processing and language development in multilinguals. The Dynamic Model of Multilingualism (DMM) characterizes multilingual language development as non-linear, reversible, interdependent, stable, complex, and diachronic. Holism is the primary assumption of DMM. The internal language system is made up of several parts or sub-systems (such as lexical features, grammatical structures, and so on), and the idea of holism is that the whole of these sub-systems is more than the sum of them. These sub-systems do not exist as a unitary language system, as claimed by some advocates of translanguaging (Otheguy, García, & Reid, 2015; 2018), but rather as co-existing in an overlapping manner.

DMM strongly distinguishes between SLA and third/fourth language acquisition or acquisition of any subsequent languages. The monolingual learner (in SLA) has only his first language to draw on, but the multilingual learner benefits from the knowledge of two or more known languages. Existing language systems in the learner’s mind can be developed or developing. However, the presence of such systems poses certain advantages to the multilingual language learner, such as “language learning skills, language management skills and language maintenance skills” (Herdina & Jessner, 2002, p. 129), which might be lacking or minimal in monolinguals. Furthermore, multilinguals also possess what DMM calls the ‘Multilingual factor’ or the ‘M-factor’, which refers to “all those
qualities that develop in a multilingual speaker/learner due to the increase in language contact(s)” (Jessner, 2008, p. 275). This M-factor comprising phenomena such as crosslinguistic interaction, crosslinguistic awareness, metalinguistic awareness, and so on can contribute to accelerated learning in multilinguals.

In DMM, the motivation driving a learner in developing and maintaining a language is determined psychologically and sociologically. The speaker agentically decides which language to learn, which language deserves more effort, or why another language is not necessary. Such decisions are made depending on one’s perceived communicative needs (Jessner, 2008). Differences in perceived communicative needs of language users, among others, explain linguistic variation in multilinguals. DMM draws from psycholinguistic and variationist studies in positing that intrapersonal and interpersonal variations characterize the developmental trajectories of individual language learners (Herdina & Jessner, 2002). Diachronic changes in such trajectories are unique, however large group trends can offer holistic views (Larsen-Freeman, 2006).

2.1.2 Theory of Affordances

Affordances as a conceptualization and theory originated from the works of Gibson (1979) with reference to his works in physics, optics, anatomy, and the physiology of the eye. The term ‘affordance’, one coined by Gibson himself, refers to the opportunities for action that an environment offers to an animal. Dewaele (2010) asserts that “these affordances exist independently from the individual who may be incapable of recognizing them, but they exist in relation to
that individual and are dependent on that individual’s capabilities” (p. 106). In other words, affordances latent in the environment could offer possibilities in aiding the learning process, whether learners recognize them or not. Segalowitz (2001), who is credited with applying the theory of affordances to language learning argues that “a language (…) like any other physical environment posses[es] affordances” (p. 15). For a multilingual language learner, the vast linguistic repertoires, prior language knowledge, and language learning strategies can all serve as affordances in learning the TL.

Aronin and Singleton (2012) explain in great detail the leitmotifs of Gibson’s discussion of affordances and how these apply to multilingual language learning and teaching. The first leitmotif explains that “information about the self accompanies information about the environment, the two being inseparable” (p. 315). This element of affordances is related to the work surrounding linguistic and metalinguistic awareness. Metalinguistic awareness enables a learner to turn one’s attention to the functions of a language, but simultaneously also to one’s own thinking about a language. This explicit thinking about the language reveals information about self and the environment, eventually making the thinking of the two inseparable. Second, “affordances are furnished according to the size of the animal” (Aronin & Singleton, 2012, p. 315). Language affordances are often specific to the learner, the social conditions in which a language is learnt, and to the TL itself. The affordances that are available to one group of learners might not be the same as to another. Even in situations when the affordances available to two groups are similar, the perceived typological distance between the languages
known to a learner and the TL can further increase the perceivability of affordances (Dewaele, 2010). Third, Gibson (1979) speaks of the mutuality of the animal and the environment. The language user, the environment, and the language itself are often intertwined in their existence and growth. They mutually influence one another, and because of this are constantly in flux. The language learner’s motivation, identity, social integration, social movement, and so on are all shaped by language use and by the milieu in which it is used. The fourth and final element in discussing affordances is that of nesting (Aronin & Singleton, 2012). Nesting refers to the notion that smaller units are embedded in larger units. This can allude to an array of language features and functions from patterns of communication existing within groups of people, to linguistic features identifiable within one language system, but also across many language systems. Nesting offers a useful insight into understanding how language learning and use can be multilayered and multidirectional.

Affordances have been categorized as social language affordances and individual language affordances (Aronin & Singleton, 2012). Language affordances offered by a particular community that might determine the use and development of a certain language are referred to as social language affordances. These are specific to the community, its actors, and to the time in which the language learning occurs. Individual language affordances are those language-related experiences, characteristics and abilities unique to an individual. These aid an individual in learning or using a language.
In understanding affordances, it is essential to note that these can prove to be advantageous to language learners only when the learner is able to perceive them. In elaborating on this point, Gibson (1979) explains that the central question is not whether affordances are real, but “whether the information is available in ambient arrays for perceiving them” (p. 140). While the multilinguality or “the multilingual state of learners” (Singleton & Aronin, 2007, p. 84) can be a common feature among many learners in the world, it might not prove to be an affordance if the learner does not perceive it. The connection between perception or noticing and intake in language acquisition has already been expounded by the noticing hypothesis (Schmidt, 1990; 2010). This hypothesis states that input becomes intake only when learners notice it. The theory of affordances also states that the extent to which learners’ multilinguality can serve as an affordance will depend on “their perception of the qualities of a new language and the amount of cross-linguistic and intralinguistic knowledge that they could mobilize when learning this new language” (Dewaele, 2010, p. 106). Language instruction can be designed in such a way that these individual learner characteristics become real language learning affordances (Aronin & Singleton, 2007; Dewaele, 2010; Otwinowska, 2016).

The two theoretical frameworks explained above have been the basis of much research and study in the field of multilingual pedagogies. New understandings of how language learning functions have been acquired through these theoretical outlooks. I now turn to the theoretical conceptions of
multilingual language learning as understood under the framework of these two theories.

2.2 Multilingual Language Learning

While the two theories discussed above differ in their origins and applications, some common features regarding the conceptualization of multilingual language learning can be identified. These are explained below.

2.2.1 Crosslinguistic interactions

The holistic perspective of the dynamic language system acknowledges crosslinguistic interaction between the linguistic features present. Crosslinguistic interaction is used as an umbrella term to refer to all transfer phenomena between two or more language systems, including transfer, interference, code-switching, and borrowing (Herdina & Jessner, 2002). Crosslinguistic interactions in a multilingual’s mind offer one possible explanation as to why learners often use words or grammatical structures from a different language while learning a new one. This understanding reframes the use of non-TL words during TL use as a natural occurrence rather than a deficit, an error, or a drawback. Crosslinguistic interaction encompasses “another set of phenomena known as non-predictable dynamic effects which determine the development of the systems themselves and are particularly observable in multilingualism” (Herdina & Jessner, 2002, p. 29). The presence of multiple languages and language systems influence one another in unpredictable ways. Such influences increase with every language added to the individual’s linguistic repertoire. Like the Cumulative Enhancement Model (Flynn, Foley & Vinnitskaya, 2004), DMM also rejects the primacy of the
L1, positing that crosslinguistic influences can be multidirectional with the L3 influencing the L2 or the L1, the L2 influencing both the L1 and the L3, and so on. James (1996) argues that such crosslinguistic interactions can be stimulated in the learner’s mind during instruction through careful planning. Instructional approaches such as contrastive analysis, which can trigger crosslinguistic interaction, can be implemented in a purposeful manner to help learners understand TL features.

2.2.2 Language learning process as variable and non-linear

Several theoretical perspectives point out that language learning does not follow the same pattern in all learners. A host of individual and social factors can determine the course of language learning in every individual. Personal factors include L2 motivation, agency, language aptitude, language learning strategies, perception of TL norms (Tarone, 2014), and so on. The perceived communication needs of a learner shape language learning (Jessner, 2008). Social factors that impact how language is learnt can be categorized into several layers of influence, as explained by the ecological framework for understanding language learning (Douglas Fir Group, 2016). Larsen-Freeman (2006) explains that “individual developmental paths, each with all its variation, may be quite different from one another, even though in a ‘grand sweep’ view these developmental paths are quite similar” (p. 615). The language learning process does not proceed in a linear, uninterrupted fashion toward the TL. Dynamic theories of language learning posit that the process is non-linear, characterized by alternating periods of growth and attrition (Herdina & Jessner, 2002). Language learning, being a social,
emotional, and cognitive process (Douglas Fir Group, 2016), can be interrupted, accelerated, or slowed down by various internal and external factors. In reality, a curve or a line depicting language growth is rarely smooth and unidirectional. Individual learning curves of students are expected to be characterized by ups and downs, reflecting different degrees of language development at different points of time. Such intraindividual variations are considered to be part of the non-linear learning process.

### 2.2.3 Prior language knowledge plays a key role in TL learning

The role of prior language knowledge in learning a new language comes from studies that examine crosslinguistic interactions or influences in third language acquisition. Studies by Hammerberg (2001), Cenoz (2003), Ringbom (2007), Jessner (2006), Flynn, Foley, and Vinnitskya (2004), Aronin and Hufeisen (2009), those published in Cabrelli Amaro, Flynn, and Rothman (2012), and many others have produced considerable evidence to show that previously known languages play various roles in learning a third language. For example, Hammerberg (2001) found that L1 played an instrumental role and L2 played a supplier role while learning L3. The participant’s L1, English, provided language for metalinguistic comments, appeals of assistance, and self-repairs. The L1 was instrumental in performing functional language switches, but not in the actual production of L3. But the L2, German, supplied material for lexical construction in the L3.
Flynn et al. (2004) found that the L1 does not play a privileged role in learning a third language, but a typologically closer L2 can play a greater role in aiding L3 learning. Ringbom’s study (2007) also found that less typological distance between a known language and L3 can facilitate crosslinguistic transfers. A common thread running across all these studies is its view of languages known to the learner as an affordance or a learning possibility. These findings have been carried forward to the field of multilingual pedagogies, where researchers have explored ways in which known languages can serve as a resource in TL learning. The common language curriculum (Daryai-Hansen et al., 2015; Hufeisen, 2011), the EuroCom project (http://www.eurocomprehension.eu), holistic approach to multilingual education (Cenoz & Gorter, 2011), and the Dynamic Plurilingual Approach (García & Sylvan, 2011) are some of the approaches that leverage learners’ prior language knowledge in TL instruction. Such knowledge cannot, however, be automatically transferred during language learning. Many scholars have pointed out that prior language knowledge has to be activated in order to be beneficial in language learning (de Angelis, 2007; Jessner, 2008; Scott, 2016). Raising learners’ metalinguistic awareness can facilitate the transfer of prior language knowledge (Hofer & Jessner, 2016; Jessner, 2008).

2.2.4 Metalinguistic awareness

While metalinguistic awareness (MLA) has been defined in many ways, a definition from the field of neurolinguistics sheds light on the how multilinguals process language learning as they learn a new language. Friesen and Bialystok’s (2012) definition of MLA focuses on an individual’s ability to pay attention to the
explicit properties of language. Jessner (2006) builds on Bialystok’s definition and explains that language itself becomes an object of analysis. For Jessner, MLA includes the learner’s ability to separate linguistic form from its function, and the ability to objectively analyze linguistic structures in the abstract form. In this conceptualization of MLA, Jessner and Bialystok emphasize the objectification of language and the analysis of linguistic structures in the abstract form.

In her extended research on multilingual language learning, Jessner (2008) found evidence that multilinguals possess not only MLA, but also crosslinguistic awareness. She distinguishes the two in the following manner:

Crosslinguistic awareness in L3 production can be defined as the awareness (tacit and explicit) of the interaction between the languages in a multilingual’s mind; metalinguistic awareness adds to this by making objectification possible. (p.279)

In essence, crosslinguistic instructional practices foreground the universality of linguistic concepts. All languages are made of similar functional concepts that are expressed through unique linguistic forms. If we can bring learners’ attention to the similarities and differences in how the linguistic features are used to express these universal functional concepts, this can facilitate TL intake (James, 1996).

Like MLA, multilingual learners possess tacit crosslinguistic awareness (Jessner, 2006) that can become a tool for learning the TL.

Research in the field of multilingual pedagogies has identified MLA to be both a tool for TL learning and a result of crosslinguistic instruction.

Multilinguals are understood to have a higher level of MLA than monolinguals or
bilinguals (Cenoz, 2003; Otwinowska, 2016). However, this can lie passive in language learners (Jessner, 1999). Multilingual instructional practices aim at activating learners’ metalinguistic knowledge in order to understand linguistic structures in the TL (Otwinowska, 2017).

2.2.5 Awareness of prior language knowledge

For prior language knowledge and learners’ MLA to serve as a tool or an affordance in learning, it needs to be perceived by the language learner. By definition, Gibson (1979) explains affordance to be a perceived opportunity. The perception of learners’ linguistic knowledge is linked closely to the notion of awareness. All learners do not capitalize on their individual affordances in a similar manner. Learners who are aware of the individual and social affordances available to them tend to make use of them and benefit from them during language learning (Dewaele, 2010; Otwinowska, 2016). This benefit of awareness and perception in language learning is further supported by the noticing hypothesis (Schmidt, 1990; 2012). Integrating awareness-raising activities multilingual instruction might help learners notice their own prior language knowledge and leverage it as a learning tool. The task of the language teacher is then to design instructional activities that aid learners in first identifying what their linguistic assets are, then in utilizing these to learn the new language through crosslinguistic comparisons and metalinguistic thinking. Singleton and Aronin (2007) point out that multilinguals “are already using the linguistic affordances available to them by cross-consulting among their languages (…), and by seeking to draw on all their linguistic resources in the class situation” (p. 90). This latent
characteristic of the multilingual learner then makes it easier for the teacher to raise learners’ awareness during instruction and convert their linguistic knowledge into an affordance.

2.3 Multilingual Pedagogies

The field of foreign language instruction has recently started examining the potential challenges, benefits, and impact of multilingual pedagogies on TL learning. While this strand of research is still in its nascent stage, a review of extant empirical studies will aid the design and implementation of multilingual instructional practices. In this section I discuss what the field knows currently about the perspectives of language teachers on multilingual pedagogies, those of language learners, and what effects such instructional practices have on language learning.

2.3.1 Teachers’ Perspectives on Multilingual Pedagogies

Studies from the field of teacher cognition have examined teachers’ perspectives on multilingual pedagogies. Teacher cognition refers to teachers’ knowledge, beliefs, attitudes, and thinking, how these are developed and solidified, and how they influence instruction in the classroom (Borg, 2015). Initial research at the intersection of teacher cognition and multilingual pedagogies shows that teachers have mixed perspectives on utilizing learners’ entire linguistic repertoire in foreign language classrooms. A very prominent study conducted by Haukås (2016) explored the perspectives of twelve foreign language teachers in Norway. Through a focus group discussion with teachers of French, German, and Spanish, Haukås found that most of them believed
multilingualism to be an asset. They also incorporated the two languages that were common to all students present in the classroom – Norwegian and English – while teaching the TL. Teachers in this study believed in the advantages of learner multilingualism and incorporated learners’ home languages in their instruction.

The findings of the Haukås study stand in contrast to another important study conducted by De Angelis (2011) where teachers did not include learners’ home languages in their instruction. De Angelis surveyed 176 secondary level foreign language and subject teachers in Italy, Austria, and Great Britain. The study explored what teachers’ beliefs were on the role of learners’ prior language knowledge and how useful this knowledge can be in learning a new language. Findings revealed that even though teachers believed that multilingualism could be a benefit, they did not believe that it could yield better school results. They also did not incorporate learners’ languages in their instruction.

More recently, Illman and Pietilä (2018) examined both students’ and teachers’ perspectives on learners’ multilingualism and its potential benefits in learning English. More relevant to the current literature review, the study explored how English as foreign language teachers in Finland utilized the home languages of their multilingual, immigrant students during instruction. The study surveyed 38 teachers through an online questionnaire. The findings showed that teachers valued their students’ multilingualism. But most English language teaching occurred through Finnish, the students’ second language. Teachers did not incorporate learners’ home languages, as they did not know these languages. The most prominent multilingual instructional practices seemed to be
“comparison of languages (notably English and the students’ L1s) to find differences and similarities, raising awareness of different ways to express ideas and to see the world, and engaging students in presentations and other activities involving their own languages and cultures” (p. 244).

While the above studies were conducted with foreign language teachers, two other studies have uncovered important findings in the field of minority language instruction and immersion education. Egaña et al. (2015) examined the beliefs of minority language teachers in Basque and in Friesland. Through in-depth interviews the authors found that teachers’ beliefs on the benefits of their learners’ entire linguistic repertoire and its integration in TL instruction varied among Basque and Frisian teachers. Basque teachers kept languages separate in their classrooms but wished they could allow for more crosslinguistic use and language mixing in instruction. Frisian teachers, on the other hand, were more flexible about allowing students to code-switch and translate during lessons. But they believed that languages should be kept separate in order to encourage the use of Frisian. Thus, the study found disparities in both the beliefs and implementational practices across the two contexts, even though the status of Basque and Frisian are similar in the two countries.

A study by McPake et al. (2017) stands out in the list of studies on teachers’ perspectives on multilingual pedagogies. While the previous studies explored what teachers thought about multilingual pedagogies and whether they included them in their instruction, this study introduced translanguaging pedagogy (Baker, 2011; Cenoz & Gorter, 2011) to immersion teachers of Gaelic, an
endangered minority language in Scotland. Following a seminar on translanguaging pedagogy, the study looked at what teachers thought about incorporating these pedagogical ideas in their instruction. Knowing what it means to draw on learners’ linguistic knowledge and how to do so makes teachers’ perspectives in this study more credible and its findings more noteworthy. The findings from the focus group discussions and interviews revealed that while teachers acknowledged that English was used often in their immersion classes, they believed that translanguaging seemed ‘counterintuitive’ and ‘counterproductive’ to both the principles of immersion and to the teaching of a minority language in a predominantly English-speaking country. However, teachers also acknowledged that it would be unreasonable to ignore learners’ English language knowledge. They believed translanguaging might be beneficial in improving content understanding, but only after students have gained sufficient knowledge of Gaelic, and only through careful planning.

2.3.1.1 Synthesis and Reflections

To summarize, research on teachers’ perspectives on multilingual pedagogies has shown that while teachers consider multilingualism to be an asset, they do not typically include learners’ home languages in TL instruction. Even though many of the above studies are grounded in theories of teacher cognition, reasons for the lack of inclusion of known languages seem to go beyond teachers’ beliefs. Some other reasons cited are the lack of materials (Haukås, 2016; McPake et al., 2017) and the lack of pedagogical know-how (McPake et al., 2017). Even among teachers who did include students’ known languages, only the
languages common to everyone in the classroom were drawn on. In the case of immigrant students, their first languages, if unknown to the teacher, were not included in TL instruction.

A review of the studies described above shows that more research is needed on what teachers believe about integrating learners’ known languages in their classroom. In addition, most of the research in this domain comes from European countries. More research is needed from other parts of the world. Secondly, in these studies teachers’ current beliefs on incorporating multilingual pedagogies and/or their instructional status quo with respect to multilingual pedagogies were examined. In other words, while expressing their perspectives, the participants in these studies relied solely on their own experiences. It seems that they were unaware of all the research available on multilingual pedagogies, its challenges and benefits, and how it might be implemented. It is possible that some teachers in these studies had received training in multilingual pedagogies. But such information is not provided in the studies. More studies like that of McPake et al. (2017) are needed, where teachers are introduced to multilingual pedagogies, before finding out what their perspectives are. An even better method would be to introduce teachers to these instructional approaches, allow them to try them out for a period of time, and then gather their perspectives on them. Teachers’ insights into multilingual pedagogies after receiving formal introduction and after implementing them might be more meaningful.

The studies presented above have been separated based on context – studies with foreign language teachers and studies with immersion and minority
language teachers. This organization was deliberate, as the context in which the language is taught seems to present new insights to the reader. Of the three studies with foreign language teachers reported here, two of the more recent ones – Haukås (2016), and Illman and Pietilä (2018) – found that teachers drew on the common languages present in the classroom to teach the foreign language. Many of the immersion teachers in the Egaña et al. (2015) and McPake et al. (2017) seemed to express concerns about allowing the majority language enter their minority language classrooms. This difference in perspectives among foreign and minority language teachers shows that the status of the TL seems to influence the attitudes of teachers toward multilingual pedagogies. This observation is essential while considering how multilingual pedagogies are implemented, because just as teacher perspectives influence multilingual teaching practices, TL status appears to influence teachers’ perspectives. Thus, any multilingual instructional practice has to take into account the status of the TL in both the classroom and in the larger society.

2.3.2 Learners’ Perspectives on Multilingual Pedagogies

Another strand of studies has explored what language learners have expressed about multilingual pedagogies. All studies chosen in this section are from foreign language learning contexts with adult learners, as this matches the participants in my study. Unlike the studies reviewed in the previous section, in the following studies, the perspectives of language learners were gathered only after they had received multilingual instruction.
Brunen and Kelly (2016) examined the perspectives of German as a foreign language learners and Japanese as a foreign language learners at an Irish university. Students received multilingual grammar instruction for an entire semester where they compared selected grammatical features in their L1s and in the TL. Students’ views on the value of such pedagogical activities were gathered through open-ended questionnaires. The study reported that 70% of the participants found the activities to be valuable in learning the TL. Of these, 84% were first year students, and the others were second year students. This shows that beginners valued multilingual instruction more than higher-level students. Other students found multilingual instruction to be confusing which the authors attribute to individual learning beliefs and styles.

Brooks-Lewis (2009) reports on her experience teaching EFL to adult learners at a Mexican university. In her instruction, she integrated form-focused crosslinguistic comparisons and language awareness activities, and her instruction went from being entirely in Spanish to entirely in English. Students’ perspectives on including Spanish in the class and comparing it with English were collected through learning diaries and questionnaires. Learners predominantly valued “not only the inclusion, but also the incorporation” (p. 234) of Spanish, as they were able to understand what was being said and to participate. They found the use of Spanish made learning meaningful and easier, and felt that their identities, their L1, and their prior knowledge were valued. Some learners expressed skepticism in the use of another language, even though it was their first language, in a classroom where a second language was being learnt. The author does not offer...
any reasons or possible explanations for this skepticism among a small number of learners. Despite this contradictory view among some learners, the author concluded that the study found students’ response to instruction that leverages their home language to be a “resounding yes” (p. 234).

Hufeisen and Jessner (2009) implemented a multilingual curriculum at the Technical University in Darmstadt. Participants in this study were enrolled in technical courses and hailed mainly from Eastern European countries. Their first languages were mostly Czech, Slovak, and Polish. Their second language was German, and they were all EFL students learning the content in English. A multilingual curriculum was designed where the materials and input during instruction were all in the TL, English. But this was supplemented by explanations of technical concepts in their L2 German. German was also used for in-class discussions and when content was reinforced. Students’ perspectives of the use of their L2 in learning content were gathered using questionnaires and focus group discussions. All students expressed developing deeper understanding of concepts. Students also reported that the use of a known language kept them motivated to complete the program.

Translation has been (re)gaining prominence as a multilingual instructional activity in recent years. González-Davies (2017) incorporated translation activities in EFL classes with language learners whose L1 and L2 were either Spanish or Catalan. Students’ perceptions on their use of translation were gathered through pre- and post-instruction questionnaires, and students’ self-reports through diaries. In addition, the teacher maintained a diary documenting
the types of translation and how often students performed translation. Students expressed that translation helped them with the acquisition of vocabulary, and in the understanding of “problematic and culturally bound expressions” (p.133). Translation seemed to help students to develop metacognitive abilities, such as spotting problems and solving them, and to clarify concepts. Finally, it also led to more active participation in interpersonal activities and improved confidence in shy students. However, teachers also reported that weaker students tended to overuse their L1 or L2 and relied too much on translation. Even though the authors do not offer an explanation for this overreliance on translation, the findings seem to suggest that the linguistic proficiency of the learner has an influence on how much translation can aid in TL learning.

2.3.2.1 Synthesis and Reflections

On reading the studies described here, one can observe a pattern developing in the perspectives of students in the use of multilingual pedagogies while learning a foreign language. In all the studies the reaction of learners in utilizing their known languages – sometimes their L1, sometimes their L2, sometimes both – seems to be primarily positive. Learners felt that their identities, their prior language knowledge, and their home languages were valued. Many have reported that the instruction was valuable in learning the TL, helping them understand the concepts and linguistic structures better, and in developing crosslinguistic awareness. Some learners also mentioned increased motivation as a result of the instruction.
Three of the four studies also mentioned that some learners reported either being confused or skeptical about the use of other languages while learning the TL. The only study where no negative perspectives on multilingual instruction were found was by Hufeisen and Jessner (2009). However, instruction in this study aimed at teaching technical content primarily, and language instruction was secondary. The presence of confusion or skepticism among learners, albeit limited proportionally, in all the studies warrants special attention, and cannot be ignored. In the study by González-Davies (2017) this was further supported by teachers’ observation on the overuse of translation. With the exception of Brunen and Kelly (2016), none of the other authors offer any possible explanation for learners’ hesitation about using their L1 in foreign language learning. While such negative reactions could be attributed to learners’ individual learning predilections and styles, as explained by Brunen and Kelly (2016), one has to consider other possibilities here. It could be that the design of the particular multilingual instructional sequence was confusing, that too many translation activities were incorporated into the lesson, or that the use of home languages exceeded the use of TL in a particular lesson. Further research on multilingual instruction and its implementation should take into consideration how the views of all learners can be addressed.

A methodological shortcoming can also be observed in the studies described here. Three of the four studies relied exclusively on learners’ self-reports in gathering data. It is true that learners’ self-reports are a viable way to uncover their perspectives. But the authors here extend their conclusions from
merely reporting learners’ perspectives to saying that the use of L1 and other languages is “a resource in foreign language teaching” (Brooks-Lewis, 2009, p. 234), can “enhance the language learning process” (Brunen & Kelly, 2016, p. 347), and aid in better understanding of concepts (Hufeisen & Jessner, 2009). All three claims could have been buttressed by triangulating learners’ views with other data sources, such as student performance inside and/or outside the classroom, teachers’ observations, learner tasks, and tests. González-Davies (2017) offers such triangulation by juxtaposing learners’ perspectives with teachers’ observations. This approach offered a more holistic feedback on the use of multilingual pedagogies. None of the other three studies did so. Without such holistic feedback, we cannot extrapolate learners’ perspectives to be an indication of how multilingual pedagogies impact learners’ language performance or how their language learning progresses.

2.3.3 Multilingual Pedagogies and Language Learning

Research on the effects of multilingual pedagogies on language learning is fast growing. The field is replete with studies that analyze how incorporating learners’ known languages influences various aspects of language learning. It would be a monumental task to synthesize the findings from studies conducted in all language learning contexts, with students of all age groups, from all parts of the world. In order to narrow down the search most of the studies chosen here are from foreign language learning contexts. If conducted in a different context, the study offers a unique perspective or significant finding that adds value to our understanding of multilingual pedagogies. Barring a few descriptive studies, most
studies chosen here are of a quasi-experimental nature. This does not mean that
descriptive studies do not add to our knowledge and understanding of multilingual
pedagogies. But in order to make a claim that the findings resulted from the
instructional practice, studies that were quasi-experimental in nature were sought
out and synthesized. Furthermore, I believe the field of foreign language
instruction is at a stage where there is consensus that drawing on learners’ known
languages in some way or other validates their identity, capitalizes on their prior
language knowledge, increases motivation, and so on. This has been established
by many descriptive studies (e.g., Brooks-Lewis, 2009; Cummins, 2007; García &
Sylvan, 2011; Turnbull, 2018). Yet synthesized findings from quasi-experimental
studies take us a step further in understanding what we know about the efficacy of
such instructional practices and how they affect language development in foreign
language learners. This section further categorizes the review into research on
multilingual pedagogies and specific language features.

2.3.3.1 Multilingual Pedagogies and Language Proficiency

For many language teachers and researchers in the field of second
language education one of the primary questions raised is how multilingual
pedagogies impact language development. Studies that have examined the link
between using learners’ known languages in TL instruction and TL proficiency
have rendered positive results. Hofer and Jessner (2016) studied the benefits of
eyear trilingual education on the proficiency levels of all known languages
of student participants. In the test group, subjects were taught separately in two
languages – Italian (L1) and in German (L2). In addition, language in L3 English
was provided from Grade 1 onwards. Included in the English language instruction were special classes called ‘Reflessione lingua’ where activities aimed at raising the crosslinguistic awareness of learners were taught. In the control group, learners received subject matter instruction only in Italian (L1). They also received language instruction in English, but the ‘Reflessione lingua’ lessons were not included. At the end of the year all students participated in written language tests in German and English that included listening comprehension, reading comprehension, a grammaticality judgment task, and a sentence-completion test. A metalinguistic abilities test was also administered to students from both groups (this is discussed in the next section). The test group demonstrated higher proficiency levels in all three languages – Italian, German and English. In addition, positive correlations between proficiency levels in L2 and L3, and learners’ MLA were identified. The authors concluded that extensive contact with multiple languages, combined with instruction that increases crosslinguistic awareness in learners, facilitates the acquisition of additional languages.

Göbel and Vieluf’s study (2014) also makes a significant contribution to our understanding of multilingual instructional practices or “language transfer teaching practices,” (p. 184) as the authors call it. This study was conducted using data from a nationwide study on English and German language achievement of ninth graders in Germany. In addition to teaching practices, school conditions, and language transfer strategies, this study examined whether language transfer strategies or multilingual pedagogies correlated with students’ learning outcomes.
in German and English. Student learning outcomes were measured using
differentiated test instruments that assessed students’ reading comprehension,
lexis, argumentation, writing, and language awareness in German (L1) and
English (L2). Among students with L1 German, no positive correlations were
found between their L1 performances and multilingual instructional practices. But
colorations were found between the German language achievement of students
from non-German speaking learners and multilingual teaching. Positive
colorations were also identified among language transfer teaching and overall
English language achievement among all students. The authors found that “when
instruction promoting language transfer is implemented in EFL instruction
students have an advantage in terms of their English abilities” (p. 189). Even
though this study yielded only correlational findings, it is still meaningful
considering the large sample size (n = 11000 students) and effect sizes (0.8).

The two studies presented here seem to indicate that using learners’
known languages might have a positive impact on their language development in
the TL. However, the small number of studies of such a nature prevents us from
decisively linking increased TL proficiency to multilingual pedagogies.

2.3.3.2 Multilingual Pedagogies and Metalinguistic Awareness

MLA is a construct closely associated with multilingual instructional
practices. Many researchers argue that multilingual teaching subsumes MLA even
though it needs to be activated during instruction (Jessner, 1999; Otwinowska,
2017). Much research surrounding MLA and multilingual pedagogies has
involved incorporating crosslinguistic instruction in various forms in TL teaching
and examining its effect on learners’ MLA. The study by Hofer and Jessner (2016) described in the previous section followed such a research agenda, where the ‘Reflessione Lingua’ lessons were offered to students in the experimental group. These lessons included crosslinguistic discussions, activities, and exercises among learners L1 – Italian, L2 – German, and the TL – English. An MLA questionnaire was administered to students in both the control and experimental groups at the end of the year. The findings showed that the experimental group outperformed the control group. Furthermore, positive correlations were found between learners’ MLA and their language proficiency levels.

In working with adolescent EFL learners at an Austrian school, Allgäuer-Hackl (2017) conducted a ‘multilingual seminar’ that explicitly trained and developed learners’ crosslinguistic awareness. In order to test the effects of the seminar on learners’ development of MLA, learners were divided into groups and were given sentences in a language that was unknown to everyone in the group. Learners were then asked to identify grammar rules in the language given to them based on the examples and apply them to other sentences. The students who had participated in the seminar significantly outperformed those who had not. This study shows that MLA is an emergent property that, once developed, can be applied to unknown languages too.

One study cited often in connection to multilingual pedagogies and MLA is that of García and Kano (2014). This study is an exception in the list of studies included in this review. It is from an ESL context and is an exploratory study.
However, being one of most cited studies in connection with MLA and multilingual teaching, it merits review. The theoretical framework of translanguaging (Otheguy, et al., 2015; 2018) undergirds this study. This theoretical stance distinguishes itself from other holistic views of multilingualism in that translanguaging propounds that the various languages in a multilingual’s mind are totally integrated (Otheguy et al., 2015). Instructional approaches that are grounded in translanguaging, thus, do not aim to strictly separate learners’ L1s and the TL, or to adopt a limited, yet purposeful use of learners’ L1s. Other holistic views of multilingualism such as the Dynamic Model of Multilingualism (Herdina & Jessner, 2002), multicompetence (Cook, 2016), and the Integrated Model of Multilingualism (MacSwan, 2017) posit that the languages in a multilingual’s mind are interconnected, but not totally integrated. This means that the languages can be held apart during language use and in language instruction.

García and Kano’s (2014) study was conducted with bi- and multilingual high school students in the U.S. whose L1 was Japanese and L2 was English. The multilingual teaching practice therein involved using Japanese texts to analyze Japanese writing styles in the students’ L1, Japanese. Then, students analyzed English texts written by U.S. authors to better understand American writing styles. Finally, students produced written texts in English. Following the six-month long instruction, students were asked to participate in a stimulated recall. Students were shown video recordings of ‘translanguaging-enriched instruction’ and were interviewed on their perceptions of pedagogical translanguaging. Among other findings, such as decreased anxiety in
producing English texts, and a better understanding of Japanese writing styles, the study also concluded that participants demonstrated increased levels of metalinguistic and metacognitive awareness. However, the methodological approach of this study, the resultant findings, and the conclusions drawn raise some questions. First of all, stimulated recall conducted after a time delay might not reflect the true thoughts, emotions, reactions, and opinions of students (Gass & Mackey, 2016). The stimulated recall was conducted twice during the six-month instructional period, not immediately after every translanguaging lesson. Secondly, none of the evidence from the participants’ written texts or their interviews seems to explain the increase in their MLA. As explained by the authors themselves “the students’ reflections on their linguistic behavior demonstrated much metalinguistic and metacognitive awareness …” (p. 272, emphasis mine). It is not their linguistic behavior or the instructional method that led to the increased MLA, but students’ reflections on the video and their written texts during the stimulated recall. One could argue that it was the stimulated recall technique that triggered learners’ metalinguistic thinking and not the translanguaging instruction itself. Given this, questions arise as to why this study is oft cited.

Studies examining the link between MLA and multilingual pedagogies offer preliminary findings that leveraging learners’ known languages during instruction increases their MLA. Even though the studies presented here are small-scale quasi-experimental studies, the common results found among most of
them seem to indicate increased MLA when multilingual instructional practices are implemented.

2.3.3.3 Multilingual Pedagogies and Collaborative Writing

A small body of studies has examined how learners’ L1 can be utilized in collaborative writing tasks. Collaborative writing requires students to utilize their language to make decisions about vocabulary; present, accept, or refute lexical options; arrive at consensus regarding syntactic structures; and so on. Empirical studies in foreign language instruction have analyzed how learners’ L1 plays a mediating role as they engage in such cognitively demanding tasks. DiCamilla and Anton (2012) conducted an exploratory study with first- and fourth-year Spanish as a foreign language learners in the U.S. Both groups were asked to perform a collaborative writing task and were given no instruction about which language should be used during the discussion. The study examined what effect learners’ proficiency level had on the choice of language used during discussion and what functions these languages served. Close analysis of the learner data revealed that the first-year students mostly used their L1 for mediating tasks, interpersonal relations, and smoother interactions. The fourth-year students mostly used Spanish during the discussion, except for some instances when private speech was used, and for lexical searches. This study shows that at lower proficiency levels learners seem to choose their L1 to perform higher-order thinking skills.

Scott and de la Fuente (2008) explicitly examined how intermediate-level foreign language students of Spanish or French interacted during collaborative
writing tasks. The participants were divided into two groups to perform a collaborative writing task. The first group consisting of three pairs of French learners and three pairs of Spanish learners were allowed to use their L1 during discussion. The second group also consisting of three pairs of French learners and three pairs of Spanish learners were strictly instructed to use only their L2 during discussion. Both groups were given a text with specific grammatical structures highlighted. The student pairs were asked to discuss the meanings of the target structures and to produce a written rule about when the structure is used in the TL French or Spanish. The authors found that irrespective of the group that the learners were in, all students used their L1. The findings showed that the attempt to use L2 exclusively proved to be a cognitive demand on learners and hindered collaboration and metatalk. The first group, on the other hand, engaged in sustained collaborative interaction. The authors confess that even though they had harbored reservations about allowing the use of L1 in their classrooms, the findings from this study suggested that learners’ L1 and L2 seemed to work in tandem when learners were engaged in collaborative, form-focused tasks.

While the two studies described above deliberately left out the written production of learners and focused on their interactions, Zhang (2018) analyzed the effect of L1 or L2 use during collaborative tasks on the complexity, accuracy, and fluency of the co-created essays. Two groups of intermediate level EFL learners with Chinese as their L1 engaged in two collaborative writing tasks. The first group was instructed to use Chinese in producing the first collaborative writing task and English during the second. Similarly, the second group was
instructed to use English during the first task and Chinese during the second. A complexity-accuracy-fluency analysis of all the written texts showed that learners produced texts with greater syntactic complexity when they were allowed to use their L1. The author presents excerpts from learners’ interactions to show that the use of L1 facilitates metalinguistic thinking, which might have helped the learners retrieve complex linguistic forms relatively easily (p. 8). With regard to accuracy and fluency, no difference was found between the two groups, indicating that the use of L1 is not detrimental to learners’ accuracy and fluency in using a second language.

As the debate about the benefits of L1 use during collaborative writing tasks continues, it is certain from the studies presented here that the use of L1 does not hinder the co-construction of the text. In fact, these studies suggest that L1 use might lead to the production of a text that is more complex in nature and to smoother interaction, greater collaboration, and better interpersonal relations. Furthermore, students seem to rely more on their L1 for task mediation at lower proficiency levels and tend to adhere to the TL at higher proficiency levels. If this is the case, multilingual instruction incorporating collaborative writing tasks at higher levels can provide the required linguistic phrases, structures, conversational tools, and vocabulary to engage successfully in such interaction. However, only one study examined how L1 use impacts the quality of the written text. If the ultimate goal of TL writing is to produce texts of good quality, then more studies like Zhang’s (2018) are needed to understand how L1 or L2 use influence the quality of the written text.
2.3.3.4 Multilingual Pedagogies and Lexical Processing

Much research on lexical processing in multilingual learners has focused on raising learners’ cognate awareness through crosslinguistic comparison. Otwinowska (2016) points out that cognates can exist typologically in similar and dissimilar languages. She further argues that foreign language teachers tend to focus more on false cognates rather than cognates, thus not helping learners realize the full benefit of cognate recognition. Cognate awareness and recognition can not only help learners with lexical processing, but also raise their metalinguistic awareness (Jessner, 1999; Ringbom, 2007) and lead to a production of a wider range of words during oral tasks (Otwinowska, 2016).

Initial research on the inclusion of cognate awareness-raising in foreign language instruction seems to be positive. Arteagoitia and Howard (2015) conducted a vocabulary teaching intervention with Spanish language learners in an ESL class at a middle school in the U.S. The intervention focused on crosslinguistic relationships, specifically on making students aware of Spanish-English cognates. The students who were part of the intervention demonstrated more advanced vocabulary skills, measured by English reading and vocabulary tests. Multiple regression analyses showed that Spanish cognate knowledge is predictive of English vocabulary skills. Given the results of this study, the authors advocate for utilizing cognate knowledge as a learning tool, especially with languages that are similar.

In a series of studies conducted with L1 Polish learners, Otwinowska (2001, 2010, 2011, 2016) demonstrated the benefits of
cognate knowledge beyond lexical processing. One study (Otwinowska, 2001) conducted with beginner level learners of English aimed at uncovering the influence of cognate knowledge on written and spoken English. The treatment group that received additional instruction focusing on cognates outperformed the control group in some aspects. The experimental group was able to complete the written tasks faster than the control group. In addition, the experimental group “became accustomed to relying on their intuition and making intelligent guesses, at least when confronted with written vocabulary” (p. 185). In the oral tasks the students in the experimental group used a greater variety of words. These students included a wider range of adjectives and used abstract nouns that are infrequently used at the beginner level.

In yet another study with advanced learners of English, Otwinowska (2010, 2011) examined whether raising awareness about Polish-English cognates might influence their use of cognates in written and spoken language, and in recognizing them in reading. Participants in the experimental group received explicit instruction on cognate knowledge, while those in the control group followed the traditional English language curriculum. Both groups were asked to perform reading, writing, and speaking tasks at the end of the semester. A qualitative analysis of these tasks revealed that the experimental group significantly outperformed the control in both the receptive and productive tasks. In the reading tasks learners used recognizing cognates as an explicit strategy in text comprehension. In the written tasks the participants in the experimental group used a greater number of cognates than those in the
control group. In oral tasks too, learners in the experimental group used more cognates. But here, the learners in the experimental group displayed a tendency to use cognates more frequently at the beginning of their utterances. The author interprets this tendency as a strategy that learners consciously use to cope against the anxiety that comes with using a foreign language. This study with advanced learners of English thus shows that cognate awareness can not only benefit with the lexical processing of TL texts but can also serve as a processual strategy while producing the TL.

Even though only a small number of studies have been conducted with multilingual pedagogies and cognate knowledge among foreign language learners, the cumulative findings seem to indicate that the benefits of raising learners’ cognate awareness during instruction might indeed be beneficial to lexical processing. Otwinowska’s studies (2016) take these a step further and show that there might be additional benefits to cognate knowledge that go beyond lexical processing and might have a positive impact on language production and strategy use too. However, these are only initial conclusions, and more studies of this nature could confirm the benefits of cognate knowledge.

2.3.3.5 Synthesis and Reflections

Research examining links between multilingual pedagogies and language development is fast growing not just in numbers, but also in variety. While some studies have focused on overall development of language proficiency, others have aimed at understanding the effects of multilingual instruction on specific aspects of language learning.
Given the variety of research in this domain and that such research is in initial stages, the number of studies in each area is limited. Due to this, one hesitates to claim definitively that multilingual pedagogies yield positive results, even though findings in many of these areas are positive. Clearly, more studies that replicate the ones mentioned here are needed to solidify our conclusions about multilingual pedagogies. Without such bolstering results, debates surrounding the efficacy of multilingual pedagogies will continue.

Bearing this caveat in mind, I now turn to the summary of findings of the sections on multilingual pedagogies and language proficiency, multilingual pedagogies and metalinguistic awareness, multilingual processing and collaborative writing, and multilingual pedagogies and lexical processing. The studies above show that three of the four areas of research discussed above – language proficiency, metalinguistic awareness, and lexical processing – indicate that these are positively impacted by multilingual instruction. Studies examining how multilingual instruction influences collaborative writing are less certain and less unified in their conclusions about the advantages of drawing on learners’ known languages in TL learning. All the studies agree that it does not hinder the production of the written text, but clear advantages could not be established in the use of learners’ L1 or in any prior instruction that drew on learners’ entire linguistic repertoire. This makes one speculate if drawing on learners’ language knowledge might only be beneficial in certain aspects of language development, and not in others. Alternatively, it might be possible that multilingual instruction is more beneficial when it comes to completing tasks individually than when
interacting with a partner. In most of the tasks and/or tests conducted in the studies with language proficiency, metalinguistic awareness, and lexical processing, participants had to perform on their own. But with collaborative writing learners had to work in pairs to complete the given task. When this methodological difference is juxtaposed against the findings, one wonders if multilingual instruction aids individual language development more than it does collaborative task completion. This might possibly mean that crosslinguistic comparisons and raising learners’ awareness about their own language knowledge might serve as good learning strategies. But their benefits in producing collaborative written texts that entail other communicative requirements such as negotiation of meaning, decision making, joint goal setting, and so on are still in question. It should be remembered that the studies show us that the learners were able to complete their writing tasks, but how their prior language knowledge benefited in this process is still unclear.

Another observation to be made among the studies discussed above is that several do not make a distinction between bilingual learners and multilingual learners. As the overwhelming evidence from research in the field of L3 acquisition shows us, the advantages of knowing two or more languages on learning the TL are greater than knowing merely one language. While this might be a mere terminological difference, the implications of these findings for bilingual learners and multilingual learners are different. More importantly, their implications for foreign language teachers are serious too, because having to draw...
on one known language might prove to be easier than having to draw on two or more.

2.4 Looking Ahead: Designing a Multilingual Instructional Sequence

The aim of this dissertation study is to design and implement a multilingual instructional sequence in an adult foreign language classroom in India. The current literature review offers several lessons for a novice researcher. The first section in this review focused on what the field knows about teachers’ perspectives on multilingual pedagogies. The first lesson from this set of studies is that any research on the implementation of multilingual pedagogies requires close collaboration with and input from teachers. Their perspectives are integral to any research on designing and implementing multilingual pedagogies. The studies in this section remind us that the perspectives of teachers are influenced not just by their individual beliefs and attitudes, but also by other external factors, such as the status of the TL in the learning context, the availability of materials, the learning goals and needs of their students, and so on. As local stakeholders and implementers of multilingual pedagogies, teachers’ understanding of these contextual features have to play a key role in designing instructional practices that leverage learners’ known languages. Secondly, only a few studies examined teachers’ perspectives after introducing multilingual pedagogies to them in the form of professional seminars. The perspectives of teachers from the McPake et al. (2017) study offer new insights into the implementation of these instructional practices. While designing a multilingual instructional sequence, teachers’ contributions and insights might be more meaningful if they are informed of what
current research indicates about such pedagogical approaches. In other words, a combination of local knowledge from teachers coupled with the knowledge from research could be a very productive route in designing a context-specific multilingual instructional sequence.

The second section on learners’ perspectives on multilingual pedagogies offers a key take-away in their design and implementation too. Studies reviewed in this section show that while a majority of learners responded positively to multilingual instruction, some of them expressed confusion, reservations, and doubts. Such feedback can serve as formative assessment of the instructional approach and could potentially shed light on the pitfalls in the design or the implementation of the sequence. If a robust, context-specific multilingual instructional sequence is desired, then learners’ perspectives need to be considered seriously, and not set aside as personal beliefs or individual learner characteristics. Furthermore, learners’ perspectives gathered at the end of a study might be valuable, but insufficient while designing an instructional sequence. Ongoing learner feedback can be more beneficial in developing a multilingual instructional sequence.

In designing multilingual instructional practices, the studies reviewed in the final section offer a key insight. In all the studies reviewed here data were collected at one specific time during the instructional period – usually at the end – in the form of an activity, a test, or a task. Such data only present a snapshot view of participants’ interlanguage. In reality, a learner’s interlanguage develops, changes, recedes, or remains fossilized as a result of several psycholinguistic and
social factors (Han & Tarone, 2014). The Dynamic Model of Multilingualism also asserts that a diachronic view of language development is essential in understanding the influence of these factors (Herdina & Jessner, 2002). In designing a multilingual instructional sequence, learners’ development of linguistic features has to be examined at multiple points in order to understand how learners respond to such instruction. DMM also rejects drawing causal lines between any one psycholinguistic or social factor and language development, as language development responds to the cumulative influence of all these factors. Yet, any insight the diachronic view of the development of language features could offer would be considered as a form of formative assessment of the instructional approach.

The design and implementation of a context-specific instructional approach in this study will thus take into consideration three key aspects – teachers’ perspectives, learners’ perspectives, and how learners’ linguistic features taught through this instruction develop over a period of time. In the following section, I explain the methodology that was adopted accommodates all these key aspects.
CHAPTER 3: METHODOLOGY

The current study required a research methodology that fosters researcher-practitioner collaboration with an emphasis on the development of an instructional design. For these purposes, design-based research (DBR) was chosen as its methodology. In this chapter, I first briefly describe the research methodology, and explain its choice for this study. Then, I provide important and relevant details about the research site and participants. Finally, I describe each phase of the study, the data collection procedures and analysis methods.

3.1 Design-Based Research

Design Based Research has gained prominence in the field of educational research over the last three decades. Ever since the methodology was adopted into the field of education through the works of Ann Brown (1992) and Allan Collins (1992), it has been refined extensively to improve our theoretical understanding of education and to resolve context-specific pedagogical challenges. Over the years DBR has emerged as a robust research methodology, with clearly defined characteristics, implementational methods, and philosophical underpinnings (Barab & Squire, 2004; Gravemeijer & Cobb, 2006; McKenney & Reeves, 2012; Reinking & Bradley, 2008). DBR has been defined as being theoretically oriented, pragmatic, interventionist, collaborative, iterative, and contextually grounded (Anderson & Shattuck, 2012; Barab & Squire, 2004; McKenney & Reeves, 2012; Reinking & Bradley, 2008). The overarching goals of DBR are two-fold: to resolve pedagogical issues in a given context and to advance our theoretical understanding of learning (Gravemeijer & Cobb, 2006). This dual
focus on theory and practice can only be achieved by bringing together the expertise of both researchers and practitioners. Solutions to local pedagogical challenges are sought by focusing on instructional designs that are drawn from current literature and then adapted to the local context. These designs are then implemented iteratively in the classroom, refining them after iteration based on feedback from local stakeholders, learner activity, teacher engagement, and so on. Finally, the instructional design is then adopted in the learning context, which addresses the local pedagogical challenge, whereas the process of the development of the design advances our theoretical understanding of learning.

DBR lends itself appropriately to the current research study for many reasons. Reinking and Bradley (2008) point out that novice researchers may pursue a DBR study not only to solve a local pedagogical issue but for other reasons too. Researchers may also choose a theoretically grounded instructional design that has been successful in several contexts and implement it in a different context. Multilingual instructional practices have been tried in many language learning contexts throughout the world. No empirical studies have been conducted so far in adopting them in foreign language learning contexts in India. It is also evident from the literature review presented in the previous chapter that very few studies exist that explain the empirical process in which multilingual instructional methods are developed. I therefore adopt DBR for this study to empirically show how an instructional design was developed over three iterations in India. Secondly, such design and implementation required deep understanding of the context, its strengths, affordances, challenges, and shortcomings. Only local
stakeholders, more particularly teachers can possess such in-depth knowledge of the context. The collaborative nature of DBR is conducive to bringing together the expert capabilities of teachers and researchers. Thirdly, while many research methodologies foster collaboration with stakeholders, DBR assigns primacy to the development and refinement of the instructional design itself. The design is similar to “a prototype that is continuously tweaked and tested to improve its performance” (Reinking & Bradley, 2008, p. 20). Its iterative nature allows the design to be implemented multiple times, with changes being added each time to the design based on specific formative assessment measures. Because I was drawing from existing literature to develop the instructional design, I was certain that it would have to be implemented more than once in the Indian context to ensure that the desired results were obtained. Finally, one of the goals of this study is also to advance the field’s current theoretical knowledge with regards to the efficacy of multilingual pedagogies. In order to make my own contributions, I sought a methodological approach that based its theory development on practical implementation. Given DBR’s double-pronged focus on theory and practice, this methodology would be appropriate to base any theories drawn from this study on its iterative implementation and involvement with language practitioners.

3.1.1 Critiques of DBR and Steps Taken to Address Shortcomings

During its emergence as a new methodology, DBR has faced many waves of criticism. This criticism, in turn, has shaped and refined DBR as a robust methodology, and ensured that it is “here to stay” (Sandoval, 2013, p. 388). The first wave of criticism by Dede (2004), Kelly (2004), and Barab and Squire
(2004) came about a decade after the seminal papers by Collins (1992) and Brown (1992) were published. These critics raised some notable methodological questions while acknowledging the potential DBR has for the field of educational research. McKenney et al. (2006), and Reinking and Bradley (2008) explored further issues that they encountered in their research with DBR. Finally, more recent publications (Anderson & Shattuck, 2012; Easterday et al., 2014; Ormel et al., 2012) raised another wave of methodological criticism. Below I describe the criticism raised by these authors, and I explain my efforts in addressing these concerns in my study.

3.1.1.1 Argumentative Grammar

In 2004, Kelly (2004) pointed out that DBR required the development of an “argumentative grammar.” In other words, it needed to identify its “logos” or reason/rationale in the methodology (method + logos) (p.118). Identifying the logos would push DBR from being a mere concoction of methods to a well-grounded methodology. This critique was addressed by researchers over the next few years. Reinking and Bradley (2008) identify the epistemological origins of DBR to be rooted in pragmatism. Drawing from pragmatists such as Dewey, Cherryholmes, and Johnson, they explain that pragmatism does not get involved with understanding what reality (ontology) is or how we know it (epistemology). It rather focuses on “choosing among alternatives that move us closer to our goals” (p. 37). The context-dependent and responsive nature of DBR is thus rooted in this pragmatic philosophy. While the researcher enters the context with
well-designed research aims, the approach to attaining these goals is bound to change in response to the context.

In the current study I aimed at establishing a clear *logos* by adopting ways rooted in this pragmatic approach. The best option to reach the research goals was often not ideas and methods that I had identified in advance, but those that were developed in response to the needs, challenges, and affordances of the research context. By responsively shaping parts of the study, a clear rationale for the study design could be offered. For example, the design of the multilingual instructional sequence was developed and refined in collaboration with local teachers. Specifics about how and when the instructional sequence would occur, and the number of iterations were decided together. Changes to the instructional design were made in response to learners’ language performance and teachers’ perspectives of students’ reactions. Finally, decisions concerning the final translation activity conducted as part of the quasi-experimental study, like the choice of text, the kind of translation performed by participants, and the time of conducting this part of the study were all made primarily by the teachers. The teachers’ reasoning for these decisions also offered the current study a clear rationale for its methodological choices.

### 3.1.1.2 Generalizability of DBR

A second important issue raised by Kelly (2004) is the question of generalizability of DBR findings. DBR addresses challenges that are highly contextual in nature and resolves them in collaboration with stakeholders with deep knowledge of the context. However, Gravemeijer and Cobb (2006) and
Barab and Squire (2004) argue that while DBR studies do not lend themselves to be replicated in other contexts, ‘supple’ theories (Gravemeijer & Cobb, 2006) developed from these studies can be carried over to other contexts. One of the two purposes of DBR is to advance our theoretical understanding in relation to the pedagogical issue that is addressed during a study. This understanding is advanced using ‘supple’ theories (Gravemeijer & Cobb, 2006), theories that are flexible in their implementation in different contexts. These theories make DBR findings adaptable and applicable to other contexts, if not generalizable.

In the current study, theories related to multilingual instruction and drawing on learners’ known languages were developed at the end. Data collected throughout the study were put in conversation with existing literature in proposing these theories. The theories developed here also form part of the design principles. These design principles along with theories developed will allow other interested researchers and practitioners to adapt the study to their own settings.

3.1.1.3 Overreliance on theoretical knowledge

In their review of DBR studies over the last ten years, Ormel et al. (2012) point out that design-based researchers have relied too much on theoretical knowledge from literature and too little on practical knowledge that can be drawn from local contexts. Furthermore, they pointed out that practitioners were not involved in the analysis stage of the projects. To address these issues, I have taken two steps in the current study. First, the role of local stakeholders in the design of the instructional sequence at every iteration was central. Information from research pertaining to multilingual pedagogies was initially presented to teachers.
In adapting this information to the Indian foreign language learning context, the deep, practical knowledge of teachers and administrators, and the perspectives of learners were utilized. Second, practitioners were included in the data analysis. While I performed the majority of the analysis, teachers on the research team acted as secondary analyzers. Decisions regarding what qualified as language errors, accuracy in learner data, and in interpreting the overall findings related to the development of learner language were all performed in collaboration with the teachers on the research team. Including them in the analysis process allowed the entire team to view the findings holistically.

3.1.1.4 Dissemination of Intricate Processes of DBR

Another recent critique of DBR has been in making transparent the intricate processes that underlie a DBR study (Anderson & Shattuck, 2012; Ormel et al., 2012). Critics have pointed out that while DBR studies describe their outcomes in detail, less attention is paid to how the design was conceptualized and how design-related decisions were made. The current study focuses primarily on exploring what these design-related decisions are and how these were made. Over the course of the study, I realized that the rationale of the research team in making specific design-related decisions reflected at times micro-level, contextual issues. At other times, they reflected larger sociolinguistic and cultural issues that had an important bearing on how foreign languages are taught and learned in India. In order to bring these influential factors to the forefront, the central focus of this dissertation is on the evolution of the
instructional design and the processes that underlie it. In following this evolution, the intricate processes of the study are brought to the forefront.

3.1.2 Three Phases of DBR Studies

McKenney and Reeves (2012) explain that a DBR study is typically divided into three phases: (i) analysis and exploration, (ii) design and construction, and (iii) evaluation and reflection. Below is a short explanation of the goals of these phases, and what this study accomplished during each one of them.

3.1.2.1 Analysis and Exploration

In the first phase of a DBR study, a thorough understanding of the context, its stakeholders, and the problem is sought. This is gained through a process of interacting with in-house experts and by gaining theoretical inputs from current literature in the research field. In this study, a vertical case study (Gopalakrishnan, 2020) was conducted in order to understand what factors influenced the implementation of multilingual pedagogies at the research site. Initial ideas about what the design propositions could be were identified at the end of this phase.

3.1.2.2 Design and Construction

With the aid of the design propositions formed at the end of the first phase and with the theoretical knowledge gained from literature review, an interventional design is developed. Local stakeholders and researchers work collaboratively to design the first version of the intervention. A similar approach was used in the current study. During the design and construction phase a research team consisting of teachers interested in being part of this project, the researcher,
and the head of department was formed. The results of the vertical case study, the design propositions, and relevant information from literature were first presented to the research team. Following this, the team designed the first instructional sequence. However, the initial design underwent multiple revisions in the next phase.

3.1.2.3 Evaluation and Reflection

In the final phase of the DBR study, the design is implemented and evaluated. Evaluation of the design is two-fold. Ongoing evaluation or assessment of the design is conducted through multiple sources. In this study, the design was assessed based on students’ perspectives of the design, teachers’ perspectives, researcher’s observation, and students’ language development. The final step is reflection on the practical contribution to the research site and on the theoretical contribution to the field of multilingual pedagogies. The practical contribution was ascertained through conversations with the research team and with students, whereas the theoretical contribution has been through my own individual reflection.

3.2 The Research Site

The study was conducted at German Language Institute (pseudonym), an international institute that aims at promoting the German language and culture in different parts of the world. The German Language Institute (GLI) was established in India in 1957 and has since been a popular destination for German language learning among Indians. The institute has both language and cultural centers at six different Indian cities, and only cultural centers in few other smaller
cities. In all centers language classes are offered primarily to adult learners, but also to adolescent and younger learners. According to their website, the language centers aim not only at promoting German language and culture, but also to encourage intercultural dialogue and to enable cultural involvement.

The current study was conducted in the GLI in a large, urban city in the state of Tamil Nadu. This center has a well-established cultural department, language department, and a library. The cultural department brings together artists from various fields both from Germany and India in an effort to promote cross-cultural interactions. The language department is a complex network of administrators, teachers, curriculum developers, teacher trainers, preservice teachers, examiners, and students of all age groups. The number of courses offered at a given time ranges from twenty-five to thirty. Classes are conducted across two different sites both on weekdays and during weekends.

3.2.1 Students

Over the last two decades, the number of student enrollments at all branches of GLI in India has been on the rise with current numbers surpassing ten thousand students per annum. The student profile primarily consists of three groups – students aspiring to pursue higher studies in Germany; professionals either working with German clients, a German employer, or having impending work-related travel to Germany; and spouses joining their partners in Germany. It should be noted that in all these three cases, beyond the need to be able to communicate in the local language in Germany, a visa requirement also forces students to enroll in German language classes. Apart from these motivations,
some students come to the GLI for the love of the language, to pursue a hobby, or other reasons too.

### 3.2.2 Teachers

Teachers at the GLI undergo an intensive in-house training program before becoming full-time teachers. Most teachers are Indians, but some native speakers are also currently in employ. At the time of the study there were fifteen teachers and two preservice teachers at this GLI center, although these numbers keep changing depending on visiting teachers, part-time teachers, and interns from Germany. All teachers are multilingual. Like many Indians, these teachers have English as part of their linguistic repertoire, and they added German at a later point in their lives. All of them also know a minimum of one other Indian language, and many also have learned other European languages such as French, Spanish, or Italian. Native teachers know German and English, and some are fluent in the regional language, Tamil. The ages of the teachers ranged from twenty-four to sixty.

### 3.2.3 Courses at the GLI

The course structure at the GLI follows the Common European Framework of Reference (CEFR) for languages. Courses are thus structured as A1 (complete beginners), A2, B1, B2, C1, and C2 (advanced learners). Course formats differ based on the length of the course, the number of days during which it is offered, and the number of hours per day. At the end of every course students are obligated to pass an internal examination in order to proceed to the next level. In addition, students also have the opportunity to do the Goethe international
exams in order to determine whether their proficiency meets the standards set by the Goethe Institut, an internal organization established by the Government of Germany.

### 3.3 Research Questions

The goal of the current study was to develop an instructional sequence, implement it, and refine it based on its assessment from various sources. In order to formatively assess the instructional sequence three vantage points were chosen: classroom teacher’s perspectives, students’ perspectives, and students’ development of the grammatical aspect over three weeks following an implementation. The researcher’s observational notes also contributed to assessing the design. Data were collected from each one of these sources in different ways. The research questions that guided the formative assessment of the instructional sequence were:

RQ 1: How accurately do foreign language learners use the chosen grammatical features during and post multilingual instruction?

RQ 2: What social, cultural, and linguistic considerations mediate the decisions of foreign language teachers in leveraging learners’ prior language knowledge during TL instruction?

RQ 3: What advantages and disadvantages do foreign language learners perceive in leveraging their prior language knowledge in learning German?

At the end of the semester the effect of multilingual instruction through the sequence on learners’ metalinguistic awareness was examined. The research question was as follows:
RQ 4: How does multilingual instruction impact the metalinguistic awareness of adult foreign language learners?

3.4 Research Participants

3.4.1 Research Team

The research team consisted of four members. Mr. Naveen, the head of the language department, joined the research team with the sole purpose of ensuring that all organizational requirements were fulfilled. Mr. Naveen himself had served as a German language teacher at the GLI for over a decade, before taking over administrative responsibilities. He led the team’s efforts in securing approval from the director of the GLI. He also oversaw the logistics of the research project, such as identifying the course in which the study was to be conducted, providing the team access to classrooms and meeting spaces, providing audio recording equipment, and ensuring smooth execution of the overall project.

Mr. Balaji, a senior teacher with many years of experience as a German teacher, writer, and teacher trainer was the second member of the team. In his many years of service as a teacher, Mr. Balaji has led and participated in varied projects at the GLI and outside. Some of these include establishing relationships between the GLI and local schools to promote German language at Indian schools, developing curriculum for schools, conceptualizing and conducting teachers’ training programs at the GLI, and authoring German language textbooks, to name a few. He volunteered to be part of the research team as an interested teacher. Through his vast knowledge of teaching German as a foreign
language in India he offered relevant input in designing and implementing the
instructional sequence. Mr. Balaji speaks several languages, with Tamil as his L1
and English as his L2. He is also proficient in French.

Despite their seniority as teachers, I was able to work with Mr. Naveen
and Mr. Balaji with ease and comfort only because of my long-standing
acquaintance with the GLI. I joined the GLI as a student, then proceeded to do my
teacher training course there, and finally worked as a German teacher in the GLI
for six years. During this long stint I had developed several personal and
professional relationships with several employees. Furthermore, in the Indian
culture a teacher is regarded with great respect and reverence. The teacher is often
equated to being the bearer of knowledge, one who shares this knowledge with
students, out of compassion. A teacher is also considered to know the strengths
and weaknesses of students, thus mentoring and guiding them along the right
path. As someone steeped in this tradition, my relationship with senior members
of the research team, such as Mr. Balaji and Mr. Naveen, were more than
collegial. They have been my teachers, my trainers, and, at times, my mentors too.
Naturally, this has a profound effect on how I interacted with them and how we
worked together throughout the study. However, respect and reverence is not to
be mistaken for acquiescence. The GLI fostered an atmosphere of open
discussions, cordial disagreements, and mutual learning. In our research meetings
we often discussed, argued, and even disagreed with one another at times.

One more volunteer who joined the research team on her own volition was
Ms. Tara. Ms. Tara has been working as a German teacher at the GLI for ten
years now. Her expertise is her focus on beginning learners, both adults and adolescents. She is also a trained Goethe Institut examiner and works with many students preparing them for these international examinations. In the current research study Ms. Tara functioned as the collaborating teacher. In this capacity, she implemented the instructional sequence in her beginner level class. Her keen insights into students’ learning processes and experience in working with adult learners proved advantageous in designing the sequence and in refining it. Ms. Tara is also a multilingual with Malayalam as her L1. She is also very proficient in Tamil, English, and Hindi. She also speaks Telugu and Kannada to a certain extent.

My relationship with Ms. Tara was slightly different. During my times as a teacher at the GLI she was a trainee and then a novice teacher. She would often seek my help and advice as a teacher with more experience than her. By the time of this study, she had gathered ample experience in teaching German and had carved a niche for herself at the institution, guiding teacher trainees. This long-standing relationship between us enabled us to converse freely about issues at the site and facilitated our work together on this project.

Finally, I was the last member of the research team. As a student-researcher, I undertook the responsibility of bringing relevant theoretical and empirical work done in the field of multilingual pedagogies to the team. While teachers at the GLI had organically developed some multilingual teaching strategies, they were not aware of how students’ multilingualism had been leveraged in foreign language instruction in other parts of the world. Such work
was presented to and discussed among the research team. In addition, the task of collecting and analyzing data was also my responsibility. Additionally, I coordinated and led the weekly research team meetings, reminding members of our agenda, and followed through with our research schedule.

I left the GLI in 2011, even though I remained in contact with many of the educators there. Six years later I returned to the GLI as a student-researcher and observed how it had expanded in numbers and in its teaching-related activities. Despite my well-established relationship with the GLI, I found myself feeling like an outsider, learning new policies, getting acquainted with new projects, and meeting new people. Throughout the research project I found myself often transitioning between being an insider and outsider. In offering suggestions, making requests, even while disagreeing with a team member, I felt at ease, uninhibited, and untroubled. But such moments were often interspersed with others where an unfamiliar practice at the institute was explained to me, a new policy would impede an agreed upon research task, or other teacher responsibilities, shared by the rest in the team, interfered with our research agenda. Moments of “you do not know this; it is different now” often preceded an explanation or a disagreement. Even though we agreed with one another ideologically, we often found ourselves at crossroads when it came to ideas about implementation and data collection, because of changing student demographics and their learning needs and the current instructional format at the GLI. In such moments, I felt a stark distinction between being a teacher and a researcher. While these moments were a good reminder of how actual instruction happens in
a classroom, they also reminded me that I was no longer the insider I thought myself to be. Navigating this insider-outsider position was a constant challenge in accomplishing our research agenda, while ensuring that my long-term relationships with the research team were not jeopardized. Journaling and writing reflective memos were the best ways in which I traversed these difficult moments. These reflections were mostly done independently, because I might have perceived this insider-outsider conundrum differently from them and had to work through it on my own.

3.4.2 Students

The instructional sequence was implemented in one of Ms. Tara’s classes with twenty-five students. This beginner-level class was designed to prepare students to reach the A1 level of the CEFR. Students’ ages ranged from 19 – 45. There were nineteen male and six female students. All students came with no prior knowledge of German. The students’ linguistic repertoires were complex and overlapped to a great extent. Most students in the class were multilingual, and only three were bilingual. The first languages of these students were varied (Figure 3.1), and all of them had taken English classes at school. Some of them had studied other foreign languages such as Spanish, Japanese, and French, before taking German. Figure 3.2 shows a list of languages that the students knew. The students’ proficiency levels in these languages varied, but the students shared knowledge of many languages.
**Figure 3.1**

*First Languages of Students*

![Pie Chart](image1)

- Tamil: 72%
- Malayalam: 8%
- Telugu: 12%
- Hindi: 4%
- Marathi: 4%

**Figure 3.2**

*Languages in Students’ Linguistic Repertoires*

![Bar Chart](image2)

- Tamil
- English
- Hindi
- Malayalam
- Telugu
- Marathi
- Kannada
- Sanskrit
- French
- Japanese
- Spanish
As can be noticed from the figures above, students shared many languages in their linguistic repertoires. It also has to be mentioned that the students and their instructor, Ms. Tara, had many languages in common among them. As will be seen later, this posed a great advantage in the implementation of the instructional sequence.

3.4.3 Focal Students

3.4.3.1 Focal Students for Formative Assessment of Instructional Design

Focal participants for the formative assessment of the instructional design (Research Questions 1, 2, and 3) were chosen based on retrodictive qualitative modeling (Dörnyei, 2014). Dörnyei argues that even though variability in learner characteristics is inherent in all classrooms, there are certain discernible learner types in every context. Retrodictive qualitative modeling calls these generalizable learner characteristics that are typical of a learning context ‘learner prototypes’. In the case of the current research study, learner characteristics relating to students’ language history and background were of interest. To be specific, information about learners’ first language, English language knowledge, knowledge of other Indian languages and other foreign languages informed focal student selection. To accomplish this task a sound knowledge of the learners who typically enroll in courses at the GLI was needed. These prototypes were therefore created in collaboration with the members of the research team. Their long years of experience were truly beneficial in identifying learner characteristics and solidifying the prototypes. The four prototypes identified by the research team are as follows:
Characteristics of Prototype 1:

- No prior foreign language study (German is the first foreign language to be studied).
- Mother tongue is a regional Indian language (Tamil, Telugu, and so on).
- Formal school education is in English.
- May know another Indian language.

Characteristics of Prototype 2:

- German is the second or third foreign language to be studied.
- Mother tongue is a regional Indian language (Tamil, Telugu, and so on).
- Formal school education is in English.
- May know another Indian language.

Characteristics of Prototype 3:

- No prior foreign language experience.
- No or minimal English language knowledge. Education was at a vernacular medium school.
- Extensive and deep knowledge of Tamil or other mother tongue (usually this is the language in which they received instruction at school.)
- Knows at least two or more Indian languages other than the L1.

Characteristics of Prototype 4:

- No knowledge of Tamil.
• L1 is a regional language other than Tamil.
• Formal school education is in English.
• Probable knowledge of other foreign language(s).

These prototypes were created during the second phase of the study. Once Ms. Tara’s course commenced, she identified students who best represented each of these prototypes. During Week 3 I approached those students to request their consent to participate in the study as focal students. All four students whom I approached agreed to be part of the study. The students agreed to provide their weekly language activities (only those related to the instructional sequence) for data analysis. In addition, these students participated in a focus group discussion at the end of the semester. In this discussion, their perspectives and feedback on the instructional sequence were gathered. The focal group consisted of one female and three male students. Table 3.1 provides detailed information about their language backgrounds, professions and ages. All names used here are pseudonyms.
Table 3.1

Focal Student Prototypes and Characteristics

<table>
<thead>
<tr>
<th>Name</th>
<th>Prototype Represented</th>
<th>Age</th>
<th>Profession</th>
<th>L1 Languages Known</th>
<th>Reason for learning German</th>
</tr>
</thead>
<tbody>
<tr>
<td>Keerti (F)</td>
<td>1</td>
<td>19</td>
<td>Student</td>
<td>Malayalam and Tamil</td>
<td>Wants to pursue higher studies in a German university</td>
</tr>
<tr>
<td>Nileesh (M)</td>
<td>2</td>
<td>26</td>
<td>Software engineer</td>
<td>Tamil</td>
<td>Keen on improving his résumé by adding another language</td>
</tr>
<tr>
<td>Dhanush (M)</td>
<td>3</td>
<td>39</td>
<td>Businessman</td>
<td>Tamil</td>
<td>Runs a cab service and works with many German companies</td>
</tr>
<tr>
<td>Chander (M)</td>
<td>4</td>
<td>35</td>
<td>Business accountant</td>
<td>Marathi</td>
<td>Working with a German client</td>
</tr>
</tbody>
</table>

3.4.3.2 Focal Participants for Quasi-Experimental Study

Towards the end of the semester, another set of volunteers from the same class (experimental group) and from a different but comparable one (control group) performed a translation activity. A subset of the students in the course in which the sequence was implemented served as the treatment group, and a subset of students from another beginner level, weekend course formed part of the control group. These students were informed that data were being gathered to understand how adult language learners perform in certain activities. Volunteers from both groups were sought. Ten students volunteered for the treatment group, and therefore the first ten students to volunteer for the control group were accepted to be part of the study (Table 3.2).
### Table 3.2

*Focal Participants in the Quasi-experimental Study*

<table>
<thead>
<tr>
<th>Number</th>
<th>Student Name</th>
<th>Age/ Gender</th>
<th>L1</th>
<th>Languages known</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>K</td>
<td>20/F</td>
<td>Tamil/Malayalam</td>
<td>English, Hindi, French</td>
</tr>
<tr>
<td>2</td>
<td>D</td>
<td>35/M</td>
<td>Tamil</td>
<td>Hindi</td>
</tr>
<tr>
<td>3</td>
<td>N</td>
<td>28/M</td>
<td>Tamil</td>
<td>English, Hindi, Spanish</td>
</tr>
<tr>
<td>4</td>
<td>S</td>
<td>30/M</td>
<td>Telugu</td>
<td>Tamil, English</td>
</tr>
<tr>
<td>5</td>
<td>V</td>
<td>25/F</td>
<td>Tamil</td>
<td>Malayalam, English, Hindi</td>
</tr>
<tr>
<td>6</td>
<td>Sh</td>
<td>24/F</td>
<td>Malayalam</td>
<td>Tamil, English, Hindi, Kannada</td>
</tr>
<tr>
<td>7</td>
<td>Su</td>
<td>18/M</td>
<td>Telugu</td>
<td>Tamil, English</td>
</tr>
<tr>
<td>8</td>
<td>L</td>
<td>19/M</td>
<td>Tamil</td>
<td>English, Hindi</td>
</tr>
<tr>
<td>9</td>
<td>Nt</td>
<td>19/M</td>
<td>Tamil</td>
<td>English, Telugu</td>
</tr>
<tr>
<td>10</td>
<td>Sa</td>
<td>20/M</td>
<td>Tamil</td>
<td>English, Hindi, Japanese</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td><strong>Control Group</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>Ni</td>
<td>23/F</td>
<td>Tamil</td>
<td>English, Hindi, French</td>
</tr>
<tr>
<td>2</td>
<td>P</td>
<td>18/F</td>
<td>Telugu</td>
<td>Tamil, English, Hindi</td>
</tr>
<tr>
<td>3</td>
<td>Kk</td>
<td>22/M</td>
<td>Tamil</td>
<td>English, Hindi</td>
</tr>
<tr>
<td>4</td>
<td>Kr</td>
<td>20/M</td>
<td>Tamil</td>
<td>English, Hindi</td>
</tr>
<tr>
<td>5</td>
<td>Vg</td>
<td>20/M</td>
<td>Tamil</td>
<td>English, Hindi</td>
</tr>
<tr>
<td>6</td>
<td>Vi</td>
<td>24/F</td>
<td>Tamil</td>
<td>English, Hindi, Sanskrit</td>
</tr>
<tr>
<td>7</td>
<td>R</td>
<td>22/M</td>
<td>Telugu</td>
<td>Tamil, English, Hindi</td>
</tr>
<tr>
<td>8</td>
<td>Sj</td>
<td>24/M</td>
<td>Tamil</td>
<td>English</td>
</tr>
<tr>
<td>9</td>
<td>Pr</td>
<td>22/M</td>
<td>Tamil</td>
<td>English, Hindi</td>
</tr>
<tr>
<td>10</td>
<td>Sr</td>
<td>35/M</td>
<td>Tamil</td>
<td>English, Hindi</td>
</tr>
</tbody>
</table>
3.5 Institutional Approval and Consent from Participants

3.5.1 Consent from Participants for Implementation of Multilingual Sequence

Approval was obtained from the Institutional Review Board at the University of Minnesota to conduct the research study at the GLI (Appendix A). Permission was received to audio record student interviews, the research team meetings, any spoken activities of focal students, initial and exit interviews with the collaborating teacher, and the focus group discussion with students. In addition, student texts related to the instructional sequence and students’ reflective journals were also allowed to be collected for the purpose of analysis.

After approval from the Institutional Review Board was received, consent of the GLI was sought. First, I contacted Mr. Naveen, the head of the department, and with his permission drafted a proposal to be submitted to the director of the GLI. The director granted consent to conduct the study on site.

As a first step towards identifying study participants, an outline of the research study along with its objectives and expected outcomes was presented at a GLI teacher meeting. Any teachers interested in the research topic were invited to be part of the study and join the research team. Following this, a team of the aforementioned four people was formed. Among the teachers in the research team, Ms. Tara had been assigned a beginner level class in the following semester. It was therefore unanimously decided, with Ms. Tara’s consent, that the study would be conducted in her class. On the third day of the semester, I addressed the students in Ms. Tara’s class and gave a brief overview of the study,
what its aims were, and what the desired outcomes were. After this, student consent to analyze their reflective journals was obtained. Students were also informed that the researcher would be present to observe the students quietly during class sessions.

After the focal participants for the formative assessment of the instructional design had been identified by Ms. Tara, I approached them individually to obtain consent from them to act as focal students. I explained what would be expected of focal students and also provided them with a written sheet explaining what information and instructional activities would be gathered from them. All four of them provided consent.

3.5.2 Consent from Participants for Research Question 4

Towards the end of the semester, another set of volunteers from the same class (experimental group) and from a different but comparable one (control group) performed a translation activity (Research Question 4). The week before the activity was to be performed, I addressed the students from the experimental group, explaining the task and how long it would take. Ten volunteers offered to be part of the final task. Because only ten students from the experimental group volunteered, the research team decided that the same number of students should be sought from the control group class. The activity was also explained to those students in a similar way as the first group. They were explicitly told that ten volunteers were sought. The first ten students who volunteered were chosen to be part of the control group.
All research participants including teachers, focal students, and students for the quasi-experimental portion of the study were provided consent forms before they performed their tasks. In addition to the form, I offered verbal explanations of what was expected of them, and how data would be gathered. Emphasis was placed on keeping participant identity confidential. Hence, all names used are pseudonyms.

3.6 Three Phases of the DBR Study

This section focuses on the activities performed by the research team over three phases and their outcomes. These phases followed a chronological order from October 2017 to December 2019. Each phase had its own research objectives, data collections methods, and data analysis procedures. It should be noted that only Phases II and III of the DBR process form part of this dissertation study. However, the study that was conducted as part of Phase I, its research objectives and findings are also summarized below.

3.6.1 Phase One: Analysis and Exploration (October 2017 – June 2018)

The analysis and exploration phase of the DBR study aimed at developing a deep understanding of the issue at hand both in the context and through an extensive literature review. The research objective that guided this phase was: What individual and contextual factors impede or encourage the implementation of multilingual pedagogies in a German as foreign language institution in India? The answers to the research question were explored as part of a Comparative Case Study (Bartlett & Vavrus, 2017), where the GLI and a second German as foreign language institution in the USA were considered as case studies and compared
with one another (Gopalakrishnan, 2020). As part of this comparative case study, the entire GLI was regarded as a case and explored thoroughly for its use of multilingual pedagogies. This study showed that several individual and contextual factors worked with or against one another in determining if and to what extent foreign language teachers at the GLI incorporated multilingual teaching in their instruction. Among these were some factors that encouraged teachers to leverage learners’ prior language knowledge, some that constrained them from doing so, and others that were contingent on how learners reacted to this kind of instruction. This expanded view on what influences pedagogical decisions of teachers afforded at the same time a bird’s eye view of how instruction happens at the GLI and also an in-depth understanding of the ecological factors that influence pedagogical decisions. At the end of this phase initial design principles that would guide the design of the instructional sequence were developed.

3.6.2 Phase Two: Design and Construction (October – December 2018)

The design and construction phase of the study focused on developing the multilingual instructional sequence. As a first step, the research team was formed at the GLI. Once the research objectives and agenda were explained to the team the following decisions were made:

- The instructional sequences would focus on teaching specific grammatical elements.

While the teachers at the GLI leveraged learners’ known languages in their own ways, no structured instructional methods had been developed prior to this study. In order to approach this instructional method in an organized manner, the
team was of the opinion that grammatical elements lend themselves to be taught easily in comparison with other languages. The decision about which grammatical element would be chosen for each iteration was made depending on the progression of the curriculum in the class.

- Three iterations would be held over the course of one semester.

A semester at the GLI lasts sixteen weeks. Of these, the last two weeks are set aside for intensive exam preparation and practice. The team therefore decided that three iterations with a four-week gap between them would be ideal. The iterations would therefore be conducted as follows: the first iteration at Week 4, the second at Week 8, and the third at Week 12. During the four weeks between two iterations the grammatical element that was taught in the previous iteration was reinforced during instruction. Simultaneously data were collected about students’ language development with regards to the grammatical aspect. The teacher’s and students’ perspectives would also be gathered. Based on these data, the instructional sequence would be refined and implemented again with a different grammatical element.

- Ms. Tara would be the collaborating teacher, implementing the sequence. The team agreed unanimously that one of the team members would implement the sequence. Ms. Tara had been assigned a weekend beginner level course that semester. Given her experience teaching beginner level students, her interest in the topic, and the serendipitous fact that she was teaching an A1 course, the team decided that she would implement the sequence in her class.
Once these decisions had been made, the team began designing the sequence. The team first studied multilingual instructional sequences, methods and activities from current literature that I presented to them. These were compared, contrasted, and adapted to teaching German as a foreign language in India. Using these samples, the team developed four initial design propositions. Initial design propositions or “design conjectures” (Sandoval, 2014) “refer to the core ideas that underpin, and are used as inputs for, design” (McKenney & Reeves, 2013, p. 107). These initial propositions were developed by drawing from multilingual and second language acquisition theories and by studying other multilingual instructional activities. These design propositions naturally evolved and changed over the iterations. The initial propositions are presented below in the form of heuristic statements as they “indicat[e] stances taken toward salient issues” (McKenney & Reeves, p. 107) in language instruction.

Design Proposition 1: During communicative instruction learners' attention will be drawn to the target grammatical feature.

Teaching practices at the GLI are heavily rooted in a combination of communicative language teaching practices and form-focused instruction (FFI). FFI has been defined as “a series of methodological options that, while adhering to the principles of communicative language teaching, attempt to maintain a focus on linguistic forms in various ways” (Nassaji & Fotos, 2011, p. 13). Spada and Lightbown (2008) distinguish between integrated and isolated FFI. Integrated FFI refers to the pedagogical practice where “learners’ attention is drawn to
language form during communicative or content-based instruction” (p. 186),
whereas isolated FFI “is provided in activities that are separate from the
communicative use of language, but it occurs as part of a program that also
includes communicative language teaching (…)” (p. 186). The teachers on the
research team informed me that grammar instruction at GLI follows an integrated
approach to FFI. While the context-embedded instruction begins with a focus on
meaning and/or communication, the focus then shifts to the grammatical form and
its function within this context.

Ellis’ (2008) categorization of explicit FFI (Figure 3.3) can be beneficial
for teaching grammar. He argues that explicit FFI can occur at the intersections of
proactive/reactive FFI and deductive/inductive instruction.

**Table 3.3**

*Ellis’ categorization of explicit form-focused instruction*

<table>
<thead>
<tr>
<th></th>
<th><strong>Deductive</strong></th>
<th><strong>Inductive</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Proactive</strong></td>
<td>Metalinguistic explanation</td>
<td>Consciousness-raising tasks</td>
</tr>
<tr>
<td></td>
<td>Practice activities</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• production based</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• comprehension based</td>
<td></td>
</tr>
<tr>
<td><strong>Reactive</strong></td>
<td>Explicit correction</td>
<td>Repetition</td>
</tr>
<tr>
<td></td>
<td>Metalinguistic feedback</td>
<td>Corrective recasts</td>
</tr>
</tbody>
</table>

He defines proactive FFI as “interventions directed at preventing error” and
reactive FFI as “interventions that address an error when it has been committed”
(p. 441). Deductive instruction refers to an approach “when a rule is given to
learners” and inductive instruction means “the learners are asked to work out a rule for themselves from an array of data illustrating the rule” (p. 438). In this categorization, instruction at the intersection of proactive and inductive FFI aligns well with DMM and multilingual learning in general. Proactive/inductive FFI involves consciousness-raising tasks where learners are provided with data containing the target feature and are required to engage with the data with the goal of arriving at explicit understanding of the feature. DMM (Herdina & Jessner, 2002; Jessner, 2008) also argues along the same lines, stating that learners’ metalinguistic awareness or explicit understanding of a linguistic feature can be raised by explicitly paying attention to it (discussed further in the next section).

The two theoretical stances of FFI and DMM thus point to explicit instruction of the language form in order to raise learners’ understanding of it. Furthermore, adopting the integrated approach to FFI in the multilingual instructional sequence would also align with existing teaching practices at the GLI. This, in turn, would ensure ease and engagement from the local stakeholders. Teachers would be continuing their habituated ways of teaching grammar and learners would be receiving instruction in a manner that is not new to them.

**Design Proposition 2: Instructional activities will be designed with the goal of raising learners’ awareness about their own linguistic knowledge.**

The many languages in a multilingual’s repertoire certainly constitute a repository of linguistic knowledge and resources that can aid TL learning. This repository includes not just knowledge of languages, but also knowledge about
languages and how they function (Jessner, 2008; Jessner & Allgäuer-Hackl, 2019). But such knowledge might be latent in learners who may often be unaware of their own language resources and crosslinguistic abilities. The Theory of Affordances points out that learners will have to perceive their language knowledge and be aware of their resources, if these are to be leveraged as ‘affordances’ in learning a new language (Aronin & Singleton, 2012; Dewaele, 2010; Singleton & Aronin, 2007).

An initial step in raising learners’ awareness of their multilingual self would be to have them notice the languages they know and the characteristics of each one of these languages. In other words, raising learners’ metalinguistic awareness can start with urging them to notice their own multilingual resources. The interconnectedness of perception, awareness, and noticing has been explained in detail by Schmidt’s noticing hypothesis (Schmidt, 1992; 2012). Even though the noticing hypothesis relates to second language acquisition, its basic postulations apply to the psycholinguistics of multilingual learners too. The noticing hypothesis posits that when learners pay attention to a phenomenon, they consciously register the same, thereby increasing their understanding of it. Schmidt (2012) explains this connection between attention or noticing and awareness in the following manner: “awareness and attention are closely linked – what we are aware of is what we attend to, and what we attend to determines what enters (...) consciousness” (p. 725). So, if multilingual learners are to be aware of their own language knowledge, then their attention has to be brought to it.
Learners can be guided to attend to their multilingual repertoires in many ways. Prior multilingual teaching projects have identified several ways in which such conscious attention can be achieved. Language profile questionnaires, where learners identify what languages they know, how they use these languages, and their language learning journeys is a very common approach included in many projects (Brunen & Kelly, 2016; Busch et al., 2006; Galante, 2018; Prasad, 2014). Multilingual discussions followed by reflective moments on what languages were used, how, and for what purposes is yet another activity through which learners are made to perceive their own multilingual repertoires (Allgäuer-Hackl, 2017; Jessner et al., 2016). Activities such as the language profile questionnaires or multilingual discussions enable learners to not just notice the many languages they know, but also perceive how they use these languages and for what purposes they deploy their resources. Such an engagement with their multilingual repertoires could take learners beyond mere ‘noticing,’ which is “conscious registration of specific instances of language,” to “understanding, a higher level of awareness that includes generalizations across instances”, for “knowledge of rules and metalinguistic awareness of all kinds belong to this higher level of awareness” (Schmidt, 2012; p. 725).

The research team decided that in this study language profile questionnaires would be used. In the second week of the course, students were given a questionnaire (Appendix B) in which they identified the languages they knew. Given the diverse ways in which Indians’ multilingualism develops, it is possible that they possess advanced abilities in certain language skills (e.g.,
speaking or listening), but not in others (e.g., reading or writing). In order to validate all skills that learners might have in their known languages; the questionnaire included a table where learners identified what skills they possessed in each of the languages they knew. Learners were asked to fill out this questionnaire, followed by a brief sharing of their language learning experiences and their current multilingual use.

*Design Proposition 3: Instruction will facilitate crosslinguistic interactions between learners’ known languages by drawing their attention to the similarities and differences across these languages.*

Once learners are made aware of their multilinguality (Aronin & Ó Laoire, 2003) the instructional sequence aimed at prompting crosslinguistic interactions between their known languages. Crosslinguistic interactions are considered one of the basic tenets of DMM. Multilingual development is characterized by transfer from the learner’s L1, L2 and so on to the TL and vice versa (Herdina & Jessner, 2002; Jessner, 2008). DMM along with other multilingual learning models, such as the Cumulative Enhancement Model (Flynn, Foley & Vinnitskaya, 2004), reject the primacy of the L1, positing that crosslinguistic interactions can be multidirectional with the L3 influencing the L2 or the L1, the L2 influencing the L1 and the L3, and so on. This specifically applies to the Indian context where it is not uncommon to find that an individual’s proficiency in a second or third language exceeds one’s L1 proficiency (Annamalai, 2001; Mohanty, 2018). In such cases, the learner’s TL development might be influenced more by recently learned languages than their L1.
The pedagogical implication of these theoretical stances and empirical findings for designing the current instructional sequence was to explore how the research team could trigger these crosslinguistic interactions during instruction. Designing activities specifically aimed at fostering these interactions was vital to the instructional sequence. Even though studies on learning strategies that multilingual users deploy have shown that they intuitively draw on their known languages (Ringbom, 2007), one cannot assume that all learners will adopt this learning strategy on their own. Both the Theory of Affordances and DMM insist that learners require instructional guidance not just in perceiving their prior language knowledge as a learning resource, but also in knowing how to capitalize on these resources while learning the TL (Aronin & Singleton, 2012; Jessner, 1999; Otwinowska, 2017).

Several pedagogical approaches have been suggested to facilitate crosslinguistic interactions between a learner’s known languages and the TL. Contrastive analysis (CA) is one such approach whose popularity has waxed and waned over the last five decades. The CA approach includes language awareness activities that “make tacit knowledge [of one’s known languages] explicit” (James, 1996, p. 140) and consciousness raising activities that help the learner “develop the ability to locate and identify the *discrepancy* (emphasis original) between one’s present state of knowledge and a goal state of knowledge” (p. 141). In other words, consciousness raising activities make learners conscious of what they do not know yet in the TL by drawing their attention to it. While FFI often raises learner’s awareness of a target form through perceptual salience (such
as typographical enhancements in a text), CA activities achieve the same through “salience that may be contrast-dependent or cross-linguistic (emphasis original)” (p. 143). Juxtaposing target features in a known language and in the TL, once a learners’ awareness of the two has been raised, allows them to look for similarities and differences across these languages, thus facilitating crosslinguistic interactions in the learners’ minds.

James (1996) considers “translation (...) a particularly effective way to raise crosslinguistic awareness, since, uniquely, in the act of translation two manifestations of mother tongue and foreign language are juxtaposed, and language juxtaposition is the very essence of contrastive analysis” (p. 147).

Translation as a pedagogical approach has recently received much attention (David, 2017; Galante, 2021; González-Davies, 2017; Hall & Cook, 2012; Jiménez et al., 2015; Kelly & Brunen, 2015). Translation activities that are purposeful and guided require a learner to consider language features in different languages “through which learners’ language awareness, intercultural competence and understanding of conceptual metaphors and literary texts may be developed” (Hall & Cook, 2012, p. 283).

The research team decided that contrastive analysis activities would form an important part of the instructional sequence. Through salience created by the juxtaposition of languages (James, 1996), learners’ attention would be drawn to target features both in their known languages (generated by the learners) and in German (provided by the teacher). Translation is implied in this specific activity. In their small groups, learners would have to translate the German sentences into
their known languages, as they discussed the functions of the grammatical features. The team agreed that some translations could be inaccurate at this point, as the learners would still be in the process of understanding the grammatical feature. However, accuracy in translation would not be considered important in this step. Enabling crosslinguistic interactions and allowing learners to explore crosslinguistic similarities would be the focus of this step.

*Design Proposition 4: Small and large group discussions will help leverage the collective language knowledge of learners and aid with metalinguistic thinking.*

Aronin and Singleton (2012) assert that multilingualism and multilingual learning can transpire in the nexus of the user, language(s), and the setting (Figure 3.3).

**Figure 3.3**

*Aronin and Singleton’s affordances-generating frame of reference*

Affordances are “generated at the cross-section of each two of the three sides of this triangle and of the three of them” (p. 323). Following this representation, affordances in a classroom setting could be generated at the intersection of the
languages of all learners and the learners themselves. In other words, the affordances offered by a setting can go beyond an individual learner’s prior language knowledge to include the collective linguistic repertoires and language knowledge of all learners in a classroom. Aronin (2017) reiterates this point by saying that “societal affordances unfold on a number of levels, from global, national, to area- or district-based, to the very local such as school, class, and family” (p. 191, emphasis mine).

As mentioned earlier, even though these affordances are present in learners’ setting, the onus of making them perceive and utilize these affordances is on the teacher. Several multilingual educational projects achieve this goal by undertaking one or all of the following three types of activities. First, learners are made aware of what languages are present in the collective linguistic repertoire of the classroom through language questionnaires, multilingual word maps, or multilingual self-portraits (Brunen & Kelly, 2016; Busch et al., 2006; Galante, 2018; Prasad, 2014). Second, learners actively engage with their known languages and those of their peers through tasks that bring their attention to the specific target features across all languages and the TL (Allgäuer-Hackl, 2017; Brunen & Kelly, 2016; Galante, 2018; Hofer & Jessner, 2016; Hufeisen & Marx, 2004; Jessner et al., 2016; Leonet et al., 2020). Finally, learners engage in individual and/or group reflections during and after active engagement with all languages through small group interactions, journal writing, or teacher-led discussions (Allgäuer-Hackl, 2017; Brunen & Kelly, 2016; Gallante, 2018). These three kinds
of activities guide learners through leveraging the collective knowledge of all learners (or users) and their languages in the classroom (or the setting).

The team decided that this study would follow a similar pattern of first making learners aware of all the languages present in their setting. The results of the aforementioned questionnaire (Appendix B) would be shared with the students in the form of the graphs (Figure 1 and Figure 2 presented earlier in this chapter). Then, during each iteration learners would actively draw on their linguistic repertoires by comparing the grammatical functions of the target feature across all known languages and German. For the final reflective step, learners would engage in small group discussions, scaffolded by guiding questions, and in large group discussions, led by the teacher. As students discussed how the grammatical features function in their respective languages, they would have the opportunity to be exposed to a wide variety of languages. The languages commonly known to learners in each group would also serve as springboard for productive interactions.

Another reason why the research team firmly believed that discussion should be part of the instructional sequence was that students at the GLI might not have been familiar with any form of metalinguistic or crosslinguistic thinking. For the uninitiated, metalinguistic thinking can be daunting and confusing. The peer support that discussions offer could make the task easier. After all, as Swain and Lapkin (2013) explain, “language (…) mediates – that is, it functions to focus the attention of, to develop, to organize, to control – one’s own higher mental functions” (p.105). Metalinguistic thinking, being a higher mental function, can
be facilitated through the use of language amongst peers, in this case, through discussions. Swain and Lapkin (2013) call such kind of interactions collaborative dialogue, or “the joint construction of language – or knowledge about language – by two or more individuals” (p.106). Small and large group discussions in this instructional sequence would thus serve two purposes – to leverage the collective language knowledge of all learners in the classroom and to facilitate metalinguistic thinking.

### 3.6.3 Phase Three: Implementation and Evaluation (January 2019 – May 2019)

In the final phase of the study the instructional sequence was implemented iteratively and evaluated. Ms. Tara’s beginner level course began in the third week of January and ended in the middle of May. During these months the research team met once every week. Our aims and tasks during these meetings included planning how the sequence would be implemented, debriefing after an implementation session, triangulating data from various sources, evaluating the instructional sequence from these data, and refining the design of the sequence.

The sequence was implemented three times during the semester. Per the request of the teacher no research-related activities were conducted during the first two and last two weeks of the semester. A week-by-week agenda of how the third phase was carried out is presented in Table 3.4. The meetings referred to in the second column of the table ‘research meeting focus’ refer to those that happened prior to an instructional session during the corresponding weekend. For example, in the research meeting referred to under Week 4 the team discussed what
transpired during the prior weekend (Week 3), and what would be done the following weekend (Week 4). As the table shows this phase included micro cycles of designing the sequence, implementing it, assessing it, and refining it.
### Table 3.4

*Weekly Research and Instructional Activities in Phase Three*

<table>
<thead>
<tr>
<th>Week</th>
<th>Research meeting focus</th>
<th>Instructional task/ Classroom activities</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>• Final decisions on the instructional design</td>
<td>• No instructional activities related to the research</td>
</tr>
<tr>
<td>2</td>
<td>• Questionnaires on language history (Appendix B) designed</td>
<td>• Questionnaires distributed and information gathered</td>
</tr>
<tr>
<td>3</td>
<td>• Selection of focal participants through qualitative modeling</td>
<td>• Introduction of the research project to students</td>
</tr>
<tr>
<td></td>
<td>• Group consent of students received</td>
<td>• Consent of focal participants received</td>
</tr>
<tr>
<td>4</td>
<td>• Selection of the grammatical aspect to be taught during the first iteration</td>
<td>• Implementation of first iteration – difference between definite and indefinite articles</td>
</tr>
<tr>
<td></td>
<td>• Documentation of a step-by-step plan for the implementation</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>• Discussing teacher’s perspectives, researcher’s observations and learners’ perspectives on the sequence</td>
<td>• Revision of grammatical aspect in a different context</td>
</tr>
<tr>
<td></td>
<td>• Designing instructional activities for revising the grammatical aspect in both form-focused and meaning-focused manner</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Discussing teacher’s perspectives, researcher’s observations and learners’ perspectives on the sequence</td>
<td>Revision of grammatical aspect in a different context</td>
</tr>
<tr>
<td>---</td>
<td>------------------------------------------------</td>
<td>--------------------------------------------------</td>
</tr>
<tr>
<td></td>
<td>Designing instructional activities for revising the grammatical aspect in both form-focused and meaning-focused manner</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>Discussing how learners’ language with respect to the grammatical aspect developed over the previous three weeks</td>
<td>No instructional activities related to the research</td>
</tr>
<tr>
<td></td>
<td>Initial thoughts on what needs to be changed for the next iteration</td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>Incorporating discussed changes to the sequence</td>
<td>Implementation of second iteration – possessive pronouns</td>
</tr>
<tr>
<td></td>
<td>Writing down a step-by-step plan for the implementation</td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>Discussing teacher’s perspectives, researcher’s observations, and learners’ perspectives on the sequence</td>
<td>Revision of grammatical aspect in a different context</td>
</tr>
<tr>
<td></td>
<td>Designing instructional activities for revising the grammatical aspect in both form-focused and meaning-focused manner</td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>Discussing teacher’s perspectives, researcher’s observations, and learners’ perspectives on the sequence</td>
<td>Revision of grammatical aspect in a different context</td>
</tr>
<tr>
<td></td>
<td>Designing instructional activities for revising the grammatical aspect in both form-focused and meaning-focused manner</td>
<td></td>
</tr>
<tr>
<td>11</td>
<td>Discussion on how learners’ language with respect to the grammatical aspect developed over the previous three weeks</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Initial thoughts on what needs to be changed for the next iteration</td>
<td></td>
</tr>
<tr>
<td></td>
<td>No instructional activities related to the research</td>
<td></td>
</tr>
<tr>
<td>12</td>
<td>Incorporating discussed changes to the sequence</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Writing down a step-by-step plan for the implementation</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Implementation of third iteration – introduction of the accusative pronouns</td>
<td></td>
</tr>
<tr>
<td>13</td>
<td>Discussing teacher’s perspectives, researcher’s observations, and learners’ perspectives on the sequence</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Designing instructional activities for revising the grammatical aspect in both form-focused and meaning-focused manner</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Revision of grammatical aspect in a different context</td>
<td></td>
</tr>
<tr>
<td>14</td>
<td>Discussion on how learners performed on the grammar activity the previous week</td>
<td></td>
</tr>
<tr>
<td></td>
<td>No instructional activities related to the research</td>
<td></td>
</tr>
<tr>
<td>15</td>
<td>Final meeting on next steps for GLI</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Exit interview with Ms. Tara</td>
<td></td>
</tr>
<tr>
<td></td>
<td>No instructional activities related to the research</td>
<td></td>
</tr>
</tbody>
</table>
3.7 Data Collection Procedures and Analysis Methods

3.7.1 Research Question 1

How accurately do foreign language learners use the chosen grammatical features during and post multilingual instruction?

In order to analyze how accurately the focal participants used the chosen grammatical aspect after every iteration, activities that focused on form and meaning were provided to them. The activities were chosen and/or designed by the research team. However, Ms. Tara’s ideas and opinions were given most preference in choosing the activities. In choosing the activities, Ms. Tara and the research team aimed at providing learners with a variety of speaking and writing tasks, but also tasks that would prepare learners for the exam at the end of the semester. In addition, the team presented and introduced different contexts in these tasks with the goal of raising students’ awareness about the various occasions in which the grammatical aspects could be used.

3.7.1.1 Activities

The activity chosen after every iteration followed a similar pattern. In the weeks when the sequences were implemented (weeks 4, 8, and 12) activities focusing on form were given to the students. The activities were always taken from the course textbook or workbook because the contexts in which these exercises were embedded were the same as the ones used when the grammatical aspect was introduced. This ensured the thematic continuity of the lesson and helped the learners in understanding the practical use of the grammatical aspect.
Students completed these tasks individually, although they were allowed to refer to their grammar notes in doing so.

In the weeks following implementation of the sequences (weeks 5, 9, and 13) a writing task that required the students to use the target grammatical aspect was given. The focus in this task was on meaning, not form. All written tasks were completed individually. Once completed, the written texts of the focal participants were shared with me.

The weeks following (weeks 6 and 10) students were given a speaking task that also required them to use the grammatical aspect, but the focus was on accomplishing the communicative task. During these two weeks, learners were asked to audio record their own conversations using their mobile phones. Only the recordings of the focal participants were shared with me for purpose of analysis. The focal participants were deliberately paired together for the speaking activities. Due to time limitations and per the request of the course instructor, a second week of data collection following the third iteration, when learners would have performed a speaking task, was not included.

Table 3.5 provides an overview of all activities that were conducted to collect learner data. The table also shows what instructions were given to the learners in order to complete these activities. It should be noted that Ms. Tara chose to provide most of the instructions in German, but when she thought necessary, she reiterated the instructions in English. Only the English translations of the German instructions are provided below.
<table>
<thead>
<tr>
<th>Week &amp; Iteration</th>
<th>Grammatical aspect</th>
<th>Student activity</th>
<th>Instructions</th>
<th>Type of Data Collected</th>
</tr>
</thead>
<tbody>
<tr>
<td>4 (Iteration 1)</td>
<td>Definite and indefinite articles</td>
<td>Activity from workbook: Students were required to fill in the appropriate article – definite or indefinite. (Appendix C)</td>
<td>A tourist visits the city of Hamburg for the first time. The taxi driver drives him around the city, showing him new sites. Fill in the correct article in the blanks. You may refer to the article table on the board, if needed.</td>
<td>Form-focused written activity</td>
</tr>
<tr>
<td>5 (Iteration 1)</td>
<td>Definite and indefinite articles</td>
<td>Students prepared a brochure for the city of Chennai.</td>
<td>A local tourist office has contacted you. They would like to create a simple brochure for Chennai. In the brochure you will give basic information about three tourist destinations of your choice.</td>
<td>Meaning-focused written activity</td>
</tr>
<tr>
<td>6 (Iteration 1)</td>
<td>Definite and indefinite articles</td>
<td>Students were asked to plan a day showing an exchange student from Germany important sites in Chennai. A handout with popular tourist destinations in Chennai and a</td>
<td>An exchange student from Germany is visiting Chennai for the first time. They would like to visit some tourist sites in Chennai. Decide with them which of the following sites you would like to visit. You may use the dialogue outline provided in</td>
<td>Meaning-focused speaking activity</td>
</tr>
</tbody>
</table>
dialogue outline were provided \textit{the handout to guide your conversation.} to the students (Appendix D) \textit{You are not to write down the conversation. You have 5 minutes to practice the conversation. Then you will be recording your conversation using your phones.}

<table>
<thead>
<tr>
<th>(Iteration 2) Possessive pronouns</th>
<th>Students were asked to fill in the correct possessive pronoun by looking at the picture. It gave them a clue about the kind of pronoun to be filled in (Appendix E).</th>
<th>Form-focused written activity</th>
</tr>
</thead>
<tbody>
<tr>
<td>In your handout you will see four mini-dialogues. Take a look at the picture and fill in the blanks in the dialogues with possessive pronouns. If you want to, you may refer to the pronoun table that we just created.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>(Iteration 2) Possessive pronouns</th>
<th>Students were asked to introduce three or four of their family members to a friend in Germany (Appendix F).</th>
<th>Meaning-focused written activity</th>
</tr>
</thead>
<tbody>
<tr>
<td>You now have a new friend in Germany.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>You would like to write to this friend about your family. In your handout first fill in information about three or four family members. You may take a look at the model of Anu's family members and information about them. Once you've filled in information about your family members, use this to write a letter to your friend.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
10 Possessive Students were required to introduce their colleagues to a German colleague. A dialogue outline was given to the students (Appendix G).

Your German colleague is visiting your office. He would like to meet your team members. Imagine there are three more people in our team, and introduce them to your German colleague. You may use the dialogue outline given to you. You have five minutes to practice the dialogue. Then you will be recording your conversation using your phones.

Meaning-focused speaking activity

12 Accusative Students were asked to fill in the correct pronouns in the blanks. The text was a conversation between a couple who were organizing a party. They discussed who had been invited to the party, and who were yet to be invited (Appendix H).

The couple here are organizing a party. They have a long list of invitees, but they are not sure who has been invited and who has not. They discuss to ensure that all those who have not been invited yet will be invited by the end of the week. Fill in the blanks with the correct pronouns. These pronouns might be nominative or accusative. If you want to, you may refer to the pronoun table that we just created.

Form-focused written activity
Students wrote an email to a friend in Germany asking them to pick two other friends travelling from India to Germany for the first time. Information about the two friends travelling to Germany was provided in a handout (Appendix I). Using this, students were asked to write an email.

Your two best friends from college are travelling to Germany for the first time to join the University of Heidelberg. Luckily, you have another friend living in Heidelberg. Write to this friend requesting him to pick up your two best friends from the airport. Remember, the friend in Germany has never met your best friends. So you will have to introduce your friends. Use the model given in the handout to add more similar information about each one of your best friends. Then, using this information write an email to the friend in Heidelberg.
3.7.1.2 Analysis

In order to assess how accurately learners had used the target grammatical aspects, obligatory occasion analysis (Ellis & Barkhuizen, 2005) was performed. With every activity – the first form-focused task, the second writing task, and the third speaking task – the analysis process was the same. The texts were gathered and students’ oral performance on the speaking tasks were transcribed. First, the number of obligatory occasions when the grammatical feature had to be used in the task was counted. Then, the number of times the grammatical feature was used accurately by the learner, or the number of “correct suppliances” (Ellis & Barkhuizen, 2005, p. 80), were identified. Finally, the percentage of accurate use was calculated. These steps were followed independently for the form-focused tasks, the writing tasks, and the speaking tasks. The number of obligatory occasions and the learners’ errors were all presented to and discussed with the research team to ensure reliability of data.

The activities following the first iteration elicited the use of definite and indefinite articles. In German there are four definite articles and three indefinite articles. Both sets of articles are declined depending on gender and number. English, by contrast, has a definite article that remains constant across numbers. As for indefinite articles in plural, both English and German do not require articles. Tamil and other Indian languages that the students knew do not contain definite or indefinite articles. In the place of definite articles demonstratives are commonly used, and in the place of indefinite articles, the word ‘ஒன்றி’ (one) is
commonly used. Table 3.6 shows a comparison of definite and indefinite articles across the three languages – German, English and Tamil.

**Table 3.6**

*Definite and Indefinite Articles in German, Tamil, and English*

<table>
<thead>
<tr>
<th></th>
<th>German</th>
<th>Tamil</th>
<th>English</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>masculine</td>
<td>feminine</td>
<td>neutral</td>
</tr>
<tr>
<td>Definite articles</td>
<td>der</td>
<td>die</td>
<td>das</td>
</tr>
<tr>
<td>Indefinite articles</td>
<td>ein</td>
<td>eine</td>
<td>ein</td>
</tr>
</tbody>
</table>

In analyzing for articles, the teachers and I agreed that spelling errors were not to be counted as errors. It is not uncommon for early German language learners to misspell the definite articles such as ‘die’ as ‘dei’. Errors that were not related to the use of articles were also not counted.

The second round of learner language data was conducted during the weeks that followed the second iteration, during which possessive pronouns were introduced. German possessive pronouns consist of a stem which is determined by the subject and a suffix that indicates the number and gender of the noun that follows. For example, in the following sentence the possessive pronoun ‘ihr’ appears twice.

Maria hat ihr Gepäck und ihre Tasche verloren.

*Maria has lost her luggage and her bag.*
The pronoun ‘ihr’ itself relates to the subject Maria (feminine singular). The first ‘ihr’ in the sentence indicates that the following noun is singular and of the neuter gender, and the second one indicates that the following noun is singular and feminine. Possessive pronouns both in English and Tamil (and other Indian languages) change only depending on the subject. However, as can be seen in Table 3.7, there are a greater number of unique possessive pronouns in the second person (singular vs plural and formal vs informal ‘you’) in Tamil and German than in English.

### Table 3.7

*Possessive Pronouns in German, Tamil and English*

<table>
<thead>
<tr>
<th></th>
<th>German</th>
<th>Tamil</th>
<th>English</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>masculine</td>
<td>feminine</td>
<td>neutral</td>
</tr>
<tr>
<td><strong>First person singular</strong></td>
<td>mein</td>
<td>meine</td>
<td>mein</td>
</tr>
<tr>
<td><strong>Second person singular</strong></td>
<td>dein</td>
<td>deine</td>
<td>dein</td>
</tr>
<tr>
<td>(informal)</td>
<td>cd;Dila</td>
<td>your</td>
<td></td>
</tr>
<tr>
<td><strong>Second person singular</strong></td>
<td>Ihr</td>
<td>Ihre</td>
<td>Ihr</td>
</tr>
<tr>
<td>(formal)</td>
<td>c</td>
<td>your</td>
<td></td>
</tr>
<tr>
<td><strong>Third person singular</strong></td>
<td>sein</td>
<td>seine</td>
<td>sein</td>
</tr>
<tr>
<td>(masculine)</td>
<td>-</td>
<td>his</td>
<td></td>
</tr>
<tr>
<td><strong>Third person singular</strong></td>
<td>ihr</td>
<td>ihre</td>
<td>ihr</td>
</tr>
<tr>
<td>(feminine)</td>
<td>-</td>
<td>her</td>
<td></td>
</tr>
<tr>
<td><strong>Third person singular</strong></td>
<td>sein</td>
<td>seine</td>
<td>sein</td>
</tr>
<tr>
<td>(neutral)</td>
<td>-</td>
<td>-</td>
<td></td>
</tr>
</tbody>
</table>
In analyzing the learner data only the accuracy of the stem was taken into consideration. Errors relating to the gender/number inflections were not counted. Using the correct stem would mean that the learners used the appropriate pronoun. But errors in inflection could mean that the learners did not know the gender of the noun that followed. Since the instructional sequence aimed at teaching possessive pronouns, the accuracy analysis also focused only on that.

The final learner language data gathered were analyzed for accurate use of accusative pronouns. The instructional sequence focused on highlighting the differences between nominative and accusative pronouns for third person singular and plural. The nominative pronouns in the third person in Tamil, English, and German are similar in their classification, but different in how the classification is made (Table 3.8). All three languages have different pronouns for different genders, even though the gender classification in German goes beyond animate objects to include inanimate objects. Tamil and English, on the other hand, categorize gender as masculine and feminine in living objects, and neutral only in non-living objects. Tamil has a specific pronoun in the third person plural for inanimate objects. Accusative pronouns are more dissimilar across the three
languages than the nominative pronouns (Table 3.9). While in German and English similar words are used to refer to both nominative and accusative pronouns, Tamil has a unique word for every pronoun both in the nominative and accusative cases.

Table 3.8

Nominative pronouns in German, Tamil and English

<table>
<thead>
<tr>
<th>Subject</th>
<th>German</th>
<th>Tamil</th>
<th>English</th>
</tr>
</thead>
<tbody>
<tr>
<td>Third person singular (masculine)</td>
<td>er</td>
<td>நாடு</td>
<td>he</td>
</tr>
<tr>
<td>Third person singular (feminine)</td>
<td>sie</td>
<td>நாடு</td>
<td>she</td>
</tr>
<tr>
<td>Third person singular (neutral)</td>
<td>es</td>
<td>நாடு</td>
<td>it</td>
</tr>
<tr>
<td>Third person plural (animate objects)</td>
<td></td>
<td>நாடு</td>
<td>they</td>
</tr>
<tr>
<td>Third person plural (inanimate objects)</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 3.9

Accusative pronouns in German, Tamil and English

<table>
<thead>
<tr>
<th>Object</th>
<th>German</th>
<th>Tamil</th>
<th>English</th>
</tr>
</thead>
<tbody>
<tr>
<td>Third person singular (masculine)</td>
<td>ihn</td>
<td>நாடு</td>
<td>him</td>
</tr>
<tr>
<td>Third person singular (feminine)</td>
<td>sie</td>
<td>நாடு</td>
<td>her</td>
</tr>
<tr>
<td>Third person singular (neutral)</td>
<td>es</td>
<td>நாடு</td>
<td>it</td>
</tr>
<tr>
<td>Third person plural (animate objects)</td>
<td></td>
<td>நாடு</td>
<td>them</td>
</tr>
<tr>
<td>Third person plural (inanimate objects)</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Nominative and accusative pronouns in the third person pose a problem to beginner level learners. As can be seen in Tables 7 and 8, three out of the four
pronouns (*sie, es, sie*) are the same in both the cases. Only the pronoun for masculine singular is different in the nominative and accusative cases (*er, ihn*). The third iteration of the sequence focused on highlighting this difference.

In both the form-focused and meaning-focused activities wrong use of the nominative and accusative pronouns were considered as errors. Even though the new grammatical content of the sequence was accusative pronouns, learners had been familiar with nominative pronouns since week 2. Hence, the team agreed that wrong use of nominative pronouns could be indicative of an unclear understanding of accusative pronouns also. Furthermore, it is difficult to separate nominative and accusative pronouns in any context-embedded and meaningful activities. Such activities would only appear too contrived. Thus, learners were required to use both types of pronouns in all activities. Therefore, accurate use of both types of pronouns was analyzed.

In the weeks when the team met to revise the instructional sequence (weeks 7 and 11) the findings from this analysis were shared. I used this opportunity to take the research team through the steps of the analysis in detail in order to ensure that everyone on the team agreed that the errors were indeed grammatical.

3.7.2 Research Question 2

What social, cultural, and linguistic considerations mediate the decisions of foreign language teachers in leveraging learners’ prior language knowledge during TL instruction?
To answer the second research question data were gathered primarily from the weekly team meetings. During the weekly meetings the team designed and refined the instructional sequence. All meetings were audio recorded. From these recordings excerpts in which the teachers’ rationale to design or change the sequence in a certain manner were identified. These sections were then transcribed and open-coded (Miles, Huberman & Saldaña, 2013) to understand what social, cultural, and linguistic aspects the teachers considered in incorporating learners’ known languages in TL instruction. The software MAXQDA (Version 2018.2) was used for transcribing and coding data.

3.7.3 Research Question 3

What advantages and disadvantages do foreign language learners perceive in leveraging their prior language knowledge in learning German?

Students shared their perspectives in a weekly written reflection journal. They were not informed that their perspectives on the instructional sequence were being gathered. They were asked to reflect on specific moments during instruction when they believed they were successful, overwhelmed, confused, or productive. Specific prompts (Table 3.10) were given to them to help them reflect on their learning. Students met on Saturdays and Sundays for their lesson. At the end of their class on Sunday students spent approximately ten minutes reflecting on their learning that weekend. On Sunday, their journals were collected for analysis. The following Saturday the journals were returned to the students.
Table 3.10
Instructions for Learners’ Reflection Journals

Congratulations on the progress that you have made so far with German! How did you think you did this week? Think of specific moments this week when you experienced any of the following. Why do you think you felt a certain way? Can it be traced back to a particular activity that you did? What about that particular task that you were engaged in, made you feel that way? Make note of moments like the ones given below, or anything else related to your learning.

- An ‘ah-ha’ moment – when you felt like everything clicked in your mind, and you’ve suddenly realized something.
- A confused moment – when something you were learning was confusing or unclear.
- A ‘that-makes-sense’ moment – when you felt like you understood something clearly.
- An ‘all is well’ moment – when you felt like your German learning is going well.
- An ‘I-am-awesome’ moment – when you felt like you’ve accomplished something in class.
- An ‘its-too-much’ moment – when you felt like the learning was overwhelming.

A tracer analysis (Bismack, Arias, Davis, & Palincsar, 2015) of the journal entries was performed every week. A ‘tracer’ refers to the practice of deliberately incorporating chosen concepts into instruction for the purpose of studying their enactment by teachers or students. A tracer analysis refers to looking for evidence of these specific tracers either in instruction or in student work. In this study the ‘tracers’ inserted were those activities that were part of the instructional sequence. These tracers that were used as design elements in developing the instructional sequence thus also served as analytical tools. Any
evidence of crosslinguistic comparison, metalinguistic thinking, or reference to learners’ known languages was thus considered ‘tracers’. These were also used as codes during the analytic process. The journals were gathered at the end of every week and reflective entries were scanned for any tracers of the multilingual instructional sequence. Only these entries were chosen and coded qualitatively to understand what the students expressed about the instructional sequence.

While designing the study I had anticipated that data gathered in response to research questions 1, 2 and 3 would contribute equally to assessing the instructional sequence. However, teachers’ perspectives during weekly meetings contributed the most to refining the design. Learners’ language development (RQ 1) seemed to have been heavily influenced by other individual and external factors. For example, some of the focal participants missed classes in between and were not able to perform as well in these activities as others. In other cases, learners’ performance on some writing tasks seems to have been influenced by other language aspects that they were learning at that moment. Learners’ performance in the target grammatical aspects could not be isolated every time because of the context-embedded nature of all the activities. The reasons mentioned above are also reflected and acknowledged by the DMM (Jessner, 2008). Language development in learners is shaped by various internal and external factors. DMM therefore rejects drawing any causal lines between language development and one of these factors. Yet, the large picture that the data yielded provided some insights into the design of the instructional sequence.
Students’ perspectives (RQ 3) also contributed minimally to the assessment of the design. The beginner level course met only during weekends, during which time the instructor had to teach, train, and develop several aspects of the German language. Consequently, a summarizing reflection by a learner at the end of every weekend included many notable moments of that weekend. These notable moments did not always make reference to the instructional sequence. This was particularly noticeable during the third iteration. The weekend (Saturday) when the third iteration was implemented, the students also wrote a mock exam. Most of the reflections at the end of that weekend were on this mock exam and not on the sequence that was implemented on Sunday. Thus, very few journal entries reflected learners’ perspectives on the sequence.

Indeed, the data gathered in response to research questions 1 and 3 contributed minimally to understanding how the design worked. But by considering these data and those gathered in response to research question 2 as parts of a larger picture, it was possible to assess the design of the instructional sequence. This kind of triangulation offered a more holistic picture of the sequence and took into consideration the perspectives of all stakeholders.

3.7.4 Research Question 4

How does multilingual instruction impact the metalinguistic awareness of adult foreign language learners?

The final research question was conducted as a quasi-experimental study. The purpose of this study was to understand how multilingual instruction impacted learners’ metalinguistic awareness.
3.7.4.1 Activity

Metalinguistic awareness in multilingual language learners has often been assessed using questionnaires and tests. In this study, I took a different approach to access the metalinguistic thinking of learners. Translation as a skill and activity has been shown to serve as evidence of metalinguistic awareness in adult language learners (Ehrensberger-Dow & Perrin, 2009; Graham & Cook, 2012; Laviosa, 2014; Malakoff & Hakuta, 1991; Malakoff, 1992). Translation ability requires learners to take a step back from the original text, isolate the language form that conveys the meaning, and then express the same meaning in a different language. This skill is contingent on a certain degree of metalinguistic awareness.

However, the translation task in this study was not akin to the kind of activity that professional translators perform. Rather, it was considered as an act of ‘Sprachvermittlung’ (roughly translated as ‘language mediation’). This distinction was pointed out to me by the teachers on our research team. The GLI follows the Common European Framework of Reference for Languages (CEFR). The most recent changes in CEFR descriptors were made in 2018. The new document has a modified definition of Sprachvermittlung or language mediation to better suit multilingual spaces. According to the new descriptors, “in mediation, the user/learner acts as a social agent who bridges and helps to construct meaning, sometimes within the same language, sometimes from one language to another” (CEFR, 2018, p. 103). While mediating a text, the more experienced language user may be relaying information given in the text to another person who is not
able to access the content due to “linguistic, cultural, semantic or technical barriers” (p. 106). Among the mediation activities, the CEFR mentions translation as one that can be performed by lower-level learners (p. 104). This kind of translation differs from the activity performed by professional translators who relay information to an unknown audience, to readers who might or might not have linguistic barriers, and where the information relaying occurs asynchronously. Translation as a form of language mediation, on the other hand, allows for negotiation of meaning, posing clarification questions, continued interaction until the interlocutor understands the meaning, and use of varied semiotic resources. This type of translation also prevents beginner level students from being distracted by individual unknown words and rather focuses their attention on the larger meaning of the text.

At the beginner level translation is described specifically by CEFR as “convey[ing] simple, predictable information of immediate interest given in short, simple signs and notices, posters and programmes” (p. 105). Following this description, a poster describing a special offer for sports classes at the University of Münster was chosen (Appendix J). The poster offers students at the University of Münster a final chance to sign up for certain sports classes at the university’s recreation center. Students were required to read this poster and pass on important information to their friend, who is a student at the University and who does not know German at all. The specific instructions given to all students were as follows:
“You are both students at the Münster University. You have another Indian friend at the same university who does not know German. He sends you a picture of this poster by email and asks you to help him understand it. He says he saw the word ‘Sport’ and being a sports fan wanted to know what was in the poster. Together you will write back to him in English, Tamil, or Hindi and give him all the important information from this poster. You may discuss what is given in the poster in any language you want. Then write an email together. Remember, your friend does not know German at all”.

Task instructions were given to the students in English and/or Tamil to ensure that they understood the task correctly. Students in both groups worked with a partner, whom they identified on their own. The student pairs, one by one, discussed the text and collaboratively drafted an email to a friend. The conversation was audio recorded and the written text was collected from the students. As each student pair performed the translation task, I was present in the room taking notes on moments when they drew on their known languages. Once the task was completed, participants were given a five-minute break, during which time they stayed in the room. During this time, I referred to my notes and identified moments in the conversation that required further explanation. After five minutes the students engaged in a stimulated recall session (Gass & Mackey, 2016). I posed questions to them with the intent of understanding their decisions in translating, in identifying specific words, their methods in comprehending the text, and so on. This question-and-answer session helped uncover the thought processes underlying their metalinguistic thinking and revealed a great deal about
how the participants made connections between the languages they know. The
stimulated recall sessions were also audio recorded. Once this was completed, I
explained unknown words in the text to the students and offered them advice in
how to deal with this specific genre of texts. This kind of advice was welcomed
by the students, as it would help them comprehend such texts in exams.

3.7.4.2 Analysis

In analyzing for evidence of metalinguistic awareness only the student
conversations were used. The written texts were referred to only if further support
for student conversations was needed. All student conversations were first
transcribed using MAXQDA, Version 2018.2. In their conversations students
switched between English, Tamil, and German. In some cases, when there was a
different common language between the student pairs, a fourth language was also
used. In analyzing the interactions, the number of instances when learners referred
to their known languages or multilingual processing instances (MPIs) were first
identified. In doing so, interactions where there were no discussions about a
phrase or word were not counted. Only instances when the participants referred to
their known languages and interacted for multiple turns in processing the phrase
were counted. It is only during these instances that learners’ metalinguistic
thinking is activated, not when directly translating words without discussing them.
Then, the MPIs were analyzed qualitatively to understand the function performed
during these instances. These functions were coded individually within each
group. Then the codes were compared across both groups to compare the
metalinguistic thinking.
The following two chapters present the findings of the study. The next chapter presents findings from research questions 1, 2, and 3. In doing so, a chronological picture of how these data and findings shaped the design and refinement of the instructional sequence is described. In Chapter 5, the findings from the quasi-experimental study are presented.

3.8 Note on Multilingual Transcripts

In order to highlight the multilingual nature of the conversations with the participants, I have used specific typographical features for every language. Sections in English follow the same typographical features as the rest of the text in the dissertation. Sections in Tamil are presented in bold and those in German are presented in capital letters. Translations for all multilingual conversations are presented below the original transcripts.
CHAPTER 4: FINDINGS FROM DBR ANALYSIS AND DISCUSSION

This chapter presents the data collected during the research study in two different ways. In the first part of the chapter the findings to research questions one, two, and three are presented and discussed sequentially. In doing so, the temporal aspect of how the themes and findings evolved over the iterations is ignored. Instead, focus is on looking at the findings as they respond to each research question. In the second part of the chapter the same findings are viewed chronologically to understand how these informed the refinement of the multilingual instructional design after every iteration.

Analyzing the data for research questions differed in two ways from the way in which the data were analyzed for the purpose of refining the sequence. First, to answer the research questions, the analysis was performed at the end of the research study. In Design Based Research studies retrospective analysis of all data gathered is performed at the end to achieve their dual purpose of improving instructional practice and developing our theoretical understanding of learning (Gravemeijer & Cobb, 2006). I documented data diligently throughout the study, so that the data trail would facilitate retrospective analysis. In contrast, refining the sequence required formative analysis of the data. This analysis was ongoing and performed during the research study. I often analyzed the data after every week, consolidating the findings at the end of every iteration, which were then used to inform the redesign of the sequence. Second, data collected from every source were used in the retrospective analysis, whereas data only from the respective iteration were analyzed for the formative assessment. The retrospective
analysis required a broad view of all the data to understand larger trends, themes, and patterns. During the formative assessment data from the previous iteration was closely studied to make changes to the subsequent iteration.

4.1 Part I: Retrospective Analysis Related to Research Questions

4.1.1 RQ1: Findings

How accurately do foreign language learners use the chosen grammatical features during and post multilingual instruction?

This question aimed at tracking how accurately learners used the target grammatical features over the weeks following the implementation of the sequence. The purpose of following learners’ accurate performance was to assess the instructional sequence. Learners were given both form-focused and meaning-focused activities during the three weeks that followed every iteration. Form-focused activities were given during the week that immediately followed the implementation (Weeks 4, 8, 12), and meaning-focused activities were given during for two consecutive weeks after that (Weeks 5 & 6, 9 & 10, 13). Per the teacher’s request no data were collected during Week 14, which means data were collected from learners only for two weeks after the third iteration. In the meaning-focused activities verbal (Weeks 6 & 10) and written (Weeks 4, 5, 8, 9, 12, 13) data were gathered from four focal participants – Chander, Keerti, Dhanush, and Nileesh. Verbal data were audio recorded and transcribed. Copies of focal learners’ written activities were collected for the purpose of analysis. Obligatory occasion analysis (Ellis & Barkhuizen, 2005) was performed on the transcribed verbal data and the data from the writing activities. Both the analysis
and the findings presented here are specific to each grammatical feature, as this helped the research team assess the instructional sequence.

A perusal of learners’ performance after the first iteration (Figure 4.1) shows that their accuracy with definite and indefinite articles was greater at Week 4 than at Weeks 5 and 6. At Week 4 three of the four learners demonstrated 100% accuracy in the form-focused activity. When they performed meaning-focused activities over the next two weeks, their accuracy of most participants was at or over 70%. Only one student, Dhanush, performed with 65% accuracy in Week 5. The other three focal participants performed with consistent accuracy during Weeks 5 and 6.

**Figure 4.1**

*Learners’ Accuracy Performance after First Iteration*

Learners’ accuracy performance with possessive pronouns after the second iteration varied over the following three weeks as can be seen in Figure 4.2. Two
focal participants, Chander and Keerti, performed with 100% accuracy in the form-focused activity at Week 8, whereas Dhanush and Nileesh performed only with 75% and 70% accuracy respectively. At Week 9 learners’ performance dropped substantially with Chander at 60%, Keerti at 80% and Dhanush at 60% accuracy. Nileesh’s performance, however, remained consistent across both weeks with 70% accuracy. Week 10’s analysis shows great variance among the learners’ performance. Keerti’s and Nileesh’s accuracy increases to 100% and 75% respectively, whereas Chander’s accuracy decreases to 45%. Dhanush’s accuracy remains at 60%.

**Figure 4.2**

*Learners’ Accuracy Performance after Second Iteration*

After the third iteration learners’ accuracy with accusative pronouns was higher during the form-focused activity at Week 12 than during the meaning-
focused activity at Week 13. Figure 4.3 shows that Chander’s, Dhanush’s, and Nileesh’s accurate performance reduced greatly from 80% to 65%, 100% to 75% and 100% to 55% respectively. Keerti’s performance reduced marginally from 75% to 70%.

Figure 4.3
Learners’ Accuracy Performance after Third Iteration

The average accuracy of all four focal participants by week is presented below in Table 4.1. The performance every week shows great variability which is discussed in the section below.

Table 4.1
Average Accuracy of Focal Participants by Week

<table>
<thead>
<tr>
<th>Week</th>
<th>Average Accuracy Rate</th>
</tr>
</thead>
</table>
4.1.2 Discussion

The analysis of learners’ performance for accuracy in the weeks immediately following the iterations shows great variability, albeit with certain emerging patterns. Learners’ performance seemed to vary depending on task, interlocutor, and grammatical forms. First, learners performed more accurately in form-focused activities than in meaning-focused activities. In the form-focused activities the average accuracy rate of all four focal participants was at 95.8% (Week 4), 86.2% (Week 8) and 88.7% (Week 12). By contrast, the average accuracy rate of learners in the meaning-focused activities was at 77% (Week 5), 77.5% (Week 6), 67.5% (Week 9), 70% (Week 10) and 66% (Week 13). Higher accuracy in form-focused activities than in meaning-focused activities is to be expected as soon as a grammatical feature is learnt. Form-focused activities require declarative knowledge, or knowledge that can be described or explained. Meaning-focused activities require procedural knowledge, or knowledge that has
been internalized and automatized. Learners develop declarative knowledge first and then they “assimilate and internalize this knowledge through ample practice before they can use it automatically in real communication (Dekeyser, 1998)” (Zhao, 2011, p. 51). Since the form-focused activities were conducted right after the target grammatical features were taught, learners’ declarative knowledge might have been developing, but not their procedural knowledge. This offers one explanation as to why the focal participants’ accuracy was higher in the form-focused activities. Furthermore, research has also shown that form-focused instruction aims at developing declarative knowledge (Ellis, 2002; Ranta & Lyster, 2018). Since the multilingual instructional sequence included form-focused instruction, it is possible that learners’ developing declarative knowledge might have influenced their accuracy performance in the form-focused activities.

Learners’ performance also seemed to vary depending on with whom they were paired. Keerti and Nileesh were paired with Dhanush and Chander respectively in Week 6. Here their accuracy rate did not improve greatly from the previous week. However, when paired with one another in Week 10, Keerti and Nileesh demonstrated an increase in accuracy rate from the previous week. Keerti’s accuracy rate increased by 20% and Nilesh’s accuracy rate increased by 10% from Week 9 to Week 10. Since both learners displayed a similar pattern in their performances when paired with one another, one could argue that their improvement in accuracy might be attributed to their interlocutor. When Dhanush and Chander were paired with one another in Week 10 their accuracy rates did not increase but remained constant for Chander and decreased
for Dhanush. Other studies have also found that the accuracy of language produced during collaborative activities can be influenced by the dynamics between the learners (Davis, 2009; Kapiley & Mishra, 2018; Kim & McDonough, 2008).

The first iteration also seemed to elicit the most accurate performances among the learners than the subsequent ones. The grammatical feature taught in the first iteration was definite and indefinite articles. German definite and indefinite articles have direct equivalents in the English language and during the first iteration all learners drew on their English language knowledge while understanding the function of this grammatical feature (discussed below). It is possible that when performing the weekly activities after the first iteration learners continued to draw on their English language knowledge to use German articles. On the other hand, possessive articles and accusative pronouns, which were taught in the second and third iterations respectively, pose many challenges to novice-level Indian learners, as explained in Chapter 3. The lack of direct equivalents in possessive articles and accusative pronouns between German and Indian languages or English makes their internalization and use difficult. Thus, the nature of the forms themselves probably led to lower accuracy in the learner data in the weeks following the second and third iterations.

The huge variance seen in learners’ performance is in accordance with the patterns expected in multilingual learners’ language development. Several holistic theories of multilingual learning consider variation within an individual’s language development and among the development trajectories of many learners.
in the same classroom to be the norm (Jessner, 2008; Larsen-Freeman, 2006). The
Dynamic Model of Multilingualism (Herdina & Jessner, 2002; Jessner, 2008)
draws from variationist studies in explaining that “variation in multilingual
development and use is strongly linked to the dependence of the system on social,
psycholinguistic, and individual factors” (Jessner, 2008, p. 272). The language
use of the focal participants and their accuracy rates varied depending on several
factors such as interlocutor, task, and linguistic aspects. In light of this theoretical
understanding of multilingual language development, variations seen in the
learner data are considered to be normal.

4.1.2 RQ 2: Findings

What social, cultural and linguistic considerations do foreign language
teachers have in leveraging learners’ prior language knowledge in TL
instruction?

In developing the instructional sequence teachers on the research team
took into consideration several social, cultural, and linguistic factors that pervaded
the learning context. Discussions surrounding these considerations took up large
portions of the weekly research team meetings. Some factors were revisited
several times over the course of the entire semester. The audiotaped data from the
weekly meetings were qualitatively coded to answer the research question. Even
though the research question is phrased in a manner that separates social, cultural,
and linguistic considerations, I found that it was not possible to distinguish
between the three factors in either the discussions or data analysis. Across all
team discussions, these three factors overlapped to a great extent. Figure 4.4,
which contains the codes and themes from the analysis, illustrates this point. The findings presented here, therefore, do not separate social, cultural, and linguistic factors. Instead, larger themes that arose from the qualitative coding are presented. Moreover, the description of each theme also shows how the research team’s understanding of the multidirectional connections between these factors expanded as the weeks progressed. It therefore must be noted that every theme discussed herein includes a chronological element to it, tracing how our understanding of the various contextual social, linguistic, and cultural factors developed.

**Figure 4.4**

*Themes and Codes from the Qualitative Analysis*

### 4.1.2.1 Leveraging Linguistic Variety

The linguistic plurality of the classroom was a linguistic consideration that was revisited very often throughout the team meetings. Even in our early
discussions in developing the instructional sequence, the team unanimously agreed that it was essential to allow learners to draw on all the languages they knew in order to understand the grammatical features being introduced.

Crosslinguistic comparisons should not be restricted merely to the L1, English, or any other common language in the classroom. Ms. Tara explained why this approach is particularly applicable to Indian learners.

**Excerpt 1**

01 And if you ask me what language I am thinking in it’s very difficult for me to answer because I can think in English, I can think in Malayalam, I can think Tamil. The thought - we are so adaptable that way. Students are also like that. They think in many languages. If we tell them to think of only one language, it’ll be like restricting them.

**Translation**

01 And if you ask me what language I am thinking in it’s very difficult for me to answer because I can think in English, I can think in Malayalam, I can think Tamil. The thought - we are so adaptable that way. Students are also like that. They think in many languages. Then if we tell them to think of only one language, it’ll be like restricting them.

(Meeting: March 5, 2019)

Ms. Tara explained that the plurilingualism of Indian learners is not merely a verbal skill, but also an internal cognitive function. If, therefore, learners are asked to choose only one of their known languages in crosslinguistic discussions about TL grammar, this might go against their habituated practice of thinking in many languages. It was therefore decided that in the instructional
sequence learners would be allowed to choose any and all the language(s) they knew in making sense of the German grammatical feature.

Initially learners’ plurilingualism was regarded as an isolated learner characteristic. But as the weeks proceeded, we observed how this interacted with other individual and social aspects to facilitate their grammatical understanding. In the first iteration, learners resorted to picking English as the language for crosslinguistic comparisons, and not their L1s or other Indian languages. We had not encouraged or discouraged the choice of English and so the research team was surprised at this. In the following conversation between Ms. Tara and Mr. Balaji possible explanations for choosing English are discussed. This conversation transpired in a meeting after the first iteration, during which definite and indefinite articles in German were taught using the multilingual instructional sequence.

**Excerpt 2**

01 Mr. Balaji: So students in different groups decided spontaneously which language should be used to compare right?
02 Ms. Tara: Ya, but there were some tables where they did not use Tamil at all. English was their first choice. I was surprised, why their first choice was English. Maybe English is a common language. But in one group they were totally not talking in Tamil and they said ‘a, an’. So overall it worked more in English than in other languages. The thought process was in English I would say.
08 Mr. Balaji: Ya, and if it’s an educational setup it’s natural for them to think and speak in English first.

**Translation**

01 Mr. Balaji: So students in different groups decided spontaneously which language should
Ms. Tara: Ya, but there were some tables where they did not use Tamil at all. English was their first choice. I was surprised, why their first choice was English. Maybe English is a common language, that could be the reason. But in one group they were totally not talking in Tamil and they said this is ‘a, an’. So overall it worked more in English than in other languages. The thought process was in English I would say.

Mr. Balaji: Ya, and if it’s an educational setup it’s natural for them to think and speak in English first.

(Meeting: March 5, 2019)

Ms. Tara explained that in their group discussions some learners leveraged only their English knowledge. She suggested that English was possibly used because the groups were linguistically heterogenous and English was the only common language. This reflects a sociolinguistic practice in urban India, where English is commonly used as the lingua franca among groups with no other common language, especially among literate groups from middle and higher socioeconomic spheres (Annamalai, 2001; Mohanty, 2018). Ms. Tara believed that this linguistic practice extended into the classroom and was found in small group discussions. A second possible explanation for the use of English was given by Mr. Balaji in lines 08 and 09. English is the medium of instruction in most post-secondary educational institutions associated with learning and education (Vaish, 2008; Vijayalakshmi & Babu, 2014). It was, therefore, natural for adult learners to think of English first while learning in a formal classroom setup.

English was learners’ first choice for crosslinguistic comparisons only in the first iteration. In the second and third iterations learners chose different
languages in their group discussions. In a meeting after the second iteration, Ms. Tara explained how this shift from English to other Indian languages happened.

**Excerpt 3**

01 Anu: Another thing was group first English try English. And
02 then Tamil or other Indian languages.
03 Ms. Tara: Ya, once they realized this didn’t work they started thinking in Tamil, Telugu.
04 Anu: So what struck me was English use
05 successful. It was a success only because they used Indian languages.
06 Ms. Tara: Or because they did a combination.

**Translation**

01 Anu: Another thing was that within the group they first tried to use English. And
02 then Tamil or other Indian languages.
03 Ms. Tara: Ya, once they realized this didn’t work they started thinking in Tamil, Telugu.
04 Anu: So what struck me was if we had used only English it would not have been so
05 successful. It was a success only because they used Indian languages.
06 Ms. Tara: Or because they did a combination.

(Meeting: April 4, 2019)

Unlike in the first iteration where only English was drawn on, crosslinguistic comparisons in the second iteration were more diverse. Learners started by comparing English and German possessive articles. Once they realized that English did not provide sufficient clarity in understanding the possessive articles, learners intuitively drew on other languages such as Tamil and Telugu (line 03). As Ms. Tara promptly pointed out, in some groups, learners combined their knowledge of possessive articles in English and in other languages (line 06). In the above excerpt Ms. Tara and I agreed that
utilizing many or all the languages known to learners in small group discussions seemed to result in a better understanding of German possessive articles, thus making it a “success” (line 05). Over the weeks, learners’ plurilingualism went from being the mandatory contextual feature that was being leveraged to a learner characteristic that reflected linguistic practice in the Indian context, and finally to an agentive practice that facilitated TL understanding.

4.1.2.2 Activating Latent Multilingual Awareness

In the team meetings teachers pointed out that the assets learners brought into the classroom were not just their multiple languages, but also the multilingual awareness that comes with knowing many languages. The following excerpt illustrates this.

Excerpt 4

01 Mr. Balaji: The concepts are similar in all languages. But the manifestation is different.
02 அவ்விதமான அச்சாலைகளின் மூலமும். ஆனால் overt ஏன் டிரும்ப அறைகளின் அல்லது
03 குறுக்கு - The hidden layer is the same in all languages in the world. And some students
04 already know it. Because அடுத்துடன் அச்சாலைகளின் மூலமாக Indian languages ஆ
05 ஆசிய மூலகங்கள். கொஞ்சும் வேறு குறுகிய பொருள் languages தைகரமாக சுருக்கினார் கதிரவா
06 இல்லை. ஓவியையும் இல்லை. போக்கு compare ஆசிய மூலகள் intuitive ஏன் சீராய் அனைத்தும். So வேறு
07 understanding. அங்கு அவ்விதமான டிரும்ப. SOLLZUSTAND ஏன் என்கறை
08 அங்கு குறுக்கு ஒன்று.

Translation

01 Mr. Balaji: The concepts are similar in all languages. But the manifestation is different.
02 This is what they should understand. How it is overtly, only that- The hidden layer is the
03 same in all languages in the world. And some students already know it. Because that’s
04 how they would have learnt another Indian language. In our country when learning
languages informally, we compare them intuitively as this is how it is in Tamil, this is how it is in Telugu. So, we need to think of how we can help them achieve the desired outcomes using this understanding.

(Meeting: February 28, 2019)

In the first few sentences Mr. Balaji alluded to the universality of languages. Languages share many similar concepts, but their overt manifestations are different. Indian learners enter the classroom with emerging understanding of this concept as they navigate the linguistic diversity that permeates their social surroundings. Mr. Balaji pointed out that Indians learn regional languages informally. The L1 serves as the base language system, to which learners intuitively compare the new language. Through crosslinguistic comparisons learners develop skills in the new language, but also, at times, develop their multilingual awareness or “awareness (tacit and explicit) of the interaction between the languages” (Jessner, 2008, p. 279). With every new language added to their repertoire in this manner, learners’ multilingual awareness increases (Jessner, 2008). The team agreed that the instructional sequence should therefore aim at leveraging this multilingual awareness to guide them through the understanding of the universality of languages.

Our observations of every implementation revealed that learners’ multilingual awareness developed over the weeks. During the first iteration crosslinguistic discussions were brief and learners were uncertain about the comparison process. But in the second and third iterations learners demonstrated greater confidence in that process, and in turn, their discussions contained richer explanations of the grammatical aspects in different languages. These
explanations often contained epiphanies about learners’ own first languages, which led to prolonged discussions within groups when they compared the function of the grammatical aspects in different languages. Ms. Tara noted that learners at times took the discussions a step further and explained the grammatical feature to a peer who did not know a certain Indian language. For example, if a peer at the table did not know Tamil, learners who knew Tamil would explain to them how the grammatical feature was used in Tamil. We observed that as their multilingual awareness increased, learners engaged in in-depth discussions about how the target grammatical element functioned in every known language and in German.

4.1.2.3 Learner and Teacher Roles

In India, the teacher is traditionally revered as the powerhouse of knowledge and the subject matter expert. Indian learners bring this sentiment with them into the language classroom too. While designing the instructional sequence the team was skeptical about the learners’ willingness to explain grammar rules in their known languages. Such explanations are expected to come from the expert – the teacher. For this reason, the team decided that the sequence would conclude with a frontal explanation of the grammatical function from Ms. Tara. However, during the second and third iterative implementations there were moments when learners took on the role of the expert. While the linguistic repertoires of all learners and Ms. Tara overlapped to a great extent, there were some languages that only one learner in the classroom knew. In such instances the learner had to step forward to explain the grammatical function in that language. In the
following excerpt Ms. Tara talks about her experience during once such instance.

**Excerpt 5**

01 Ms. Tara: No sir, he is the only one who knows Urdu. Nobody else does. But he stepped
02 up confidently and spoke in front of the class. I was
03 surprised.
04 Mr. Balaji: Did he explain well?
05 Ms. Tara: Ya, ok. He explained well, but it was a little confusing. But he volunteered
06 and explained it. That was nice.

**Translation**

01 Ms. Tara: No sir, he is the only one who knows Urdu. Nobody else does. But he stepped
02 up confidently and spoke in front of the class. I was
03 surprised.
04 Mr. Balaji: Did he explain well?
05 Ms. Tara: Ya, ok. He explained well, but it was a little confusing. But he volunteered
06 and explained it. That was nice.

(Meeting: April 24, 2019)

Ms. Tara talked about a student who volunteered during the large group discussion to explain the form and function of possessive articles in Urdu. As the only person who knew Urdu in the entire class, he acted as the expert of the language, comparing the grammar functions in Urdu and German. Ms. Tara stepped down from her position as the instructor and allowed the student to address the class. There were two other instances when learners who knew Japanese and Marathi respectively offered linguistic explanations during small group discussions. In those moments the students and Ms. Tara briefly exchanged
their roles as teacher and learners. Such role-swapping between the teacher and the taught provided the learners with agency in leveraging their linguistic assets.

4.1.2.4 “Let’s keep it simple”: Language of Interaction

Teachers on the research team were particular that small and large group crosslinguistic discussions should be held in learners’ L1 or in a language that they were comfortable in. They did not want to enforce the use of German during this step in the instructional sequence. In a previous study conducted with teachers in the same context on the integration of multilingual pedagogies in their instruction, Gopalakrishnan (2020) found that teachers hesitated to include other languages during their limited instructional time. Learners are exposed to the TL only in the classroom and allowing the use of other languages would reduce their exposure time to German. For this reason, the question of whether learners should be encouraged to perform crosslinguistic discussions in German was first raised before the second iteration. But the teachers believed that this might be a challenge for learners.

Excerpt 6

01 Mr. Balaji: SIE FÜHLEN SICH ÜBERFORDERT.

Translation

01 Mr. Balaji: They will be overburdened. Then they will be able to operate only within that framework. In that fear they will not speak what we want them to
(Meeting: February 2, 2019)

The question of introducing German in the instructional sequence was brought up again before the third iteration. Excerpt 7 shows how Mr. Balaji responded to it.

Excerpt 7

01 No, if we give them some German phrases and ask them to discuss we won’t get what we want. Their focus will be more on using the phrases rather than discussing or revealing what they know. All their conversation will revolve around how to use the language. The essence will be gone. We will not get what we want. Right now just metalinguistic thinking is new. If language is also new it will be a dual burden for them. At this level they think they should use whatever the teacher gives them. So let’s not do this.

02 Let’s keep it simple!

Translation

01 No, if we give them some German phrases and ask them to discuss we won’t get what we want. Their focus will be more on using the phrases rather than discussing or revealing what they know. All their conversation will revolve around how to use the language. The essence will be gone. We will not get what we want. Right now just metalinguistic thinking is new. If language is also new it will be a dual burden for them. At this level they think they should use whatever the teacher gives them. So let’s not do this.

02 Let’s keep it simple!

(Meeting: March 22, 2019)

When the question of having students perform crosslinguistic discussions in German came up, Mr. Balaji turned it down both times saying it would
overburden them. The team had observed that metalinguistic discussions were challenging to learners in the first place. If learners were asked to use German in this step, their focus might be divided between TL use and metalinguistic thinking. In addition, their limited language proficiency might curtail the free expression of their metalinguistic thinking. But when I shared the findings from the previous study (Gopalakrishnan, 2020) that teachers at the GLI were hesitant to allow other languages during their limited instructional time, the team reached a consensus on establishing principles around the use of known languages in TL instruction (Levine, 2011; Macaro, 2009; Swain & Lapkin, 2013). It was decided that only during the small and large group crosslinguistic discussions learners would be permitted to interact in languages other than German. Thus, in order to facilitate crosslinguistic comparisons teachers were willing to let go of their earlier preference of adhering exclusively to the TL during instructional time and established clear classroom principles on the “optimal” (Macaro, 2009) use of learners’ known languages.

4.1.2.5 Emphasis on Collaborative Learning

The importance of allowing students to learn collaboratively through group discussions in the multilingual instructional sequence was revisited many times during the meetings. First, the teachers pointed out that the educational culture in the Indian schooling system does not train learners for learning in groups (Burns et al., 2014). Even today teacher-centered teaching is prevalent in the Indian education system. Learners therefore often take their time to get used to the learning methods at GLI. The teachers mentioned that despite the cultural
hurdle, GLI’s instructional approaches are learner-centered, and focus heavily on
inductive learning and collaborative learning. Teachers, therefore, insisted that the
multilingual instructional sequence also include an element of collaborative
learning through group discussions.

A second reason for including discussions in the sequence was that the
team realized that metalinguistic thinking can initially be a challenging task when
performed individually. We believed that engaging in metalinguistic discussions
could yield better results than having students thinking individually. We decided
that the inductive approach would be paired with discussions, where learners
collaboratively uncovered the similarities and differences in grammatical
functions in different languages.

In the first iteration we noticed that how learners were grouped influenced
their performance in the small group discussion. When a learner knew languages
that others in the group did not know, their participation in the discussion was
minimal. In other words, learners in some groups did not share many languages in
their repertoires, and this minimized their ability to perform crosslinguistic
comparisons. This also meant that at times learners drew only on certain
languages in the linguistic repertoires. In order to encourage learners to utilize
their prior language knowledge to the maximum and to increase their participation
in the discussions, they had to be grouped differently. The research team
concluded that groups had to contain learners whose repertoires overlapped as
much as possible. In the second and third iterations learners were grouped more
carefully to facilitate their discussions.
As learners activated their prior language knowledge, engaged in metalinguistic discussions, and reflected on languages they knew, they became more aware of ambiguities, irregularities, and idiosyncrasies in the grammar rules in their known languages. For example, in one group learners who knew Tamil realized that that language has no definite articles and that demonstrative articles are used to meet the linguistic function. In another group learners realized that gender assignment in Hindi is as ambiguous as in Sanskrit. We noticed that these realizations made learners understand and accept such ambiguities in the German language. In the following excerpt Ms. Tara explained how one group accepted that the German language does not distinguish between formal and informal use of third person singular pronouns.

**Excerpt 8**

01 Ms. Tara: Yes sir, last week this group were discussing that in Hindi and in Sanskrit there are no rules for masculine and feminine nouns. This week the same group when they were discussing German pronouns they realized that ER, SIE can be used in both formal and informal contexts. But without questioning it, they simply said yes, this is like Hindi and Sanskrit rules. I was surprised. Usually students take a while to accept this.

**Translation**

01 Ms. Tara: Yes sir, last week this group were discussing that in Hindi and in Sanskrit there are no rules for masculine and feminine nouns. This week the same group when they were discussing German pronouns they realized that ER, SIE can be used in both formal and informal contexts. But without questioning it, they simply said yes, this is like Hindi and Sanskrit rules. I was
That this group accepted the German rule without further questioning or discussion was surprising to Ms. Tara because, in her experience, many Indian learners get confused about using the same set of third person pronouns in both formal and informal contexts. Most Indian languages distinguish between the two contexts with two different sets of pronouns. Ms. Tara later explained that a grammatical ambiguity in their known languages, Hindi and Sanskrit, had made this group more accepting of crosslinguistic differences in third person singular pronouns. In the later weeks we also noticed that learners tolerated language ambiguities in German grammar such as gender assignment and spatial prepositions as well. In our observations learners’ accepted crosslinguistic differences and tolerated irregularities and ambiguities in German as they engaged in group discussions about languages and their functions.

The research team’s focus on collaborative learning and learner discussion was warranted and even reaped benefits at times. First it aligned with the institute’s larger teaching culture, even though many learners had not been used to this learning approach in their previous educational experiences. Second, discussions were intended to make metalinguistic thinking and crosslinguistic comparisons easier. Third, they helped the research team realize the importance of how learners were grouped, which in turn helped learners utilize their entire linguistic repertoire. Finally, we noticed that learners seemed to accept language ambiguities in German as they discovered in their discussions that their known languages also had ambiguities.
4.1.2.6 Discussion

The goal of this research study was to develop a multilingual instructional sequence that is specific to the learning context. To accomplish this goal the research team paid close attention to all the social, linguistic, and cultural factors in the context that exerted multidirectional influences on learning and instruction onsite. Throughout the design process the teachers discussed, debated, and considered the role and place of these factors, both individually and cumulatively. Learners’ individual multilingualism was the most important factor considered. Teachers believed that when learners engage in cognitive activities, they utilize all the languages in their minds. Therefore, the instructional sequence should also allow learners to draw on all language systems in their repertoires. Many multilingual learning theories explain how languages overlap in an individual’s mind, thus enabling one to think in many languages. Dynamic systems theory, for example, states that “language systems within the multilingual system are conceptualized as interdependent (rather than as autonomous) because they interact, influence, (…) and are in turn influenced by other systems” (Jessner et al., 2016, p. 159). As many languages constantly interact in learners’ minds, demanding them to isolate these languages in their crosslinguistic comparisons would be unnatural to multilingual users. Moreover, every language in a learner’s repertoire can serve as an affordance or a tool in learning German (Singleton & Aronin, 2012). The instructional design should therefore guide learners in mobilizing all the languages they know.
During the initial iterations we observed the privilege English enjoyed over other Indian languages in the larger social context being reflected in small group discussions. Learners’ first language choice for their crosslinguistic discussions was English, a practice that can be attributed to the privilege the language enjoys in India (Mohanty, 2018). However, allowing them to choose from their entire linguistic repertoire led them to draw on specific languages that helped them achieve their learning goal. This shift from English-only to whatever-language-works happened organically, agentically, and collaboratively. As learners realized that they shared known languages with their peers, they started utilizing languages other than English too. They also made agentic decisions in choosing languages from their collective linguistic repertoire that helped them understand the specific target grammatical feature. As Galante (2020) explains that an “individual repertoire allows for an agentive power that affords limitless possibilities of using the linguistic and cultural resources available” (p. 4). The decision to allow learners to leverage their entire linguistic repertoire provided them with the agentive power to break free from the linguistic hierarchical practices prevalent outside the classroom and to make their own choices in learning the TL.

In our early discussions the team recognized learners’ multilingual awareness as yet another asset that learners in the Indian context possessed. This awareness might be latent in many learners, and they would “need training (…) so that they can fully activate their multilingual repertoire and make use of their knowledge” (Jessner et al., 2016, p. 158). As the weeks progressed, we observed
that learners’ interactions went from being cursory and hesitant to detailed and confident. Learners even developed confidence in being able to explain grammatical rules in their known languages in group interactions. Repeated engagement in crosslinguistic comparisons and discussions with peers facilitated the activation and emergence of multilingual awareness.

It is customary that learners and teachers have culturally predefined roles in a classroom. One expects them to presumably operate within these parameters – the teacher imparting knowledge and the learner receiving all the knowledge. During the second and third implementations of this sequence we observed a change in this culturally set pattern. In the second iteration learners stepped forward to explain language rules to their peers in small groups. In the last iteration, three learners took this a step higher and explained rules in languages unknown to the rest of the class, even the teacher. This voluntary act of the three learners in the last iteration, but also several others in the second iteration signals great self-confidence and learner agency. Larsen-Freeman (2019) argues that learner agency can be enhanced in a language classroom by establishing optimal conditions for learning. Agency, from a dynamic systems theory perspective is conceptualized to be spatially and temporally situated, and “is something one achieves by means of an environment, not simply in an environment” (p.66, emphasis original). In the current project an environment conducive to the said achievement of agency was created through the design of the sequence. This agency allowed learners to shed their habituated role as passive learners and to take on the role of the knowledge expert. In talking about teaching practices that
can optimize conditions for fostering learner agency, Larsen-Freeman (2019) recommends “teaching iteratively (…) and teaching students to adapt their language resources to changing situations” (p. 71). In the current project learners did not volunteer to offer such linguistic explanations in the first iteration. It was only in the second and third iterations that students, through their learned behavior agentically volunteered to explain the linguistic rules in a language that only they knew in the classroom.

The voluntary act of learners who were sole representatives of the three languages – Urdu, Marathi, and Japanese – also stands in contrast to the hesitation of students mentioned in other multilingual studies (Brunen & Kelly, 2016; Galante, 2020). These studies have reported that when learners knew a language that was unknown to all others in a classroom, then they hesitated to utilize that language. This would mean that the learners could not draw on all the linguistic resources that they possessed. The current study found contrasting learner behavior, where students volunteered to use and explain these isolated languages. I argue that the iterative nature of the instructional sequence and its iterative implementation boosted learners’ confidence, encouraging them to act on their agency and step out of their traditional roles as learners, never teachers.

An important design-related decision that was discussed throughout the implementation phase was the language of interaction during the instructional sequence. The two teachers on the research team believed that beginner level learners should not be required to perform metalinguistic and crosslinguistic discussions in the target language. In saying so, they echoed the arguments of
Swain and Lapkin (2013) that “students should be permitted to use their L1 for the purpose of working through complex ideas” (p.113). Drawing from Vygotskyian principles, Swain and Lapkin (2013) argued that learners mediate complex cognitive functions through the L1, and this helps them “co-construct knowledge during a Zone of Proximal Development” (p. 119). But the views of the two teachers stood in contrast to a larger sentiment shared among a majority of teachers at the GLI. As revealed in a previous study (Gopalakrishnan, 2020) teachers hesitated to allow learners to use other languages for classroom interaction as this took time away from their limited exposure to German. Heeding the findings of the earlier study, the team decided to allow the use of L1 and other known languages but to limit them only to small and large group discussions. A careful consideration of the learners’ potential struggles in performing the instructional tasks and teachers’ perspectives on the use of L1 led to establishing “clear expectations about L1/L2 use” and to make the “use of L1 purposeful, not random” (Swain & Lapkin, 2013, p. 123). The team’s deliberations around the language of interaction are yet another indication that multilingual instruction has to be customized to a local context, carefully taking into consideration the views and capabilities of its stakeholders.

Teachers’ emphasis on learning collaboratively through discussion ensured that the local teaching tradition at GLI was continued. As learners discussed grammatical rules in several languages, they became aware of irregularities and ambiguities in rules in these languages. This awareness of their known languages seemed to make them more accepting and tolerant of
ambiguities in the German language. This is not surprising, as research studies on Tolerance of Ambiguity as a personality trait have shown that multilinguals have greater levels of tolerance of ambiguity than monolinguals and bilinguals (Dewaele & Wei, 2013; van Compernolle, 2015). Ambiguity tolerance can have benefits to the learner, such as lower learner anxiety (Dewaele & Ip, 2013) and positive attitudes toward language variation (van Compernolle, 2015).

The design process took into consideration several social, linguistic, and individual factors specific to the learning context. The team’s repeated attention to these factors uncovered the different ways in which these factors were inextricably interconnected.

4.1.3 RQ 3: Findings

What advantages and disadvantages do foreign language learners perceive in leveraging their prior language knowledge in learning German?

A third source of assessing the instructional sequence came from learners’ perspectives. Learners were not informed that their feedback on the instructional sequence was being gathered. Instead, all learners were asked to reflect on their learning process at the end of every week in individual journals. Every week their journals were collected and a tracer analysis (Bismack et al., 2015) was performed to check for feedback on multilingual instruction. A tracer analysis is the process of looking for evidence of specific practices or concepts (referred to as ‘tracers’) that were deliberately introduced into instruction. In this study the ‘tracer’ inserted was the multilingual instructional sequence. During the analysis
any mention to crosslinguistic comparison, metalinguistic thinking, or to learners’ known languages was thus considered as reference to the ‘tracer’.

Table 4.2 shows an overview of the findings from the analysis. Since learners had several learning and instructional highlights every weekend, there were only twenty-six instances when the instructional sequence or learners’ known languages were mentioned. All these entries were coded to understand learners’ perspectives on the instruction. Learners expressed four advantages and one disadvantage in leveraging their known languages. Each of these is discussed below.

**Table 4.2**

*Learners’ Perspectives on the Multilingual Instructional Sequence*

<table>
<thead>
<tr>
<th>Theme</th>
<th>Frequency Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>Comprehension of grammatical feature</td>
<td>13</td>
</tr>
<tr>
<td>Leveraging known languages as a learning strategy</td>
<td>7</td>
</tr>
<tr>
<td>Comprehension through discussion</td>
<td>2</td>
</tr>
<tr>
<td>Increased understanding of known languages</td>
<td>2</td>
</tr>
<tr>
<td>Confusion</td>
<td>2</td>
</tr>
</tbody>
</table>

**4.1.3.1 Comprehension of Grammatical Feature**

The most common advantage learners expressed is a good understanding of the target grammatical feature at every iteration. The number of learners who
expressed this also increased over the iterations. Only one student mentioned grammatical understanding after the first iteration, five students mentioned it after the second iteration, and seven students mentioned it after the last iteration. The following excerpt, for example, was written by a student after the last iteration.

**Excerpt 9**

Today we have seen about PERSONALPRONOMEN (*personal pronouns*) When we think about the sentences to Tamil, it was clear and understandable. We can easily say what would be the proper PRONOMEN in every place. (G, 28/4)

The student, G, wrote that translating German sentences with personal pronouns and thereby drawing on his prior knowledge in Tamil resulted in understanding the grammatical feature. He goes beyond mere comprehension and says that he would be able to apply his understanding of pronoun use correctly too. Another student wrote similarly about her experience learning personal pronouns.

**Excerpt 10**

Doing exercises for pronouns with translating each sentence to English, Tamil and Hindi I was able to remember with the example. Now I am able to understand the pronouns correctly. (S, 28/4)

S’s journal entry is similar to the previous one, but it highlights the variety of languages drawn on during the crosslinguistic comparisons. She mentions that examples in these three languages helped her to understand the pronouns. Learners thus most frequently noted good comprehension of the grammatical features as an advantage in leveraging their known languages.
4.1.3.2 Leveraging Known Languages as a Learning Strategy

In the multilingual instructional sequence learners were taught to draw on their known languages to understand a grammatical feature. Learners intuitively extended this learning strategy to other linguistic aspects such as vocabulary learning and reading. There was a total of seven times when learners wrote about using their prior language knowledge as a learning strategy. The following excerpt illustrates this.

Excerpt 11

A ‘that makes sense’ moment: When learning new German word or phrase by finding the translation in Tamil and Kannada on our own when learning ‘IM RESTAURANT BESTELLEN’. (Ve, 10/3)

Ve made this entry in his journal the week after the first iteration. He writes about an activity while learning about the topic “IM RESTAURANT BESTELLEN” or “ordering at a restaurant”. He mentions that he learnt new German words and phrases by translating them in two Indian languages, Tamil and Kannada. The learner here had identified that using prior language knowledge could be a learning strategy and had applied it to learning vocabulary during a different lesson. Similarly, learners wrote about how their native language knowledge helped them while reading texts in German.

Excerpt 12

While reading the new text today I thought about it in Tamil first. That helped us in understanding an paragraph while reading. (N, 31/3)
In trying to understand the new text that they were given, N writes that he first ‘thought about it’ in his L1. Doing so helped him comprehend the text well. Learners thus perceived utilizing their prior language knowledge as a learning strategy and applied it while encountering new content related to lexical items and reading.

4.1.3.3 Comprehension through Discussion

Two learners highlighted the role discussions played during the crosslinguistic comparisons. Both entries were made after the third iteration. Following is one of the excerpts by student V.

Excerpt 13

Discussing with team for PERSONALPRONOMEN AKKUSATIV is helpful to understand the logic of using it in different contexts. Meaning for the same in the local language is also make it easy to understand. (Vi, 28/4)

In this entry Vi clearly states that it was by discussing with his team that he understood the grammatical function of personal pronouns and its use in different contexts. He adds in the next sentence that the discussion and the comparison with local languages made understanding the grammatical feature easy. These two entries differed slightly from the previous ones about good understanding of the grammatical feature in that these entries explicitly state that the peer discussion facilitated the understanding.
4.1.4.4 Increased Understanding of Known Languages

During the crosslinguistic discussions learners got the opportunity to refresh their knowledge of L1 or English grammar. As a result, two learners mentioned developing a good understanding of grammar in their mother tongue or in English.

**Excerpt 14**

Learning new German words along with Tamil and English words is awesome 😊 I even forgot my English and Tamil grammar. Had a good chance to learn it again. (V, 3/3)

V, here, mentions that while learning German words she was able to revise her English and Tamil grammar. Even though V talks about learning German “words,” the date on which this entry was made shows us that she was referring to learning definite and indefinite articles. As learners compared the grammatical functions in different languages, they activated their L1 or other language knowledge.

4.1.4.5 Confusion

Two learners mentioned only one disadvantage in their entries. Both entries were made after the second iteration. The entries stated that learners were confused about the usage of the target grammatical feature. Excerpt 7 presents one of these entries.

**Excerpt 15**

POSSESSIVARTIKEL is bit confusing. Usage of articles in some places is confusing. (Va, 31/3)
Even though Va’s confusion here does not mention whether it was the instruction or the form itself that was confusing, this entry can be considered as a reflection on the instructional sequence. This is because the entry was made on the day the sequence was implemented and Va’s first encounter with possessive pronouns.

4.1.4.6 Discussion

In their journal entries learners mentioned several advantages and one disadvantage of the instructional sequence. Learners mentioned good understanding of the target grammatical features most frequently as an advantage. The Dynamic Model of Multilingualism (DMM) explains that crosslinguistic awareness, or “the awareness of the relationships between languages” (Jessner et al., 2016, p. 160) is a key factor in multilingual learning. Once this awareness was raised by encouraging learners to notice the similarities and differences in grammatical functions across known languages, they seemed to have understood the target grammatical features. Foreign language learners in studies such as Brunen and Kelly (2016) and Brooks-Lewis (2009) also reported that when they were made to explicitly notice the grammatical similarities between their L1s and the TL, they developed a good understanding of the grammatical features.

Learners also perceived leveraging known languages as a beneficial learning strategy and applied it in situations outside of the instructional sequence. They reported drawing on their prior language knowledge in understanding new lexicon and while reading new German texts. Research has shown that multilingual learners commonly deploy learning strategies such as translating into L1 and other languages, activating prior linguistic knowledge, and searching for
patterns in the TL (Dmitrenko, 2019). DMM conceptualizes language learning awareness as a component of multilingual awareness, along with crosslinguistic and metalinguistic awareness (Allgäuer-Hackl & Jessner, 2019). It is possible that as learners’ crosslinguistic awareness was activated during instruction, their language learning awareness also improved. This could have enabled them to apply the perceived strategy in other learning situations. A recent study by Allgäuer-Hackl showed the same. Learners who received multilingual instruction demonstrated greater language learning awareness than those who did not (Allgäuer-Hackl, 2017). Similar to the Allgäuer-Hackl study, leaners’ journal entries in this study also indicate that multilingual instruction could have “a positive effect on students’ multilingual behavior, awareness and strategies (Jessner & Allgäuer-Hackl, 2020, p. 73).

Some learners mentioned that they understood their L1s and English better after the crosslinguistic discussions. In other words, attention to grammatical features in the TL led learners to refresh and activate their knowledge in other languages. DMM explains that this is natural, as the addition of a new language to a learner’s linguistic repertoire effects change to other language systems already existent in the individual’s mind. The addition of German as a new language system causes the activation of other language systems such as the learners’ L1 and other known languages. But two other learners also mentioned that the same experience of discussion of the grammatical function in German and in other languages was confusing to them. Since both journal entries that mentioned this disadvantage were after the second iteration, it is possible that the changes to the
design in the second iteration may have caused the confusion. In addition, one of the two learners (Va) who mentioned confusion after the second iteration, did not mention the same after the third iteration. This also points to the possibility that the order of the instructional sequence or the activities included specifically in the second iteration could have made the crosslinguistic discussions difficult for some learners. Brunen and Kelly (2016) also found that some learners who received multilingual instruction reported being confused at the end of the session.

Overall, most journal entries showed that learners viewed the multilingual instruction to be advantageous, with benefits both to TL learning and to other known languages. The one disadvantage was specifically at the end of the second iteration. The research team addressed this in the third iteration, as will be discussed in the following section.

4.2 Part II: Evolution of the Multilingual Instructional Sequence

The main goal of collecting data from three different sources was to formatively assess the instructional sequence using a feedback loop process. Learners’ perspectives, teachers’ observations, and learners’ performance in relation to the target grammatical features were the three sources of data gathered at every iteration. The three different vantage points enabled the research team to view the sequence through the eyes of different stakeholders and using different parameters. I analyzed these data as soon as they were gathered and shared the findings with the research team so that we could make changes to the instructional design for the subsequent iteration. This feedback loop is illustrated below in Figure 4.5 and explained in detail in the rest of this chapter.
4.2.1 First Iteration: Design, Implementation and Assessment

By the end of the second phase of the larger DBR study (October-December 2018), the research team had identified four initial design propositions based on which the multilingual instructional sequence would be developed.

- During communicative instruction learners' attention will be drawn to the target grammatical feature.
- Instructional activities will be designed with the goal of raising learners’ awareness about their own linguistic knowledge.
- Instruction will facilitate crosslinguistic interactions between learners’ known languages by drawing their attention to the similarities and differences across these languages.
- Small and large group discussions will help leverage the collective language knowledge of learners and aid with metalinguistic thinking.

In the first few weeks of the Design and Implementation Phase (January – May 2019) these four design propositions were integrated into instructional activities.
This resulted in a sequence (Figure 4.6) that aimed at teaching the first target grammatical feature – definite and indefinite articles.

**Figure 4.6**

*Instructional Sequence at First Iteration*

A text from the course textbook was used in Step 1. An electronic version of the text was projected to all learners with the definite and indefinite articles in bold. In Step 2 learners were given the following questions to guide them with their discussions:
What do each set of these sentences convey? Specifically, what do you think the words in bold convey? In trying to understand the meaning of these sentences and the words in bold, use the languages that you already know.

In Step 3 groups took turns sharing what they had discussed. They were encouraged to share what they thought the sentences meant and what meaning the highlighted words specifically conveyed. They were also asked which languages they used in trying to understand the German articles. In the final step Ms. Tara provided a final clarification of the function of definite and indefinite articles.

This instructional sequence was implemented at Week 4. Over the next three weeks the team focused on gathering feedback on the instruction from the various sources. Ms. Tara was encouraged to log her thoughts on the implementation in her journal. Her perspectives were also elicited and recorded during the weekly meetings. Learners were assigned time during class to reflect on their learning that week. Finally, learners were given form-focused and meaning-focused written and speaking tasks that elicited the target grammatical feature.

4.2.1.1 Feedback from Ms. Tara

In her journals and during our weekly team meeting, Ms. Tara expressed that learners were overwhelmed during Step 2 in the first iteration. The following journal entry made in the day of implementation illustrates this.

Excerpt 16
Some students seemed challenged in the second step. They couldn’t think in their mother tongues and do the compare, contrast one after another.

Maybe simplify this step? (4/18)

She observed that combining metalinguistic reflections and crosslinguistic comparisons in the same discussion proved to be challenging for learners. Consequently, she had found that several groups skipped over reflecting about the grammatical function in their known languages. She also pointed out that in some groups there were languages that everyone knew, but in others there was a total lack of linguistic homogeneity. When there was no or little overlap in learners’ repertoires there was no common basis for crosslinguistic discussions. Groups where learners shared some known languages produced richer crosslinguistic discussions.

Ms. Tara’s observations thus raised two important points with respect to the design. First, combining metalinguistic discussions and crosslinguistic comparisons was overburdening to the learners. Second, when there were only a few or no common languages in groups crosslinguistic discussions seemed difficult.

4.2.1.2 Learners’ Perspectives

After the first iteration there were five journal entries mentioning the instructional sequence. All five learners wrote positively about their experiences with the instructional sequence. Some learners (n = 3) expressed a clear understanding of the grammatical element, because of comparisons with their known languages. One student expressed developing a good understanding in her
L1. Others ($n = 2$) viewed leveraging prior language knowledge as a learning strategy and adopted it in learning new vocabulary. In the following entry the learner, G talks about understanding the function of articles and about using it to learn new vocabulary.

**Excerpt 17**

This week went very well. I learnt many new things like articles using Tamil. We discussed about articles in Tamil, Telugu and English with my table friends. This cleared doubts about using it. We also tried comparing other languages when we learnt giving directions. Was a little difficult, but it was fun. It is actually helping me to think in German like I did with Tamil 😊. (G, 3/3)

G here described his experience learning German articles with the help of the prior language knowledge of everyone at his table which helped eliminate doubts about the use of articles. He also wrote that the entire group tried adopting the same learning strategy during another session where they learnt giving directions. Even though this was difficult for him, he mentioned that it “was fun.” Learners’ perspectives at the end of the first iteration were overall positive. Some learners developed good understanding of the target grammatical feature, and even adopted the same strategy during other learning instances. The team agreed that this data source warranted no change to the instructional sequence.

**4.2.1.3 Learners’ Performance**

Learners’ performance in written and speaking activities was gathered from Weeks 4 through 6 and analyzed for accuracy. Learners’ performance after
the first iteration (see Figure 4.1 above) shows that their accuracy was greater at Week 4 than at Weeks 5 and 6. At Week 4 three of the four learners demonstrated 100% accuracy in the form-focused activity. When they performed meaning-focused activities over the next two weeks their accuracy was almost always over 75%. Only one student, Dhanush, performed at 65% in Week 5. The other three focal participants performed with consistent accuracy during Weeks 5 and 6. The teachers explained that this pattern of greater accuracy in form-focused activities and less accuracy during meaning-focused activities was not surprising. The team agreed that based on these findings on learners’ performance, no changes needed to be made to the sequence.

4.2.2 Second Iteration: (Re)Design, Implementation and Assessment

Once the team brought together the feedback from the three sources, we found that two changes needed to be made to the instructional sequence. First, metalinguistic discussions and crosslinguistic comparisons had to be separated. Indeed, metalinguistic awareness and crosslinguistic awareness have consistently been separated by several multilingual theorists. The Dynamic Model of Multilingualism conceptualizes the two to be part of multilingual awareness and acknowledges the heavy overlap between and interdependence of the two (Allgäuer-Hackl & Jessner, 2019). Yet, it maintains that metalinguistic awareness and crosslinguistic awareness needed to be developed separately during instruction in this context. Instructional activities that follow this theoretical perspective are designed in such a way that the two cognitive functions are developed individually first and then combined together (Jessner et al.,
2016; Allgäuer-Hackl, 2017). It is possible that aiming to develop both types of awareness in one learning task could result in a cognitive overload for learners. Ms. Tara probably witnessed this in her observations.

Second, learners had to be grouped carefully so as to ensure some overlap in their linguistic repertoires. Grouping learners during multilingual instruction has not received special attention so far. Some studies like Brunen and Kelly (2016) have mentioned that learners were grouped in a manner “to maximize the number of languages the group members had in common” (p. 337). However, several studies exploring teachers’ voices in multilingual instruction echo Ms. Tara’s observations that learners who do not share languages in their linguistic repertoires rarely mobilize these languages (de Angelis, 2011; Galante, 2020; Gopalakrishnan, 2020; Haukás, 2016). Upon reading these insights from the literature on how learners with different linguistic repertoires work together, the research team carefully considered learner grouping in the second iteration.

To address the first change, Step 2 was split into two parts. In the first part students were first encouraged to speculate on the meaning of the target grammatical feature, which was again highlighted in bold in a text from the course textbook. As a next step (Step 3 in Figure 4.7) they were given the following questions. The team believed that the following questions guided learners more gradually and carefully through the crosslinguistic comparisons than the single question in the first iteration.

- How would you express the highlighted words in your language?
• How similar or different are these in German and in other languages that you know?
• Why do you think they are different?

The second feedback about grouping learners more carefully did not make any essential change to the instructional sequence itself. Instead, at the beginning of the lesson learners were deliberately put into groups to ensure that there were adequate numbers of common languages amongst them. Since we had gathered information about learners’ known languages at the beginning of the course using questionnaires (Appendix B), it was easy for the team to identify which students could be grouped together. The sequence was thus changed as follows:

**Figure 4.7**

*Changes to Instructional Sequence from First to Second Iteration*

<table>
<thead>
<tr>
<th>Iteration 1</th>
<th>Iteration 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Step 1: Noticing target grammatical feature in text through typographical enhancements.</td>
<td>Step 1: Noticing target grammatical feature in text through typographical enhancements.</td>
</tr>
<tr>
<td>Step 2: Group discussions reflecting on the function of grammatical feature in context and comparing it with known languages.</td>
<td>Step 2: Group discussions reflecting on the possible meaning of the grammatical feature in context.</td>
</tr>
<tr>
<td>Step 3: Sharing of crosslinguistic comparisons and large group discussions.</td>
<td>Step 3: Comparison of grammatical feature in German and known languages.</td>
</tr>
<tr>
<td>Step 4: Grammatical explanation and clarification by course instructor.</td>
<td>Step 4: Metalinguistic reflections on similarities and differences in the function of grammatical feature.</td>
</tr>
<tr>
<td>Step 5: Sharing of crosslinguistic comparisons and large group discussions.</td>
<td>Step 5: Sharing of crosslinguistic comparisons and large group discussions.</td>
</tr>
<tr>
<td>Step 6: Grammatical explanation and clarification by course instructor.</td>
<td>Step 6: Grammatical explanation and clarification by course instructor.</td>
</tr>
</tbody>
</table>
The sequence was implemented in Week 8 to teach possessive pronouns. From Weeks 8 to 11 feedback from the three sources were gathered once again.

4.2.2.1 Feedback from Ms. Tara

Ms. Tara found that when students first thought about the grammatical feature in their known languages (Step 3) and then reflected on its function through crosslinguistic comparisons (Step 4), they were more at ease and more confident in their discussions. In her journal, she made the following entry on the day of the second implementation.

Excerpt 18

Students felt more comfortable with their group activities today. I thought they were more enthusiastic about their discussions. But sometimes talking about abstract rules was confusing. Maybe think about making that easier for the next time?

In addition to talking about learners’ ease in group activities, Ms. Tara observed that they engaged enthusiastically in their discussions. Based on her observations Ms. Tara assured the research team that the changes we made to the sequence should be retained. A second observation she made was that some learners seemed confused as they compared the grammatical functions across different languages. When asked to elaborate on this during a weekly team meeting, she explained that the grammatical function was contextualized only in the German text. When reflecting on the same function in other languages learners often do so in a decontextualized, abstract manner. Furthermore, learners were not able to
visualize the crosslinguistic comparisons without actual examples in other languages. This, she believed, made it difficult for learners to compare and contrast the grammatical functions in all languages.

Thus Ms. Tara’s observations showed us that the changes made after the first iteration made learners engage better in their group discussions. However, some learners seemed to get confused while thinking about grammatical functions in known languages without example sentences.

**4.2.2.2 Learners’ Perspectives**

Learners’ journal entries supported Ms. Tara’s observations to a certain extent. Two learners wrote being confused during the discussion step of the sequence.

**Excerpt 19**

POSSESSIVARTIKEL (Possessive articles) is a bit confusing. We spoke about it in English, Tamil and Malayalam. How to use them in some places is still confusing (Va).

The student, Va, writes about the lack of clarity in the use of possessive articles. She specifically mentions the languages in which its function was discussed. Even though she does not explicitly connect the confusion to the crosslinguistic comparison, the multilingual discussion and the confusion are mentioned one after another. It is therefore possible that the student is trying to attribute this confusion to the crosslinguistic comparison.

Other reactions from learners after the second iteration were similar to those after the first iteration. Four learners mentioned that they understood the
grammatical feature well. Two wrote that leveraging their language knowledge helped with learning new vocabulary.

The important feedback from learners’ journals after the second iteration was that some learners found the crosslinguistic comparisons confusing.

4.2.2.3 Learners’ Performance

Learners’ accuracy performance after the second iteration varied over the following three weeks as shown in Figure 4.2 (see above). Two focal participants – Chander and Keerti performed at 100% accuracy in the form-focused activity at Week 8, whereas Dhanush and Nileesh performed only at 75% and 70% accuracy respectively. At Week 9 learners’ performance dropped substantially with Chander at 60%, Keerti at 80% and Dhanush at 60% accuracy. Nileesh’s performance, however, remained consistent across both weeks at 70% accuracy. Week 10’s analysis showed great variance among the learners’ performance. Keerti’s and Nileesh’s accuracy increased to 100% and 75% respectively, whereas Chander’s accuracy decreased to 45%. Dhanush’s accuracy remained at 60%.

4.2.3 Third Iteration: (Re)Design, Implementation and Assessment

Based on the feedback after the second iteration the team decided that only one issue needed to be addressed – students’ confusion during crosslinguistic comparisons. Evidence of such student confusion during multilingual instruction has been documented before in other studies (Brooks-Lewis, 2009; Brunen & Kelly, 2016). These studies, however, had attributed the confusion to individual learning styles of students that contradicted the learning approach encouraged in
multilingual instruction. In this study, evidence from Ms. Tara’s observations and learners’ journal entries seemed to indicate that the confusion could be traced back to the instructional design. The team therefore decided to make changes to the design to see if this would solve the confusion issue.

In order to simplify the crosslinguistic comparisons students needed concrete, visual examples of the grammatical feature in the different languages. The team believed that this visual aid might make comparing the grammatical functions in different languages less confusing. Mr. Balaji therefore suggested that students could be asked to write one sentence with the target grammatical feature in every language they knew. Thus, each student would have a battery of sentences, and every group would have a larger set of sample sentences. With the aid of these sentences, learners would be able to compare the grammatical functions across languages in their small groups (Steps 2 – 4). During the large group discussion (Step 5) one student from every group would be asked to write down their sentences on the board and explain these briefly to the class. We foresaw one potential challenge in asking students to come up with written examples. Ms. Tara explains this in the excerpt below.

**Excerpt 20**

01 Ms. Tara: But everyone won’t know all languages no? So how will they be able to read the sentences in other languages?

02 Mr. Balaji: എന്നാൽ, let students themselves explain what they have written. So if there is a person at my table who doesn’t speak Tamil, I will write a Tamil sentence and explain

03 the grammar function to him. So even if I cannot read what is written I will follow the explanation എന്നാൽ?
Translation

01 Ms. Tara: But everyone won’t know all languages no? So how will they be able to read
02 the sentences in other languages?
03 Mr. Balaji: No, let students themselves explain what they have written. So if there is a
04 person at my table who doesn’t speak Tamil, I will write a Tamil sentence and explain
05 the grammar function to him. So even if I cannot read what is written I will follow the
06 explanation right?

Despite the many common languages present in the classroom, this was
not a linguistically homogenous group. There were many unique languages in
learners’ linguistic repertoires that no one else in the class knew. Ms. Tara
questioned here if learners were asked to write down and share sentences in these
uniquely known languages too, how others in the group would understand the
sentences. But Mr. Balaji believed that even if a learner did not understand the
language in which the example sentence was written, they could follow the
explanation given by the group member. In other words, Mr. Balaji suggested that
written sentences accompanied by verbal explanations would fulfill the learning
goal. This suggestion was taken up by the group and added to the instructional
sequence in Steps 3 – 5. The sequence was thus changed in the following manner
from the second to the third iteration (Figure 4.8). This sequence was
implemented in Week 12 to introduce personal pronouns in the accusative case.
4.2.3.1 Feedback from Ms. Tara

In the weekly meetings after the third implementation Ms. Tara noted that learners were more engaged in the small and large group discussions than in the previous two iterations. She had observed that they were enthusiastic in sharing their grammar knowledge in languages that others did not know. Three students who knew Urdu, Spanish, and Marathi volunteered to explain the grammatical function of accusative pronouns to their peers. As explained earlier in this chapter,
these students and Ms. Tara briefly exchanged their roles as the teacher and the taught. Ms. Tara and Mr. Balaji believed that this voluntary act by the learners was symbolic of their strong learner agency, self-confidence, and comfort with fellow learners.

The third iteration was, however, not flawless in the eyes of the teachers. Ms. Tara commented on the large amount of time this additional step took. While in the first and second iterations the sequence went on for about thirty to forty minutes, in the third iteration it lasted for almost an hour. Ms. Tara noted the teachers at GLI already operated under tremendous time limitations. It would be impractical to periodically implement a sequence that went on for an hour. Thus, the additional time that the revised sequence took up had to be addressed.

4.2.3.2 Learners’ Perspectives

Learners’ entries after the third iteration corroborated one of Ms. Tara’s observations. One student, C, who was only person with Urdu knowledge wrote about this experience his weekly journal.

Felt nice explaining Urdu rules in class. I could able to teach the whole class something today. (C, 4/20)

C describes his positive emotions in being able to act as the teacher and explain grammar rules in a different language to his teacher and his peers. Other entries made after the third iteration mentioned two important points. Seven learners wrote that they understood the target grammatical feature as well as in the previous iterations. Three learners wrote about the key role discussion played
in helping them understand the accusative pronouns. The excerpt from the learner Ve’s entry illustrates this.

**Excerpt 21**

Discussing with team for PERSONALPRONOMEN AKKUSATIV (personal pronouns in accusative) is mainly helpful to understand the logic of using it in different contexts. Meaning for the same in the local language is also make it easy to understand. (Ve, 4/28)

In this entry Ve attributes good understanding to both discussion and comparison to local languages. But he highlights the important role discussion played in his understanding through the use of the word “mainly.” This shows that in Ve’s case the interaction with his peers and the sharing of language knowledge clarified the function of the accusative pronouns. The feedback after the third iteration was thus overall positive.

**4.2.3.3 Learners’ Performance**

After the third iteration learners’ accuracy was higher during the form-focused activity at Week 12 than during the meaning-focused activity at Week 13. Figure 4.3 at the beginning of this chapter shows that Chander’s, Dhanush’s, and Nileesh’s accurate performance decreased greatly from 80% to 65%, 100% to 75%, and 100% to 55% respectively. Keerti’s performance decreased marginally from 75% to 70%.

Feedback from all three sources indicated that one possible change would still have to be made to the sequence. While having written sentences in different languages seemed to reduce confusion among learners and help them understand
the target grammatical feature, Ms. Tara found that it increased the instructional time set aside for the sequence. In our final meeting the team identified possible ways to address this issue.

4.2.4 Discussion

The iterative method of implementing the instructional sequence yielded important insights into designing and refining it. First, the research team’s decision to allow learners to draw on all their known languages, and not just their L1, was beneficial in understanding the target grammatical feature. The instructional design enabled learners to choose any language or combination of languages from their repertoire during the discussions. This freedom first acknowledged the several languages present at the social (classroom) and at the internal (students’ minds) levels. Learners also reported that they gained clarity about the function of the grammatical features by comparing German and one other language, or German and many other languages that they knew. If the students had been asked to draw only on their L1s, the various possibilities for crosslinguistic comparisons would have been curtailed and opportune moments for language learning could have been missed. Participants in the study conducted by Brunen and Kelly (2016) also reported understanding the function of the target grammatical features, specifically case systems. Galante (2020) adopted a similar pedagogical approach with multilingual learners and found that leveraging all languages in an individual’s repertoire fostered greater linguistic inclusivity in the classroom, validating both dominant and minority languages. Allowing learners to mobilize all their linguistic resources validates the individual and social linguistic
diversity and can be instrumental in gaining good understanding of the function of the grammatical features.

The research team realized that the multiple languages in the classroom had to be managed and organized in a manner that would make crosslinguistic comparisons easy for the learners. In the initial iteration learners grouped together did not share many languages in their linguistic repertoires. With very few common languages among group partners, comparisons across languages were challenging. In the following iterations the research team decided that learners would be grouped carefully to ensure that there were common languages within every group. We observed that the heavily overlapping repertoires helped learners avoid hesitations on not knowing the languages that their peers spoke, as reported by participants in other studies (Galante, 2020; Ticheloven et al., 2019). The team also noticed that grouping linguistically diverse learners purposefully paved the way for more engaged participation and richer discussions.

A key component in the instructional sequence were the small and large group discussions. Thinking about languages in an abstract form and comparing linguistic functions across languages can initially be a daunting and challenging task. For this reason, the research team decided that all activities that required metalinguistic and crosslinguistic thinking would be performed in small or large groups. Guiding questions were carefully designed and worded to help learners unpack their multilingual knowledge during these discussions. Learners were also allowed to use any of their known languages to interact during these discussions.
The interaction with peers affirmed, encouraged, and fostered metalinguistic thinking in learners over the several weeks.

Despite careful designing of the discussion activities the research team noticed that learners struggled during crosslinguistic comparisons in the first iteration. Learners’ journals and Ms. Tara’s observations revealed that students were overburdened during the discussions because the guiding questions were designed in a manner that combined metalinguistic and crosslinguistic thinking. In the second iteration we redesigned this step to delineate the two cognitive processes, providing learners with different guiding questions for each one of these. The revised questions also offered a more gradual guidance in helping learners think about the function of grammatical features and in reflecting on how these functions are expressed in their known languages. Even though theoretical conceptualization of multilingual awareness states that metalinguistic awareness and crosslinguistic awareness are closely related (Allgäuer-Hackl & Jessner, 2019), the team realized that these two cognitive skills need to be addressed and activated separately in instruction. Once the discussion steps in the instructional sequence guided learners through these cognitive processes one by one, they were able to perform crosslinguistic comparisons with greater ease and confidence.

The formative assessment of the instructional sequence conducted through a feedback loop process enabled the research team to pay attention to the many struggles that learners encountered. Scrutinizing the sequence from the three vantage points of teachers’ perspectives, learners’ perspectives, and learners’
language performance also offered a holistic understanding of its instructional strengths and shortcomings, which were addressed in the subsequent iterations.

4.3 Chapter Summary

This chapter has presented the findings from the data gathered during the design and implementation phase of the DBR study in two different ways. In Part I data were analyzed to answer the specific research questions. These questions brought the performance and perspectives of specific stakeholders in this study into focus. Such exclusive focus on learners and teachers during the study strengthened the design process and enriched our understanding of the perspectives of key actors in the learning context. Part II described how the instructional design evolved over three iterations. The study drew both on empirical evidence gathered from various sources and on supporting insights from similar research to refine the design.
CHAPTER 5: FINDINGS FROM QUASI-EXPERIMENTAL STUDY AND DISCUSSION

According to recent research, the metalinguistic awareness of learners who receive multilingual instruction is greater than that of learners who do not receive such instruction (Allgäuer-Hackl, 2017; Hofer & Jessner, 2016). In order to add to this body of studies, a quasi-experimental study was conducted at the end of the Phase II of the current DBR study. Metalinguistic awareness in this study is conceptualized as awareness of connections and contrasts between learners’ known languages and the TL, otherwise known as crosslinguistic awareness (Jessner, 2008). The analysis focused specifically on evidence of crosslinguistic awareness, because the multilingual instruction aimed at sensitizing learners to underlying similarities and differences across languages. The research question posed was “How does multilingual instruction impact the metalinguistic awareness of adult foreign language learners?” This chapter presents the findings of this study.

5.1 Overview of Findings

A qualitative analysis of the audiotaped interactions between the participants in the experimental and control groups showed that both groups had drawn on their known languages to process the text. It was found that both groups also performed similar functions during those instances when known languages were utilized, specifically while translating cognates. Cognates are “words whose form and meaning considerably overlap across two or more languages, irrespective of whether the similarity results from language typology or borrowing
processes” (Otwinowska & Szewczyk, 2019, p. 974). Dijkstra et al. (1999) point out that cognates include orthographic, phonological, and/or semantic overlap.

Table 5.1 provides an overview of the findings of the study. The table shows the number of multilingual processing instances (MPIs) and the functions performed during these instances by both the groups. Each one of these functions is described below. Each pair was assigned a unique name ranging from CG1 to CG5 and EG1 to EG5, where CG stands for control group and EG stands for experimental group.
Table 5.1

Summary of Findings from Quasi-Experimental Study

<table>
<thead>
<tr>
<th>Pair</th>
<th>Name</th>
<th>Duration</th>
<th>Number of MPIs*</th>
<th>Lexical Processing</th>
<th>Cognate Recognition</th>
<th>Missed Cognates</th>
<th>Misinterpreted Cognates</th>
<th>False Cognates</th>
<th>Awareness after Noticing*</th>
</tr>
</thead>
<tbody>
<tr>
<td>CG1</td>
<td>Pr &amp; Sr</td>
<td>25:16</td>
<td>7</td>
<td>3</td>
<td>2</td>
<td>1</td>
<td>2</td>
<td>1</td>
<td>1 (1)</td>
</tr>
<tr>
<td>CG2</td>
<td>R &amp; Sj</td>
<td>14:51</td>
<td>7</td>
<td>3</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>0</td>
<td>2 (2)</td>
</tr>
<tr>
<td>CG3</td>
<td>Vi &amp; Vg</td>
<td>28:35</td>
<td>8</td>
<td>5</td>
<td>2</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1 (1)</td>
</tr>
<tr>
<td>CG4</td>
<td>Kr &amp; Kk</td>
<td>25:05</td>
<td>2</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>0 (1)</td>
</tr>
<tr>
<td>CG5</td>
<td>Ni &amp; P</td>
<td>21:22</td>
<td>3</td>
<td>2</td>
<td>1</td>
<td>4</td>
<td>0</td>
<td>0</td>
<td>3 (4)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>27</td>
<td>14</td>
<td>7</td>
<td>8</td>
<td>6</td>
<td>2</td>
<td>7 (9)</td>
</tr>
<tr>
<td>EG1</td>
<td>K &amp; D</td>
<td>23:42</td>
<td>6</td>
<td>0</td>
<td>4</td>
<td>0</td>
<td>2</td>
<td>1</td>
<td>2 (2)</td>
</tr>
<tr>
<td>EG2</td>
<td>S &amp; N</td>
<td>31:09</td>
<td>11</td>
<td>4</td>
<td>7</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>1 (1)</td>
</tr>
<tr>
<td>EG3</td>
<td>Sa &amp; Nt</td>
<td>32:35</td>
<td>18</td>
<td>8</td>
<td>7</td>
<td>0</td>
<td>3</td>
<td>1</td>
<td>1 (1)</td>
</tr>
<tr>
<td>EG4</td>
<td>Su &amp; L</td>
<td>18:09</td>
<td>9</td>
<td>5</td>
<td>4</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>EG5</td>
<td>V &amp; Sh</td>
<td>20:45</td>
<td>11</td>
<td>3</td>
<td>4</td>
<td>0</td>
<td>4</td>
<td>1</td>
<td>1 (1)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>55</td>
<td>20</td>
<td>26</td>
<td>0</td>
<td>9</td>
<td>5</td>
<td>5 (5)</td>
</tr>
</tbody>
</table>

Note. MPIs = Multilingual processing instances; Awareness after Noticing shows the number of times participants successfully noticed cognates out of the number of times their awareness was drawn to them.
In the ensuing sections of this chapter each category in Table 5.1 will be described and exemplified with excerpts from participants’ recorded interactions. In the excerpts the line (turn) numbers might not follow a consecutive pattern. This is because the excerpt represents the exact manner in which the interactions transpired. Participants often processed a given phrase in a circular way. They would begin processing an unknown phrase, then move on to a different phrase or engage in a tangential conversation, or go back to a previous sentence, and then resume their discussion about the phrase they were talking about originally. In order to illustrate how participants processed a specific phrase at different times in the interaction, the utterances were compiled in the highlighted excerpts, thus explaining the inconsecutive line numbers.

### 5.2 Multilingual Processing Instances

While translating the text given to them, all participants leveraged their known languages to process words, phrases, or entire sentences. Instances during which participants engaged in this kind of processing are termed multilingual processing instances (MPIs). During an MPI participants languaged (Swain & Lapkin, 2013) for several turns to attempt at constructing meaning of an unknown word or phrase. This process often involved cognitive tasks such as comparing and contrasting meanings across languages, identifying the correct word in the TL while translating, discussing different possible meanings of a given word, and processing the meaning of a word through contextualization. Thus, MPIs include three functions: lexical processing, cognate recognition, and misinterpreted cognates. Table 5.1 shows that the participants in the control group exhibited a
total of twenty-one MPIs and the experimental group a total of thirty-three MPIs. While both groups had drawn on their known languages to process the text, the experimental group produced a greater number of MPIs than the control group. It is also essential to note that the range of MPIs in the experimental group is twelve, with the fewest MPIs being six (EG1) and the most being 18 (EG3). The range among the control group participants is six, with the fewest MPIs being two (CG4) and the most being eight (CG3). A larger range among the experimental group pairs indicates more variability in their performance. This variability could be attributed to individual factors, dynamics between each pair, the proficiency levels of participants, and so on. What follows is a description of what functions participants performed during these multilingual processing instances.

### 5.3 Lexical Processing

Analysis of the MPIs revealed that most functions involved participants’ attempts to understand lexical phrases. Lexical processing refers to those instances where the participants’ understanding of a phrase or word evolved over multiple exchanges. In some instances, learners knew part of the phrase and deciphered the rest through discussion. In others, learners recognized the word from a different context, and collaboratively arrived at the meaning of the word in the given context. In all these interactions participants drew on their known languages in processing the German word or phrase. Instances when the participants directly translated a word or phrase with no further discussion were not counted, because such translations might or might not draw on participants’ metalinguistic awareness. In the following excerpt from pair EG4 we see the
learners attempting to make sense of the sentence “Es gibt noch freie Plätze” (There are still free spots). The second column shows participants’ actual interaction (incorporating use of German (italics), Tamil (boldface), and English), and the third column shows the Tamil translated to English.

**Excerpt 1**

<table>
<thead>
<tr>
<th></th>
<th>L: Es gibt noch freie Plätze fır- free place for.</th>
<th>L: Es gibt noch freie Plätze fır- free place for.</th>
</tr>
</thead>
<tbody>
<tr>
<td>6</td>
<td>Su: Frei யூரி?</td>
<td>Su: Frei means?</td>
</tr>
<tr>
<td>8</td>
<td>Su: Place for.</td>
<td>Su: Place for.</td>
</tr>
<tr>
<td>9</td>
<td>L: Platz மங்கள் play மங்கள்?</td>
<td>L: Does Platz mean play?</td>
</tr>
<tr>
<td>11</td>
<td>L: கேட்டி, கேட்டி Platz மங்கள் place.</td>
<td>L: No Platz means place.</td>
</tr>
<tr>
<td>13</td>
<td>L: Ok, ok, I got it. Free place, like free seats.</td>
<td>L: Ok, ok, I got it. Free place, like free seats.</td>
</tr>
</tbody>
</table>

Here the participants start by recognizing the cognate ‘frei’ (free). But they are uncertain about the meaning of the word ‘Platz’. They begin by guessing its meaning to be ‘play’ (line 10), and then move on to ‘game’ (line 11), then to ‘place’ (lines 12-13), and finally understand its meaning in the current context to be ‘seats’ (line 14) or ‘spots’ (line 15). In this excerpt the learners process the meaning of the word ‘Platz’ through its association with the first word they recognized – ‘frei’, but also by understanding its use in the context of a sports advertisement.
Similar instances were found among the control group participants. For example, in the excerpt below we see pair CG3 making sense of the question “Macht ihr bei uns mit?” (Will you join in with us?).

**Excerpt 2**

<table>
<thead>
<tr>
<th>Line</th>
<th>Tamil 1</th>
<th>Tamil 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>29</td>
<td>Vg: Macht you uns with. Uns உன் you all இல்லை?</td>
<td>Vg: Macht you uns with. Uns means you all? For you. For you all.</td>
</tr>
<tr>
<td>31</td>
<td>Vg: Ss! Correct, correct. So மக்கும் macht ihr bei uns mit இல்லை?</td>
<td>Vg: Ss! Correct, correct. So here macht ihr bei uns mit means?</td>
</tr>
<tr>
<td>32</td>
<td>Vi: Mit முதல் with. So என்றால் machen is to do. So என்றால் என்று போன்றது என்று.</td>
<td>Vi: Mit means with. So with us- machen is to do. So will you do something with us.</td>
</tr>
</tbody>
</table>

This excerpt shows how the participants went from figuring out the meaning of individual words to linking them together to co-construct the meaning of the entire question. In line 29, Vg directly translates two words in the question – ‘ihr’ (you, plural) and ‘mit’ (with). Then he is uncertain about what the indirect object pronoun stands for and asks his partner (using English and Tamil) if it refers to the second person plural (to you). In the following line (line 30), his partner corrects him by pointing out that it in fact refers to first person plural (to us). During this exchange both Vi and Vg activate their lexical knowledge in their L1s (Tamil) and process the meaning of the pronoun in German. With the meaning of the pronoun understood, the pair proceeds to making sense of the
entire question. In lines 31 and 32 they recall that ‘machen’ means ‘to do’, and therefore the entire question would mean ‘will you do something with us’ (line 32). This excerpt is an example of how learners drew on more than one language – in this case, English and Tamil – to process a question from the text.

Several such lexical processing instances could be found across both groups. As can be seen in Table 5.1 the control group engaged in lexical processing fourteen times, whereas the experimental group engaged in this multilingual processing function twenty times. In all these instances learners leveraged one or two languages to make sense of a given word, phrase, or sentence. It must also be noted that the inter-group range is higher among the experimental group pairs than that among control group pairs. With a higher range of eight, the experimental group shows more variability in the number of lexical processing instances than the control group, which has a range of only four.

5.4 Cognate Recognition

The text consists of thirteen English-German and Tamil-German cognates (Table 5.2). As German and English share orthographic similarities cognates in these two languages can be identified visually. But German and Tamil follow different orthographic conventions. The cognates in these two languages share only a phonological overlap.
### Table 5.2

**German-English and German-Tamil Cognates**

<table>
<thead>
<tr>
<th>German word</th>
<th>English cognate (orthographic)</th>
<th>Tamil cognate (phonological)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chance</td>
<td>chance</td>
<td></td>
</tr>
<tr>
<td>restlichen</td>
<td>rest of</td>
<td></td>
</tr>
<tr>
<td>Semester</td>
<td>semester</td>
<td></td>
</tr>
<tr>
<td>Sport</td>
<td>sport</td>
<td></td>
</tr>
<tr>
<td>Rabatt</td>
<td>rebate</td>
<td></td>
</tr>
<tr>
<td>Kurs</td>
<td>course</td>
<td></td>
</tr>
<tr>
<td>frei</td>
<td>free</td>
<td></td>
</tr>
<tr>
<td>Platz</td>
<td>place</td>
<td></td>
</tr>
<tr>
<td>Sporthalle</td>
<td>sports hall</td>
<td></td>
</tr>
<tr>
<td>Kontakt</td>
<td>contact</td>
<td></td>
</tr>
<tr>
<td>Handball</td>
<td>handball</td>
<td></td>
</tr>
<tr>
<td>Badminton</td>
<td>badminton</td>
<td></td>
</tr>
<tr>
<td>Rugby</td>
<td>rugby</td>
<td></td>
</tr>
<tr>
<td>schwimmen</td>
<td>swimming</td>
<td></td>
</tr>
<tr>
<td>Kombinationstraining</td>
<td>combination training</td>
<td></td>
</tr>
<tr>
<td>alle /əllə/</td>
<td>ஆலெ /əllə/</td>
<td></td>
</tr>
<tr>
<td>wollen /voullə-n/</td>
<td>வோலன் /voullə-n/</td>
<td></td>
</tr>
</tbody>
</table>

Cognate recognition refers to instances when learners translated a German word correctly by recognizing that the word was a Tamil cognate (phonological) or an English cognate (orthographic). Cognates with other languages known to the
learners were not mentioned during the interactions. Once again, instances when learners directly translated a cognate with no discussion about the word were not counted. Only those instances when participants discussed a cognate, its meaning in the context, or compared the word’s meaning across languages were coded.

Excerpt 5.3 comes from the stimulated recall session with the experimental group pair EG1. Here we see participant D explaining how he recognized the Tamil-German cognate ‘alle’ (*all*).

**Excerpt 3**

<table>
<thead>
<tr>
<th>Line</th>
<th>Tamil</th>
<th>English</th>
</tr>
</thead>
<tbody>
<tr>
<td>130</td>
<td>A: உள்ளே வைத்தில் <em>alle</em> என அகழ்வித்து நான்</td>
<td>A: You first said <em>alle</em> means all, then you said some. Which one is correct?</td>
</tr>
<tr>
<td></td>
<td>வைத்திலக் குறிப்பிட்டு கை வைத்திலாக்கால்</td>
<td></td>
</tr>
<tr>
<td></td>
<td>வைத்திலக் குறிப்பிட்டு நான் முக்கியத்துறை.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>குறிப்பிட்டு நான் முக்கியத்துறை. ருங்கம் காண்டு?</td>
<td>correct?</td>
</tr>
<tr>
<td>131</td>
<td>D: என்று என்று கை வைத்தில் குற்றி.</td>
<td>D: No, no, it’s all.</td>
</tr>
<tr>
<td></td>
<td>D: என்று என்று நான் முக்கியத்துறை.</td>
<td></td>
</tr>
<tr>
<td>132</td>
<td>A: அழும்பு? என்று நான் முக்கியத்துறை?</td>
<td>A: Really? How did you figure that out?</td>
</tr>
</tbody>
</table>

In the stimulated recall session I drew D’s attention to the segment in the interaction when he first translated the word ‘*alle*’ as ‘*அகழ்வித்தி*’ (*all*), then changed it after some thought to ‘*சிந்*’ (*some*), and then back to ‘*அகழ்வித்தி*’ (*all*). In response, he affirmed that the word indeed meant ‘*all*’ and not ‘*some*’. He said one can recognize its meaning by the similarities in the pronunciation of the words ‘*alle*’ and ‘*அகழ்வித்தி*’ (line 133). The phonological likeness between these two words aided D in successfully making sense of the word ‘*alle*’. 
Participants in the control group also recognized and successfully translated cognates in their interactions. In the following excerpt Vi and Vg from CG3 engage in understanding the word ‘restlich’ (remaining).

Excerpt 4

<table>
<thead>
<tr>
<th>Line</th>
<th>Participants</th>
<th>Translation</th>
</tr>
</thead>
<tbody>
<tr>
<td>71</td>
<td>Vg: Mm, rest of the semester</td>
<td>Vg: Mm, you still have a chance for the rest of the semester, that’s what they are saying.</td>
</tr>
<tr>
<td></td>
<td>Vg: you still have a chance for the rest of the semester, that’s what they are saying.</td>
<td></td>
</tr>
<tr>
<td>72</td>
<td>Vi: Ok, so in the remaining semester-</td>
<td>Vi: Ok, so in the remaining semester-</td>
</tr>
<tr>
<td></td>
<td>Vi: Ok, so in the remaining semester-</td>
<td></td>
</tr>
<tr>
<td>73</td>
<td>Vg: You still have a chance till the end of the semester, rest of the semester.</td>
<td>Vg: You still have a chance till the end of the semester, rest of the semester.</td>
</tr>
<tr>
<td></td>
<td>Vg: You still have a chance till the end of the semester, rest of the semester.</td>
<td></td>
</tr>
<tr>
<td>78</td>
<td>Vi: So in this semester, for the remaining, uh, rest of the semester, you can enroll.</td>
<td>Vi: So in this semester, for the remaining, uh, rest of the semester, you can enroll.</td>
</tr>
<tr>
<td></td>
<td>Vi: So in this semester, for the remaining, uh, rest of the semester, you can enroll.</td>
<td></td>
</tr>
</tbody>
</table>

The participants immediately recognize the English-German cognate ‘restlich’. Between the two of them they offer three different translations of the same word. In line 71, Vg translates it as ‘rest of the semester’. In the next line, Vi offers a different translation ‘remaining semester’, where she actually means ‘for the remainder of the semester’. In line 73, Vg comes up with a third translation ‘till the end of the semester’. All three translations can be taken as accurate translations of the German word ‘restlich’. Finally, in line 78, Vi summarizes these translations one after the other in saying ‘in this semester, for the remaining, rest of the semester’. Participants Vi and Vg capitalize on the orthographic similarities between the English word ‘rest’ and German word ‘restlich’ in making sense of the German word. However, they go beyond merely thinking of
‘rest’ and offer multiple translations of the same word. In doing so, they reaffirm their own and one another’s understanding of the German word in the given text.

The difference in the number of cognate recognition instances between the control group and experimental group is rather high. Control group pairs recognized cognates successfully seven times in total with a range of two. Experimental group pairs recognized cognates successfully twenty-six times in total with a range of three. The small range in this function among the experimental group shows a fairly consistent performance in recognizing cognates. The consistently low number of instances among all pairs in the control group indicates an overall low cognate awareness among the participants in this group. Similarly, the consistently large number of instances among the experimental group pairs indicates higher levels of cognate awareness.

5.5 Missed Cognates

Missed cognates reflect instances when a participant pair completely missed or failed to recognize a word as a cognate. The analysis showed a stark difference in the number of times each group missed an opportunity to recognize a cognate. While in the control group there was a total of eight missed cognate opportunities, there were no missed opportunities among the experimental group pairs. In other words, every time the participants in the experimental group noticed a cognate, they recognized it and identified possible English or Tamil equivalents. Excerpt 5.5 presents an example from the interaction in the CG5 pair about the word ‘Sporthallen’ (sports hall).
Excerpt 5

| 14 | Ni: In university, Sporthallen der University Münster. The timings are usually from- | Ni: In university, Sporthallen der University Münster. The timings are usually from- |
| 15 | P: Sporthallen தமிழ் | P: Sporthallen means? |
| 16 | Ni: der- in the university of Münster. Sporthallen. தமிழ் it must the name of the auditorium or place. | Ni: der- in the university of Münster. Sporthallen. So it must the name of the auditorium or place. |
| 17 | P: Ya, ya so like go to this place, Sporthallen. | P: Ya, ya so like go to this place, Sporthallen. |

In this excerpt the pair mistakes the word ‘Sporthallen’ to be the actual name of the exercise hall or auditorium. They completely missed or failed to recognize that ‘Sporthallen’ is in fact a German-English cognate, which means ‘sports hall’ (sports facility) in English. Such instances when participants did not recognize a cognate were found only among control group participants, and not among experimental group participants.

5.6 Misinterpreted Cognates

There were also many instances when participants recognized words as cognates, but misinterpreted them, that is, they mistook the meaning of the German word to be different from its English or Tamil equivalent. In identifying this function, instances coded as ‘Cognate Recognition’ were not double-coded as ‘Misinterpreted Cognates’. In other words, instances identified as ‘Cognate Recognition’ and ‘Misinterpreted Cognates’ were coded as mutually exclusive. In
In this excerpt the pair mistakes the ‘restlichen’ to mean ‘restless’. They begin by brainstorming possible meanings of the word – ‘rest of the semester’ (line 19), ‘restless semester’ (lines 24, 28-29), and ‘middle of the semester’ (line 27). While among these options they had identified the correct meaning in line 19 – ‘rest of the semester’, they discarded this suggestion in lines 19 and 20. In line 24 Sh resumes their discussion about the word and proposes that it might mean ‘restless semester’. They consider ‘rest of the semester’ once again in line 26, but choose ‘restless’ instead, when Sh suggests it again in line 28. In this interaction the pair
does recognize the word as a cognate with English. However, since there are many English words that share orthographic similarities with *restlichen*, the pair chooses a different English word as its meaning.

Similarly, the control group participants also demonstrated such tendencies to misinterpret cognates. The following excerpt is taken from the stimulated recall session with R and Sj from CG2.

**Excerpt 7**

<table>
<thead>
<tr>
<th>Line</th>
<th>A: You haven’t written this, but you discussed this for a long time. What do you think im <em>restlichen</em> means?</th>
<th>R: Like upcoming semester maybe-</th>
</tr>
</thead>
<tbody>
<tr>
<td>70</td>
<td></td>
<td></td>
</tr>
<tr>
<td>71</td>
<td>R: Like upcoming semester</td>
<td></td>
</tr>
<tr>
<td>72</td>
<td>Sj: For the semester, during the semester break.</td>
<td>Sj: For the semester, during the semester break.</td>
</tr>
<tr>
<td>73</td>
<td>R: <em>Restlichen</em>… Rest after the semester.</td>
<td>R: <em>restlichen</em> means… Rest after the semester.</td>
</tr>
</tbody>
</table>

During their interaction R and Sj had discussed the possible meanings of the word *restlichen* (remaining) but had decided not to include it in their translation. When asked about this during the stimulated recall session the pair continued to speculate on what the German word could mean. Their suggestions included ‘upcoming semester’ (line 71), ‘semester break’ (line 72), and ‘rest after the semester’ (line 73). Like the participants in excerpt 5.6, this pair also identified other English words that share orthographic similarities with the German word *restlichen* but were not able to come up with its actual meaning. This led them to misidentify the meaning of the word.
5.7 False Cognates

The text contained two false cognates – ‘Hochschule’ and ‘treiben’. The former shares an orthographic similarity to the English word ‘high school’, but semantically corresponds to ‘university’. ‘Treiben’ shares phonetic similarity to the English word ‘try’, but the phrase ‘Sport treiben’ means ‘to engage in sports’. Some participants noticed these similarities and translated the false cognates. The analysis found that in the experimental group four out of the five pairs translated “hochschule’ as ‘high school’ and one pair translated ‘treiben’ as ‘try’. But in the control group, there was no discussion among any of the pairs on the word ‘Hochschule’. As for ‘treiben’, two pairs translated the false cognate as ‘try’. The total number of false cognates identified and translated, albeit wrongly, was five in the experimental group and one in the control group.

5.8 Awareness after Noticing

In the stimulated recall sessions, I posed questions related to any missed cognate opportunity or an incomplete discussion of an unknown word. Once learners were encouraged to think about possible words in their known languages that looked or sounded similar, they immediately recognized the cognate. The number of instances when participants recognized cognates after noticing them depended on whether I drew their attention to it during the stimulated recall session. My questions, in turn, depended on the participants’ interactions, whether or not they had missed cognates, or if there had been incomplete discussions about words, and uncertain translations. In order to make a fair comparison among groups’ performances the proportion and not the actual number of
successful noticing instances in the stimulated recall sessions are compared.

Excerpt 8 presents an example from the stimulated recall session with K and D from EG1. In this excerpt I question them about their discussion on the word ‘Rabatt’ (rebate).

**Excerpt 8**

<table>
<thead>
<tr>
<th>Line</th>
<th>A: You discussed this for a while but didn’t write anything here. What do you think Rabatt means?</th>
</tr>
</thead>
<tbody>
<tr>
<td>128</td>
<td>A: You discussed this for a while but didn’t write anything here. What do you think Rabatt means?</td>
</tr>
<tr>
<td>129</td>
<td>D: I don’t know. I think it’s 25% scholarship.</td>
</tr>
<tr>
<td>130</td>
<td>K: I don’t know.</td>
</tr>
<tr>
<td>131</td>
<td>A: Is there an English word that looks like this?</td>
</tr>
<tr>
<td>132</td>
<td>K: Oh rebate?</td>
</tr>
<tr>
<td>133</td>
<td>A: Ya, you mentioned it, then didn’t continue. What happened?</td>
</tr>
<tr>
<td>134</td>
<td>K: I don’t know, I wasn’t sure. But it does make sense.</td>
</tr>
</tbody>
</table>

During their interaction K and D had discussed the word ‘Rabatt’ but the discussion had been inconclusive. When asked about this later they were still uncertain about its meaning. But as soon as their attention was drawn to the possibility that ‘Rabatt’ might be a German-English cognate (line 131), they immediately recognized its meaning to be ‘rebate’ (line 132).
Similar instances were found in the stimulated recall sessions with the control group also. In Excerpt 5.9 we see Sr and Pr’s attention being drawn to the German English cognate ‘Sporthallen’ (sports hall).

**Excerpt 9**

<table>
<thead>
<tr>
<th>Line</th>
<th>Tamil</th>
<th>English</th>
</tr>
</thead>
<tbody>
<tr>
<td>87 A:</td>
<td><em>Sporthallen</em> தமிழில் அம்பு இருப்பது? But discuss <em>என்ன பண்டையாளர்?</em></td>
<td>A: You’ve written <em>Sporthallen</em> in quotes? But you were discussing it?</td>
</tr>
<tr>
<td>88 Sr:</td>
<td>A couple of reasons. இது எனக்கு உண்டு என்று ஒரு காட்சி என்ன தவறு? Second என்று மானாம் முன்னெடுத்து மறு தவறு காட்சி என்ன தவறு? I mean we can also assume that you know the name there might be <em>Sporthallen</em> outside the room or office.</td>
<td>Sr: Couple of reasons. One, we don’t know the exact meaning. Second, I mean we can also assume that you know the name there might be <em>Sporthallen</em> outside the room or office.</td>
</tr>
<tr>
<td>89 A:</td>
<td>Mm, is there a word in English looks like <em>Sporthallen</em>?</td>
<td>A: Mm, is there a word in English looks like <em>Sporthallen</em>?</td>
</tr>
<tr>
<td>90 Pr:</td>
<td>Ya, <em>Hallen</em> is hall. So-</td>
<td>Pr: Ya, <em>Hallen</em> is hall. So-</td>
</tr>
</tbody>
</table>

Even though the participants had not recognized the meaning of ‘Sporthallen’ during the interaction and at the beginning of the stimulated recall (line 88), they recognized it as soon I asked if it might look similar to English words known to them (line 89). Together they first identify ‘Hallen’ as ‘hall’ and then ‘Sporthallen’ as ‘sports hall’ (lines 90-91).
In the control group, three out of five pairs (CG1, CG2, CG3) recognized all cognates and processed them correctly once their attention was drawn to them. The fourth pair (CG 4) recognized cognates 75% of the time. CG 5 did not recognize the one cognate from their discussion even when their attention was drawn to it. In the experimental group, all pairs to whom cognates were pointed out recognized the words and processed them correctly. The total proportion of cognate recognition instances in the control group (77.77%) is close behind the total proportion of instances in the experimental group (100%). This shows that most of the control group participants responded in a similar manner when cognates were pointed out to them.

5.9 Discussion

The aim of this quasi-experimental study was to explore whether the multilingual instruction provided to adult foreign language learners had an effect on their metalinguistic awareness. Learners from the course that received the multilingual instruction and another set of volunteers from a different beginner-level course performed a collaborative translation task in pairs. The participant-interactions during these tasks and during stimulated recall sessions externalized the metalinguistic thinking of the learners. All metalinguistic interactions revealed how participants processed unknown words and phrases in the given text (Appendix J). This exclusive production of metalinguistic interactions in lexical processing can be attributed to two interrelated reasons. First, the nature of the task could have caused participants to focus exclusively on the lexicon. The task required learners to translate the text to a friend who does not know German. In
translating the text participants might have focused all their attention to the lexicon. Second, given that the proficiency level of the participants was so low, they might have limited themselves to discussing the vocabulary in the text. Attention to grammatical structures, syntax, or any other linguistic form during the translation task might have been too challenging for learners at this level. As the CEFR descriptors explain, learners at the beginner level can only “relay simple information like time, places, numbers, etc.” (CEFR, 2018, p. 107), while translating a text. Decoding such simple information will require paying attention to vocabulary. Thus, the data contains interactions related only to lexical processing because of the nature of the task and the proficiency level of the participants.

The analysis and findings reveal that both groups of participants exhibited crosslinguistic awareness (Jessner, 2008) while processing the text during translation. However, the experimental group participants demonstrated more evidence of crosslinguistic awareness than the control group participants based on numbers presented in Table 5.1. Unfortunately, participant numbers were too small to subject results to statistical analysis, and a pre-test was not possible because the learners had virtually no knowledge of German at the start of the study. Therefore, it is not possible to claim definitively that the multilingual instruction impacted the performance of the experimental group participants. Nevertheless, some positive trends were noted.

All participants drew on their known languages, particularly on English and at times Tamil while processing lexical phrases in the text. The analysis
shows that the number of multilingual processing instances and the number of lexical processing instances are not vastly different between both groups. One possible explanation for the small difference between the two groups could be the multilingual nature of all participants, both in the experimental group and in the control group. Prior research has revealed that multilinguals tend to possess high levels of metalinguistic awareness (Cenoz, 2003; Jessner, 2008). It is therefore likely that even participants who did not receive the multilingual instruction were capable of crosslinguistic comparisons and metalinguistic thinking.

Even though the two groups performed similar functions, the experimental group pairs consistently presented a larger number of instances per function than the control group pairs. This trend can be seen across all functions. The difference in the “Missed Cognates” and “Cognate Recognition” categories are particularly stark. This large difference in the numbers between the two groups is indicative of a higher level of cognate awareness among experimental group participants. SLA studies show that learners can process cognates only when they are aware that the word is similar to a known word in a known language (Jarvis & Pavlenko, 2008; Jessner, 2006; Otwinowska & Szewczyk, 2019; Ringbom, 2007). Furthermore, these findings are similar to those found in the study conducted by Otwinowska (2016), where language learners who received multilingual instruction demonstrated greater cognate awareness than those who did not.

In considering the trend of larger numbers among experimental group pairs, two key points need to be pointed out. First, despite the larger numbers there is greater variability among the performances of the experimental group
pairs. For example, EG1 had no instances of lexical processing while EG3 had eight. Similarly, in counting the number of multilingual processing instances, EG1 had two instances, while EG3 had twelve. This significant variability in the performances within the experimental group shows differences in participants’ crosslinguistic awareness. Such variability in performance might be explained by individual differences and/or dynamics between the partners in each pair. It is possible that a greater number of participants would demonstrate greater consistency in performance.

Second, while the experimental group recognized all the cognates in the text, they also misinterpreted a greater number of cognates and identified more false cognates than the control group. When considered separately, misinterpreting cognates or identifying false cognates did not aid the participants in processing the text. Yet, these two functions could be perceived as more cognate recognition instances that were processed unsuccessfully. As several English words share orthographic similarities even with a single German word (see Excerpts 5.6 and 5.7) learners could have misidentified the meaning of the German word for a wrong English translation. While misinterpreted cognates differ from false cognates (i.e., recognizing a word as a cognate when it is not one), the underlying erroneous recognition is similar in both cases. Otwinowska and Szewczyk (2019) explain that once learners with increased cognate awareness assume or notice that a word, in this case a false cognate, is similar to an L1 word, they tend to infer an incorrect meaning. By extension, this should apply to misinterpreted cognates also, when an
orthographic similarity with L1 is noticed, the tendency to incorrectly infer its meaning in the TL is greater.

Learners referred primarily to two languages – English and Tamil – while processing the text. Participants capitalized on their English knowledge when identifying an English-German cognate. The orthographic similarities between the two languages aided participants in processing cognates. In activating Tamil knowledge visual cognates were not of help, as Tamil and German do not share similar written forms. However, phonological similarities between cognates in the two languages aided participants in processing unknown German words (Excerpt 5.3).

Finally, the closest number of instances in both the groups was found in the function “Awareness after Noticing”. Participants in both groups recognized cognates and processed them correctly almost every time the cognate was pointed out to them. This shows that once learners’ attention is drawn to a lexical similarity that exists between a known language and the TL it leads to cognate recognition and successful lexical processing. Cognates pose an advantage to the language learner and can aid in TL learning. However, as explained by the theory of affordances, in order for this advantage to become a tool in TL learning, it needs to be perceived by the learner (Singleton & Aronin, 2007). Similarly, the benefits of noticing and raising learners’ awareness of linguistic elements for TL intake has also been discussed by Schmidt (1990, 2012) in his noticing hypothesis. Findings from this small-scale study are in favor of these two theories,
showing that once learners are made to notice cognates, it can be beneficial in lexical processing.

5.10 Limitations and Conclusion

This chapter presents the findings of a small-scale qualitative study. Given the small sample size and absence of a pre-test, it would be impossible to establish statistical significance of the results. By extension, no direct lines can be drawn between the findings and the multilingual instruction that the experimental group received. A larger study with a greater number of participants would be required to make such definitive conclusions. Furthermore, the data produced seems to have been influenced by the way the pairs interacted. Factors such as individual traits, gender, known languages, and cultural aspects influenced participants’ interactions. The teacher of the control group students later revealed that all volunteers in the control group had demonstrated high German language proficiency. On the other hand, participants in the experimental group represented a wide range of German proficiency. Language proficiency, however, was merely information received from the respective course instructors and was not measured at the time of data collection. Therefore, we can only presume that participants’ proficiency levels seemed to have influenced the data.

Finally, the number of times participants directly translated cognates without discussion were not taken into account. The reason for this analysis decision was that learners mentioned often that they had encountered and learnt the directly translated cognate in a lesson recently. So, they were merely recalling the meaning of the word, and not truly drawing on their metalinguistic
knowledge. But since this question of why they translated a cognate directly was not always posed to learners, one cannot be certain if participants were recalling the meaning of a word or were actually engaging in metalinguistic thinking. If these direct translations were also to be included in the analysis, the numbers might vary in both groups.

Despite these limitations, the study shows that learners who received the multilingual instruction displayed greater cognate recognition and awareness than learners who did not. Learners in the experimental group also tended to activate their prior language knowledge more often than those in the control group. All learners drew on multiple languages, not just their L1s. Finally, all learners demonstrated successful lexical processing abilities once their attention was drawn to cognates.
CHAPTER 6: CONCLUSION

I conclude this dissertation by synthesizing the findings of the study and describing what theoretical and practical contributions it makes to the research site and to the field of foreign language learning at large. The chapter then details the pedagogical implications of this study. I also list the limitations of this study and suggest directions in which future research could be pursued.

6.1 Summary of Findings

In this Design-Based Research (DBR) project the research team consisting of local teachers and I designed and implemented a multilingual instructional sequence iteratively. Data gathered for the first three research questions were analyzed intermittently during the development of the instructional sequence and once again retrospectively at the end of the study. At the end of an iteration, data gathered for each one of these questions were triangulated to assess the sequence and decide what design changes would have to be made. Each research question elicited data from three vantage points – learners’ language performance, learners’ perspectives, and teachers’ perspectives. Based on the analyses and findings, two design changes were made after the first iteration. These included separating instructional activities that required metalinguistic thinking and crosslinguistic comparisons and grouping learners carefully so as to ensure that they shared known languages in their linguistic repertoires. One design change was made after the second iteration. Learners were asked to write down examples of sentences in their known languages while comparing the grammatical functions.
The data gathered for the first three research questions were also analyzed independently at the end of the study. These analyses yielded rich understandings of learners’ language performance after the multilingual instruction, what contextual factors the teachers considered in designing the sequence, and what learners’ perspectives of the sequence were. The findings of the first research question showed that learners’ performance varied to a great extent depending on task and partner. Learners performed with greater accuracy on form-focused tasks than on meaning-focused tasks.

The analysis for the second research question showed that teachers considered several context-specific social, cultural, linguistic, and individual factors while designing and refining the instructional sequence. These factors included learners’ multilingual repertoires, their emerging multilingual awareness, learners’ culturally habituated role as passive learners, and the language of interaction in the instructional sequence. Even though these factors were initially discussed individually while developing the sequence, the research team uncovered connections between these factors and other contextual features during instruction. For example, even though learners’ multilingual repertoires were leveraged in their entirety, they chose English, the socially dominant language, in the first iteration, thus showing the influence of the societal language hierarchy on the learning process within the classroom. Similarly, as learners activated their multilingual awareness, their self confidence in sharing their multilingual knowledge also seemed to increase. Some learners agentically took on the
responsibility of sharing their unique knowledge in languages that none of their peers knew.

The third research question that explored learners’ perspectives showed that there was an overall positive response to the instructional sequence. Most of the learners’ journal entries mentioned that they gained a good understanding of the target grammatical features. Learners perceived leveraging their known languages to be a beneficial learning strategy and reported applying this strategy during other instances. The vital role discussion played during their crosslinguistic comparisons was also highlighted in learners’ journals. Some learners also reported reactivating their knowledge in their known languages as a result of the multilingual instruction. Learners mentioned one disadvantage to the instructional sequence; some learners expressed confusion in the use of grammatical features despite discussing it elaborately during instruction.

At the end of the semester during which the instructional sequence was implemented, a quasi-experimental study was conducted to test the effect of this instruction on the metalinguistic awareness of learners. Ten volunteers from the class that received the multilingual instruction served as the experimental group and ten other volunteers from a different class that did not receive the instruction served as the control group. Participants were asked to work in pairs to translate a German text and write the gist of it in an email to a friend who did not know the language. The translation task was followed by a stimulated recall session during which participants’ thoughts on indecisive, unclear, or incomplete instances when they drew on their known languages were elicited. The data gathered from the
translation task and the stimulated recall were analyzed descriptively. The analysis showed that while both groups leveraged their known languages to process German words, phrases, or sentences in the text, the number of such instances was greater among the experimental group pairs than the control group pairs. The experimental group also demonstrated a greater level of cognate awareness than the control group. This was evident from the higher number of instances when the experimental group pairs recognized cognates, false cognates, or misinterpreted cognates, and the absence of any instance when they missed recognizing a cognate. Finally, I found that both groups were able to recognize cognates and translate them correctly once their attention was drawn to them. Because the number of participants was small and they were not randomly assigned to treatment and comparison groups, no statistical analysis was performed.

6.2 Contributions of the Study

The contributions of every DBR study are both practical and theoretical (McKenney & Reeves, 2012; Reinking & Bradley, 2008). The theoretical contributions of this study extend our understanding of multilingual cognitive processing, multilingual pedagogies in linguistically diverse contexts, the impact of such instruction on foreign language learners, and the interplay of contextual features in the classroom ecology. These contributions are discussed in detail below.
6.2.1 Theoretical Knowledge of Multilingual Instruction

6.2.1.1 Benefits of Naming Languages

Any form of language pedagogy that intentionally mobilizes learners’ known languages will require them to identify and name the individual languages in their linguistic repertoire. Theoretical translanguaging states that multilinguals do not distinguish between languages in their minds and in their use (Otheguy et al., 2015, 2018). Each multilingual has a unique linguistic constellation and during any interaction, and in practice they deploy all their languages “without watchful adherence to the socially and politically defined boundaries of named (and usually national and state) languages” (Otheguy et al., 2015, p. 283). Multilingual instruction that is undergirded by this theoretical stance allows learners to use all their languages in their entirety without separation or conscious use of any of them. They would be allowed to switch between languages fluidly and only “functionally differentiate the different resources required for different tasks” (Wei, 2017, p. 25). Activities in such an instructional approach preclude and do not foster intentionality in the use of any language the learner knows. Learning would not require multilinguals to separate the languages in their linguistic repertoire and pay attention to them individually. However, the instructional approach of this study required learners to dissect their own linguistic repertoires, identify what languages they knew, analyze them, and use this knowledge to learn the TL. In other words, learners treated each language in their repertoire as a discrete entity, naming them and distinguishing between their grammatical functions. Such an approach aided them in developing a good
understanding of the grammatical feature and in developing multilingual awareness. Based on the findings from this study, I join others (Jaspers, 2018; Galante, 2020; Turner & Lin, 2020) in suggesting that pedagogical translanguaging approaches that do not require learners to isolate their known languages can have limitations for TL instruction. This study shows that naming languages can be beneficial for multilingual learners, particularly if their collective linguistic knowledge is to be viewed as an asset.

6.2.1.2 Positive Effects of Multilingual Instruction on Learners’ Metalinguistic Awareness

The descriptive analysis completed for the quasi-experimental study conducted at the end of the DBR project suggested that learners who received multilingual instruction possessed greater metalinguistic awareness than learners who did not receive any such instruction. This was evident from the larger number of multilingual processing instances when the experimental group participants isolated linguistic elements from the given text and translated these using their prior language knowledge. These participants also demonstrated greater cognate awareness than the control group pairs as shown by the larger number of instances when they identified German-English cognates and false cognates in the text, absence of instances when they missed a cognate, and the larger number of instances when they misinterpreted a cognate. Even though recognizing false cognates and misinterpreting cognates did not result in successful processing of a lexical item and in effective translation of the German text, the total number of greater cognate recognition instances among the
experimental group participants point to a high level of cognate awareness. The findings of this study are similar to some previous ones that also found that instruction that leverages learners’ known languages has a positive effect on their metalinguistic awareness (Allgäuer-Hackl, 2017; Jessner et al., 2016; Otwinowska, 2016). The cumulative knowledge from these studies shows us that when multilingual learners mobilize their prior language knowledge repeatedly their metalinguistic awareness can increase.

6.2.1.3 Crosslinguistic Comparisons and Metalinguistic Thinking

The Dynamic Model of Multilingualism defines multilingual awareness as constituting both metalinguistic awareness and crosslinguistic awareness and posits that the two cognitive functions are closely related (Jessner, 2008). In the current study the research team found that crosslinguistic awareness presumes metalinguistic thinking. In other words, crosslinguistic awareness cannot be activated without activating metalinguistic awareness. This was evident in both learners’ engagement with the design activities and in the quasi-experimental study. During the iterative implementations, we observed that every time learners discussed grammatical similarities and differences in their known languages and in German, they began by isolating the grammatical feature, considering the function independent of its form, and then reflected on how these functions were expressed in their known languages. Thus, during these grammatical comparisons metalinguistic thinking preceded crosslinguistic thinking. The inextricable nature of these two cognitive functions was seen in the quasi-experimental study too. While translating specific German words, the
participants first focused on the lexical item in isolation. In several instances, learners processed the lexical item by reflecting on its meaning out of context, and then compared it with their known languages, and then returned to the context. Once again, learners tapped into their metalinguistic knowledge first before engaging in crosslinguistic comparisons. Thus, all crosslinguistic comparisons presupposed metalinguistic discussions. These observations go beyond the theoretical conceptualization that crosslinguistic awareness and metalinguistic awareness are closely related and postulate that crosslinguistic thinking subsumes metalinguistic awareness.

6.2.1.4 Multidirectional Influences of Contextual Features on Learning

The iterative nature of the study enabled the research team to pay attention to the contextual features every time the instructional sequence was implemented and revised. Such repeated focus on the design process revealed multidirectional influences between the contextual features. DMM and other dynamic system theories argue that context is not an external component that exerts a unidirectional feature on its actors or the instruction (Ushioda, 2015). This study found that as the research team introduced one change into the classroom ecosystem – the instructional activities – other contextual actors or features adapted to this change. Internal contextual processes such as learner agency, confidence, and teachers’ perspectives adapted to the new external contextual process – the multilingual instruction. The instruction also revealed how learning was influenced by sociolinguistic hierarchies in the society and the culturally habituated practices of learners. These findings lend support to Ushioda’s (2015)
argument that contextual features are engaged in a symbiotic, co-adapting, multidirectional relationship.

6.2.2 Practical Contributions of the Study

In addition to extending our theoretical understanding of education, DBR projects also offer practical contributions in the form of design principles that might help replicate, adapt, or expand on the current study. This dissertation study can serve as a blueprint for other foreign language practitioners who wish to adopt multilingual instruction in linguistically diverse contexts. The design principles presented here are intended to serve as part of a “maturing intervention” (McKenney & Reeves, 2012) that “ripen[s] over time and can be more locally relevant or more broadly applicable” (p. 80). These principles are not definitive or final by any means, but rather part of an evolving understanding of multilingual instruction. Finally, I follow the recommendations of van den Akker (2010) and present the design principles resulting from this study in the form of heuristic statements.

- **Multilingual instruction leverages all languages a learner knows.**

  The strength of a multilingual learner is in their collective language knowledge garnered through the learning and use of many languages over a period of time. Instruction should therefore aim at utilizing all the languages that the learner knows. Focusing only on the L1 or on the dominant language can be limiting and will not allow the learner to capitalize on their full potential.

- **Multilingual instruction capitalizes on learners’ emergent multilingual awareness.**
Knowing many languages can result in latent or emerging multilingual awareness, and this awareness can play a key role in TL learning (Jessner & Allgäuer-Hackl, 2020). The benefits of this awareness can be realized by activating it through crosslinguistic comparisons, contrastive analysis, and explicit discussions about languages. Such activities can be woven into regular TL instruction.

- **Form-Focused instruction is inevitable.**

  A prerequisite to multilingual instruction that leverages learners’ known languages is bringing learners’ attention to language form. Learners will first have to delineate the form of the target grammatical feature from all the language input they receive in order to be able to compare this feature across all languages they know. Form-focused instruction will have to be integrated into all activities that intend to allow learners to engage with their known languages.

- **Multilingual instruction can leverage the collective linguistic knowledge of all learners in a classroom.**

  In a linguistically superdiverse context learners’ individual linguistic repertoires might differ. If instructional activities are carefully designed through scaffolding and guided discussions, the collective knowledge of the entire class can be drawn on. Students’ shared languages certainly offer rich springboards for crosslinguistic discussions. But their unique knowledge of languages that they do not share with their peers can also aid in raising the overall multilingual awareness of the group and could potentially lead to greater understanding of the target language feature.
Overlapping linguistic repertoires can make crosslinguistic comparisons easier.

If learners share at least a few languages in their repertoires, they can be assured of sufficient common ground to launch their crosslinguistic discussions. Whenever possible, during instructional activities that focus on identifying similarities and differences across languages, learners have to be grouped in a manner that ensures sufficient common knowledge of shared languages.

Learners might require adequate support to engage in crosslinguistic comparisons.

Instructional activities have to help learners navigate any form of crosslinguistic comparison. If learners are not habituated to meta-level language thinking, they will need to be guided gradually through such activities with sufficient scaffolding. Instructional support can be offered in the form of models, guiding discussion questions, peer support, visual aids, and teacher guidance. Crosslinguistic and metalinguistic activities can be separated to further simplify the learning experience. Discussion among peers can guide learners through these difficult cognitive tasks. Large group discussions led by the teacher can also serve as models of crosslinguistic comparisons for learners.

Language of interaction should not hinder cognitive functions.

Given that leveraging one’s prior language knowledge can be a challenging cognitive task on its own, the language of interaction during this task should not add an extra level of difficulty to this task. If the teacher deems the use of the TL during crosslinguistic discussions to be burdensome to learners, they
can be given the choice of interacting in a language that makes these discussions easier. However, if learners are at a level where the TL can be used to compare and contrast languages comfortably, the multilingual discussions could offer an opportunity for meaningful TL use.

### 6.3 Limitations of Study

The current study is not without limitations. First, the instructional sequence was developed for a linguistically homogenous group. There were many shared and common languages among the learners. This made their engagement in the instructional activities fairly straightforward as the common languages allowed for easy crosslinguistic comparisons and discussions. Furthermore, a great advantage in this study was that the teacher, Ms. Tara, also knew most of the languages that her students spoke. These shared repertoires enabled her to monitor group discussions efficiently and to offer the required guidance. The advantage of this learning context is also a limitation of the study, because linguistically superdiverse contexts do not always present such homogeneity in learners’ known languages. In many classrooms with multilingual learners, teachers struggle to draw on students’ known languages, either because they are not familiar with their students’ languages, or because learners are sole speakers of certain languages. The adaptability of the current study in such classrooms is limited, as the instructional sequence is designed with the assumption that there is a common language of interaction and common languages that can be collectively leveraged during crosslinguistic comparisons.
The second limitation of the study is in the uneven amount of feedback received from the three feedback sources in formatively assessing the instructional sequence. Teachers’ perspectives contributed most to deciding what design changes would be made to the sequence. Learners’ perspectives and their language performance did not always relate to the instructional sequence, and even when they did, connections to the instructional sequence were minimal. This disproportionate weight lent to teachers’ perspectives in deciding how the sequence would be refined resulted in favoring the feedback of one set of stakeholders more than the others.

The third limitation is in the quasi-experimental study. Students from in groups volunteered to participate in this portion of the study. This meant that learners’ proficiency levels were not controlled for. The instructor of the control group later informed me that learners who volunteered were high performing students. It is possible that their proficiency levels influenced their performance during the translation task. The small number of participants and the sampling method precluded the possibility of testing the findings for statistical significance.

The final limitation concerns the research team’s inability to address the feedback received at the end of the last iteration. In the third and final iteration we found that the design change of asking learners to come up with sample sentences in their respective languages consumed a lot of instructional time. In our meetings following the final iteration the research team brainstormed ideas on how to overcome this shortcoming of the sequence. But due to time constraints we were
unable to implement the sequence one more time. In other words, as the course was drawing to an end, we could not include a fourth iteration of the sequence. Local teachers expressed interest in implementing the sequence with the brainstormed ideas in future classes that they were going to teach.

### 6.4 Future Directions for Research

Despite its limitations, the study contributes in meaningful ways to the field of multilingual instruction. The findings of this study pave the path in which research in multilingual pedagogies can be continued. Below, I present pedagogical and theoretical directions in which this line of research can be pursued. The field of foreign language education is in dire need of more studies that empirically develop multilingual instructional approaches. While many researchers have recently engaged with multilingual instruction (Brunen & Kelly, 2016; Galante, 2018; González-Davies, 2017; Hofer & Jessner, 2016; Jessner et al., 2016), they have not described how the instruction itself developed. Explaining the design process, as the present study has done, yields both local and global benefits in improving learning experiences within the context and in furthering the field’s understanding of multilingual learning. Future studies might include increased attention to the process itself. Second, instructors face tremendous challenges in leveraging the known languages of heterogenous learner groups. Future studies could explore how instruction can be designed to mobilize the known languages of learners with little or no overlap in their linguistic repertoires.
Third, this study presents one instructional method of adopting the ‘optimal position’ (Macaro, 2009) in including learners’ known languages during instruction. The field of foreign language education, especially researchers and practitioners who work in linguistically diverse contexts, would benefit greatly from more purposeful, planned, and principled ways of integrating learners’ known languages. Lastly, the analysis in the quasi-experimental study did not take into account cognates that were translated without discussion. It might be interesting to take into account and compare these instances also to understand the effect of multilingual instruction on learners’ metalinguistic awareness.

Theoretical directions for next steps include further exploring the relationships between multilingual instruction and multilingual awareness. Our understanding of the connections between multilingual instruction and multilingual awareness are still at a nascent stage. Empirical studies that examine learners’ multilingual awareness through a variety of measures such as tests, questionnaires, classroom interactions, and so on are needed to develop a robust understanding of the connections between the two. Moreover, very few studies have explored if and how multilingual instruction improves learners’ TL proficiency. Much research is required before multilingual pedagogies can be established as a beneficial approach in foreign language instruction to advance learners’ proficiency levels.

6.5 Conclusion

It is always a challenge when the goal of the teacher is to help learners achieve maximum proficiency in one language when there are multiple languages
overwhelmingly present both in the classroom and in learners’ minds. But this study has shown that this instructional challenge can be overcome if one perceives the learners’ multilingualism to be a resource and not an impediment. Once such an outlook undergirds our instructional approach, all that remains is to design activities that leverage these languages. This, too, is not an easy task. Designing context-specific instructional activities will have to be a processual project undertaken with local stakeholders. Leveraging students’ known languages also goes beyond offering a solution to tackling the challenge of teaching one language in the presence of many. It acknowledges, validates, and legitimizes the linguistically diverse characteristic of learners whose very existence is defined by the use of several languages. It allows teachers to bridge students’ lives inside and outside the classroom as multilingual learners and language users. It offers the possibility of viewing language learning as an extension of the everyday life of multilingual learners.
REFERENCES


Annamalai, E. Managing multilingualism in India: Political and linguistic manifestations. Sage Publications.


https://doi.org/10.1207/s15327809jls1301_1


Hofer, B., & Jessner, U. (2016). Multilingualism at the primary level in South Tyrol: how does multilingual education affect young learners’ metalinguistic awareness and proficiency in L1, L2 and L3? The Language


A. Wojtaszek (Eds.) *Individual learner differences in SLA* (pp. 110 – 126).
Multilingual Matters.


Appendix A: Approval from Institutional Review Board

EXEMPTION DETERMINATION

January 9, 2019

Diane Tedick

612-625-1081
djtedick@umn.edu

Dear Diane Tedick:

On 1/9/2019, the IRB reviewed the following submission:

<table>
<thead>
<tr>
<th>Type of Review: Initial Study</th>
<th>Title of Study: Implementing multilingual pedagogies in an Indian foreign language classroom: A design-based study</th>
</tr>
</thead>
<tbody>
<tr>
<td>Investigator: Diane Tedick</td>
<td>IRB ID: STUDY00005378</td>
</tr>
<tr>
<td>Sponsored Funding: None</td>
<td>Grant ID/Con Number: None</td>
</tr>
<tr>
<td>Grant ID/Con Number: None</td>
<td>Internal UMN Funding: None</td>
</tr>
<tr>
<td>Internal UMN Funding: None</td>
<td>Fund Management Outside University: None</td>
</tr>
<tr>
<td>Fund Management Outside University: None</td>
<td>IND, IDE, or HDE: None</td>
</tr>
<tr>
<td>Documents Reviewed with this Submission:</td>
<td>Consent form-controlgroup.docx, Category: Consent Form;</td>
</tr>
<tr>
<td></td>
<td>Appendix A-interview protocol.docx, Category: Other;</td>
</tr>
<tr>
<td></td>
<td>Appendix D-focus group protocol.docx, Category: Other;</td>
</tr>
<tr>
<td></td>
<td>Consent form - focalparticipants.docx, Category: Consent Form;</td>
</tr>
<tr>
<td></td>
<td>Appendix B-teacher journal prompts.docx, Category: Other;</td>
</tr>
<tr>
<td></td>
<td>Appendix C-student journal prompts.docx, Category: Other;</td>
</tr>
<tr>
<td></td>
<td>Consent form-students.docx, Category: Consent</td>
</tr>
</tbody>
</table>

Driven to Discover™
The IRB determined that this study meets the criteria for exemption from IRB review. To arrive at this determination, the IRB used “WORKSHEET: Exemption (HRP-312).” If you have any questions about this determination, please review that Worksheet in the HRPP Toolkit Library and contact the IRB office if needed.

This study met the following category for exemption:

• (1) Research conducted in established or commonly accepted educational settings, involving normal educational practices. (Both the procedures involve normal education practices and the objectives of the research involve normal educational practices)

Ongoing IRB review and approval for this study is not required; however, this determination applies only to the activities described in the IRB submission and does not apply should any changes be made. If changes are made and there are questions about whether these activities impact the exempt determination, please submit a Modification to the IRB for a determination.

In conducting this study, you are required to follow the requirements listed in the Investigator Manual (HRP-103), which can be found by navigating to the HRPP Toolkit Library on the IRB website.

For grant certification purposes, you will need these dates and the Assurance of Compliance number which is FWA00000312 (Fairview Health Systems Research FWA00000325, Gillette Children's Specialty Healthcare FWA00004003).

Sincerely,

Jeffery P Perkey, CIP, MLS
IRB Analyst

We value feedback from the research community and would like to hear about your experience. The link below will take you to a brief survey that will take a minute or two to complete. The questions are basic, but your responses will help us better understand what we are doing well and areas that may require improvement. Thank you in advance for completing the survey.
Appendix B: Questionnaire on Learners’ Linguistic Repertoires

### Ihre Sprachbiografie

**Wie heißen Sie?** ____________________________
(What is your name?)

**Wie ist Ihre Muttersprache?** ____________________________
(What is your mother tongue?)

**Welche Sprachen sprechen Sie? Machen Sie eine Liste!**
(What languages do you speak? Make a list.)

<table>
<thead>
<tr>
<th>Sprache</th>
<th>Lesen</th>
<th>Schreiben</th>
<th>Sprechen/Kommunikation</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Appendix C: Form-focused Activity after First Iteration: Definite and Indefinite Articles

Tourist: Ist das *ein* Fluss?

Taxifahrer: Ja, das ist _____Elbe.

To: Was ist das? Ist das ____ Hotel?

Ta: Ja, das ist _____ Hotel Hafenstraße.

To: Und was ist das, ist das _____ See? Nein, das ist ____ Fluss. _____ Fluss heißt Alster.

Ta: Ist das _____ Kirche?

Ta: Ja, das ist _____ Frauenkirche.
Ihr Freund aus Deutschland möchte die Sehenswürdigkeiten in Chennai besuchen. Sie planen Ihren Tag mit diesen Fotos. Führen Sie einen Dialog!

A: Was..?

B: Kirche/Tempel/…


B: schön/ bunt/ groß/…

A: Ok, wir gehen dorthin. Was noch?

B: Kirche/Tempel/…

..
### Lesen Sie die folgenden Dialoge! Was sind die Unterschiede zwischen diesen Situationen?

<table>
<thead>
<tr>
<th>Hotelreceptionist: Hier ist _____ Schlüsselkarte!</th>
<th>Lehrer: Seid ihr fertig?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ihr Zimmer ist im 2. Stock.</td>
<td>Schüler: Ja, fast fertig.</td>
</tr>
<tr>
<td>Gast: Danke! Und wo sind meine Koffer?</td>
<td>Lehrer: Wie heißt _____Präsentation?</td>
</tr>
</tbody>
</table>
| Hotelreceptionist: Wir bringen _____Koffer aufs Zimmer. | Schüler: Unser Projekt heißt „Natur und Tourismus“.
|

Appendix F: Writing Activity after Second Iteration

MEINE FAMILIE

Familienmitglied 1
• ____________
• ____________
• ____________
• ____________

Familienmitglied 2
• ____________
• ____________
• ____________
• ____________

Familienmitglied 3
• ____________
• ____________
• ____________
• ____________

Familienmitglied 4
• ____________
• ____________
• ____________
• ____________
_________________ Paul,

Wie geht's dir? Es war toll, dich auf dem Urlaub kennenzulernen. Ich möchte dir meine Familie vorstellen......

Schrreib mir aber deine Familie!
Appendix G

Speaking Activity after Second Iteration

Ihr deutscher Kollege möchte Ihre indischen Kollegen treffen. Stellen Sie sie ihm vor!

A: Das ist ....

B: Hallo! Ich bin ...

A: Und das ist ...arbeitet seit ..../ Sein/

Ihr Projekt/ Hobbys ...

B: Schön!
Appendix H: Form-focused Activity after Third Iteration:

Nominative and Accusative Pronouns

Maria und Hans planen eine Party. Sie haben eine lange Gastliste. Haben sie alle Gäste eingeladen?

M: Das ist eine lange Liste.
H: Tja, _____ haben viele Freunde.
M: Also, _____ habe Thomas und Anja eingeladen. Wen hast _____ eingeladen?
H: Nur Sven. Wir müssen noch fünf Gäste anrufen. Ist Anke noch in Berlin?
M: Ja, _____ fährt erst nächste Woche in die Alpen.
H: Ok, ich kann _____ anrufen. Wer noch?
M: Martha und Klaus? Ich habe _____ seit Monaten nicht gesehen. Kannst du _____ einladen?
H: Ja, sicher. Ich habe erst gestern Klaus Tennis gespielt. Ich treffe _____ nochmals diese Woche.
Ich kann _____ direkt einladen. Vielleicht müssen wir Martha anrufen.
M: Ok, das mache ____.
H: Dann bleibt noch der Rudi. Weißt du, geht’s ihm besser jetzt nach der Operation?
M: Oh ja! ___ ist jetzt 100% fit. Ich habe ____ letzte Woche im Supermarkt gesehen. Ich kann _____ einladen.


M: Gut!
Ihre besten Freunde fliegen nach Heidelberg. Sie haben noch einen Freund und der wohnt in Heidelberg. Stellen Sie Ihrem Freund in Heidelberg ihre zwei besten Freunde vor! Bitten Sie ihn, sie vom Flughafen abzuholen!

**Akila**
Studentin: Madras Universität
Hund: Spooky
Lassaratte
Oft in der Bibliothek

**Ram**
Maler
Freund seit acht Jahren
Singt gern

_Hallo Will,_
_wie geht’s?....

_Ich möchte dir meine Freunde vorstellen._
_Fliegen nach Heidelberg._
_Vom Flughafen abholen?_

_Ram ist ....._

_Akila ist ......_

_Ram und Akila – Studenten an der Berliner Universität._
_Ankunft 10. Juli._
_eine Wohnung suchen._

_Viel Dank!!!_

Wo? Sporthallen der Uni Münster, Öffnungszeiten Mo. – Sa. 8.00 – 22.00. Kontakt: hochschulsport@uni-muenster.de Tel.: +49 251/7312456

Es gibt noch freie Plätze für ...

Handball
Di., Do. 16.00 – 18.00
Fr. 15.00 – 21.00

Badminton
Mo., Mi. 17.00 – 19.00
Sa. 9.00 – 12.00

Rugby
Di., Do. 16.00 – 18.00
Fr. 15.00 – 17.00

Laufen
Di., Do. 18.00 – 19.00
Mi., Sa. 8.00 – 9.00

Schwimmen
Mo. 18.00 – 20.00
Fr. 19.00 – 22.00

Studi-Fit – ein vielseitiger Fitness-Mix
Mo., Mi., Fr. 20.00 – 21.00
Di., Do. 9.00 – 10.00

Turnen
Mo., Mi., Fr. 18.00 – 19.00
Di. – Do. 9.00 – 11.00

Pilates + Wirbelsäulengymnastik
Kombinationstraining
Di., Do. 18.30 – 20.00