HACETTEPE ÜNİVERSİTESİ
EĞİTİM BİLİMLERİ ENSTİTÜSÜ

Department of Foreign Language Education

English Language Teaching Program

VIDEO-MEDIATED DATA-LED REFLECTION OF TRANSNATIONAL PRE-SERVICE

TEACHER GROUPS ON VIRTUAL EXCHANGE TASKS

Gülşah UYAR

Ph.D. Dissertation

Ankara, 2024

With leadership, research, innovation, high quality education and change,

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VİDEO TEMELLİ VERİ-ODAKLI YANSITMALARI

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Acceptance and Approval

To the Graduate School of Educational Sciences,

This thesis / dissertation, prepared by **Gülşah Uyar** and entitled "Video-Mediated Data-Led Reflection of Transnational Pre-Service Teacher Groups on Virtual Exchange Tasks" has been approved as a thesis for the Degree of **Ph.D.** in the **Program of English Language Teaching** in the **Department of Foreign Language Education** by the members of the Examining Committee.

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Member	Doç. Dr. Zeynep BİLKİ	Signature

This is to certify that this thesis/dissertation has been approved by the aforementioned examining committee members on 13/06/2024 in accordance with the relevant articles of the Rules and Regulations of Hacettepe University Graduate School of Educational Sciences, and was accepted as a **Ph.D. Dissertation** in the **Program of English Language Teaching** by the Board of Directors of the Graduate School of Educational Sciences from ...../...../........

Prof. Dr. İsmail Hakkı MİRİCİ

Director of Graduate School of Educational Sciences

Abstract

Reflection has become an acknowledged and widely used tool in teacher education programs to prepare PSTs for their future career. Although it has been explored extensively, there are still gaps in the literature to understand how reflection is performed and how it leads to teacher learning. To address the research gaps, this study sets out to examine data-led collaborative reflective dialogues of transnational PST groups in a virtual exchange (VE) setting without presence of a teacher educator. Accordingly, the participants are PSTs from Austrian, Spanish and Turkish universities (n=72). Within the scope of an Erasmus+ project (Digitask4IC project), they were supposed to design a VE task, watch screen-recordings of students' performance, and finally reflect on students' performance and their VE experience. Using multimodal Conversation Analysis to examine screen recordings of the PSTs' data-led collaborative reflective dialogues, this study uncovers how reflection was performed and how micro-moments of opportunities for teacher learning were created. The findings showed that micro-moments of teacher learning were created, and it was explicitly claimed through various constructions. The PSTs claimed lack of knowledge in the past to show their K+ epistemic status, problematized their past epistemic status, expressed a change in their epistemic status and explicitly claimed teacher learning. All the construction were used strategically to show the changing in their epistemic status and their teacher learning. The findings bring new insights into second language teacher education programs and contributes to the body of literature by providing pedagogical implications to teacher educators.

Keywords: teacher education, teacher learning, reflection, epistemics, conversation analysis

Öz

Yansıtma, öğretmen adaylarını gelecekteki kariyerlerine hazırlamak için öğretmen eğitimi programlarında kabul görmüş ve yaygın olarak kullanılan bir araç haline gelmiştir. Kapsamlı bir şekilde araştırılmış olmasına rağmen, yansıtmanın nasıl yapıldığını ve öğretmen öğrenmesine nasıl yol açtığını anlamak için literatürde hala boşluklar vardır. Literatürdeki eksiklikleri tamamlamak için bu çalışma, herhangi bir öğretmen eğitimcisinin bulunmadığı bir sanal değişim (SD) ortamında ulusötesi öğretmen adayı gruplarının veri temelli işbirlikçi yansıtıcı diyaloglarını incelemeyi amaçlamaktadır. Bu doğrultuda katılımcılar Avusturya, İspanya ve Türkiye üniversitelerinden öğretmen adaylarıdır (s=72). Öğretmen adaylarının bir Erasmus+ projesi (Digitask4IC projesi) kapsamında, bir VE görevi tasarlamaları, öğrencilerin performanslarının ekran kayıtlarını izlemeleri ve son olarak öğrencilerin performansları ve SD deneyimleri üzerine yansıtmaları gerekmektedir. Bu çalışma, öğretmen adaylarının veri odaklı işbirlikçi yansıtıcı diyaloglarının ekran kayıtlarını incelemek için çokkipli konuşma çözümlemesi kullanarak yansıtmanın nasıl gerçekleştirildiğini ve öğretmen öğrenimi için mikro anların nasıl yaratıldığını ortaya çıkarmaktadır. Bulgular, öğretmen öğrenmesinin mikro anlarının yaratıldığını ve bunun çeşitli yapılar aracılığıyla açıkça iddia edildiğini göstermiştir. Öğretmen adayları, bilgili epistemik statülerini göstermek için geçmişte bilgi eksikliği olduğunu iddia etmiş, geçmiş epistemik statülerini sorunsallaştırmış, epistemik statülerindeki bir değişikliği ifade etmiş ve öğretmen öğrenimini açıkça iddia etmiştir. Tüm yapılar, epistemik statülerindeki değişimi ve öğretmen öğrenmelerini göstermek için stratejik olarak kullanılmıştır. Bulgular, ikinci dil öğretmeni yetiştirme programlarına yeni bakış açıları getirmekte ve öğretmen eğitimcilerine pedagojik öneriler sunarak literatüre katkıda bulunmaktadır.

Anahtar sözcükler: öğretmen eğitimi, öğretmen öğrenimi, yansıtma, epistemik, konuşma çözümlemesi

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<div align="right">To Mom,</div>

<div align="right">To Dr. Ufuk Balaman</div>

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Symbols and Abbreviations

CA: Conversation Analysis

CALTE: Conversation Analytic Language Teacher Education

LTE: Language Teacher Education

PST: Pre-service Teacher

SLTE: Second Language Teacher Education

VE: Virtual Exchange

Chapter 1

Introduction

This dissertation investigates how transnational groups of pre-service teachers (PSTs) express epistemic change and claim teacher learning in their video-mediated data-led collaborative reflections. This chapter begins by introducing the theoretical background of the study. Next, the statement of the problem will be elucidated with reference to gaps in the literature. Subsequently, the aim and significance of the study will be introduced, emphasizing its contributions to the field. What follows is the research context and research questions section. Before closing the chapter, a list a definition will be provided. Lastly, the chapter will close with the presentation of the outline of the study.

Background to the Study

This study explores the epistemic change expressions and teacher learning claims of transnational PST groups during their video-mediated collaborative data-led reflections in the scope of a project. Of the various sources of data, such as task design conferences in groups, feedback from teacher educators, students' performance on tasks, this study mainly focuses on reflective conversations of the transnational groups of PSTs. In essence, this dissertation aims to extend literature on reflection by showcasing how epistemic status of participants changes in-and-through reflective conversations of PSTs. To this end, the study employs multimodal Conversation Analysis (CA) as the research methodology. The findings will contribute to the overall understanding of reflection in interaction.

With the problematization of behaviorist views and emergence of social constructivist views on teaching and learning, teachers and learners have increasingly been recognized as active agents who interact with their co-participants. This shift and the consequent assignment of agency to teachers and students have also transformed teacher education programs. Historically, the knowledge base of second language teacher

education (SLTE) lacked a holistic view of teacher education, and student teachers were not well prepared for teaching (Freeman & Johnson, 1998; Nguyen, 2016, 2019; Ur, 1992). Additionally, front-loading model of teacher education, which viewed teaching as application of theoretical knowledge learned in teacher education programs, has been criticized as it overlooked the social and dynamic nature of teaching and learning and failing to adequately prepare PSTs for the complexities of the classroom. Therefore, knowledge base of SLTE has also undergone a shift.

The evolving knowledge base of SLTE has transformed the perception towards teacher learning (Freeman & Johnson, 1998; Gray, 2004; Johnson & Freeman, 2001). Rather than the idea of storing theoretical knowledge and applying it in the classroom, the concept of experiential knowledge emerged (Crandall & Christison, 2016). Through the transformed perception, teacher learning is now approached as a more social entity which emerges through interaction with the other parties of educational contexts and teachers as social agents who bring past experiences. Similarly, Opfer and Pedder (2011) suggest that four orientations lead to improved teacher learning: (1) field and classroom experience; (2) opportunity for reflection; (3) opportunity for understanding oneself in a secure environment under challenging or novel circumstances; (4) applied knowledge about teaching and learning. Thus, the evolving knowledge base of SLTE places a great emphasis on the agency of PSTs, which has led reflective practice to come into play. With the affordances it provides, reflection in teacher education has gained popularity and taken its place in teacher education programs. Studies have found out that reflection helped teachers track their learning and development (Chan & Wong, 2021; Dikilitaş, 2015; Richards, 1995), be a reflective practitioner (Crandall & Christison, 2016; Kumaravadivelu, 2006), gain more self-efficacy in teaching (Farrell, 2015b; Pedro, 2005), regulate their knowledge (Burton, 2009), be more resilient (Ayoobiyan & Rashidi, 2021; Farrell, 2015b; Hong, 2012), and enhance their teaching skills (Balaman, 2023).

Although reflective practice has become an acknowledged tool to cultivate teacher learning of PSTs in teacher education programs, there remain significant deficits in its application. For example, reflection is mostly carried out through writing rather speaking (Mann & Walsh, 2013, 2017; Walsh & Mann, 2015). Also, individual reflection is highly embarked on (Mann & Walsh, 2013, 2017; Walsh & Mann, 2015) while collaboration has been approved to enhance reflection (Husu et al., 2007; Ishino, 2018; Kim & Silver, 2016; Mann & Walsh, 2017; Turhan & Kirkgöz, 2021). Moreover, although data plays a crucial role in shaping teacher learning (Eröz-Tuğa, 2013; Körkkö, 2019; Körkkö et al., 2019; Richter et al., 2022), reflection practices mostly lack data (Mann & Walsh, 2013, 2017; Walsh & Mann, 2015). However, the scope of the studies exploring reflective practice has evolved with the help of technology. Whereas studies on reflection, initially, explored written forms of reflection, recent studies also examine data-led spoken reflection with the help of technology. Consequently, in addition to other domains of research (e.g. Copland et al., 2009; Golombek, 2010; Strong & Baron, 2004), studies started to explore naturally occurring reflective practice through conversation analytic research methodology (e.g. Mann & Walsh, 2013; Skovholt et al., 2019; Waring & Creider, 2021).

CA has started to be employed by different researchers to examine practices in LTE. With its data-led and evidence-based approach, it brings solutions to the problems about the knowledge base of SLTE programs mentioned above. It extends the knowledge base of SLTE through classroom practices and models such as SETT (Walsh, 2006), IMDAT (Sert, 2015), FAB (Waring & Creider, 2021), through presenting materials for in classroom interaction (Huth et al., 2019; Huth, 2021), and through data-led reflection (Mann & Walsh, 2013, 2017). Lastly, conversation analytic language teacher education (CALTE) (Balaman, 2023) has emerged to contribute to the knowledge base of SLTE and inform SLTE programs with data-led insights to improve interactional awareness of PSTs and track how teacher learning occurs. In that vein, this dissertation adopts CALTE approach and explores micro-moments of expression and manifestation of teacher

learning. Accordingly, gaps in the literature and areas that merit further study will be identified in the next section.

Statement of the Problem

Although reflective practice has taken its place in SLTE, there is no consensus on affordances of reflection and like any tool, reflection does not guarantee better teacher learning (B. M.Atkinson, 2012; Collin & Karsenti, 2011; Mälkki & Lindblom-Ylänne, 2012; Ryan, 2013). Despite the extensive exploration of it, what reflection is and how reflection is done still merit further study. Most studies on reflection do not present data, or they only present parts from journals or self-reports. There is a dearth of empirical studies that investigate spoken reflection and data showing how reflection is performed (Veen & de la Croix, 2016; Walsh & Mann, 2015) and how reflective practice enhances teaching (Ayoobiyan & Rashidi, 2021). Moreover, gaps exist in the literature regarding (1) the range of effectiveness of teachers' professional development programs and (2) what teachers learn, how they learn, and how their new knowledge affects their practice. Overall, how teacher learning is manifested and topicalized in reflective conversations of PSTs is a lacuna in the literature. Additionally, how reflective conversations among PSTs are performed in the absence of a teacher educator, and without power asymmetry (see Bjørndal, 2020; Copland, 2010; Copland et al., 2009; Harris et al., 2019; Kim & Silver, 2016, 2021; Skovholt, 2018; Veen & de la Croix, 2016; Waring, 2017) warrants closer exploration. The power asymmetry stems from the role of teacher educators as assessors and the epistemic authority they maintain.

Parties adopt different epistemic stances and demonstrate their epistemic status in the unfolding of conversation in situ. Their knowledge territories may differ from each other, and they create opportunities to bridge these knowledge gaps through interaction. Therefore, in both mundane and instutitional settings, the aim of participants is to move towards a more knowledgeable (K+) status (Heritage, 2012a, 2012c, 2013) which is

particularly the goal in educational settings. In educational settings, having access to students' epistemic status help educators create learning opportunities and shape learning. Therefore, claim and demonstration of epistemic status (see Koole, 2010; Sacks, 1992) play a crucial role and specifically claim/disclaim of epistemic status attracted scholarly attention (Day & Kristiansen, 2018; Heller, 2017; Herder et al., 2020, 2022; Ingram, 2020; Jakonen & Morton, 2015; Käntä, 2014; Sert, 2011; Sert & Walsh, 2013; Sherman & Tůma, 2023; Skogmyr Marian et al., 2021; Solem, 2016b; Somuncu & Sert, 2019). There are also few studies on change in the epistemic status in online peer-peer interaction (Balaman & Sert, 2017; Skogmyr Marian & Balaman, 2018). Despite a number of studies, to my best knowledge, the literature on epistemics in interaction lacks studies which focus on epistemic status of PSTs in teacher education programs regarding teacher learning.

Taken together with the lacunas regarding reflective practice in SLTE programs and epistemics in interaction in the literature, the study examines epistemic expressions of transnational PST groups in their data-led collaborative reflective conversations. The aim and potential contributions of the study will be detailed in the next section.

Aim and Significance of the Study

With the rapid advancement of technology and changing generations, staying up to date has become a challenge for teachers. Consequently, raising reflective teachers who take actions and generate knowledge has become specifically essential for SLTE programs. Thus, reflection has been an acknowledged and commonly used tool in SLTE programs. However, there are still gaps in the literature, as studies mostly explored what reflection leads to rather than how it is accomplished. Furthermore, although some scholars make inference regarding their findings and propose reflection enhances teaching, how it enhances teacher learning is a lacuna in the literature. Therefore, this study sets out to address this gap.

The study aims to investigate how data-led collaborative reflection is conducted among transnational groups of PSTs and its affordance for teacher learning in a broader sense. Specifically, it examines epistemic change constructions of PSTs during their reflective conversations with their international partners. It deals with how epistemic change was expressed through various constructions and claims, exploring how PSTs adopt a more knowledgeable status in their reflective conversations. To achieve this, apart from the literature which highly focused on disclaim of epistemic status at the time speaking (e.g., I don't know), it will focus on epistemic disclaim regarding the past (e.g., I didn't know), problematization of epistemic status in the past (e.g., I thought), claiming a change in the epistemic status (e.g., I realized). Furthermore, it aims to explore claiming learning constructions (e.g., I learned X) of PSTs, specifically teacher learning in this context, and how claimed teacher learning was manifested and topicalized in their earlier conversations. In other words, the study aims to retrospectively track the dataset to find the manifestation of teacher learning moments. To this end, it will be the first to retrospectively track how teacher learning was manifested. Therefore, the study will contribute to the literature by showcasing how data-led collaborative reflection is performed among transnational groups of PSTs and how teacher learning opportunities are created and dealt with by PSTs during reflection. Besides the insights regarding reflection, this dissertation aims to extend the literature on epistemics in interaction. In addition to claim of knowing and claim of understanding, claim of learning will be introduced. Moreover, apart from the studies which explored disclaiming knowledge, this study will broaden the concept with disclaiming knowledge in the past to show K+ epistemic status at the time of speaking.

In line with the aims, the study employs multimodal CA to explore reflective conversations of PSTs. Drawing on the rigorous tools of CA may bring new insights into the nature of these conversations and deepen our understanding of teacher learning (Ishino, 2018). This study also adds up to CALTE studies (e.g., Balaman, 2023) that

informing SLTE knowledge base as the knowledge of teachers' way of knowing that lead to praxis may enrich teacher education programs in addition to individual teachers' practice (Johnson, 2006). Moreover, having access to the needs and ways of teacher learning of PSTs may provide teacher educators new/extended perspectives which may move teacher education a step further (Freeman & Johnson, 1998).

All in all, the study aims to broaden the literature on reflection and epistemics in interaction with the fine-grained analysis of the data-led collaborative reflective conversations of PSTs through robust methodological tools of multimodal CA. Through the insights on reflection and epistemics in interaction, the study will also bring new insights into teacher education by extending the knowledge base of SLTE with other CALTE studies. In accordance with its aims, research context and research question will be introduced in the next section.

Research Context and Research Questions

This study explores data-led collaborative reflections of transnational pre-service teacher groups. Within the scope of an Erasmus+ project (Digitask4IC project/2020-1-TR01-KA226-HE-098066) and classes they were enrolled to, the transnational groups of PSTs from three partner universities participated in the study. The partner universities were based in Austria, Spain and Türkiye. Therefore, the data was collected from the PSTs' video-mediated interactions which was held via Microsoft Teams. To this end, the type of the data is screen-recordings of the PSTs which was collected using Screencast-o-Matic program and built-in recorder feature of Microsoft Teams.

The PSTs were supposed to design a virtual exchange (VE) task in groups. Although data collection process included various stages such as task design conferences, feedback form teacher educators, students' performance of tasks, and reflection of the PSTs, I primarily focus on the last step: reflective conversations of the PSTs. The reflective conversations of the transnational PSTs were conducted without the

presence of a teacher educator, and the PSTs were instructed to watch students' performance before engaging in reflection. The PSTs held reflection in two meetings. In the first reflection meeting, they were supposed to mainly reflect on the students' performance, whereas in the second reflection meeting, they evaluated their online task design experience. With this background, research questions were developed by following the steps of multimodal conversation analytic research methodology. Following the orthographic transcripts and unmotivated looking, upcoming research questions were determined to examine reflective conversations of the PSTs:

1. How do the PSTs engage in data-led collaborative reflection without the presence of a teacher educator on site?

2. How do the PSTs employ various linguistic constructions to express changes in their epistemic status?

3. What affordances does collaborative data-led reflection provide to PSTs for teacher learning?

   a) How were micro-moments of claimed teacher learning manifested?

   b) What are the sources that conribute to PSTs' claim of teacher learning?

Definitions

This section showcases a number of terms and their definitions to increase comprehensibility of the study. Accordingly, reflection, teacher learning, epistemic status, epistemic stance, K- position, K+ position, power asymmetry will be defined respectively.

Reflection refers to "active, persistent, and careful consideration of any belief or supposed form of knowledge in the light of the grounds that support it" (Dewey, 1933, p.118). Later, scholars extended this definition, and they underscored future-orientedness. Therefore, reflection is action of revising one's own philosophy and practice with the aim of improvement.

Teacher Learning is "the process by which novice teachers move towards expertise" (Kelly, 2006, p.514). The micro moments towards expertise emerge through the experience as students in classrooms, student teachers in teacher education programs, and teachers in educational context (Freeman & Johnson, 1998; Johnson & Golombek, 2003).

Epistemic Status is "an inherently relative and relational concept concerning the relative access to some domain of two (or more) persons at some point in time. The epistemic status of each person, relative to others, will of course tend to vary from domain to domain, as well as over time, and can be altered from moment to moment as a result of specific interactional contributions" (Heritage, 2012a, p.4).

Epistemic stance can be defined referring to epistemic status: "If epistemic status vis-à-vis an epistemic domain is conceived as somewhat enduring feature of social relationships, epistemic stance by contrast concerns the moment-by-moment expression of these relationships, as managed through the design of turns at talk" (Heritage, 2012a, p.6).

K- position is the less knowledgeable epistemic status that interlocutors display in the unfolding of interaction (Heritage, 2012a, 2012c, 2013; Raymond & Heritage, 2006). Interlocutors' epistemic status may move from K- to K+ in and through interaction.

K+ position is the more knowledgeable epistemic status that interlocutors display in the unfolding of interaction (Heritage, 2012a, 2012c, 2013; Raymond & Heritage, 2006). Interlocutors' epistemic status may move from K- to K+ in and through interaction.

Power Asymmetry refers to an imbalance in power between two or more parties, where participants generally do not possess equal rights in a given context, such as the workplace. Consequently, in the classroom context, teacher educators hold the authority and the right to assess students and decide whether they fail or pass (Copland, 2011).

After providing definitions, it would be beneficial to delineate the plan of study to illustrate how the dissertation will unfold. Hence, I will present the outline of the study in the next section.

The Outline of the Study

This dissertation consists of five main chapters: (i) Introduction; (ii) Literature Review; (iii) Methodology; (iv) Analysis and Findings; and (v) Discussion and Conclusion. In the current chapter, Introduction, I discussed the background to the study, aim and significance and research context of the study. In addition to them, a number of definitions which would help to understand the study better are included.

The following chapter, Literature Review, is designed to present the review of related literature. This chapter will firstly depict knowledge base of SLTE by touching on the history of it and the shift towards socio-constructivist approach. Then, it will provide a description of teacher learning from past to present. This section will be the base for the next section, reflection which has taken its place in SLTE programs following the shift in the perception of teacher learning. This section will elucidate the definition and procedure of reflection, reflection in teacher education and cautions regarding it, power asymmetry in teacher educator guided reflection, and the importance of collaboration and data in conducting reflective practice. What follows will be the review of epistemics in interaction. This section will present epistemic status, epistemic stance, claim/disclaim of knowledge and understanding, and demonstration of knowledge and understanding.

Chapter 3 is devoted to Methodology of the dissertation. This chapter will introduce participants, research context by touching on the Digitask4IC project, and data collection procedure. Following them, I will explain multimodal conversation analysis (CA) as the research methodology by introducing its principles and central elements. The chapter will move on with validity and reliability of the study which is followed by data transcription.

The chapter will be concluded with building the collection from the dataset, and collection will be introduced.

Chapter 4 comprises two analytic sections, each offering line-by-line analysis of representative extracts. In the first analytic section, epistemic change expressions of PSTs will be examined based on 10 extracts. These extracts will be categorized into constructions to express claim of lack of knowledge in the past (K-), past epistemic status (K+) and change in the epistemic status respectively. The second analytic section is dedicated to claim of learning, specifically teacher learning within this context. Three cases will be exhibited with a total of six extracts. Each case contains two extracts. The first extracts of each case come from the final reflection meeting of the transnational PSTs and each of them includes a claim of teacher learning moment with the construction "I/we (have) learned X". Based on the claims of teacher learning of PSTs, the second extract in each case will be devoted to an earlier moment when the objects (X) of teacher learning were topicalized and teacher learning opportunities were created.

The last chapter will discuss the findings with insights drawn from the existing literature. Initially, dynamics of collaborative data-led reflection without the presence of a teacher educator will be elucidated. Then, how teacher learning moments are created in-and-through reflection and implications on reflective practice in teacher education will be delved into. The dissertation will be finalized with limitations, pedagogical implications, and suggestions for further research.

Chapter 2

Theoretical Basis of Research and Literature Review

This chapter presents the existing literature that underlies the basis of the dissertation under three sections: (i) knowledge base of second language teacher education (SLTE); (ii) reflection in educational settings; and (iii) epistemics in interaction.

In the first section, a brief history of the knowledge base of SLTE and how the view of teacher learning changed with a shift from behaviorist to sociocultural views of teaching and learning will be explained. In addition to the knowledge base, teacher learning will be extensively discussed. The first section will also set the ground for the second section, reflection, as it emerged following the shift to sociocultural views. Thus, in what follows, I will depict reflection with reference to its definition, procedures, tools used in reflection processes and levels of reflection. Then, I will touch upon the affordances of reflection for teacher education while also cautioning towards ways of integrating it to educational settings. Subsequently, how power asymmetry in teacher educator-PST interactions are dealt with in literature will be uncovered. The reflection section will be closed with literature review on data-led collaborative reflection. Lastly, a section on epistemics in interaction in the literature will be provided. This section will depict the epistemic territories, epistemic status vs. epistemic stance, and it will lastly elucidate claims and demonstrations of epistemic status in educational settings.

Knowledge base of SLTE

Ideas on teaching languages have progressed over the years and across different teacher education perspectives- through "epistemological shifts from behavioristic, to cognitive, to situated, social and distributed views of human cognition" (Johnson, 2006, p.236). The disciplinary knowledge in the first perspective focused on 'what' of language teaching was influenced by behaviorist perspectives (Walsh & Mann, 2019). With the shift from 'what' to 'how' of language teaching, teaching knowledge as pedagogy has emerged

with various teaching methodologies. The third perspective, teaching knowledge as an in-person, in-place entity, marked the importance of teaching context (who and where) in addition to what and how of language teaching (Walsh & Mann, 2019). Lastly, knowledge-for-teaching perceives teacher knowledge as knowledge which is needed for student learning (Johnson, 2006).

Since 1985, Second Language Teacher Education (SLTE henceforth) has been experiencing a shift across its practice, theory, and research (Wright, 2010) which also impacted the knowledge base of SLTE (Nguyen, 2019). Prior to the mid-1970s, it was commonly believed that providing teachers with theoretical knowledge would lead to the emergence and improvement of teacher learning and teaching efficacy. Accordingly, knowledge gained in SLTE settings would be subsequently transferred to classroom practices. With this in mind, SLTE programs aimed to equip teacher candidates with all the information assumed essential for their prospective career which was called "front-loading" (Freeman, 1993a). Consequently, teacher education programs focused on delivering discrete amount of knowledge to student teachers with the expectation that they would be able to apply this knowledge across various teaching contexts. Ur (1992) criticized the learn-the-theory-and-then-apply-it model in language teacher education highlighting the gaps between theoretical knowledge student teachers receive and the application of this knowledge into practice in their classrooms. The emergence of cognitive approach in mid-1970s changed this assumption, and scholars began to explore teachers' cognitive processes, although they largely overlooked the personal perspectives and backgrounds of individual teachers (Nguyen, 2016). What followed was the emergence of a new research paradigm in the mid-1980s. This new research paradigm shifted the focus towards recognizing the value of teachers' experiential knowledge and supposed that this knowledge would be brought to both teacher education programs and classroom settings. It also problematized the definition of teaching as application of knowledge in any context, and emphasized that teaching should not be viewed merely as

the application of theoretical knowledge across diverse contexts, but rather as a dynamic process of negotiation and co-construction between teachers and students (Freeman & Johnson, 1998). By 1998, SLTE had shifted its focus from methods and techniques of teaching to understanding how teacher learning could be achieved (Wright, 2010). Despite the consensus on a shift in knowledge base of SLTE, in a relatively recent study, Johnson and Golombek (2020) discusses that greater attention to language teacher education (LTE) pedagogy must be given in knowledge base of SLTE. They put forward that the design, implementation, and output of LTE pedagogy, practices of teacher educators, how social situations of professional development are created, how teacher educators support teacher development should be included in the knowledge base.

All in all, SLTE has undergone a significant transformation due to the shift from a behaviorist perspective to a social constructivist view of teacher learning. Although the precise definition of what constitutes a teacher's knowledge base remains undetermined, SLTE has expanded its knowledge base. This expansion has brought greater attention to some topics such as teacher cognition, reflection, identity, and self-development which have become increasingly prominent (Crandall & Christison, 2016; Farrell, 2018a). Consequently, the emphasis on these topics has shaped how teacher learning was defined and has, thus, led to changes in teacher education practices. The following subsection will provide a detailed exploration of evolving definition and understanding of teacher learning.

Teacher Learning

Freeman (1993) problematized the lack of research on teachers' learning of teaching. Teacher education is a term explaining how a teacher learns to teach and how teacher educators educate trainees to be teachers professionally (Freeman & Johnson, 1998). With the aim of improving the subject-specific knowledge of pre-service teachers, higher education institutions started to apply a top-down approach. Therefore, pre-service teachers were trained with declarative knowledge and expected to make use of this

knowledge in practice. This approach resulted in a gap between the expectation of teacher educators and practice of teachers. However, theory into practice model of teacher education in 1970s and 1980s has been proved to be insufficient to meet the needs of teachers in practice (Gray, 2004). Put simply, the core of it was based on disciplinary knowledge such as the usage and structure of languages, acquisition of second language rather than practical knowledge coming from the classroom (Johnson & Freeman, 2001). Thus, SLTE was mostly shaped with assumptions on what teachers need to know and how teachers can be trained rather than what teachers already know and how their knowledge affects their practice. The knowledge base of LTE ignored the social aspects of teaching and learning and offered inauthentic practices with a one-fits-all idea. Hence, knowledge-base of LTE was prominent to change and extended its scope with the shift from behavioristic to constructivist paradigm (Freeman & Johnson, 1998).

Teacher cognition research has helped to unveil teachers' identity, their beliefs and knowledge, and how teacher learning is constructed and conveyed in different contexts (Johnson, 2006). Teacher cognition is seen as a lifelong learning experience as a student, teacher candidate and teacher respectively. According to the emerging research, teacher cognition is negotiated, and teachers construct and apply it. This line of research also implies the gap between teacher education programs and teacher learning to be bridged. Johnson (2006) suggests that the concept of praxis captures both practice and theory, and how they are dependent on each other. Therefore, with the shift towards a more constructivist approach, definition of teacher learning has undergone a change. To define teacher learning from the perspective of constructivist approaches, we need to consider what should be learned and in what order, how teacher learning is achieved, and how teacher learning can be assessed etc. Research to best understand teacher learning is supposed to examine how teachers view teaching in order to define their beliefs and experiences, school and schooling as socio-cultural environments that shape teachers' perspectives, and experiences of teachers from their first years of schooling to their

teaching activity as teachers (Johnson, 2006). Namely, teacher learning has various dimensions, and it emerges through the multidimensional relationship among various factors. Therefore, teacher learning does not necessarily arise through subject-specific knowledge. On the other hand, by linking expert knowledge and experiential knowledge, teachers gain new understandings of their teaching and themselves, which further shows that teaching practice is not necessarily improved with theoretical knowledge (Johnson & Golombek, 2016). Rather, teacher learning is a complex and long-term process which is manifested through participation in teaching and learning contexts (Freeman & Johnson, 1998) rather than being an absorption of knowledge in a single moment. To wit, instead of one-time training and presentation of new knowledge, teacher learning is possible through sustainable and intensive activities which are real-life based and require hands-on practice. Also, teacher learning is achieved better if teachers who have common backgrounds such as in/experience, department, and settings collaborate with each other (Opfer & Pedder, 2011).

The emergence of socio-cultural turn also led to replacement of the term "teacher training" with "teacher development", which suggests that teacher learning is not transference of knowledge but a lifelong, experiential process (Crandall & Christison, 2016). Thus, it is evident that social constructivist view puts a great deal of importance on experiential knowledge and its integration to theoretical knowledge when defining teacher learning. Accordingly, Johnson and Freeman (2001) set forth that teacher learning mostly occurs in the practice of teaching in classrooms while less teacher learning is achieved in teacher education programs. In other words, teacher learning is achieved through experiences with students, parents and other parties in educational settings which lead us to conclude that teacher learning is socially negotiated, as the practice lies where PSTs apply, question, crosscheck and reshape their theoretical knowledge. These definitions of teacher learning make us to conclude that teacher education is supposed to give teachers place to question and redesign the knowledge, values and beliefs according to socially-

situated view of teacher learning as teacher learning is socially-negotiated with co-participants (Johnson & Freeman, 2001). However, the emphasis on practice does not overlook the knowledge of theory, yet calls for a broader epistemological framework (Johnson & Freeman, 2001). However, this does not necessarily mean that the constructivist paradigm underestimates the importance of theoretical knowledge given in SLTE programs but criticizes the contents in it. For example, Richards (2015) asserted that teacher candidates learn theoretical and content knowledge, however, it is still not definite what content knowledge is needed in the field. In a similar vein, Tarone and Allwright (2004) elucidated that the content taught to teacher candidates in SLTE programs does not align with what teachers experience in practice, which creates a gap that cannot be bridged by novice teachers. In addition to their theoretical and practical knowledge, teachers' past experiences shape their teaching activity (Johnson & Freeman, 2001). That is to say, school plays a role beyond being a place of learning and teaching and may affect the teaching practices of teachers. Therefore, it is essential to provide PSTs with experiences in various learning contexts so as to maximize teacher learning opportunities and to better equip them for their future careers.

Johnson (2006) proposes some challenges regarding teacher learning. "A critical challenge for L2 teacher education is to create public spaces that make visible how L2 teachers make sense of and use the disciplinary knowledge that has informed and will continue to inform L2 teacher education" (p.241). Another challenge is to extending boundaries of teacher learning by examining the informal settings and classroom in addition to settings put for professional teacher development. Also, boundaries of teacher learning can be extended with the integration of technology which enables collaborative teacher learning with peers through CMC in an epistemically symmetric atmosphere. Last challenge is the recognition of the social, political, economic, and cultural histories of L2 teacher education.

Against this background, second language teaching is arguably advocated to be explored from the lens of socially-situated perspectives to have a fuller understanding of actual practitioners' insights into teaching and teacher learning (Johnson & Freeman, 2001). For instance, in an early attempt, Freeman and Johnson (1998) suggest redefining fundamentals of LTE by focusing on the very act of teaching itself. Then, it becomes necessary to explore who is doing teaching, where teaching is carried out and how it occurs. In other words, theories of SLA, classroom methodologies or description of English language as content must be examined by taking the setting and circumstances of teaching into consideration. Thus, knowledge base needs to address: (i) teacher learner; (ii) teaching context; (iii) pedagogical process. (Freeman & Johnson, 1998). The same authors (Johnson & Freeman, 2001) later put forward that SLTE programs need to prioritize that the program is designed for teacher learning of teachers, not for students' learning of languages. So, how teacher learning is achieved and what contributes to teacher learning must be addressed. They suggest shifting from a prescriptive understanding of teacher education to a descriptive understanding. Namely, SLTE programs should focus more on how teachers' practices are shaped and what affects them than what teachers need to know. In a later study, Johnson (2009) argued that the knowledge base of SLTE needs to address three issues: (1) what L2 teachers need to know; (2) how L2 teachers need to teach; (3) how L2 teachers learn to teach. In spite of the suggestions mentioned above and the extended knowledge base of SLTE, Farrell (2015b, 2018a) depicted that despite the efforts of teacher educators to provide PSTs with real life experience, SLTE programs failed to adequately prepare PSTs. Moreover, 20 years after Freeman's critique, Farrell (2018b) put forward that the knowledge base of SLTE still remains incomprehensive. Similarly, Nguyen (2019) critiqued the literature as it still lacks a complete picture of PSTs as learners of teaching. Lastly, Freeman (2020) highlighted the evolving nature of language, context and needs of learners and proposed that they should be considered for a broader perspective.

All of these suggestions and problematizations paved the way for emergence and seeping reflective approach to SLTE, and reflection has been at the centre of innovations in SLTE (Farrell, 2015a, 2015b). This said, the reconceptualized knowledge base of SLTE resulted in changes in the curriculum of SLTE programs in the 21st century regarding goals, learning experiences and evaluation processes. With these changes, SLTE programs aimed to educate teachers candidates as reflective practitioners with experience-based learning and awareness raising activities in the long run (Wright, 2010).

All in all, reflection has gained popularity with the shifts in both the knowledge base and the perspectives towards learning and teaching. As this dissertation aims to explore data-led collaborative reflective conversations of transnational PSTs and to extend knowledge base of SLTE, the next section is devoted to reflection.

Reflection

With social turn in teacher education, reflection has become increasingly important and a crucial component of teacher education programs (Turhan & Kirkgöz, 2021). The term reflection derived from a Latin word meaning looking back and observing (Farrell, 2015b). However, reflection entails not only revisiting past experiences, but also it requires critical examination of these experiences (Hickson, 2011). Collaboration and retrospection can be the base of developing into a reflective professional, whereas to reach a lifelong, critical level of reflection, an orientation towards future during reflection can be more beneficial (Turhan & Kirkgöz, 2021).

Reflection can be defined as the process through which individuals or groups of individuals in collaboration find solutions to a question (Jay & Johnson, 2002) by critically monitoring their practice. Korthagen (2010) describes teacher reflection as correlatively and systematically observing one's own actions to critically evaluate and discover alternative action solutions to their criticism. According to this definition, observation is essential to reflective practice. Aligning with this definition, Dikilitaş and Bostancıoğlu

(2019) suggest to improve PSTs' observational and interpretative skills of what they evaluate to enhance their awareness in terms of their learning histories. Farrell (2015b) underscores the collaboration and defines teacher reflection as "a cognitive process accompanied by a set of attitudes in which teachers systematically collect data about their practice, and, while engaging in dialogue with others, use the data to make informed decisions about their practice both inside and outside the classroom" (p.123). Being a reflective practitioner contributes to lifelong development in profession through "critique teaching" and "better-informed teaching decisions" (Burton, 2009, p.298).

Schön (1983) conceptualized the reflective practice through three different temporal orientations referring time it is carried out: reflection-for-action, reflection-in-action, and reflection-on-action. Reflection-in-action refers to the reflection, which is carried on site during a lesson, and finding a solution to problems by the time they arise. Reflection-on-action, on the other hand, entails reviewing of teaching practices, often carried out under the guidance of a teacher educator on the actual performance in teaching settings via observation or naturally occurring data. Reflection-on-action facilitates teachers to compare their previous knowledge and their new experience, and to redesign their knowledge based on this comparison (Burton, 2009). Reflection-for-action is carried out for future practices, and lesson planning can be an example for it. It refers to the mode of reflection which involves considering possible problems to be encountered in the future and making plans accordingly. This kind of reflection can also derive from the experience gained through reflection-in-action and reflection-on-action (Farrell, 2015b).

There is no "one-size-fits-all" tool to conduct reflection. Therefore, various tools should be used depending on the context and across various time periods in teacher education (Mann & Walsh, 2013, 2017b; Walsh & Mann, 2015). Tools such as "dialogue, writing, classroom observation, action research, narratives, and team-teaching" can be employed depending on the context (Farrell, 2019, p.5). Dialogue fosters reflection of teachers through group discussions (Farrell, 2016a; Hung & Yeh, 2013; Mann & Walsh,

2013, 2017; Walsh & Mann, 2015), and it enhances reflection through questioning and better interpretation (Mann & Walsh, 2017). Writing has been a widely recognized reflection tool (Tsang, 2003) with its built-in reflective orientation (Burton, 2009) as it makes the practices of teachers visible on paper, blogs, chats or forums (Farrell, 2019). There are three different types of writing for reflection: (i) descriptive writing which describes a case without any extensive analysis; (ii) dialogic reflection which is done through exploring reasons for a case; and (iii) critical reflection which elaborates on the cases with a wider perspective (Hatton & Smith, 1995). However, written forms of reflection may bring some concerns. Practitioners may tend to write what teacher educators expect them to write, and reflection can be seen as a ticking all the items on a check list kind of activity (Mann & Walsh, 2013; Walsh & Mann, 2015). Classroom observation provides teachers with insights to see the gaps between their imagined teaching practices and their actual teaching practices either by themselves or in groups (Farrell, 2019) and so to bridge this gap. Action research is carried out with the aim of professional development, and it includes cycles of planning, acting, observing, and reflecting. Teachers review the literature as soon as they decide on a topic. Next, they decide on their data collection procedure. Finally, they analyze and reflect on the findings that emerged from their data with a bottom-up research methodology (Farrell, 2019). Teachers may reflect on their philosophy through storytelling. Narratives help teachers to find links between the events in their lives and how they construct their identity as teachers. Teachers become more aware of their philosophy and its development through sharing personal histories (Lim, 2011). Team-teaching is another tool for reflective practice which is carried out with collaboration and equal responsibility taking over of two or more teachers via collaborative decision-making, teaching and taking action (Farrell, 2019).

Walsh and Mann (2015) (also see Mann & Walsh, 2013) recommend using tools which make reflection more data-led such as ad hoc self-observation and stimulated

recall. Ad hoc self-observation involves using special tools which have been developed to explore special actions. Teachers may observe themselves closely without recordings or transcriptions and develop a deeper understanding of themselves. A comprehensive example is SETT framework by Walsh (2006) which provides a comprehensive approach for self-evaluation. Stimulated recall requires teachers to record their classroom practice and engage in analysis it with others. This examination of teaching practice allows teachers to identify areas to be developed. In addition to the tools used for reflection, some scholars noted some suggestions and cautions in implementing reflection. Chan and Lee (2021) advise to clearly explain the procedure and aim of reflection to students, to provide assistance to students when they need, to give space to students if they want to share their reflection with peers, to give enough time for reflection, and to furnish students with constructive feedback.

The levels of reflection have been defined differently by different scholars. To give in a chronological order, Jay and Johnson (2002) propose three dimensions of reflection: description; comparison; criticism: teachers describe a problematic situation or concern they have; teachers compare the situation with different perspectives and try to better understand it; teachers combine and adopt different perspectives. Farrell (2015b) puts forward that there are three levels of reflection: descriptive; conceptual (comparison); and critical. Teachers define a problem or situation in the level of descriptive, and they seek for answers to the questions such as "What do I do? How do I do?". In the conceptual level, teachers try to find a solution and question their own actions by asking "Why do I do it?". In the critical level, teachers approach the problem or situation by considering all the factors and members. They investigate social, political, ethical and moral aspects of practice. Kleinknecht and Gröschner (2016) assert that PSTs' reflection consists of 3 processes: (1) description, (2) interpretation, (3) alternatives. In the first step PSTs describe a situation, then they evaluate the situation and lastly, they come up with alternative action proposals. Ryan (2013) adapted the levels of reflection from Bain et al.

(2002) and posited four levels of reflection: reporting/responding, relating, reasoning and reconstructing. In the level of reporting/responding, students notice a problem, and in the second level, they find links to their previous experience and knowledge. On the other hand, the third level of reflection requires students to analyze the issue by considering various factors. Lastly, in the fourth level, students generate new perspectives with a future orientation. Thus, the aim of any reflective practice should be to reach fourth level of reflection to lead to learning. Although the terminology differs in the levels mentioned above, stages have some commonalities. Namely, teachers encounter a problem, then they identify and try to bring explanation to it by reference to their experience and knowledge. Lastly, they generate solutions to the problem by gaining new insights. The last level of reflection where students shift their epistemic status to a more knowledgeable state and extend their professional knowledge.

Having provided an overview of the concept of reflection with reference to the procedures, tools, and levels of reflection, I will now focus on the role of reflection in teacher education.

Reflection in Teacher Education

Reflective practice, action research and teacher research indicated the importance teachers' experiences and reflection and how experiences and reflection inquiries lead to professional development (Johnson & Freeman, 2001). Reflective practice aims to enhance teaching with various sub-goals. First of all, it aims to raise individuals who do not consume knowledge but generate it and who can bridge the gap between theory and practice. Then, it aims to raise awareness of teachers and reshape their beliefs and practice through evidence. It also targets to furnish teachers with skills to identify, describe and solve a problem through an evidence-based approach. Another aim of reflective practice is to increase self-esteem and self-confidence of teachers and lastly to raise resilience of teachers to prepare for future problems and changes (Farrell, 2015b). Through reflection, students evaluate what they have learned/experienced and their

learning process which underlies active learning (Chan & Wong, 2021). Reflective practice furnishes teachers with skills to better understand their practices which potentially improves their teaching performance (Dikilitaş, 2015). Therefore, teacher education programs ultimately aim to cultivate reflection skills of PSTs (Kumaravadivelu, 2006) including SLTE programs (Brookfield, 2017; Wright, 2010; Zeichner, 2005).

Farrell (2016b) reviewed the literature on reflection and found out that when teachers are supposed to reflect on their philosophy, they can be more aware of their teacher identity. When they reflect on principles, they raise awareness towards their beliefs, assumptions, and values about teaching, and they can better take action to evaluate or alter them. Reflection on theory enabled teachers to extend their repertoires and knowledge of instruction. Although Farrell avoids making claims like reflection results in better teaching performance, he concludes that some studies have indicated that teachers' awareness was raised on philosophy, principles, theory, practice, and beyond practice which may enhance teaching. In other words, reflection leads to more extensively developed understanding of teaching (Crandall & Christison, 2016), and thus growth in professional knowledge and change in attitude towards students (Dikilitaş & Mumford, 2023). Through reflection, teachers better align with students' needs (Koskela et al., 2023) and get more skillful, critical, and thoughtful (Roskos et al., 2001). Thus, reflection triggers professional development (Korthagen, 2014; Schön, 1983) by affecting not only behaviors but also cognition of teachers (Huth et al., 2019). In addition to reconsidering philosophies and enhancing teaching, reflection may also enable teachers to be up-to-date and keep up with the coming generations (Howard, 2003).

Language teaching practice is mostly shaped by teachers' experiences, beliefs, and assumptions, and also how language learning is viewed (Huth et al., 2019). Therefore, providing opportunities to teachers to reconsider their stances and behaviors has the markings of enhancing teaching. For lifelong professional development, the idea of reflection and teachers as reflective practitioners is prevalent in SLTE programs. With

this prevalence, reflective writing in the forms of journals and portfolios has taken its place in SLTE programs (Farrell, 2016b; Wright, 2010) as it facilitates gaining new insights into teaching and brings along various benefits to teacher education. For example, it provides learning opportunities for teachers out of their own teaching experiences (Svojanovsky, 2017). Moreover, it links theoretical knowledge of PSTs gained through courses with practical knowledge gained through experience (Pedro, 2005). Farrell (2016a) proposes that novice teachers may encounter with difficulties in their first year of teaching as they are required to have same responsibilities as their more experienced colleagues. He found out that novice teachers could overcome the difficulties they have encountered in their initial experience of teaching through a teacher reflection group. Farrell (2013) also found out that reflection through journal writing enabled an experienced ESL teacher to extend her perception of teaching as she could define her beliefs, alter her self-image and gain more self-confidence in teaching. Farrell and Kennedy (2019) explored one teacher's reflection of his philosophy of teaching by using interviews, classroom audio-recordings and writing as data collection tools. Three main themes showed up which highlighted the effect of his past experience, personal experiences and skills, and his sense of responsibility as a teacher. Upon their findings, they concluded that "for any meaningful reflection to take place it is important not to separate the teacher-as-person from the act of teaching or practice, as all these interact together to make the act of teaching possible" (p.11). Kurek and Müller-Hartmann (2017) have also reached a similar result. They made student teachers to evaluate each other's task designs in groups to promote teacher learning through reflective practice and found that their evaluations were affected by their own experiences as students. Balaman (2023) examined reflection in digital spaces and unveiled that reflection offers student teachers valuable teacher learning opportunities. Ayoobiyan and Rashidi (2021) explored reflection from a different angle and examined the relationship between Iranian EFL teachers' reflective practice and their resilience (also see Leroux & Théorêt, 2014). They reported that teachers need to improve their resilience so as to adapt to changes and overcome challenges they face within their professional

lives. Resilience through reflective practice may improve the sense of belonging of teachers and decrease burn-out rates. English Medium Instruction (EMI) teachers reconsider their beliefs and practices through reflection and make revisions when needed which leads to better learning of students. Reflection may help EMI teachers to overcome or decrease their stress regarding the application of EMI (Farrell, 2019).

Despite the mentioned benefits and acknowledgement of reflection in teacher education, it was criticized as there was, and there is still no, agreed definition of reflection (Beauchamp, 2015; Farrell, 2018a) and relevant terminology (Chan & Lee, 2021). Some studies questioned the efficiency of reflective practice in teacher education (e.g. Atkinson, 2012; Blaik Hourani, 2013; Russell, 2013). Atkinson (2012) put forward that teachers' reflective practice does not always overlap with scholars' expectations, and the notion of reflection is oversimplified. Therefore, how reflection is conducted in practice merits further studies. He also asserted that context should not be ignored, and scholars should avoid decontextualization. In a similar way, Mälkki and Lindblom-Ylänne (2012) cautioned against the perspective towards reflective practice and explicated that reflection does not always lead to improved teaching and context, and personal factors cannot be overlooked. Collin and Karsenti (2011) touched upon the dominance of literature and practice on individual reflection and the challenges in shifting to a more collaborative approach of reflection. Akbari (2007) explicitly stated that reflection is vulnerable to changes and various explications and alerts about the focus on the past actions without any future-orientation. He also noted that reflection has no attested benefit for PSTs as they need to construct and discover their self-image rather than improve classroom practice. Ryan (2013) asserted that reflective skills are not innate or instinctive, they should be taught to help students to be able to express their disciplinary knowledge. She, thus, recommended not to disregard providing scaffolding to students in every step of reflection. Farrell (2018b) argued that a more holistic approach to reflection is needed in SLTE as most of the frameworks do not provide a holistic view.

With the acknowledgement of reflection being useful in SLTE programs, various approaches and methods have emerged. However, most of these studies reduce reflection to a retrospectively oriented activity. Therefore, although these approaches and methods could be useful for teachers, most of them view reflection as a remedial tool for retrospective actions rather than uncovering the inner lives of teachers. Against these criticisms and cautions, it is significant to remember that different reflection procedures may yield different insights. Furthermore, it is essential to consider literature to incorporate reflection into teacher education programs rigorously for efficient teacher learning (Beauchamp, 2015). To achieve this, it is essential to broaden our understanding of reflection through further studies. Although reflection has been extensively studied over an important period of time, most studies overlooked collaboration and the use of data in reflection and relied primarily on written reflection rather than spoken reflection (Mann & Walsh, 2013, 2017; Walsh & Mann, 2015). Moreover, to the best of my knowledge, how reflection is performed when there is no power asymmetry on site has been studied by only a few researchers (e.g., Balaman, 2023). This area merits further investigation as a significant body of literature suggests that the power asymmetry is a significant factor affecting the reflective practice of PSTs. Accordingly, I will now turn my attention to the power asymmetry in reflection in the next subsection.

Power Asymmetry in Reflection

Teacher educator-teacher reflection dialogue bears asymmetric power (Harris et al., 2019; Kim & Silver, 2021; Mann & Walsh, 2017; Waring, 2014) by which reflective dialogue is prone to be affected by teacher educator questions and assessments (Waring, 2014; Vasquez, 2004). The asymmetrical power is acknowledged by students and teacher educators, and they act in accordance with it. Vasquez (2004) located that teacher educators employ various politeness strategies to save teachers' face in post observation meetings. Waring (2017) for example found out that mentors tend to "go general" as an interactional strategy in post observation conversations to depersonalize advice.

Congruently, when PSTs get critical feedback, they use various face-saving strategies as critical reflection is seen as a face-threatening act (Bjørndal, 2020). Students also tend to keep quiet during self-evaluation while answering open-ended questions as they avoided contrasting with teacher's ideas (Waring, 2014).

Although PSTs have rights to manage the interaction depending on the situation, teacher educators open and close activities, facilitate reflection, lead discussions (Veen & de la Croix, 2016). Harris et al. (2019) found that the supervisor and PSTs co-constructed an asymmetrical relationship as the supervisor referred to the institutional documents and guided the conversation. Skovholt (2018) discovered that although the teacher in her study created space for students to convey their ideas, her pedagogical goal may urge her to guide students to give preferred answers in feedback-oriented conversation. Teacher educators tend to manipulate trainees' ideas and put across her ideas. So, teacher educators' ideas surpass what trainees think, and trainees' ideas are only valued if they resonate with the ideas of teacher educators (Copland et al., 2009). One of the reasons for such tension may be the different roles that teacher educators need to take up and their shifts between these roles such as an assessor and a collaborative colleague (Copland, 2010) to set a balance between giving feedback and acknowledging teachers' professional stance (Kim & Silver, 2021). Copland (2011) also problematizes the asymmetry in reflection meetings and proposes that "… often the trainees seem to be either maneuvered into accepting the teacher educators' views or even silenced by the discourse practices of the teacher educators. Trainees' learning agendas are rarely heard." (p.16). Put simply, PSTs may not show if they do not agree with teacher educators and tend to seem agreeing (Beck & Kosnik, 2002; Bonilla & Rivera, 2008; Farr, 2010a). To decrease the effects of power asymmetry, Copland et al. (2009) prescribed some strategies to create space for reflection of trainees: rather than imposing knowledge to trainees, teachers educators should embark on a dialogic approach in feedback sessions to sustain knowledge construction and autonomy of trainees. Furthermore, to cultivate

reflection, teacher educators could be less directive and give enough space for PSTs' participation. Another strategy could be mitigating negative feedback with hesitation markers and pauses (Copland et al., 2009).

Having provided a comprehensive account of how power asymmetry in reflection affects the practice of reflection, I will address the significance of collaboration and data in reflection in the next subsection.

Collaborative Data-led Reflection

The literature approaches reflection from different perspectives. According to Murray (2010), there are two reflection types: individual and collaborative (also see Crandall & Christison, 2016). While individuals monitor and gain lessons in the first type, they collaborate with each other in the latter. Reflection is mostly seen as an individual process in which collaboration is ignored (Mann & Walsh, 2013). However, collaboration and making use of others' experiences coincide with how Dewey (1933) (see Definitions section in Introduction) originally defined reflection (Walsh & Mann, 2015). By contrast with the former perspective on reflection and the overall tendency of studies dealing with individual reflection, recent studies on reflection give more prominent space to collaboration in reflection and ensure that it does not emerge in isolation but through dialogue (Husu et al., 2007). For example, Kim and Silver (2016) advocated that dialogue might enhance reflection of teachers, and mentors should trigger dialogue by asking open-ended questions and approach reflection from the perspective of recipients rather than considering their training agenda. Ishino (2018) conducted a micro-longitudinal study and found out that co-teachers drew advantage from joint reflection-in-action and made immediate changes to manage classrooms better. Some studies distinguished the effects of collaborative reflection on the perspectives of teachers. Turhan and Kirkgöz (2021) revealed that collaborative reflection helped PSTs to shift their perceptions as they were able to explore a situation from the perspective of others, and they recommended integrating collaborative reflection into courses. Walsh and Mann (2015) ascertained that

reflection on practice in collaboration with others lead to grosser knowledge development than reflection in isolation. Through discussion with other practitioners, PSTs verbalize and regulate their ideas in interaction. Furthermore, Mann and Walsh (2017) found that PSTs perceive collaborative reflection more fruitful to identify their weaknesses and strengths than individual reflection. Similarly, Chan and Wong (2021) uncovered that the students in their study also propose that interaction with others makes their ideas clearer during reflection. Collaborative reflection also affected resilience positively. Ayoobiyan and Rashidi (2021) investigated the correlation between Iranian EFL teachers' reflective practice and resilience, and they concluded that collaboration with others provide the teachers with new perspectives and lead to increased resilience. Mau and Harkness (2020) investigated a case of reflection of a teacher in isolation and found that a PST, Kevin, described what he observed rather than reflecting on the students' performance. Accordingly, they concluded that a dialogic approach should be adopted to promote deeper insights through reflection.

The developments in the technology promoted data-led reflection by providing various tools. Mann and Walsh (2013, 2017) advocated for the cruciality of data to reflect on and put forward that evidence triggers reflection. Namely, data eases reflection by presenting some evidence to practitioners, and evidence-based decision making plays an important role. In addition to reflecting on their own experience, students may also benefit from others' experiences through reading their stories (Dikilitaş & Comoglu, 2022). However, although any data can be beneficial, teachers' own data results in better and richer reflection as the data from their own professional lives would attract more attention (Mann & Walsh, 2013; Walsh & Mann, 2015).

Video has been used extensively in data-led reflections, and it has been proved to be more useful than writing portfolios to reflect on one's own action as it enables to see unnoticed things during teaching and extends their perspectives (Körkkö, 2019). Eröz-Tuğa (2013) found that self-reflection on video recorded teaching sessions enabled ESL

teachers to gain an understanding of themselves, to be more critical and to better evaluate their practices. Furthermore, by means of video-recordings, the teachers' weaknesses and strengths became apparent, and their awareness towards themselves was raised. In another study, PSTs also depicted that recording videos and watching them later enriched their reflective practice (Körkkö et al., 2019). In that vein, Richter et al. (2022) have found that virtual reality(VR)-based videos also helped PSTs as much as real classroom videos bearing similarities with real classroom videos regarding the potential to trigger reflection. VR provides an environment with avatars as in real classroom and it is way easier to record videos to observe and study later.

This subsection upon reflection has depicted a picture of reflection, potentiality of it in teacher education, and the affordances of collaborative and data-led reflection. Upon these, Mann and Walsh (2013) and Walsh and Mann (2015) call attention to a more data-led approach to raise awareness of PSTs of themselves, their levels and needs. That is to say, they propose empirical, data-led, dialogic reflection with appropriate tools. However, the studies as mentioned above mostly explore reflection under the guidance of teacher educator and the studies which examine collaborative data-led reflection are scarce. Against this background, this study sets out to investigate dialogic data-led reflection of transnational PST groups by employing Multimodal CA. The study aims to uncover how PSTs deal with the problems they encounter and how alternative solutions are created without existence of a teacher educator.

Overall, this section has touched upon reflection including its components, use in teacher education, and significance of power asymmetry, data and collaboration in reflection practice. In the next section, I will present another significant area of research, epistemics in interaction which is one of the bases of this dissertation.

Epistemics in Interaction

Epistemics in interaction has attracted a great deal of attention in the literature starting as early as Labov and Fanshel's (1977) work distinguishing between A events and B events for the exploration of territories of knowledge. They differentiated between events and knowledge territories of interactants. Accordingly, there are 5 categories of knowledge territory across interactants which include A-events, B-events, AB-events, O-events and D-events. According to their categorization, A-events are known by A and not known by B, while B-events are known by B and not known by A. AB-events are known by both A and B. O-events are known by everyone present, and D-events are disputable. Kamio (1977) drew on the importance of territory of knowledge in language. He proposed that the degree of knowledge may vary from person to person. Pomerantz (1980) extended the research on epistemics in interaction with her classification of Type 1 and Type 2 knowables. While Type 1 knowables emerges from the firsthand experience, Type 2 knowables derives from knowing occurrences. In other words, Type 1 knowables are the type of information that a person is expected to know as part of their rights and obligations ("what one is doing", p.187), and Type 2 knowables are the type of information that a person gets through hearing from someone, inference, or seeing someone etc. ("where your friend is" p.188). Based on this line of previous research, recent CA research (e.g., Heritage, 2012a, 2012b, 2013; Heritage & Raymond, 2012) defined epistemic status as the position between K- (less knowledgeable) and K+ (more knowledgeable) ends of the epistemic gradient.

Epistemic status and stance have been distinguished in the epistemics in interaction literature. While epistemic status refers to enduring knowledge positions of individuals between K- and K+ ends of the gradient, epistemic stance is the knowledge status that individuals adopt in situ. In other words, epistemic stance is not fixed and interlocutors may display different levels of epistemic stance in the unfolding of interaction (Heritage, 2012a, 2012b, 2013; Heritage & Raymond, 2012). Epistemic stance of

speakers influences the social actions and unfolding of conversations. For example, individuals can position themselves in relatively K- position, and they may request information from their relatively more K+ interactants (Heritage, 2012a, 2012c, 2013; Heritage & Raymond, 2012). Relatedly, epistemic stance of interactants may shift from K- to K+ of epistemic gradient in situ. The shift in the epistemic stance can be shown with a change of epistemic stance token (i.e., oh) after receiving an answer to a question (Heritage, 1984a) or can be directly claimed or demonstrated, which I now turn to.

Claim and Demonstration of Knowledge in Interaction

Heritage (2013, p. 370) asserts that "within Conversation Analysis (CA), research into epistemics focuses on the knowledge claims that interactants assert, contest and defend in and through turns-at-talk and sequences of interaction". Sacks (1992) makes a distinction between claim and demonstration of understanding. He highlights the importance of understanding in co-constructing interaction and draws attention to how understanding is shown to sustain interaction. Sacks (1992) analyzes the extract below (Fig. 2.1) and he puts forward that a demonstration of understanding is produced as A incorporates and contextualizes the answer of B.

Figure 2.1

Demonstration of understanding (excerpted from Sacks, 1992)

```
A :   How long are you gonna be in town?
B :   Uh, til about Monday.
A :   Oh it'll be just a week then.
```

Heritage (2012b) draws on an extract coming from an earlier paper by Terasaki (2004). He proposes that upon the pre-announcement of A to tell good news in the first line, D positions himself/herself as knowledgeable (K+) and explicitly claims this in line 3 (see Fig. 2.2) below.

Figure 2.2

Claim of knowing (Terasaki (2004) as cited in and excerpted from Heritage, (2012b))

```
(12) [KC4:1 (Terasaki 2004:189)]
 1    A:    Hey we got good news.
 2    C:    [What's the good ne]ws,
 3    D:    [I   k   n   o   :   w.]
 4          (.)
 5    A:    [Oh ya do::?
 6    B:    [Ya heard it?
 7    A:    Oh good.
 8    C:    Oh yeah, mm hm
 9    D:    Except I don't know what a giant follicular
10          lymphoblastoma is.
11    A:    Who the hell does except a doctor.
```

Koole (2010) extended the notion of epistemics in interaction by specifically differentiating between claim of understanding and demonstration of knowing, and how context required claim or demonstration. He explains the differentiation with the following 2 extracts (see Fig. 2.3 & Fig. 2.4).

Figure 2.3

Claim of understanding (excerpted from Koole, 2010)

```
Extract 1 Patricia ZO-091199[1]

84   Teacher:    Nou snap je 't wel?
                 Now you do understand?
85   Patricia:   Ja.=
                 Yes.=
86   Teacher:    =Oke.
                 =Okay.
```

Figure 2.4

Demonstration of knowing (excerpted from Koole, 2010)

```
Extract 2 Tatjana RB-101299

23   Teacher:   Teken een assenstelsel met een zaagtand ((reads))
                Draw a coordinate system with a saw tooth
24              Weet je wat een ↑zaagtand is?=
                Do you know what a saw tooth is?=
25   Tatjana:   = Ja dat is   [dit ding he?
                =Yes that's    this thing right?
26                            [((points))
```

In the first extract (see Fig.2.3), Patricia answers the teacher's epistemic access seeking question (*Now you do understand*?) with an acknowledgement token (*yes*) which reveals that Patricia claims understanding in the first extract. In the second extract (see Fig. 2.4), Tatjana answers the teacher's epistemic access seeking question (*Do you know what a saw tooth is?*) with acknowledgement token (*Yes*), and she asks a confirmation question (*that's this thing right?*). While Tatjana claims knowing with an acknowledgement token, she demonstrates knowing with a confirmation seeking question in the second part of her answer. Therefore, Tatjana's and Patricia's answers to the teachers' epistemic access seeking question accomplished different social actions. While Patricia claims understanding with an acknowledgement token, Tatjana elaborates on her claim of knowing and produces demonstration. The demonstration was formulated following the claim. Namely, demonstration has not substituted the claim but extended it with the structure [claim + demonstration of knowing/understanding]. According to Koole (2010), some sequences may require a claim of epistemic access, while others may require demonstration. In other words, claim is the preferred answer for "*Do you understand*?" question. On the other hand, demonstration is preferred to answer "*Do you know*?" question.

As the ultimate goal of any educational context is to move the epistemic status of students from a less knowledgeable level to a more knowledgeable level between K- and K+ ends of the epistemic gradient, having access to the epistemic status of students

shape the practices of teachers. In an educational setting, teachers have the epistemic authority regarding the subject matter which underscores an epistemic asymmetry between students and teachers. Thus, teachers have the right to ask epistemic questions and engage in epistemic status check (Sert, 2013). Questions are also commonly used in classrooms for a similar interactional purpose. Interactants, who ask questions, adopt varying levels of epistemic stance between K- and K+ ends of the gradient (Heritage & Raymond, 2012). Therefore, despite the epistemic authority of teachers, they may employ a different level of epistemic stance in situ than their actual epistemic status by downgrading their epistemic level. K- status of teachers reduces the risk of an explicit assessment and implies a closer gap between epistemic stance of teacher and students which elicit more engagement from students. For example, teachers' indirect question with "I wonder…" were reported to enable students to engage in interaction more and to display their knowledge (Houen et al., 2019). In a similar vein, van der Meij et al. (2024) discussed that epistemic disclaimers of teachers in turn initials increase students' participation. However, they also argue that epistemic disclaimers do not always end up with more participation of students depending on the sequential structure of the interaction.

Epistemic status of students may not conform with the epistemic stance they adopt or epistemic stance of other students in the class (Balaman, 2016; Balaman & Sert, 2017a, 2017b). Koole (2012) explored mathematics explanations of a teacher in multilingual classroom. He found that teachers' epistemic primacy may hinder displaying epistemic status of students, and students may tend to align with teachers' explanations rather than challenging them. Although experience affects epistemic status of people, similar experiences do not necessarily lead to epistemic equality either (Heritage, 2012a). Therefore, epistemic status of individual students may vary in the educational contexts, and it makes it complex to address the epistemic status of the whole class while regarding individual differences as well (Solem, 2016b). However, teachers tend to generalize

claimed epistemic status of individual students to the whole class. The public attribution of epistemic status may not be in accordance with the actual epistemic stance that students adopt (Heller, 2017). Thus, an incongruence emerges between what students claim/disclaim in situ and their expected epistemic status (Batlle & Deal, 2021; Heller, 2017).

Students' displays of their epistemic stance has been studied across different educational contexts. Epistemics is shown through embodiment, specifically gaze, and students' demonstrated knowledge by taking the initiative to correct teachers in a whole-class activity (Kääntä, 2014). Herder et al. (2022) investigated students' display of knowledge during a collaborative writing activity. Similar to teachers' generalizing practices, students claimed shared (you know/we know) K+ epistemic stance in addition to the individual claims (I know) and K+ epistemic stance. Solem (2016a) put forward that students' displays of knowledge practices challenge the notions of both epistemic asymmetry and interactional asymmetry. In other words, they take initiative to self-select, and, in their turns, they correct teachers to display student knowledge. It also suffices to note that different tasks may require different epistemic stance displays. While demonstration of understanding would be enough in one context, another context might affect not only the range of displaying epistemics but also the assessment of it (Day & Kristiansen, 2018). Herder et al. (2020) found that epistemic displays of students during a collaborative writing task had diverse functions such as giving account, responding to questions, repairing others and so on. They also discovered that students extended their perspectives and knowledge in-and-through interaction with their peers to accomplish the writing task.

Claim of insufficient knowledge (CIK) is one of the notions that also attracted attention in the literature. Thus, in addition to the studies across various settings such as courtrooms (Beach & Metzger, 1997; Drew, 1992; Metzger & Beach, 1996), and child counseling (Hutchby, 2002), CIK has attracted attention in educational contexts (Heller,

2017; Ingram, 2020; Sert & Jacknick, 2015a; Sert & Walsh, 2013; Skogmyr Marian et al., 2021; Somuncu & Sert, 2019). Sert and Walsh (2013) investigated CIK in classroom context and explored how teachers create learning opportunities following students' CIK. Ingram (2020) investigated students' claim of not knowing, understanding and remembering in a mathematics education context and how teachers manage these situations. Sherman and Tůma (2023) argued that students produce CIK in group works as an interactional strategy to accomplish tasks. They, for example, leave the floor to their peers, and create learning opportunities. Skogmyr Marian et al. (2021) dealt with CIK from a different perspective and explored counselors' CIK practices in writing centers at universities. In addition to playing a role to downgrade epistemic status, CIK was also a strategy to avoid subject-specific and content-related responsibility. Students raise awareness of their epistemic status while dealing with the epistemic gaps emerging during pedagogic tasks (Balaman, 2015). Unlike the teacher-fronted classroom practices, in peer interactions, students may attribute epistemic authority to each other, and their claims/disclaim of knowledge may be assessed differently than whole-class sessions (Jakonen & Morton, 2015).

Against this background, this study aims to contribute to the knowledge base of SLTE by furthering our understanding of reflection and epistemics in interaction. Firstly, it will shed light on how reflection is conducted by transnational PST groups without a presence of a teacher educator, and potential affordances it offers for teacher education. Secondly, by building on previous research on epistemics in peer-peer interaction in online educational settings (e.g., Balaman & Sert, 2017), the study seeks to explore PSTs' displays of epistemic stance in an online collaborative data-led reflection setting. The dissertation specifically explores claim of learning, and epistemic change expressions of transnational PSTs during their data-led collaborative reflections. The procedures for achieving the aims will be detailed in the following Methodology chapter, with reference to the details on research context, participants, research methodology and data.

Chapter 3

Methodology

The third chapter of the dissertation is dedicated to the methodological background of the study regarding participants, research context, data collection, Conversation Analysis (CA), transcribing data, building collections. All the details are introduced and discussed in seven sections. First, participants in the study are described as the main and secondary ones. The Research context is then depicted based on the Digitask4IC project and the Teacher Module on the Digitask web application. What follows is the procedures for data collection. In this subsection, I discuss the steps followed, and tools used for data collection. While the first three subsections help gain insights into how this study is designed within the scope of the Digitask4IC project, the remaining subsections present procedural information on how to deal with data from CA perspective. To do so, I present details of CA as the research methodology and fundamentals of CA while approaching data. Next, validity and reliability in CA research are explained. This is followed by the steps related to transcribe the data and how the data is prepared for analysis. The chapter ends with building collections, which presents how the collection of cases was built and what is included in the collection.

Before proceeding with the sections in the current chapter, I would like to reintroduce the research questions.

Research Questions

1.   How do the PSTs engage in data-led collaborative reflection without the presence of a teacher educator on site?

2.   How do the PSTs employ various linguistic constructions to express changes in their epistemic status?

3.   What affordances does collaborative data-led reflection provide to PSTs for teacher learning?

a) How were micro-moments of claimed teacher learning manifested?

b) What are the sources that conribute to PSTs' claim of teacher learning?

Participants

There are two types of participants in this study: main and secondary participants. Main participants are transnational pre-service teachers (PSTs) who design a virtual exchange task and have dialogic reflections in groups through video-mediated interaction. Secondary participants are learners who engage in the tasks created by transnational PSTs. The reason for such a differentiation between main and secondary participants is the data on which this study is based. Namely, the study investigates the data that comes from PSTs which makes them the main participants as their video-mediated interactions are investigated within the scope of this dissertation. The data from the task-engagers are complementary to the data of the former group as they play an important role in shaping the interaction of transnational PSTs. Throughout the dissertation, the main participants are called PSTs, and icons in bold are used to highlight them. On the other hand, the term task-engagers refers to secondary participants in the remaining parts of the dissertation and lighter icons are used for them (see Figure 3.1). Background information regarding both main and secondary participants is given below.

Figure 3.1

Participants

PSTs
(Main Participants)

Task-Engagers
(Secondary Participants)

The main participants are transnational PSTs who come from language teacher education programs from three partner universities of Digitask4IC project in three

countries, Turkey, Austria, and Spain (See next subsection for detailed information). Following all considerations of syllabi and context of classes, bachelor's degree students from Turkish university and master's degree students from Spanish and Austrian universities were recruited for collaboration for the project. The total number of participating PSTs is 72, and it includes PSTs of various languages i.e., English, French, Spanish, Italian, and Chinese. The number of the PSTs is distributed across partners as 42 pre-service teachers from the Turkish university, 17 pre-service teachers from the Austrian university and 13 pre-service teachers from the Spanish University. These pre-service teachers were divided into 21 sub-groups of 3 or 4 to co-operate and collaboratively design an online task by the end of the project timeline. There are four participants in 9 groups out of 21, and the rest of the groups include three pre-service teachers each. In each group, there are two pre-service teachers from the Turkish university, and there is one pre-service teacher from the Austrian university and/or one pre-service teacher from the Spanish university depending on the participant number of groups (See Table 1).

Table 1

The number of PSTs from Partner Universities

| Group | The number of PSTs from | | | Total number |
	Turkish University	Austrian University	Spanish University	
Group 1	2	1	x	3
Group 2	2	1	x	3
Group 3	2	1	x	3
Group 4	2	1	1	4
Group 5	2	1	x	3
Group 6	2	1	1	4
Group 7	2	1	1	4
Group 8	2	1	x	3

Group 9	2	1	1	4
Group 10	2	1	1	4
Group 11	2	1	x	3
Group 12	2	1	1	4
Group 13	2	1	x	3
Group 14	2	1	1	4
Group 15	2	1	x	3
Group 16	2	1	1	4
Group 17	2	1	1	4
Group 18	2	x	1	3
Group 19	2	x	1	3
Group 20	2	x	1	3
Group 21	2	x	1	3
Total Number	42	17	13	72

The PSTs from the Turkish University are 3rd grade students enrolled in the fully online teacher education course, Analysis of Discourse and Language Teaching. The course aimed to equip students with the skills to develop materials and to create pedagogical tasks with the help of digital tools to improve L2 learners' interactional competences (IC). Via video-mediated lectures by the teacher educators, participants were familiarized with Digitask4IC project, Open educational resources (OERs), interactional competence, computer assisted language learning, technology-mediated task-based language teaching, telecollaboration and virtual exchange, and task design principles. Following the theoretical lectures, participants experienced hands-on practice on the Digitask web application under the guidance of their teacher educators. The participants from the Austrian University were taking a seminar class, and pursuing expertise in teaching different languages such as Italian and Spanish. In the scope of their course, they were expected to prepare tasks for their future students in the languages

(other than English) they will teach. Besides individual and collaborative task design and collaborative reflective conversations, they were also supposed to write individual reflections. Thus, the course aimed to equip pre-service teachers with experience and knowledge of task-based language teaching at different levels and languages. Lastly, the participants from the Spanish University were M.Sc. degree program for pre-service teachers of Chinese as a foreign language. The pre-service teachers were taking a teaching methodology course which aimed to prepare them for their own classes in their future careers. Within the scope of the course, they were also trained on task-based language teaching. Like at the Austrian University, in addition to the collaboratively designed task to improve English as a foreign language, the pre-service teachers were supposed to prepare two task sequences to teach Chinese to speakers of Spanish. Therefore, the pre-service teachers from different universities constituted a very diverse group with different backgrounds, with different foreign languages they expertise in, and with different levels they will teach in their future careers.

The secondary group of participants is task-engagers. Task-engagers were from two different universities: one from Türkiye and one from Tunisia. The total number of participants in this secondary cohort is 60, and they form 30 dyads paired as one participant from each university. Task-engagers from the Turkish university are undergraduate students enrolled in the class of Language and Society in the Department of English Language Teaching while participants from the Tunisian university are master's degree students in English Studies, and they were enrolled in Communication Skills course at their university. The dyads of task-engagers were divided into three clusters, each of which includes 10 dyads of task-engagers and were supposed to complete tasks designed by the transnational PSTs, the first cohort of participants. As this section is devoted to depicting the participants in the study, the reason for having clusters and details about them are explained subsequently in the data collection subsection.

Last but not least, although both PSTs and task-engagers were enrolled in classes at their universities, which required them to participate in the activities as part of their course work, they were informed about the data collection procedure and ethical considerations to ensure that they participated in the study on a voluntary basis. When the participants declared their voluntariness to participate in the study, written consent forms were collected from each participant. Relatedly, the recordings of the participants who did not opt for voluntarily taking part in the research were omitted from the dataset, although they still participated as part of the course work, which means their participation status did not impact the course evaluation overall. The next subsection presents the research context of the study.

Research Context

As mentioned earlier, the transnational PSTs in this study were expected to design one task per group through video-mediated interaction as a group on Digitask web application. Digitask web application was produced as an outcome of the Digitask4IC project to provide a platform for sustainable tasks for language teachers and learners. In this section, the Digitask4IC project and Digitask web application are introduced in detail.

Digitask4IC Project

The Digitask4IC project was funded by Erasmus+ program (2020-1-TR01-KA226-HE-098066). The project started on the 1st of June 2021 and ended on the 30th of November 2022. The project team consisted of 22 researchers from four partner universities in 3 countries. The project aimed to produce three intellectual outputs: to develop a digital task catalogue; to create a digital task generator; and to provide training on the previous outputs (see the website of the project: https://digitask4ic.com/). Additionally, the project team brought together a list of open educational resources (OER) repositories and pursued objectives to create the task generator operational only based on OERs. OERs are described as "teaching, learning and research materials in any

medium – digital or otherwise – that reside in the public domain or have been released under an open license that permits no-cost access, use, adaptation, and redistribution by others with no or limited restrictions" on the webpage of UNESCO (see https://en.unesco.org/themes/building-knowledge-societies/oer) (https://plus.google.com/+UNESCO, 2017). The most important output withing the scope of the project is a web application called Digitask that was developed to enabls teachers to design their own tasks and use tasks created by others (see next subsection). The PSTs from the three partner universities, primary participants in the dataset, were instructed to use Digitask to create tasks in the Teacher Module of Digitask, while the learners, secondary participants in the dataset, were assigned to complete the tasks in the Student Module of Digitask (see Data Collection for more detailed information). As this dissertation mainly focuses on PSTs' experiences, a detailed account for the design interface available in the Teacher Module of Digitask will be given in the next subsection.

Teacher Module on Digitask

Digitask web application was created to provide a sustainable task design and assignment tool to teachers. It comprises teacher and student modules. On the Teacher Module, teachers can create their own tasks or use tasks created by other teachers (i.e., task designers). If one uses a task created by others, they can modify the task or use the original version of the task. While creating tasks, Digitask provides already uploaded OER materials (i.e., text, audio, video, images) to be used, or teachers can upload materials from OERs as they wish. In this subsection, I will introduce only the steps to create a task considering the focus of the dissertation.

On the main page of the Digitask web application (see Figure 3.2), teachers (i.e., task designers) can find "create task", "create sequence", "create materials", "tasks", "sequences", and "materials" buttons via which they can utilize almost all technical features of Digitask. In addition to these buttons, under the dashboard button, management parts such as "task management", "sequence management", "material

management" and "group management" appear as drop-down menus on the left side of the interface (see Figure 3.2). In the "task management" section, teachers can get access to "all tasks", "bookmarked tasks", "my tasks", "co-designed tasks", and "deleted tasks". The "sequence management" part includes "all sequences", "bookmarked sequences", and "my sequences". Similarly, in the "material management", teachers can reach "all materials", "bookmarked materials", "my materials", and "deleted materials" which helps them to organize their tasks, sequences, and materials. Lastly, in the "class management" part, three different sections are seen as "assignments", "groups", and "student groups".

Figure 3.2

Main Page on Teacher Module
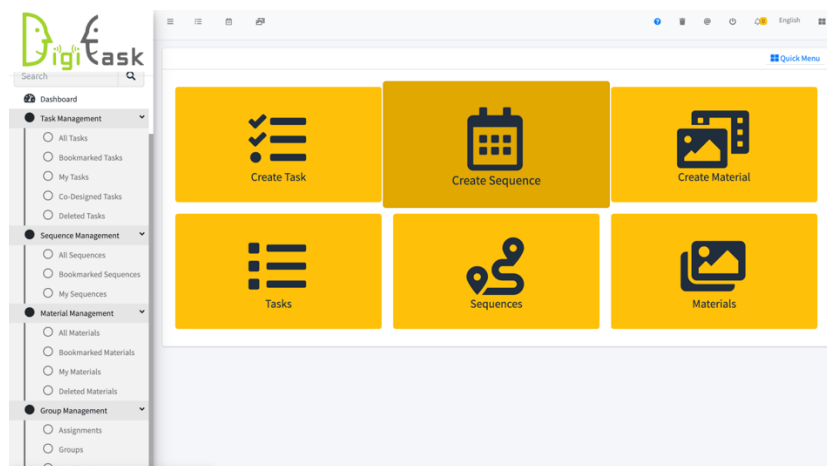
On "create material page", which is the first step if a teacher/task designer does not use already uploaded materials on Digitask, teachers are initially requested to name the material they upload and choose the material type as audio, image, text, mixed, or video. In the "content part", teachers need to copy links to the materials they created/chose from one of the OERs repositories. They can also use shortcuts for embedded links, YouTube videos, SoundCloud audios etc. (see Figure 3.3).

Figure 3.3

Creating Materials on Digitask
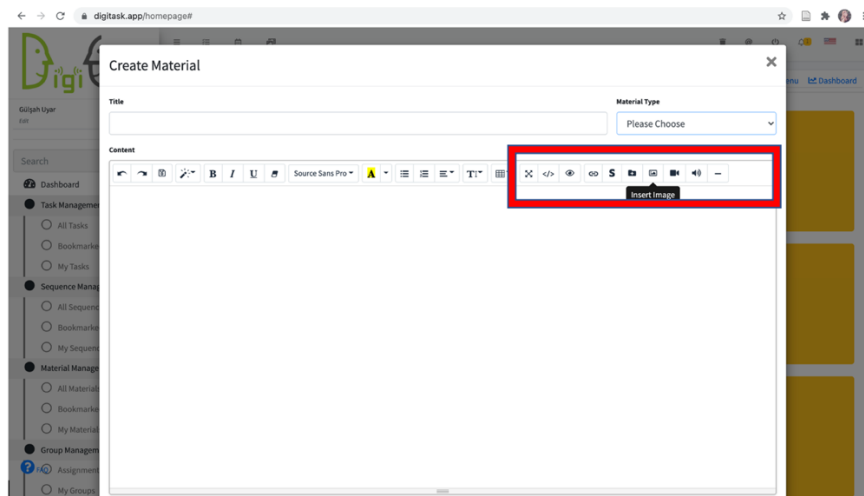
On "create task page", four subsections are available (see Figure 3.4 below). These are "basic information", "task design", "completion options" and "preview and confirm" sections. In the "basic information" part, teachers/task designers are required to give a title to their tasks. If they have partners with whom they collaborate for design purposes, the web application also provides an opportunity to add co-designers. Teachers are supposed to fill "task type", "information gap", "target skills", "objectives", "target languages", "target proficiency level" and "keywords", while other parts are optional. There are drop-down menus for task type, information gap, target skill, and target proficiency level. Task type drop-down menu includes various options such as brainstorming, collaborative writing, decision making etc. The drop-down menu for target proficiency level allows for multiple options for target proficiency level from A1 to C1 according to CEFR. Under the information gap drop-down menu, six options are situated: one-way, two-way, multiple-way, emergent information gap, none and other. Lastly, the target skills drop-down menu consists of Speaking, Interaction, Reading, Writing, Mediation, and Integrated Skills.

Figure 3.4

Basic Information on Create Task Page

The next step is task design which includes "task instruction" and "students" sections (see Figure 3.5). In the instruction part, teachers may give textual instruction and use different materials by directly embedding them using the panel at the top of the page that gives access to all materials available on Digitask. Students section is the part where teachers decide on the number of students that can perform a task in a group. They can use "add student" button to add as many students as they would like. After adding the number of students, the next step is to add materials. Teachers may add the same material to all the students by using "add material to all" button which is next to "add students" button. Also, teachers may add specific materials to specific students using "assign material" button which can be seen only individually by each student. In addition to assigning different materials to different students, teachers may also write varying instructions for each student on a task material basis. The teacher/task designer can also decide when a material should appear during the task engagement, which makes it

possible to come up with multiple alternative scenarios for task design. The last step on this section is to choose which students can submit an answer to the task. Depending on the choice of the teacher/task designer, specific students or everybody in a group can submit an answer. When we scroll down the page, we have one more option which is called collaborative writing (see Figure 3.6); if it is ticked up, the "this student can answer" buttons disappear and it enables a Google Documents-like collaborative writing section for the students/task-engagers, as it is seen in Figure 3.6.

Figure 3.5

Task Instruction and Assigning Students
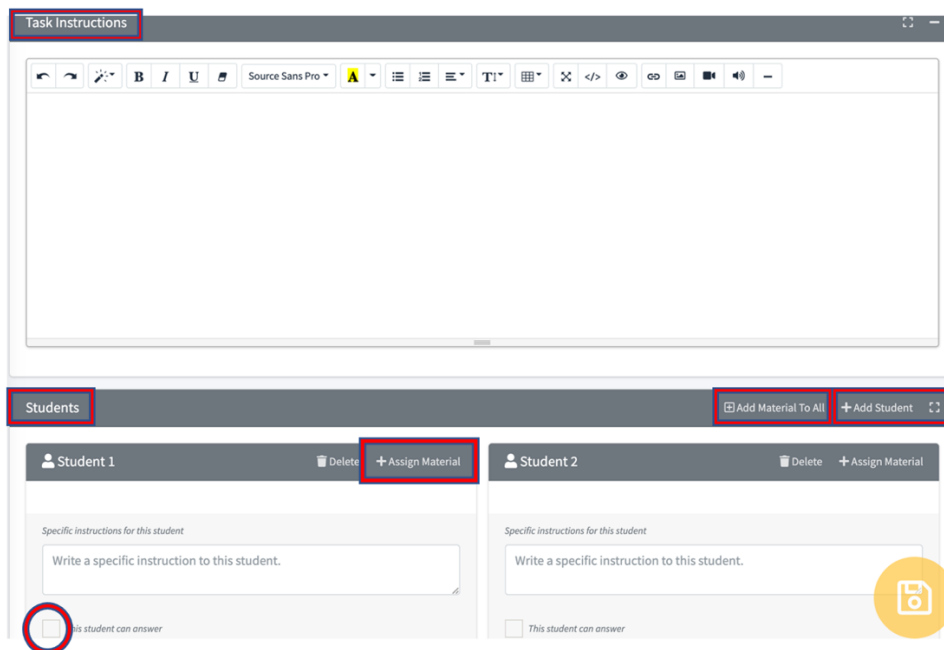
Figure 3.6

Collaborative Writing
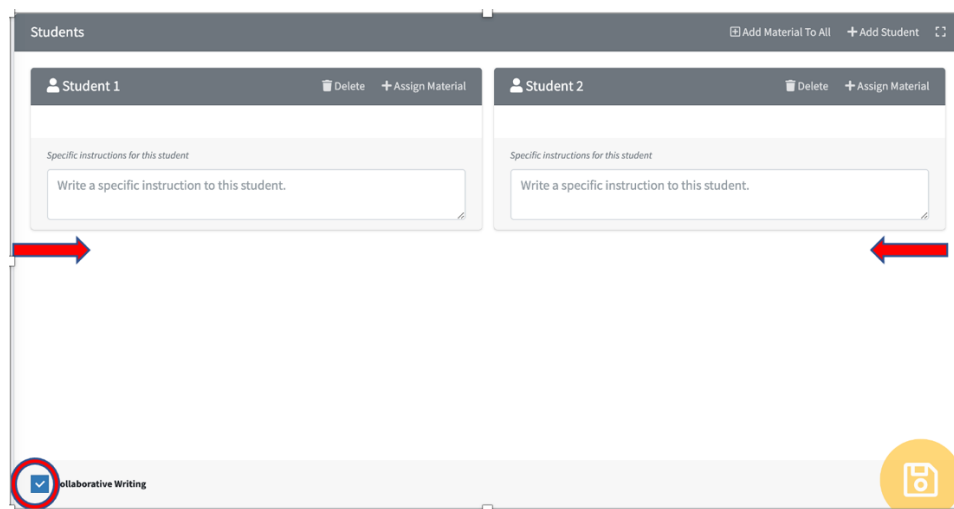
The third sub-section comprises "completion options" that provides a drop-down menu consisting of "exact value", "word limit", "time relevant", "exact value+time relevant", "word limit+time relevant" or "none" (see Figure 3.7). If we go into details in each option, we have five different scenarios numbered on Figure 3.8 except "none" option. After clicking on the "exact value" button, teachers are required to enter exact value(s) in the form of words, phrases or sentences as numbered 1 in Figure 3.8, which means that students need to enter an exact value on their submission screen (answer box) to end the task. The second scenario, numbered 2 in Figure 3.8, is the "word limit" that requires minimum and/or maximum word limit numbers to complete a task. The last main option is time relevant, and teachers/task designers can determine any time limit they want for the completion of a task as the third scenario. The other two options consist of a combination of the main options. If "word limit + time relevant" is chosen, teacher/task designer determines the time and word limit to complete a task as it is numbered 4 on Figure 3.8. The last option is "exact value + time relevant", and it requires teachers/task designers to enter exact value(s) and determine a time limit as a completion option (See Figure 3.8 below). When "completion options" is chosen, the last step is to preview and save the

task. On this section, teachers/task designers can preview their tasks, generate QR codes, and publish their tasks.

Figure 3.7

Completion Options

Figure 3.8

Completion Option Scenarios

Having detailed the research context of the study with reference to Digitask4IC project and Digitask web application interface, the subsequent section will provide a comprehensive overview of the data collection procedure.

Data Collection

The data in this dissertation were obtained from the dataset collected within the scope of the Digitask4IC project. Based on the larger dataset (more than 400 hours), this study draws on the screen-recordings of collaborative video-mediated data-led dialogic reflections of transnational PSTs. In line with data collection procedures, the participants were asked to record their own screens using of Screencast-o-Matic (SoM). SoM enabled project researchers to reach and download the recordings both as an indicator of the completion of a project output and for research purposes. To decrease the risk of data loss, built-in screen recorder of Microsoft Teams application was also used alongside SoM. The screen recordings coming from SoM and MS Teams were stored safely by the collective work of the Digitask4IC project researchers.

Prior to data collection, some preparations on Digitask web application were done. Besides the project team, the application was tested by different lecturers and teacher educators during various events organized by the project team. Following the preparations on Digitask, a number of meetings were held between partner universities of the Digitask4IC project to collaboratively organize the data collection. Accordingly, within the scope of the classes offered in the programs in partnering universities, PSTs were trained by teacher educators on open educational resources (OER) and how to use Digitask web application. Next, pre-design meetings were held where PSTs were informed in whole-class sessions in each institution about the basics of task design as well as the task design criteria, which laid the ground for the subsequent data collection process.

Before the data collection procedure, PSTs were divided into groups, and contact information of group members was shared with one another so that they could organize their meetings by deciding on the meeting times within groups. Then, a document, called collaborative task-design guidelines, was shared with PSTs which included the main requirements that PSTs were required to fulfill for collaborative task design. These requirements were: (i) to watch the training video prepared by the project team about

Digitask web application; (ii) to register to the TeacherModule on Digitask; (iii) to watch videos created by teachers of task-engagers that they targeted to design a task so as to get to know about their target students; (iv) to get familiar with the task design criteria; (v) to watch the video prepared on how to use SoM, to register on SoM, and to have a test recording; (vi) to contact with their group members through e-mails to mark dates for the video-mediated task-design meetings.

The guideline also provided PSTs with a calendar of the data collection procedure and instructions for each meeting, task design criteria, topic distribution across groups of transnational PSTs, and MS Teams meeting links for each group. According to the task design criteria (see Table 2), PSTs were supposed to design an online task about topics assigned to their group with 2 or 3 real-life related learning objectives. Also, the task should have provided opportunities for social interaction, integrate different skills, fit to online settings, engage two or three students and last about 30 minutes.

Table 2

Task Design Criteria as stated in the Guideline

Task Design Criteria
Design tasks that cover the topic that was assigned to your group.
Define 2-3 learning objectives (real-life related).
Design a task that creates opportunities for social interaction.
Design a task that integrates skills (more than one skill).
Design a task with a clear outcome/product (audio, decision, drawing, graph, interview, message, list, story, table, video, …).
Design a task that is compatible with digital spaces (does it make sense to do it online?).
Design a task that is engaging and attractive.
Design a task that works for 2 or 3 students.
Design a task that lasts about 30 minutes.

The topics of tasks were collaboratively determined by teacher educators and with inputs of the teachers of task-engagers. The topics were as follows: Getting to know each

other, Language Learning Biographies, Language in the Public Space, Language Varieties, Lingua Franca, Communication styles, Multilingualism, Inclusive Language, and Final Reflection Task. The topics and their distributions across PST groups are listed in Table 3. While the topics of Getting to know each other, Lingua Franca, and Final Reflection Task were assigned to single PST groups, other topics were assigned to three different PST groups.

Table 3

Topic Distribution across Task Designer Groups

Topics	Assigned Task Designer Groups
Getting to know each other	Group 1
Language Learning Biographies (e.g., linguistic repertoires, personal language learning history, episodes, portraits)	Group 2 Group 10 Group 16
Language in the Public Space (e.g., linguistic landscapes, linguistic choices)	Group 4 Group 12 Group 18
Language Varieties (e.g., registers, dialects, styles)	Group 6 Group 14 Group 20
Lingua Franca (e.g., vernacular languages, globalization, languages with special roles)	Group 8
Communication styles (e.g., individual differences, importance in business communication, how to improve)	Group 3 Group 11 Group 17
Multilingualism (e.g., bilingualism, codeswitching, translanguaging)	Group 5 Group 13 Group 19
Inclusive Language (e.g., gender sensitive language, sensitive to minority groups)	Group 7 Group 15 Group 21

By the time preparations were completed and PSTs were ready, data collection procedure started. The data collection procedure in this study consisted of three steps (see Figure 3.9). In the first step, the transnational PSTs had five video-mediated meetings and design a task on Digitask. The next step was task-engagers' performance of tasks created by the PSTs. In the last step, PSTs gained access to and watch the screen recordings of task-engagers while performing tasks, and they critically evaluated their task and reflected on the implementation of their task design and their VE experiences. Although this study focuses on the third step (reflective conversations oriented to data-led and critical evaluation of the implementation to their tasks) mainly, the previous steps will also be explained to better understand the whole data collection procedure. In what follows, these steps are introduced in detail.

Figure 3.9

Data Collection Steps
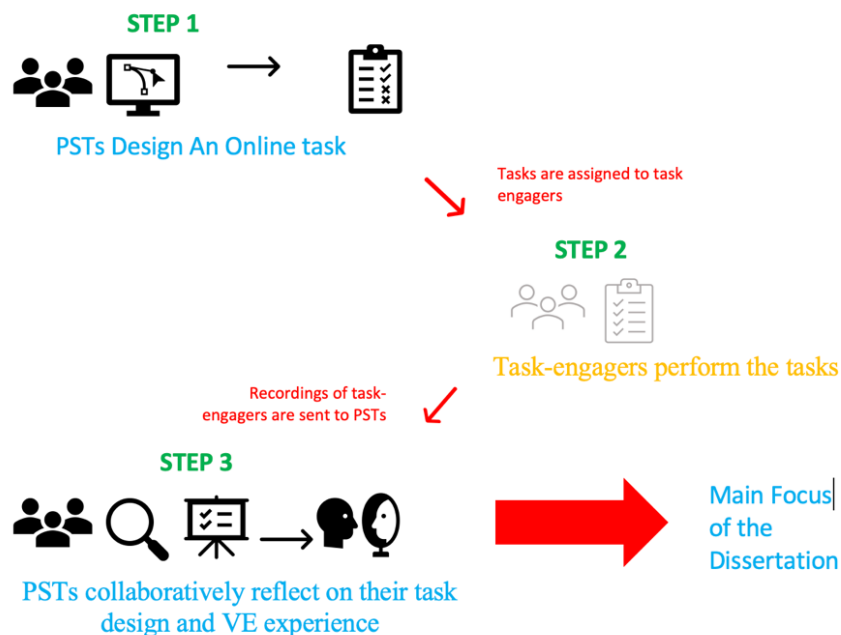
In the first step, the PSTs had five meetings over a period of three weeks to design their tasks. In the first week, the PSTs had their first and second meetings as groups. They were expected to get to know each other, warm-up for the task design process, and discuss the instructions and task-design criteria in the first meeting. In the second meeting, they brainstormed about task design ideas, decided on the OER materials to use in designing tasks, and lastly chose and bookmarked OER materials on Digitask. In the following week, the participants had their third meeting with their group members, where they finalized the first draft of task design on Digitask and shared the links of their tasks with the teacher educators. After the educators examined the tasks, the PSTs returned to their local groups with classmates in their universities, and each educator (from Türkiye, Austria, and Spain) delivered feedback in diverse modes. That is to say, while the Turkish PSTs were gathered in a whole class video-mediated meeting to receive educator feedback on their tasks, Austria and Spain group received written feedback from their educators. In the third week, the PSTs held their fourth and fifth meetings. In the fourth meeting, the PSTs discussed the feedback they received and re-designed or edited their task designs regarding the feedback provided by teacher educators. In the final design meeting (fifth meeting), they finalized their task design. By the time the PSTs completed their tasks on Digitask, the teachers of the task-engager groups assigned tasks to the task-engagers on behalf of the PSTs who originally designed the task (see Table 4).

Table 4

Data Collection Step 1

Data Collection Step	Participants	Data Collection Procedure and Instructions
		Meeting 1: Warm-up, get to know each other, discuss the instructions and the task design criteria you received as a team, discover potentials for collaborative task design.
		Meeting 2: Discuss design ideas, decide on Open

	Main Participants-PSTs	Educational Resources (OERs) materials, bookmark OERs on DIGITASK. One group member is responsible for the task design in the DIGITASK app. Decide on who it is going to be.
		Meeting 3: Finalize the design of one task on DIGITASK, share the task link with us (your university lecturers).
Step 1	Teacher Educator (Feedback)	Educators give feedback to Task Designers
	Main Participants-PSTs	*Meeting 4*: Re-design or edit the design, compare/contrast divergences,and convergences between various lecturer feedback points.
		Meeting 5: Finalize the design and publish your task on the DIGITASK APP.

In the second step of the data collection, task-engagers (i.e., language learners) performed the tasks that were assigned to them on Digitask web application. Like the PSTs, written informed consent forms were collected, and they were paired in dyads as one student from the Tunisian University and one student from the Turkish University. The contact information of each peer was shared with task-engagers so that they could arrange their meetings in pairs. When dyads were determined, they were assigned to one of three clusters. Task-engager dyads from one to ten were assigned to the first cluster. The second cluster consisted of task-engager dyads 11-20, and the third cluster consisted of task-engager dyads 21-30. As a result, in each cluster, there were 10 dyads of participants, and they had 5 meetings to perform tasks on the Student Module of Digitask. Each dyad performed a total of 9 tasks created by PSTs. In the 1st meeting, all clusters

performed the task on the topic of "getting to know each other" as created by PST Group 1 (see Table 5). In the 2nd meeting, the student dyads performed tasks on the topics of "Language Learning Biographies" created by PST groups 2, 10, and 16, and "Communication styles" created by PST groups 3, 11 and 17. The distribution of tasks as follows: the first cluster performed the tasks created by PST Groups 2 and 3; the second cluster performed tasks created by PST Groups 10 and 11; and third cluster performed the tasks created by PST Groups 16 and 17. In the 3rd meeting, the student dyads performed tasks on the topics of "Language in Public Space" created by PST Groups 4, 12 and 18, and "Multilingualism" created by PST Groups 5, 13, and 19. The distribution of tasks as follows: the first cluster performed tasks created by PST Groups 4 and 5; the second cluster performs the tasks created by PST Groups 12 and 13; and third cluster performed the tasks created by PST Groups 18 and 19. In the 4th meeting, the student dyads performed tasks on the topics of "Language Varieties" created by PST Groups 6, 14, and 20, and "Inclusive Language" created by PST Groups 7, 15, and 21. The distribution of tasks as follows: the first cluster performed the tasks created by PST Groups 6 and 7; the second cluster performed tasks created by PST Groups 14 and 15; and third cluster performed tasks created by PST Groups 20 and 21. In the last meeting, all three clusters performed the tasks on the topics of "Lingua Franca" created by PST Group 8 and "Final reflection Task" created by PST group 9. By doing so, it was intended that each task was performed by at least 10 dyads of participants. As in PSTs, the task-engagers were expected to record their screens via SoM while performing the tasks, so that the project team could reach their recordings without any third-party services. By the time they performed the tasks created by the PSTs, their screen recordings were shared with the PSTs so that the data could become basis for the video-mediated reflection meetings.

Table 5

Task Distribution in Meetings of Task-Engagers to Perform Tasks

	Cluster 1	Cluster 2	Cluster 3
Meeting 1	Task by PSTs Group 1	Task by PSTs Group 1	Task by PSTs Group 1
Meeting 2	Task by PSTs Group 2-3	Task by PSTs Group 10-11	Task by PSTs Group 16-17
Meeting 3	Task by PSTs Group 4-5	Task by PSTs Group 12-13	Task by PSTs Group 18-19
Meeting 4	Task by PSTs Group 6-7	Task by PSTs Group 14-15	Task by PSTs Group 20 21
Meeting 5	Task by PSTs Group 8-9	Task by PSTs Group 8-9	Task by PSTs Group 8-9

By the time PSTs received the videos of their tasks implemented by the multiple dyads of task-engagers, the third step of the data collection started, which is the focal point of this dissertation (see Table 6). In this step, PSTs initially watched the recordings of task-engagers's video-mediated interactions individually, and subsequently they participated in data-led collaborative reflections in groups through video-mediated interactions. To do so, they organized two meetings in groups and discussed their ideas through questions such as "How was the task implemented? / Did learners behave like you expected? Did learners do something you had not anticipated? / Was the task successful?" in their first reflective meetings. Second reflection meeting of the task designers was the closing meeting, and they were expected to evaluate and reflect on the partnership by answering some questions on the guideline such as "What did you learn? What would you do differently in a future collaborative task design? Was the project useful for your future professional life as a language teacher?". As in the previous steps, they recorded their screens during these collaborative video-mediated data-led reflective conversations in this step.

Table 6

Data Collection Step 3

DataCollection Step	Participants	Data Collection Procedure and Instructions
Step 3 (Main Focus)	MainParticipants- PSTs	• *Group Reflection Part 1.* Share your observations on the recordings you viewed (How was the task implemented? / Did learners behave like you expected? Did learners do something you had not anticipated? / Was the task successful?) • *Group Reflection Part 2 & Closing.* Collaboratively assess the entire partnership this semester with reference to the lessons learned (What did you learn? What would you do differently in a future collaborative task design? Was the project useful for your future professional life as a language teacher?)

Regarding the reflective meetings, no time limitation was imposed on the PSTs. As stated above, each of PST groups recorded their screens through SoM, and the project researchers reached the recordings in the database of SoM. In the first reflection meeting, all 21 PST groups recorded their screens during their data-led dialogic reflections (see Table 7). The data for the first reflection meeting is approximately 9 hours and 30 minutes. However, as noted under table 7, approximately 15 minutes of the recording from group 21 was not usable due to lack of audio. In the second reflection meeting, 19 out of 21 groups recorded their screens. The duration of the data for this meeting is approximately 8 hours and 40 minutes. However, the recording from group 18 was not eligible for data analysis, as the audio was not available. In addition, approximately 15 minutes of the data that came from group 4 was not usable due to audio problems. However, despite the audio problems in some of the recordings, the problems did not necessarily cause data loss in the overall dataset as at least one of the group members managed to record their

screen, except for group 18's second reflection meeting. All in all, the sum of the data for two video-mediated reflective meetings generated approximately 18 hours of data.

Table 7

Duration of Data

	Durations		Total
	Reflection Meeting I	Reflection Meeting II	
Group 1	00:59:05	00:36:25	
Group 2	00:18:16	NR*	
Group 3	00:26:32	00:49:14	
Group 4	00:40:58	00:45:25***	
Group 5	00:20:53	00:15:55	
Group 6	00:16:08	00:20:19	
Group 7	00:29:21	00:26:25	
Group 8	00:33:38	00:32:11	
Group 9	00:18:24	00:34:38	
Group 10	00:17:30	00:25:05	
Group 11	00:22:00	00:60:13	
Group 12	00:44:20	00:51:40	
Group 13	00:39:51	00:26:42	
Group 14	00:11:29	NR*	
Group 15	00:09:06	00:10:03	
Group 16	00:33:19	00:35:46	
Group 17	00:30:02	00:45:03	
Group 18	00:26:39	00:21:25****	
Group 19	00:09:03	00:10:21	
Group 20	00:24:00	00:23:01	
Group 21	00:41:07**	00:11:09	

Total Duration	app. 9 hours 30 mins	app. 8 hours 40 minutes	app. 18 hours 10 minutes

NR* =No Recording

** = 14 mins 44 secs of the data are not usable due to audio problems

*** = 15 mins 01 sec of the data are not usable due to of audio problems

****= No data is usable due to of audio problems

Following the elaboration on research components including participants, research context and data collection, the upcoming section will delve into conversation analytic research methodology to be employed in the current study.

Conversation Analysis

In their influential paper, Firth & Wagner (1997) have problematized a number of issues in SLA studies: (i) the imbalance between cognition and social aspects of language learning; (ii) native speakerism; (iii) seeing the language learners as deficient learners; and (iv) etic perspective employed in studies. This thought-provoking paper has changed the practices of second language acquisition (SLA), and the social turn has come into prominence informed by research on Conversation Analysis (CA) besides other theories to language learning such as sociocultural theory (Lantolf, 2011), complexity theory (Larsen-Freeman, 2011), identity theory (Norton & McKinney, 2011) (see Atkinson, 2011 for additional theories). Not initially being devised to study SLA, CA was developed by Harvey Sacks, Emanuel Schegloff and Gail Jefferson in the 1960s (Sacks, 1992a) to empirically study details of social actions drawn from Garfinkel's ethnomethodology and Goffman's interaction order (Hutchby & Wooffitt, 2008). Starting with telephone conversations with a ground-breaking article on turn-taking (see Sacks et al., 1974), CA enabled examining face-to-face (see Goodwin, 1981; Schegloff, 1984 for initial examples) and technology-mediated interactions (see Negretti, 1999; Tudini, 2003) with diverse topics in various disciplines (Stivers & Sidnell, 2012) including SLA research.

CA is a data-driven research methodology that approaches data without any determined hypotheses. CA mentality ''involves more a cast of mind, or a way of seeing, than a static and prescriptive set of instructions which analysts bring to bear on the data'' (Hutchby & Wooffitt, 1998, p. 94). To conduct CA research, one should build their methodology according to what CA requires: (i) CA deals with naturally occurring data collected through audio/video recordings instead of data collected through experimental designs, field notes, surveys, etc.; (ii) data should be transcribed in detail with reference to prosody and multimodality; and (iii) line-by-line analysis should be conducted (Waring, 2019). In this respect, it is obvious that CA is an empirical research methodology because it deals with natural data as it is produced in interaction without any exogenous interventions, represents data with details in transcription, and approaches data regarding all the details it bears. Thus, CA helps to closely examine how talk-in-interaction is co-constructed with its rigorous approach to data.

Seedhouse (2005) notes that CA brings its own principles about talk-in-interaction. These principles are:

1. "There is order at all points in interaction"

2. "Contributions to interaction are context-shaped and context-renewing."

3. "No order of detail can be dismissed a priori as disorderly, accidental, or irrelevant." (as cited from Heritage, 1984, p.241)

4. "Analysis is bottom-up and data-driven." (p.166-167)

First, unlike the common belief that mundane talk is too complex to study according to the mainstream views of SLA, there is order at all points of interaction from the CA perspective. CA identifies order of interaction that interlocutors systematically and consistently utilize to co-construct interaction (Kasper & Wagner, 2011). Interaction is constructed with actions of interlocutors functioning as building blocks of conversations. In other words, interaction is orderly and systematic, and different contexts have their own

interactional organizations. However, it also suffices to say that CA mainly focuses on social actions rather than operationalizing a solely linguistic inquiry (Seedhouse, 2004, 2005) by seeking answers to the question "Why that, in that way, right now?" throughout the process of the analysis. According to Kasper and Wagner (2014), orderliness in interaction affects sense-making mechanisms of participants and points to how participants make sense of each other and co-construct interaction by producing turns according to previous turns. In other words, analysts need to look at the next turn to see how sense-making is accomplished by participants in interaction. This methodological practice is referred to as next turn proof procedure in CA. The second principle is that contributions to interaction are context-shaped and context-renewing. Interaction is context-shaped since utterances can solely be understood properly in the context they are designed and as they are affected by previous contributions. Contributions are context-renewing as they provide the basis for the next turn. All interactions are subject to renewing the context at every step of interaction, as each action affects the actions following them (Heritage, 1984b). That said, the context shapes, and it is shaped by contributions in interaction, and social actions find their meanings in their contexts. The third principle suggests that details should not be disregarded as incidental (Seedhouse, 2005). With its micro-analytic perspective, CA requires researchers to explore micro details in conversation with minute-detailed, fine-grained, and robust transcriptions. As mentioned earlier, micro-details in talk-in-interaction are significant in every step of CA studies from data collection to analysis. Hence, researchers need to design their research to be able to capture all the details in interaction, to present detailed transcription, and to conduct a robust and rigorous analysis of data. Lastly, analysis is bottom-up and data-driven. This suggests that data should be analyzed with an emic perspective without any prior or external theories. Therefore, rather than an etic perspective that has an outsider stance, an emic perspective with an insider stance (Pike, 1967) is employed in CA methodology (Seedhouse, 2005). Emic perspective requires analysts to adopt participant-relevant perception to analyze data at hand. To do so, CA aims to study how

intersubjectivity is constructed between interlocutors by analyzing turns and sequences of these turns (Hutchby & Wooffitt, 2008).

Seeking for an answer to the "why that, in that way, right now" question, turn-taking, sequence organization, preference and repair play an utmost importance in CA studies. Turn-taking mechanisms allow participants to make their contributions and co-construct interaction. Taking a turn is achieved through some strategies of participants in interaction. These strategies are: (i) the current speaker selects the next speaker; (ii) the next speaker self-selects; or (iii) the current speaker continues to speak (Sacks et al., 1974). Participants sustain the flow of interaction with smooth turn-taking practices through systems of turn constructional units (TCUs) and transition relevance place (TRP). TCUs are possibly complete coherent actions in the unfolding of interaction. The lengths of TCUs may change, and they can be at word, phrase, clause, or sentence level, or gestures (Wong & Waring, 2020). One or more TCUs constitute a turn. At the end of each TCU, there is a TRP in which a transition in speakership possibly occurs. Thence, each TCU generates a TRP. TCUs and TRPs are generally projected by participants through grammar, intonation, bodily movements, and so on (Sacks et al., 1974), and turn-taking is highly precise and organized with smooth transition between interlocutors with minimal gaps and overlaps (Clayman, 2012). However, when they are not seized, overlaps or gaps are prone to occur.

Turn-design underlies talk-in-interaction (Drew, 2012; Wong & Waring, 2020), and it is one of the fundamentals of CA studies. Turn-design is shaped by three principles according to Drew (2012): "where in a sequence a turn is being taken; what is being done in that turn; and to whom the turn is addressed" (p.134). Namely, turns are constructed and designed to accomplish specific actions in the context that they unfold regarding recipients aimed to address. Through analyzing the turns in an interaction, an analyst can display the sequence organization and order of the talk-in-interaction. Analysis of turn-design helps analyst to answer questions mentioned earlier in this part: "Why that, in that

way, right now?" in that every turn usually follows a pioneering turn and is usually followed by a next turn. Hence, turns are dependent on turns constructed before them and shapes turns following them. To this end, adjacency pairs play a significant role in the order of talk-in-interaction. Adjacency pairs help to sustain intersubjectivity in an interaction (Heritage, 1984b), and they are the basis of sequence organization of interaction (Stivers, 2012). Adjacency pairs consist of two parts which are uttered by different speakers respectively. These parts are called as first pair part (FPP) and second pair part (SPP). FPP of the adjacency pair is generally followed by SPP such as summons and answers, greetings and greetings (Wong & Waring, 2020). Although SPP is expected to be produced following FPP, SPP does not always come into play in interaction (Seedhouse, 2004). Absence of second pair part of adjacency pairs leads one to make some conclusions about interlocutors. Therefore, it can be claimed that adjacency pairs bring about some preferred and dispreferred social actions and responses.

Preference is one of the elements of interactional structure that CA deals with. It refers to the notion of affiliation and disaffiliation (Heritage, 1984b) of a certain contribution in interaction rather than desire of parties (Liddicoat, 2021). Thus, contributions can be preferred or dispreferred in situ. For instance, the preferred action for an invitation is acceptance of it, while rejection is a dispreferred action. In addition to these generally accepted preferred and dispreferred actions, cultures and contexts may determine preferred and dispreferred actions (Pomerantz & Heritage, 2012) as well. Preferred and dispreferred actions are displayed differently in interaction (Pomerantz, 1984). While preferred contributions are uttered without any delay or hesitation, dispreferred contributions such as rejection, disagreement, and disconfirmation are mostly uttered after mitigation, hesitation markers, and delays (Pomerantz & Heritage, 2012) to maintain relationships with greater effort than preferred actions (Liddicoat, 2021).

The last element of CA's analytic tools is repair. Repair helps to sustain intersubjectivity and mutual understanding between participants (Schegloff, 2007) when

there is a (potential) trouble in interaction. The trouble or source of difficulty ranges from hearing problems to grammatical structures. Therefore, repair does not necessarily mean fixing errors that hinder intersubjectivity and sense-making in talk-in-interaction. In fact, most repairs do not arise from errors (Liddicoat, 2021). There are four types of repair depending on who initiates the repair and who repairs because initiation and production of repair can be accomplished by different participants in interaction (Kitzinger, 2012). These types are: (i) self-initiated self-repair; (ii) other-initiated self-repair; (iii) self-initiated other-repair; and (iv) other-initiated other-repair. If initiation and repair of the trouble source are carried out by the owner of trouble source, this kind of repair is called self-initiated self-repair. On the other hand, if initiation comes from the other party than speaker but repair is performed by speaker of a trouble source, it is called other-initiated self-repair. Although some repairs are initiated by the speaker of the trouble source, they are accomplished by other parties, which is self-initiated other-repair. Lastly, both initiation and repair can be accomplished by parties other than the owner of the trouble source, which means other-initiated other-repair. Self-initiated self-repair is the most common and preferred repair type, whereas other-initiated other-repair is the least preferred repair type (Schegloff et al., 1977). Initiation and repair may occur when a trouble source occurs or subsequently. Upon presenting the core elements and principles of CA, the next section will detail other focal aspects, validity and reliability.

Validity and Reliability

As it is clear from all the principles and methods CA bears, CA attributes a great deal of significance to validity and reliability. From data collection procedure to analysis, CA approaches research rigorously and empirically, and endeavors to obtain and present naturally occurring interactions in situ. Reliability in CA is a crucial aspect that ensures the accuracy and consistency of findings. There are three components of reliability: the selection of what is recorded; the technical quality of recordings; and the adequacy of transcripts (Peräkylä, 1997, as cited in Seedhouse, 2005). To this end, CA counsels to

record naturally occurring interactions as they unfold, to have recorded data in a way to eliminate data loss, and to present detailed transcriptions prepared according to Jefferson (2004) and Mondada (2018) transcription conventions (see Appendix A and Appendix B). In this study, screen-recording data was collected from each participant via SoM, and built-in screen recorder of MS Teams was used to eliminate the risk of data loss and to be able to capture all the screen activities of the participants. Moreover, transcription conventions for prosodic, multimodal, and screen-based activities were implemented to best represent the data.

Unlike most research methodologies, CA studies provide data to readers and so becomes fully open data for verification. This transparency is a fundamental aspect of CA research, and it allows for the findings to be critically evaluated by others. To ensure transparency and validity, CA draws on several principles and methods. First, CA requires researchers to conduct unmotivated looking (ten Have, 2007) which assures that data is not fitted into any pre-determined hypotheses. Then, detailed transcriptions are prepared to best represent how interactions are co-constructed with members' methods. In addition, analysts adopt an emic perspective without any impositions in data. Relatedly, the analysis reflects the data as it is generated in talk-in-interaction by the participants themselves (Seedhouse, 2005). In addition to these, next-turn proof procedure is applied in the analysis of data in CA studies. Next-turn proof procedure means to look for evidence of a finding in subsequent turns. All of these principles and strategies of CA studies contribute to assuring validity and reliability of research findings. It is important to note that all these principles and strategies were implemented in every step of the study.

In addition to the steps that CA bears to collect and analyze data, I presented extracts from the dataset in data sessions and had presentations at international conferences to obtain expert feedback. The data sessions are held by several volunteer CA scholars and graduate students. They repeatedly watch recordings and examine transcripts and analyze data by referring to CA terminology. Also, the findings and data

were discussed with the committee members during the thesis meetings every six months in the last three years. Therefore, the findings of this study were validated multiple times by several researchers in various contexts. In conclusion, the principles and strategies employed in CA studies are crucial for ensuring the validity and reliability of research findings. The steps taken to collect and analyze the data, along with presenting extracts from the dataset in data sessions, seeking expert feedback at international conferences, and discussing findings with committee members have all contributed towards validating the study and strengthened the credibility of the thesis. As previously mentioned, transcription plays a significant role to ensure validity and reliability of the study. Accordingly, the next section will depict the process of data transcription.

Data Transcription

Rather than an etic perspective, this study adopts an emic perspective (participant/data relevant) that examines data with data-driven perspicacity. From a conversation analytic perspective, the focus is on the naturally occurring data, on fine-grained analysis of the naturally occurring interaction, and on examples from this interaction which can be adduced for the existence of categories (Seedhouse, 2004). To prepare the naturally occurring interaction for data analysis, transcription process is one of the crucial steps in Conversation Analysis as transcripts provide details that are hardly available to the analyst via listening to or watching the recordings (Jenks, 2011). Therefore, from CA perspective, by documenting the minutely underpinnings of interactions, transcripts are seen as a tool for analytic procedures. Jenks (2011) suggests that transcripts are required to "(1) represent, (2) assist, (3) disseminate, and (4) verify" (p.5) data. Namely, they represent interactions, assist analysis, disseminate preliminary observations, and serve as a tool to get verification in empirical studies. However, it is important to bear in mind that transcripts are not the data itself, but complementary to data (Hutchby & Wooffitt, 2008; Jenks, 2011; Kasper & Wagner, 2014; Liddicoat, 2021). Hence, no transcript provides all details in an interaction, but analyzing the interactional

data is only possible through detailed transcripts (Hepburn & Bolden, 2012; Hutchby & Wooffitt, 2008; Liddicoat, 2021; Seedhouse, 2005), which enable researchers to see details beyond verbal utterances. Said another way, although transcripts should be the closest representations of naturally occurring data, determining what details to add to transcripts depends on the aim of the transcriber. Thus, it is also important to represent what researcher wants to focus on and what details are essential to be presented from a conversation analytic perspective (Hutchby & Wooffitt, 2008) by presenting what actually happens in talk-in-interaction rather than manipulating what is expected to happen (Hepburn & Bolden, 2012).

While considering the aim of the study and the essential details from CA perspective in the transcription process, it can be challenging for transcribers to prepare comprehensive transcripts for both CA and non-CA audiences. As mentioned earlier, transcripts are prepared not only to represent data and enable analysis but also to present the data to other scholars and readers. Namely, inasmuch as to present the data to readers of any publications, and therefore, to open to verification by other scholars are among aims of transcription (Hepburn & Bolden, 2012), thus transcripts should be comprehensive enough for readers. To do so, transcription conventions (e.g., Jefferson, 2004; Mondada, 2018) have been prepared, and they have been extensively used by CA scholars in transcription steps.

CA brings some principles to transcribing process, and there are steps to be followed to do transcription (Kasper & Wagner, 2014). The first step of transcription process is the written version of the interaction without any details. It is important for initial observations and to get familiar with data. Once a phenomenon is determined depending on the initial observations and unmotivated looking, the next step is to prepare the detailed transcripts of instances. For this step, Jeffersonian transcript convention (Jefferson, 2004) is extensively used by most CA scholars. It enables analysts and readers to see pauses, intonation, gaps, overlaps, stress, stretch, and laughter in the

interaction. The aim of this process is to prepare transcripts that best represent data with prosodic details (Hutchby & Wooffitt, 2008). Jefferson (2004) asserts that all these details are needed in transcripts as they take place in interactions and details help to see interactions beyond words. As CA aims to examine the minutely detailed unfolding of interaction, these details help to come up with more reliable and valid findings. For instance, transcribing prosody helps us distinguish between different forms of sentences such as questions and statements (Liddicoat, 2021). Some software programs, such as Transana, ELAN, and CLAN, can be helpful to see intonations, gaps, etc. in data. In addition to prosodic details, it has been proven that multimodality plays an important role in interactions with developments in technology. Thus, it has become crucial to add multimodal details to transcripts as each detail is significant to capture, present and comprehend from CA perspective. To present multimodal actions, Mondada (2018) transcript convention is commonly used among CA scholars. Also, with an increasing trend in the use of online settings for interaction, to provide screen-based actions in transcripts came into play. To do so, Balaman (2018) developed a convention that shows onset and offset of screen activities of participants especially when they are mutually visible but still relevant for interactional conduct during video-mediated interactions.

I followed the steps mentioned above for the transcription of the data. First of all, orthographic transcription of the dataset was prepared. By the time orthographic transcription was prepared, screen-recordings were watched and the orthographic transcripts were examined multiple times for the initial observations of the data and to get familiar with it through unmotivated looking (ten Have, 2007). The idea of unmotivated looking is to look at the data without any prior theory or questions. Jenks (2011, p.13) describes unmotivated looking as "to let the data and transcript speak for itself." That is to say, during the phase of unmotivated looking of data, some findings would emerge from data without any prior theoretical underpinnings, which leads to see the analysis beyond the researchers' expectations. When I made some observations through unmotivated

looking, I extracted samples of a potential phenomenon as introduced in the next section. I followed Jefferson (2004, see Appendix A), and Mondada (2018, see Appendix B) transcription conventions to add prosodic, multimodal and screen-based details respectively, and I used Transana software program to better identify prosodic details.

In transcripts, pseudonyms were used to refer to participants to completely attend to the ethical issues. In the layout of the transcripts, sequential line numbers were given to verbal productions and gaps to make transcripts more comprehensive and easier to follow while analyzing the extracts (see Sample Extract below). Multimodal actions and screen activities were written in separate lines without line numbers. In addition, these actions were written in lighter colors, and various symbols were used to show the onset and offset of these actions. Each symbol in each extract symbolized a participant and if there were two or more actions of a participant in the same line, an extra symbol was used to prevent any misunderstanding of the onset and offset of actions (see Line 3 in Sample Extract below). If the explanation of an action was too long for the space on the transcript, the action was numbered and explained in a separate line (see Lines 1 and 3 in the Sample Extract below). As the font type, Courier New was used among monospaced font types that enabled better line alignment. A sample extract is as follows:

Sample Extract

```
1 NIS: [my answer ♣actually is still ♥the $same$ hehehe♥

  fer:              ♣smiles--->

                                  ♥-------1---------♥

      1: closes her mouth with right hand

2 FER: ♣♦write clear instructions♣

      ♣----rolls her hands----♣

  jul:  ♦smiles--->
```

```
3 NIS: ♥exactly♥ don't forget that +it's important like it's

        ♥--2--- ♥                        +rolls her hands

        2:shows the screen with her index finger

  4       kind of changes everything+♣♦

                                    --->+

    fer:                            --->♣

    jul:                            --->♦

  5       (0.8)
```

By the time transcription process was completed, a collection showcasing the display of epistemic status of transnational PSTs was built, which will be explained in the following section.

Building Collection

Building collections is very significant from CA perspective as instances in a collection of cases enable analysts to make claims on the use of certain interactional practices (Hutchby & Wooffitt, 2008). Analyzing the patterns and frequencies of these interactional tools paves the way to gain insights into how social actions are co-constructed in situ across different contexts. The very first step of building collection is unmotivated looking. Through conducting an unmotivated looking, how PSTs express and show teacher learning grabbed my attention as an emergent phenomenon from the dataset. Some representative extracts were chosen, transcribed in detail and presented in data sessions at various times. The data sessions were held online by a number of researchers at Hacettepe University and beyond, and graduate students and scholars who are interested in doing CA participated in them. They watched the videoclips, went through transcriptions multiple times, and analyzed the data on a voluntary basis. Based

on the analysis during the data sessions and my observations, I went through the data multiple times to see if there were any other instances of the phenomenon. Some instances were presented at two international conferences with preliminary findings to gather comments and feedback from scholars who are experts in the field. When other scholars' analyses aligned with my initial observations on the extracts, I built a collection from the dataset with recurrent cases also by keeping in mind the feedback obtained from data sessions, thesis meetings and conferences.

The data showed that transnational PSTs use various constructions to show their changing K status, K- status in the past, and K+ status at present with the help of certain syntactic markers to display teacher learning. While expressing teacher learning, PSTs frequently and explicitly claim or imply teacher learning with different lexical and syntactic constructions. A total of 129 cases were found throughout the data. These cases will be presented in two analytic chapters in the following section. The first collection of cases includes constructions which consist of lexicon and syntactic markers that mark the epistemic change of PSTs. These are 7 cases of "realized", "didn't know" and "I wasn't thinking/I didn't think" each. Then, "we know" was used 5 times and "I thought" was used 3 times. Lastly, transnational PSTs used "recognized", "changed", "teaches me", "didn't expect", "didn't foresee", "never grasped", "imagined", "wasn't aware of", "was abstract at first", "more conscious" and "took out of this" once to argue for teacher learning with change in their epistemic stances (see Table 8 below). In the second collection of cases, I focused on the claim of teacher learning practices of PSTs (I/we learned X). There are 87 cases of claim of learning (see Table 9 below) in the dataset. The analysis of the second collection is organized different than the first collection. Accordingly, upon the claims of PSTs on teacher learning, data was scanned retrospectively, and micro-moments of teacher learning in their previous meetings regarding their claimed teacher learning were detected. By doing so, the study aims to bring evidence to teacher learning practice of PSTs as it was claimed by the participants themselves. All in all, both collections consist

of constructions that showcase teacher learning expressed through a change in epistemic status.

Table 8

Constructions to Express Teacher Learning

	Number of Cases
Didn't know	7
I wasn't thinking/I didn't think	7
Realized	7
We know	5
I thought	3
Had no idea	2
Didn't expect	1
Recognized	1
Changed	1
Didn't foresee	1
We never grasped	1
Imagined	1
Teaches me	1
Aware of	1
Took out of this	1
More conscious	1
Abstract at first	1

Table 9

Claim of Teacher Learning

	Number of Cases
Learned X	87

With the analysis of epistemic status change, across multiple video-mediated interactions within the scope of the project, which was shown through using various constructions and claims of learning by transnational PSTs, it was seen that the participants claimed and expressed teacher learning on various topics. These topics include giving instructions, online task design, preparing materials for tasks, future career, the topic of the task they prepared, technology literacy, teacher behavior and task-as-workplan vs. task-in-process. Of all the collection of cases, I will present representative samples in the following chapter and analyze them line-by-line through robust analytic tools of CA. Representative extracts were strategically selected to illustrate the range of constructions used to express teacher learning, topics on which teacher learning was expressed and the sources from which teacher learning was manifested.

This chapter introduced the research context, participants, CA research methodology and dataset, laying the groundwork for the analysis. Consequently, the representative extracts will be subjected to detailed analysis using rigorous tools and micro-lens of CA in the subsequent chapter.

Chapter 4

Analysis and Findings

Introduction

The fourth chapter of the dissertation will document the analysis and findings drawing on the data-led collaborative conversations of transnational PSTs. The analysis in this chapter will initially examine how PSTs express the change in their epistemic status. As mentioned in the previous chapter, the participants refer to lack of knowledge in the past and change in their epistemic status, thus changes in their past epistemic status. The chapter also covers the analysis of participants' explicit claims of learning. Based on a total of sixteen extracts, the chapter addresses both epistemic change expressions and claims of learning. Accordingly, the chapter presents the findings in two analytic sections. The first analytic section examines epistemic change expressions that were deployed by PSTs while the second analytic chapter is dedicated to claim of learning in their collaborative data-led reflections.

The first analytic section is designed to explore findings on the expression of epistemic change. In this section, the claim of lack of knowledge in the past (i.e., past epistemic stance) and the changes in the epistemic status (i.e., current/during the reflection meetings) will be presented respectively. A total of ten extracts is included in this first analytic section. The section starts with extracts that depict PSTs' claim of lack of knowledge in the past. It will then proceed to discuss claims of past epistemic status and change in epistemic status. Extracts 1-4 are dedicated to the claims of lack of knowledge in the past with a negation syntactic marker (K- epistemic status). Then, extracts 5 and 6 will address the expression of PSTs' K+ epistemic status in the past. Lastly, extracts 7-10 will uncover expressions of change of epistemic status of PSTs. The representative extracts were chosen to indicate expression of epistemic status regarding diverse topics and constructions to express epistemic status.

The second section focuses on PSTs' claims of teacher learning. This section is designed to present the trajectories of teacher learning based on the expressions of teacher learning in reflective conversations. There are six extracts in total consisting of three focal cases of claim of teacher learning. Each case contains two extracts. The first extracts (Extracts 11, 13, and 15) of each case uncover claims of teacher learning of PSTs in their final reflection meeting, namely the meeting seven (see Table 9 in Methodology chapter). The PSTs claim teacher learning through deploying "I/we (have) learned X" construction in response to the guiding question "What did you learn?" on the guideline document (see Methodology). Treating from claims of teacher learning of PSTs as the starting point for the analysis, the objects (the X) of the claims of teacher learning were traced retrospectively to display how teacher learning was manifested in earlier moments of the project. Therefore, second cohort of extracts (Extracts 12, 14, and 16) in each case are devoted to the moment of topicalization of the object of claim of teacher learning in PSTs' conversations earlier than the final reflection meeting. The findings show that different sources led to the manifestation of teacher learning, and teacher learning was manifested during different steps of the project. Also, PSTs claimed teacher learning on various topics. Therefore, the extracts were chosen strategically to showcase diverse stages (i.e., Task design meetings, teacher educators' feedback, task implementation and collaborative data-led reflection) where claim of teacher learning were originally manifested and diverse topics on which teacher learning was claimed (i.e., CC licenses, giving instruction, task design). The analysis starts with the first analytic section, expressions of epistemic change.

Expressions of Epistemic Change

This section will present ten extracts presenting PSTs' expressions of their epistemic status. Extracts will highlight the PSTs' reference to the lack of knowledge in the past (i.e., past K- epistemic status), problematizing past epistemic status (i.e., past K+ epistemic status), and the expression of change in the epistemic status (i.e., current K+

epistemic status). The first four representative extracts will cover PSTs' expressions of lack of knowledge in the past. These extracts were chosen to reveal the range of constructions (i.e., didn't know, we didn't foresee, wasn't thinking, and didn't think) used to express lack of knowledge in the past and to indicate the range of teacher learning across diverse topics (i.e., CC licenses, material selection, future VE projects, and allocated time for tasks). The following two extracts (Extract 5 and 6) will reveal PSTs' expressions of their epistemic status in the past. While first four extracts are constructed with a negation, extracts 5 and 6 illustrate constructions without negation (i.e., "I imagined" and "I thought"). These extracts will uncover the change of epistemic status on task design and the perception of designing a task. Lastly, extracts 7-10 will elucidate how PSTs express their epistemic status through constructions indicating a shift. These constructions include "I recognized", "I/we realized", "It changed my perspective" and "What I took out of it". The range of the topics covers allocated time for task, future VE projects, challenges in VE project, and giving instruction.

Extract 1 comes from the final reflection meeting of PSTs. Before the extract starts, PSTs discuss that they need to get used to online tools and their willingness to use the app (Digitask) collaboratively. In the extract, PSTs claim learning or extended knowledge of Creative Commons (CC) licenses on which they were trained by teacher trainers before the data collection procedure started. They use unknowing epistemic markers (K-) to show their lack of knowledge or topicalize how their knowledge is extended. While LIN deploys her extended epistemic status, DER claims lack of knowledge in the past by using plural first-person subject pronoun (we).

Extract 1: didn't know – Final Reflection Meeting- [6.55-7.21]

```
1  LIN: yeah (0.3) i learned that too (.) now about (.)licenses

2       and everything ♣i mean i already knew♣ (0.8) um

   der                 ♣---------nods---------♣

3       (1.0)
```

```
4  DER: we didn't [know

5  LIN:           [knew about that but not in detail and

6       now ♣i'm (1.0) also more conscious of that [aspect♣

   der       ♣--------------------nods-------------------♣

7  LEY:                                            [yeah
```

Following the acknowledgement token (yeah) (Jefferson, 1984), LIN claims learning (i learned that) of Creative Commons (CC) licenses. Her claim is aligned by DER in line 2 with a nod. LIN claims past knowledge (K+) (Heritage, 2013) (i already knew) in the second line. Following 1.0 sec of silence, in line 4, DER disclaims past knowledge (we didn't [know). In her disclaim, DER uses the first-person plural subject pronoun. Thus, she involves her peer EMI, who is a student at the same institution as herself. DER's disclaim overlaps with LIN's extension on her own claim in lines 1 and 2. What follows, LIN elaborates on her epistemic status and claims past knowledge (K+) once more. However, she assesses her past knowledge as being not sufficient in line 5. Then, in line 6, she claims extended epistemic status regarding licenses (now ♣i'm (1.0) also more conscious) which is accompanied with DER's nodding to show her alignment. Her elaboration was overlapped with LEY's acknowledgement token to show alignment in the last line.

Extract 1 illustrated participants' own orientation to their past and present epistemic status in and through reflection. Following the claim of learning, LIN compared her epistemic status in the past and at present. After claiming past knowledge (K+) in lines 2 and 5, she deployed extended knowledge on Creative Commons (CC) license in lines 5 and 6. Her statement, "knew about that but not in detail", implies an extension in her epistemic status. Furthermore, her statements such as "I learned" to "I already knew" and then to "knew about that but not in detail" show how reflection enabled her to regulate her ideas (see Heritage, 2012a, 2012b, 2013). Besides claiming and disclaiming past knowledge, LIN claimed extended epistemic status by stating being more conscious on

the aspect of CC licenses in line 6. Thus, LIN expressed her epistemic status, and she claimed different levels of knowledge throughout the extract. In other words, she regulated her ideas in and through reflection and she raised awareness of her epistemic status. While LIN claimed different levels of epistemic status in the past and at present, DER disclaimed past knowledge. While doing so, she involved LEY, who is a student at the same institution as DER, by using a first-person plural subject pronoun (we) and she utilized a negation marker in line 4. Thus, from the orientation of DER, it can be seen that her epistemic status changes from K- in the past to K+ at present. Moreover, LEY aligned with a minimal token in line 7 and it can be concluded that her epistemic status also changed from K- to K+. Therefore, the extract indicated that in and through reflection, PSTs moved to a more knowledgable end of the epistemic status gradient through extending their existing knowledge or forming new knowledge. Overall, their reflective conversations helped them evaluate and regulate their epistemic status.

Extract 2 comes from the second reflection meeting of PSTs. In their previous conversations before extract 2, PSTs have problematized the disappearance of their instructions on the interface of the application (Digitask) and how this affected students' performance. Before the extract starts, GOK reads one of the guiding questions given to them: "what would you do differently in a future collaborative task design?". The extract starts with his alternative action proposal on the materials they have chosen, and they problematize their K- epistemic status in the past.

Extract 2: we didn't foresee – Reflection II – [6.35-7.37]

```
1  GOK: ♣↑one♣ thing (.) for sure (0.8) i would prepare

               ♣points♣ with index finger

2      my materials (0.7) that (0.7) can be (0.4)

3      understood (.) by their own

4      (1.5)

5      ♥if ♠instructions are lost (.) the students need to
```

```
yas    ♥nods--->

sev       ♠nods-->
```

6   ♣understand the task♠ (.) as (1.0) ↑well as they can(.)

```
        ♣shakes head side to side--->

sev                      --->♠
```

7   by just looking at the materials (0.8) so this could be

8   a solution♥ for our case♣(1.0) because er in ↑our table

```
yas          --->♥

                         --->♣
```

9   (.) they (0.9) discovered what to do (1.3) ♣ they see♣

```
                                    ♣---1----♣

        1: points to the top of the frame
```

10   some gender err exclusive words and they ♣ (0.8) er

```
                                    ♣draws   a    round

                                    with index finger-

                                    ->
```

11   ♣found (.) the opposite one ♥they found the gender♥

```
        -->♣

yas                          ♥--------nods--------♥
```

12   neutral one ↑it was clear (0.3) er maybe (.) our (0.5)

13   ♣other♣ materials (0.6) could have been (.) as clear

```
        ♣shakes♣ head to right
```

14   (0.3) as ♥ (.) the last ones♥ (1.2) this could can be

```
yas             ♥--------nods------♥
```

15   a change

16   (4.0)

```
17       ♥because we didn't foresee♥ (.)this problem (.)to happen

   yas   ♥--------------nods-------♥

18       (.) but it ↑happened ♥ (0.8) so♥ (1.0) maybe i err

   yas                        ♥---nods--♥

19       think.hh (.) wider
```

In the beginning of Extract 2, GOK initiates for alternative action proposal (`i would prepare`) (Kleinknecht & Gröschner, 2016; Korthagen, 2010) with an emphasis on certainty (`for sure`). What follows, he proposes alternative action to select more self-explaining materials for their task design (`my materials (0.7) that (0.7) can be (0.4) understood (.) by their own`). His alternative action proposal is aligned by YAS and SEV through nodding in the beginning of line 5. Following a 1.5-sec of silence in line 4, GOK elaborates on his proposal starting from line 5. Through the lines from 5 to 7, he elaborates on his proposal by mentioning a hypothetical student practice with an if clause. Then, he highlights that his proposal can be a solution if a problem occurs because of disappearance of instructions in lines 7 and 8 (`this could be a solution`). He starts giving account for his alternative action proposal in line 8 and from line 8 to 12, he refers to data coming from students' performance. Therefore, he supported his alternative action proposal with evidence from students' performance. After describing students' practices, he deployed that students accomplished to do what they were supposed to do in lines 9 and 11 (`they (0.9) discovered what to do`) and 11 (`found (.) the opposite one`). His reference to students' performance was aligned by YAS through nodding. GOK maintains his turn and adopts evaluative stance towards a material they have selected in line 12 (`it was clear`). Following evaluative stance and a mitigation token (`maybe`) in line 12, he repeats his alternative action proposal in lines 13 and 14. YAS aligns with his alternative action proposal once more by nodding in line 14. GOK underscores the alternative action he proposes as a solution to the problem they have faced with one more time in lines 14 and 15. After a long pause in

line 16, GOK gives account (`because we didn't foresee (.)this problem (.)to happen`) and claims having past K- status (Heritage, 2012a, 2013) involving his co-participants with a first person plural subject pronoun. Then, he acknowledges the occurrence the unforeseen problem in line 18. What follows, he deploys a transition marker (`so`) and mitigation marker (`maybe`), and he claims extended epistemic status at the time of speaking (`i err think.hh (.) wider`) in lines 18 and 19.

Extract 2 indicated that observing the data coming from students' performance helped the PSTs extend their epistemic status regarding material selection. Although they did not foresee problems to be encountered while designing the task, as GOK explicitly mentioned, their observation of students and reflective conversations provided a setting to extend their epistemic status. In other words, the occurrence of unforeseen problem, students' performance, and the gap between their expectation and task-in-progress were addressed in their data-led reflections creating, teacher learning opportunities. It was acknowledged by GOK's claim of extended epistemic status. Thus, the data-led reflection enabled the PSTs to revise both their own actions and those of the students and helped them extend their knowledge and form new knowledge.

Extract 3 comes from the second reflection meeting of PSTs. Before the extract starts, they talk about how seeing students' provided affordance to them. In Extract 3, PSTs refer to the problem they have encountered during their virtual exchange experience regarding a time difference between countries of partner universities and reflect on this problem with a future orientation. Similar to extract 1, this extract illustrates how the epistemic status of PSTs changed from K- to K+ during the process.

Extract 3: wasn't thinking – Reflection II – [5.23- 6.04]

```
1  VIK: uh>especially talking about< ca international

2       collaboration(0.5) that some things aren't that obvious so

3       ♣if you're talking about okay we should meet

  mer: ♣plays with his chin ---> line 10
```

```
4        ♦we (.) organize a meeting (.) at the first time

  eli:   ♦smiles--->line 15

5        i wasn't even thinking about a time difference

6 ELI: $hah hah$

7 VIK: it was like okay yeah that's true we have to organize er

8        um (.)on that regard as well (0.6) so all the orga-

9        organizational aspects (.) of (0.5) an international

10       collaboration↓ (.) and i think♣

  mer:                              --->♣

11       this is quite helpful if you think about maybe doing some

12       (.)things (.) similar with your future students (0.7)

13       because ♥there's so much around (.)the task itself♥

           ♥----------rolls her hands---------------♥

14       (0.6) that ♣ (.) shouldn't be forgotten (0.4) and i think♣

  mer:            ♣--scratches his head with left index finger--♣

15       it's good to experience that er one ♥time+ (1.0)♥+♦

                                          ♥nods and smiles♥

  eli:                                              +--nods--+

  eli:                                              --->♦
```

Extract 3 starts with VIK's initiation for elaboration on collaboration with international peers. Then, she evaluates the clarity of the process (some things aren't that obvious). What follows, she highlights her insufficient epistemic status in the past regarding the time difference between countries in line 5 (i wasn't even thinking about a time difference) before engaging in the project. With her disclaiming the past knowledge, she underscores a gap in her epistemic status in the past and claims lack of experience. VIK's claim was responded with a laughter by ELI in line 6.

Through the lines 7 and 10, VIK points to their own VE experience. Then, she adopts an evaluative stance towards their VE experience in lines 11 and 12 (`this is quite helpful`). She evaluates the experience being useful for their future professional life (`maybe doing some (.)things (.) similar with your future students`). Following her evaluation, VIK verbalizes what she took as a lesson and she proposes an alternative action in lines 13 and 14 (`♥there's so much around (.)the task itself♥ that ♣ (.) shouldn't be forgotten`). At the end of the extract, she evaluates their experience once more, clearly stating that experiencing an international collaboratin was beneficial for them (`it's good to experience that er one ♥time+)` (also see Lortie, 1975).

Extract 3 showcased that, despite unknowledgable epistemic status of VIK before involving in an international collaboration, her awareness to consider time difference between countries was raised through the VE experience. She oriented herself to the future and verbalized the lesson she learned: to take the time difference between countries into account when organizing such a project with her future students. Thus, she identified and addressed a gap in her epistemic status, shifting from a K- status in the past to K+ epistemic status at present through their VE experience. With n future orientation, she negotiated the takeaway lesson with her co-participants and the lesson she learned became visible in and thorugh reflective conversations.

Extract 4 comes from the second reflective meeting of PSTs. Before Extract 4 starts, PSTs discuss having a similar experience as "their" students as they collaborate with PSTs from other countries and perform a task. Following their discussion on similarities, DER puts forward that everyone has a different perspective. She talks about the individual differences she has observed while watching students' recordings and how students comprehended and performed the task in unexpected ways. Starting with their expressing K- status in the past, PSTs move on with other aspects (timing) they did not consider while designing the task. Extract 4 depicts how the epistemic status of PSTs

changed, and they realized they need to consider various aspects in a task design. In the extract, PSTs find common ground with students as they did before the extract starts. The extract starts with DER's epistemic stance adoption and throughout the extract they negotiate what was unexpected for them in students' performances.

Extract 4: didn't think- we know – Reflection II- [9.55-10.20]

```
1  DER: of course we don't think that everybody thinks it's the

2       same way↑ but like ♣seeing that especially♣

                            ♣unites finger while palm♣is up

3       ♣oh i didn't think of this i didn't think of that♣

        ♣-----------puts finger on the head-------------♣

4       [((inaudible))

5  LIN: [((inaudible))

6       the small things ♥also (0.6) th the timing ♣we talked

                         ♥looks up--->

der                                              ♣leans forward-
-->

7       about♣ (.) because♥ (0.4) yeah ♥we we know it with our

der      --->♣

                   --->♥              ♥scrolls right hand--->

8       screen castomatic right now we have technical problems

9       ♣ (.)♣ it is (0.8)it can happen all the time and you have

   der  ♣nods♣

10      to♥ calculate tha:t (.) maybe ♣because (0.4) wh♣ what we

        -->♥

   der                                ♣--slightly nods--♣

11      saw in the tasks (0.5) ♣er was also (0.4) that♣ maybe
```

```
der                                 ♣-----leans forward------♣
```

12   they needed more time and ♥they couldn't do: ♣ (0.4) one♥

```
                                    ♥-----shakes head side to side---♥
der                                                    ♣nods--->
```

13   situation♣ or something like that (0.7) ♣because of♣ te

```
der           --->♣                                ♣slightly nods♣
```

14   (.) technical issues ♣ (0.5) and that's also♣ something i

```
der                          ♣strongly nods and averts gaze♣
```

15   (.) i $learned out of this$ haha (.)♣because if you are

```
der                                       ♣smiles --->
```

16   in a setting♣ especially ♥(0.7) erm in a setting (0.3)

```
der           --->♣

                                       ♥looks up --->
```

17   that the students are not ↑used to♥ ♣ (.) because they

```
                                    --->♥

der                                       ♣strongly nods--->
```

18   have to get to know each other (0.4) and (.) and♣ stuff

```
der                                            --->♣
```

19   it's (1.0) ♣it's something tha:t (.) that is important

```
der:              ♣leans forward--->
```

20   to think about♣ (.) what (.) how much time do they nee:d

```
der:              --->♣
```

DER adopts an epistemic stance in the beginning of the Extract 4 (`of course we don't think`) (also see Koole, 2010). She articulates being aware of the personal differences. Then, she highlights their observation of the differences in students'

performances in line 2 (`seeing that especially`). What follows, she verbalizes her K- epistemic status in the past in line 3 (`oh i didn't  think of this i didn't think of that`). She became aware of the gap between what she expected before watching the students' performance and students' behaviors and practices she observed. Then, LIN takes the turn in line 6 and extends DER's reference to students' performance to topicalize another problem (`the small things ♥also (0.6) th the timing`). By giving account to their knowledge status at the time of the speaking (`because`) in line 7, in line 8, she points to a technical problem with the screen-recording software (screencast-o-matic) in their own VE experience (`our screen castomatic right now we have technical problems`). Then, she topicalizes the technical problem they have experienced and verbalizes the possibility of occurrence of the problem (`it can happen all the time`) in line 9. Next, she proposes an alternative action to solve this problem (`you have to♥ calculate tha:t`) in lines 9 and 10. Starting from remaining of line 10, she starts giving account for the action proposal (`because (0.4) wh♣ what we saw in the tasks`) by referring to data coming from the students' performances. Then, she gives account by deploying the allocated time was not sufficient (`they needed more time and ♥they couldn't do:`). She refers to the technical problems that students have encountered in lines 13 and 14 to set the ground for the topicalized problem. In lines 14 and 14, with reference to what she deployed about allrocated time, she explicitly claims learning (`that's also♣ something i (.) i $learned out of this$`) (Sacks, 1992). Then, she elaborates on her claim by account giving (`♣because`) in line 15 and puts forward that they need to consider setting in lines 16 and 17. She elaborates on the setting as it was unfamiliar to students and students needed to get to know each other. Through the end of the eactract, LIN adopts evaluative stance (`it's something tha:t (.) that is important`) in line 19 and asserts her takeaway lesson one more time which is to consider different aspects when deciding on allocated time for a task.

Extract 4 indicated that although the PSTs were aware of the personal differences before watching the students' performance, their awareness was raised about personal differences and how unexpected students may perform the tasks through observation. Additionally, following the topicalization of technical problem they encountered, they deployed observing a similar problem that students experienced. Therefore, they reflected on the common problem which is technical issues and concluded that they needed to consider the setting when they determine allocated time to perform a task. Thus, the extract showed that the common problem the PSTs and the students encountered created teacher learning opportunity. This was achieved in and through reflection on their own experience and the students' performance. Namely, their experience and the data helped them identify and describe a problem and upon this they proposed alternative actions and claimed learning. It can also be seen that they regulated their epistemic status thorugh data-led reflection and deployed different constructions to adopt epistemic stance (i.e., "we don't think", "I didn't think, and "we know"). They disclaimed knowledge (K-) in the past with negation and claimed knowledge (K+) at the time of speaking. Overall, reflection provided a setting to evaluate their experience and students' performance and it helped them shift their epistemic status from K- to K+.

Extracts 5 and 6 document PST's expression of epistemic status in the past. Differently from the first 4 extracts which convey lack of knowledge in the past, extracts 5 and 6 illustrates constructions without negation. Namely, in the upcoming two extracts, PSTs problematize their epistemic status but not K- status in the past. Thus, extracts will reveal how the epistemic status of PSTs changed adopting a different perspective.

Extract 5 comes from the final reflection meeting of PSTs. Before the extract starts, the PSTs evaluate their experience as interesting and valuable. The extract starts with BUR's initiation for telling her observation. In the extract, PSTs express their epistemic status in the past about designing a task, and they compare what their expectation and their actual experience. This extract will document how PSTs thought about designing an

online task with their co-participants from other countries. In the extract, it is evident that

PSTs problematize their epistemic status in the past.

Extract 5: imagined-thought-Final reflection meeting - [5.16-6.20]

```
1  BUR: ♣it turns ou:t (.)

   mil  ♣smiles--->

2  MIL: he[heh

3  BUR:   [creating a task is harder than♣ i .hh (0.5) ♣ever♦

   mil                              --->♣            ♣nods-->

   sah                                               ♦nods->L7

4       (0.3) imagined

5  MIL: ♠↑right

   ema  ♠nods--->

6  EMA: yes=♠

        --->♠

7  MIL: =yeah♦ i totally agree with you

   sah   --->♦

8       (2.7)

9  EMA: ♣exactly [as

   mil  ♣raises eyebrow--->

10 MIL:        ♠ [a:nd

   ema    ♠nods--->

11      (0.4) ♠ (0.3)

   ema      --->♠

12 MIL: then (.) doing it together with (.) erm three people

13      that you barely ♠kno:w♣ ♦and (.)♠ you♦ have to: (0.5)

   ema                  ♠-------nods---♠
```

```
                                  --->♣
    sah                              ♦---nods----♦

14      some♣ho:w (0.5) agree how to do♣ ♣it and yeah it was

            ♣----rolls hands----------♣ ♣put hands on her chin--->

15      (0.9) interesting ♠but also not that easy (.) yeah

    ema                       ♠nods--->

16 EMA: mhm

17      ♦ (0.4) ♣ (.)♠♦

    sah  ♦----nods-----♦

    mil  --->♣

    ema          --->♠

18 BUR: ♥yeah♥

            ♥nods♥

19      (1.0)

20 EMA: yeah but actually i think we were very go- er (0.3)

21      good group

22      (1.2)

23 EMA: because we

24 BUR: ♥[$yeah$↑♥

            ♥nods♥

25 EMA: [adapted ♦each other really er ♣really fast (0.4) ♦ and

    sah          ♦----------------nods------------------♦

    mil                          ♣nods--->

26      at the beginning♣ (.) i thought (.)err the task er will

    mil             --->♣
```

```
27        be easy (.) to organize or (.)♣ to create♦ (0.7) ♠bu:t

   mil                                    ♣nods and averts gaze--->

   sah                                               ♦nods--->

                                                    ♠1--->

        1: shakes head left and right

28        (.)no♣♠♦ i i remember ♣we've been er two♣ or three

   mil    --->♣

   ema    --->1♠

   sah    --->♦

   mil                         ♣shakes head left and right♣

29      nights (0.3) hh.(.) ♣three hours♣ ♦$and th-$ hehe

   mil                   ♣nods and averts gaze♣

   sah                                       ♦nods and smiles--->31

30 BUR: ♥yeah♥

       ♥nods♥

31 EMA: there's no idea♦ go out or ♣ stop there

   sah              --->♦

   mil                        ♣nods--->

32        ♠(1.1)♠

   ema    ♠nods♠

33 MIL: yeah♣

       --->♣
```

Extract 5 starts with initiation of BUR for telling her observation with an elongated manner which is accompanied by smile of MIL. Then in line 2, MIL's laughter interrupts BUR's telling, and it overlaps with BUR's continuation of her telling. BUR adopts

evaluative stance in line 3 (`[creating a task is harder than♣`) and compares her experience with what she expected to create a task would be. Her telling conveys that to create a task was difficult than expected. MIL and SAH show bodily alignment by nodding in line 3. What follows, MIL also shows verbal alignment with an acknowledgment token with rising intonation which accompanied by nod of EMA in line 5. Then in line 6, EMA shows verbal alignment in addition to bodily alignment with another acknowledgement token (`yes=`). In the next line, MIL explicitly explains her agreement one more (`=yeah♦ i totally agree with you`) with an intensifier (totally) to emphasize level of agreement. Her agreement is followed by a lengthy silence of 2.7 seconds. Following the silence, EMA shows explicit alignment (`♣exactly`) in line 9 with MIL's agreement in line 7. EMA initiates for elaboration in the same, however it overlaps with elongated transition marker (`[a:nd`) that MIL utter in line 10. After a total of 0.7 sec of wait time, MIL takes the turn. MIL initiates a turn with another transition marker (`then`) signaling shifting the conversation to an upcoming social action in line 12. After a micro pause in the same line, MIL starts elaborating on the difficulty of designing a task by adopting an evaluative stance. From line 12 to 15, MIL discusses the challenge of collaboration. EMA and SAH show bodily alignment in line 13. In accordance with her bodily alignments in line 13 and 15, EMA shows verbal alignment in line 16. After a short silence in line 17, BUR also shows bodily and verbal alignment with MIL in line 18. Following the 1.0 sec of pause, EMA shows alignment one more time with an acknowledgement token. The acknowledgement token is followed by a contrasting marker in line 20. She adopts epistemic stance in the same line (`i think`) and evaluative stance (`we were very go- er (0.3)good group`) in lines 20 and 21. After the silence of 1.2 sec, she starts account giving for her idea that they were a good group. EMA's turn was interrupted by BUR's bodily and verbal acknowledgement in line 24. BUR laughingly utters the acknowledgement token, and it was overlapped with EMA's elaboration. SAH also show bodily alignment with EMA's evaluation. Then, in line 25 EMA continues her

account giving and utters that they adapted each other fast. Her account giving was performed in an intensified manner (♦`each other really er` ♣`really fast`). In the same line, MIL shows alignment by nodding. What follows, EMA talks about her past epistemic status (`at the beginning`♣ `(.) i thought`) in line 26. In lines 26 and 27, she elaborates on her past epistemic status and puts forward it was going to easy to design a task. MIL shows alignment by averting her eyes and nodding. SAH also shows bodily alignment. Then, in line 27, EMA utters contrasting marker (♠`bu:t`) and starts shaking her head right and left which continues to the end of her negative evaluation in the next line (`(.)no`). In the same line, MIL mirrors EMA's embodied behavior and shakes head right and left which signals alignment with EMA's negative evaluation. In the remaining of the line, EMA starts referring to a shared past event (`i remember` ♣`we've been`). MIL and SAH show bodily alignment while BUR aligns bodily and verbally in line 30. EMA finishes her past reference and thus elaboration on her evaluation in line 31 (`there's no idea`♦ `go out or` ♣ `stop there`). During the silence of 1.1 sec, EMA nods and finally, MIL shows verbal alignment in line 33.

The extract 5 displayed that PSTs expected task design to be easier than they experienced. They explained the change in their epistemic status through a variety of linguistic constructions. In the extract, they expressed their past epistemic status by using constructions such as "imagined" and "thought". They compared their past epistemic status with what they experienced as seen in line 3, or they brought negative evaluation to their past epistemic status as in the example "I thought X but no" from lines 26 to 28. The gaps between their expectation and experience were problematized throughout the extract and their epistemic status, leading to a reevaluation of their epistemic status on task design within a transnational group. Their evaluation and change were topicalized at different moments in the text.

Extract 6 comes from the first reflective meeting of PSTs. Thirty seconds before the extract starts, OZG announces that they will discuss how the task was implemented in

their meeting. This announcement aligns with one of the questions in the guideline that PSTs were supposed to answer: "How was the task implemented?". Then, DEM initiates the problematization of the disappearance of input they have provided to students. However, OZG takes the problem as a learning opportunity and expresses change of epistemic status in the extract.

Extract 6: thought- Reflection Meeting I- [1.03-2.07]

```
1  DEM: actually ♣(0.9)err the biggest problem ♥ (0.5) ♥ wa:s

   ozg            ♣deactivates camera--->

                                          ♥averts gaze♥

2       (.) th- the disappearance of the definition (1.1) of

3       ♣ ♣what ♥>linguistic landscape<♥ is♣

   ozg-->♣ ♣----scratches her forehead------♣

              ♥---------1-------- ♥

       1: makes quotation marker with index and middles fingers

4  OZG: ♣yes♣ (.) exactly↑

       ♣--2-♣

       2:shakes her right index finger towards the screen

5       (0.6)

6  DEM: yeah they didn't see ↑that  ♥a:nd ♥ (0.9) it caused

                                    ♥averts gaze ♥

7       (0.6)a big problem because (.) erm ♥we seemed like (0.8)

   erm ♥

                                ♥puts   hands   on   her

   chest ♥

8       (.) just  ♥go >find out yourself<♥ (0.3) ♥>just google

                  ♥-----------3-------- ♥        ♥4--->
```

```
        3: stretches out right hand towards the screen

        4: stretches out both hands towards the screen
```

9   **it< (0.9)or whatever (0.9)♥**

```
                        4--->♥
```

10 OZG: **♣yeah♣**

```
        ♣nods♣
```

11 DEM: **♥$actually↑$ we wrote (0.8)**

```
        ♥rolls hands--->♥
```

12 OZG: **yeah**

13 DEM: **the definition there♥ (.) ♥a:nd ♣ (1.1) ♥ [also: ♣**

```
                ---> ♥

                        ♥averts gaze ♥

                        ♣---smiles-----♣
```

14 OZG: **♣ [i-**

```
                        ♣averts gaze--->
```

15   **♥(3.5) ♣ (0.5)**

```
   dem  ♥takes her notebook and looks at it--->

   ozg     --->♣
```

16 DEM: **actually overall [they♥**

```
                    --->♥
```

17 OZG: **[at first i thought that**

18   **♣ (3.2) ♣**

```
        ♣scratches her cheek♣
```

19 OZG: **at first i thought that (1.0) er this is a problem (.)**

20   **this is a disadvantage ♥ (0.5) when♥ then (.) ♣but then**

```
   dem                        ♥slightly nods♥
```

```
                                        ♣rolls         right

   hand--->

21        (.) i saw that erm (1.0) when (0.7) err (.)students search

22        for it (.) by themselves ♥(0.3)♥

   dem                              ♥-nods♥

23        it was a (.) kind of better♣ (.) because (0.4) erm (1.1)

24        ♣for example our definition (0.5) err wouldn't be enough

          ♣rolls hands--->

25        ♥(0.5) ♣ ♥ and

   dem  ♥--nods--♥

            --->♣
```

The extract starts with evaluative stance of DEM (the biggest problem ♥ (0.5) ♥ wa:s). In lines 2 and 3, DEM problematizes the disappearance of the input they provided for the students. Then, OZG shows verbal alignment with rising intonation in line 4. At the same time, she shakes her index finger towards the screen which may also signal her agreement with DEM. Following the 0.5 sec of silence, DEM elaborates on her problematization from line 6 to 9. OZG shows verbal and bodily alignment with DEM's problematization in line 10. What follows, DEM defends their professional stance and signals that disappearance is not their mistake in 11 which is also verbally aligned by OZG in line 12. After OZG's agreement, DEM completes her sentence grammatically in line 13 and she utters a transition marker at the end of the line which was overlapped by OZG. A lengthy pause of 4.0 sec occurs during which DEM takes her notebook and checks it. After transition marker in line 13, DEM is probably looking for another topic. Then, in line 16, DEM initiates for an evaluative stance (actually overall [they♥). DEM's initiation was overlapped with OZG's past epistemic stance ([at first i thought that). After 3.2 seconds of silence, OZG repeats her initiation for expressing her

epistemic status in the past. In lines 19 and 20, she verbalizes that she evaluated disappearance of the definition as a problem and disadvantage. In line 20, she self-repairs herself and utters a contrasting marker (`when♥ then (.) ♣but then`). What follow, OZG refers to her observation (`i saw that`) of students' implementation (`when (0.7) err (.)students search`) in lines 21 and 22. Then, OZG adopts evaluative stance (`it was a (.) kind of better♣`) and starts giving account for her evaluation (`because`). In line 24, she proposes an example that the input they provided would not be enough. Finally, in the last line, DEM shows bodily alignment with OZG's evaluation.

In the beginning of extract 6, DEM problematized the disappearance of the input which was the definition of "linguistic landscape" and was important in doing the task (see Methodology). In addition to the importance she attributed to the definition, she also problematized its absence, as it seemed like leaving students alone without providing support to perform the task. Although OZG showed alignment and evaluated this as a problem, the extract also revealed that OZG took the problem as a learning opportunity. She deployed her past epistemic status the construction "I thought", and showed her epistemic stance was in alignment with DEM's problematization. However, throughout OZG's turn, the change of epistemic status was expressed obviously. Observing students' performance and their search on the internet for the definition of "linguistic landscape" manifested the change in her epistemic status. Therefore, this is another extract that shows data from the students shaped teacher learning and it was expressed in and through reflection.

Extract 7 comes from the first reflection meeting of PSTs. It is notable that the extract lacks multimodal actions as none of the participants in the extract activated their cameras during the meeting. Before the extract starts, PSTs evaluate their task, and students' performances regarding interaction, collaboration, and task implementation. Accordingly, the extract starts with the positive evaluation of LAR. However, in the remaining of the extract she problematizes the allocated time for the task by referring to

her recognition of a student's telling, and they find alternative solutions to the problem collaboratively with her co-participants.

Extract 7: recognized- Reflection meeting I - [3.00-4.35]

```
 1 LAR: i think it's (.) it worked quite well (0.5) um the

 2      only thing i:(.) recognize:d (0.5) or one group member i

 3      (0.8)↓i guess it was from group thirteen yeah >it doesn't

 4      matter< (.) one girl said that it's quite (.) um (0.9)

 5      that the time is quite↓ uhmm (.) i should just say it's

 6      ↑not enough time(.) or (.)it's quite busy or er stressful

 7      to fulfill the whole task within the er (.) half an hour

 8      (.) because you get the erm(.) the picture shows up after

 9      (.) er a few minutes an an and so on (.) so it's quite

10      (0.5) uh yeah quite busy to uh (0.6) to do all the or the

11      whole task

12      (1.0)

13 FAT: yes it is (.) a bit overloaded maybe

14      (0.4)

15 LAR: huh

16 FAT: we give (.) more (2.3) more things to do for them

17      (1.0)

18 LAR: yeah

19      (1.0)

20 LAR: so maybe >i don't know< (0.5) um 40 or 45 minutes

21      would be: [would

22 FAT:          [more suitable yes

23 LAR: mhm yeah

24      (1.5)
```

```
25 LAR: because i also recognized that in one video they (.)

26       at the beginning they had a few struggles with er

27       technological things so they talked about zoom and ↑so

28       on (.)so i thought that it didn't work from the beginning

29       on (.) so they needed a few minutes or yeah minutes (.) a

30       few moments to: release to start (0.7)so i don't know re

31       (0.6) ↑really a little bit more time would be would be

32       better yeah

33 FAT: yeah i agree with you
```

Extract 7 starts with epistemic stance of LAR which is followed by evaluative stance in the same line. She deploys a positive evaluation regarding the implementation of the task they designed (`it worked quite well`). After waiting for 0.5 sec and hesitation marker (`um`), she initiates for problematization (`the only thing i:(.) recognize:d`) in line 2. In the same line she starts referring to a student. She verbalizes the student's group number to identify him/her in line 3 with an uncertainty marker (`i guess`). Then starting from line 3, she gives up the identification of the student and refers to an indefinite student (`one girl`) in line 4. In the remaining of the line, she initiates to report the students' telling (`said that`). She starts reporting in line 4 (`it's quite (.)`) which is followed by another hesitation marker (`um`) and 0.9 sec of silence. In line 5, she restarts reporting (`that the time is quite↓`), and this time she adds "time" to her turn signaling there was a problem regarding time. However, she renounces reporting the student's telling after the hesitation marker (`uhmm`) and continues the problematization by using first-person singular subject pronoun (`i should just say`). What follow is her putting forward the problem regarding their task design in lines 5 and 6 (`it's ↑not enough time`). "Not" is uttered with a rising intonation which emphasizes the problematic part. Following the conjunction in the same line, she reformulates her problematization (`it's quite busy or er stressful to fulfill the whole task within

the er (.) half an hour) in lines 6 and 7. She then states reasons for her problematization through lines 8 to 11 by referring to their task design. After the silence of 1.0 sec in line 12, FAT takes the turn in line 13 and she shows orientation. Her orientation is delivered in a mitigated fashion (yes it is (.) a bit overloaded maybe) through modifier "a bit" which conveys a sense of moderation and "maybe" which shows uncertainty. LAR shows alignment in line 15 (huh) after the silence of 0.4 sec in line 14. Without any delays, FAT takes the turn again in line 16, and she shows her orientation one more time to LAR's problematization (we give (.) more (2.3) more things to do for them). After 1.0 sec of silence in line 17, LAR shows alignment with an acknowledgement token (yeah). There is another silence of 1.0 sec in line 19 and following that, LAR takes the turn. In line 20, LAR starts her turn with a transition marker (so) to signal that the problematization is over, and she comes up with another social action. In the same line, she shows some hesitation with uncertainty markers, silence, and a hesitation marker (maybe >i don't know< (0.5) um). After her hesitation, she proposes alternative action (40 or 45 minutes would be:). The elongated verb (be:) is possibly taken as a word-search by FAT as she completes LAR's turn (more suitable yes) with an acknowledgement token at the end. FAT's completion overlaps with LAR's repetition of hypothetical (would) solution. In line 23, LAR aligns with FAT's completion (mhm yeah) which is followed by a lengthy pause of 1.5 sec. LAR takes to turn in line 25 again, and she starts account giving by referring to her observation (because i also recognized that). From line 25 to 30, LAR touches upon her observation of students and depicts how the students struggled with technological problems and thus time (so they needed a few minutes or yeah minutes). Then, LAR reformulates their alternative action proposal with an acknowledgement token at the end (↑really a little bit more time would be would be better yeah). Her reformulation, thus alternative action proposal was verbally aligned one more time by FAT in the last line of the extract (yeah i agree with you).

The extract revealed that LAR's observation provoked her problematization of allocated time for the task. She referred to her observation and the problems which occurred in students' performance by using the verb "recognize" in past simple tense (recognized). Therefore, her recognition paved the way for collaborative teacher learning of FAT and LAR. Although FAT initially showed agreement in a mitigated fashion, she completed alternative action proposal of LAR and showed explicit alignment at the end. It can be seen in the extract that teacher learning was manifested during PSTSs' observation of students. In other words, PSTs became aware of the problems regarding their task design through watching students' performances, and the video-data-led reflection shaped teacher learning of PSTs.

Extract 8 consists of two consecutive extracts: Extracts 8.1 and 8.2. These extracts come from the final reflection meeting of the PSTs where the PSTs in groups discuss guiding questions one by one. To do so, one of the participants reads the questions aloud and they discuss them collaboratively. Prior to the start of Extract 8.1, they have completed discussing if they would change anything in their task design. The extract begins with a new topic to be discussed which is the future benefits of the project. Extract 8.1 starts with MIL reading the question: "Was it useful for your future professional life?" Throughout Extract 8.1, they topicalize their realization of different time zones, schedules, and challenge in finding a suitable time for collaboration.

Extract 8.1: Realized – Final reflection meeting – [10.08-11.00]

```
1  MIL: was it useful for ♥our future professional life (.) as

   bur                    ♥nods--->

2       a ↑language teacher

3  BUR: ♠for sure♥

   ema  ♠nods--->

            --->♥

4       (0.9)
```

```
5  MIL: ♦yeah↑ for sure♦

   sah  ♦-----nods-----♦

6       (3.3) ♠

   ema     --->♠

7  MIL: erm  (.) and i think it's also: (.) erm (0.3) good to

8       realize: that ♠ (.) erm when doing ♣a project♣ (.) like

   ema                 ♠slightly nods--->

                                           ♣rolls hands♣

9       this o:ne ♦you face challenges (0.8) that♦ you had not

   sah            ♦-------------nods-----------♦

10      anticipated↓♥(.) before♠ for example♥ (.)♣different ↑time

   bur             ♥---------nods--------♥

   ema                       --->♠

                                           ♣rolls right hand-->

11      $zones$♣ ♦heheh

           --->♣

   sah           ♦smiles--->

12      (0.3)

13 BUR: $yeah$

14 MIL: ♥♠+$that was$ hehehe+(0.4)err $a bit of a challenge$

   bur  ♥smiles--->

   ema  ♠smiles--->

   sah    +-----nods-------+

15      hehehe(0.6) err♥ (.) we didn't think about♠♦ (.) err (.)or

   bur             --->♥

   ema                               --->♠
```

```
   sah                                            --->♦

16     yeah↑ ♠of course (.) having technical pro:blems ♦ (0.5)

   ema       ♠nods--->

   sah                                           ♦nods--->

17 EMA: ♥mhm♥

   bur ♥nods♥

18 MIL: a:nd♦ (.) we also ↑realized (.) that♠ erm(0.4) every group

   sah  --->♦

   ema                              --->♠

19     member has ♣a different (.) schedule:♣ (.) ♠so

               ♣--------rolls hands------♣

   ema                                      ♠nods--->

20 MIL: it wasn't [always that easy

21 BUR:        ♥♦[huh huh♥

               ♥--nods--♥

   sah           ♦nods--->

22 MIL: to find time (.) for the meeti:ngs (0.3) ♦

   sah                                      ---->♦

23 EMA: °exactly°
```

The extract starts with MIL's reading one of the questions on the guideline. While MIL reads the question, BUR starts showing bodily alignment by nodding, and in line 3, she also verbally shows alignment (`for sure`). When MIL finishes reading the question, EMA also shows bodily alignment. After the silence for 0.9 sec MIL shows verbal alignment with BUR and repeats BUR's utterance (♦`yeah↑ for sure`♦) which is accompanied by SAH's alignment by nodding. Following a lengthy pause of 3.3 seconds, MIL takes the turn again in line 7. She adopts epistemic (`i think`) and evaluative

stances (`it's also: (.) erm (0.3) good to`). In what follows, she initiates expressing change in her epistemic status (`realize: that`) and deploys facing with challenges that they did not expect until line 10. In line 10, she initiates to put forward an example (`for example`). Then, she utters the challenge with a smiley tone and a laughter at the end (`different ↑time $zones$ heheh`). MIL's smiley tone was followed by SAH's smile and alignment of BUR with a simley tone in line 13 (`$yeah$`). In the next line, EMA joins her co-participants by smiling, as well. Smiling of BUR, SAH and EMA, also accompanied with SAH's nodding while smiling in line 14, can be seen as a supportive gesture and can be interpreted as a sign of their agreement with MIL. Maintaining the smiley tone, MIL deploys different time zones is a challenge in a mitigated way (`$that was$ hehehe (0.4)err $a bit of a challenge$ hehehe`). What follows, she expresses K- epistemic status in the past (`(0.6) err (.) we didn't think about`) in line 15. Then, in line 16, she introduces another challenge they did not expect with a certainty marker (`of course (.) having technical pro:blems (0.5)`). BUR and SAH show bodily alignment while EMA verbally aligns with MIL's proposing technical problems as an unexpected challenge. In what follows, MIL points up their shared stance with a first person plural subject pronoun including her co-participants (`a:nd (.) we also ↑realized`) in line 18. Thus, MIL deploys that the epistemic status of the whole group went from K- to K+. Then, in lines 18 and 19, MIL introduces what they have realized as a group which is about the schedules of the participants in their group. SAH and EMA show bodily alignment by nodding, and BUR shows both bodily and verbal alignment (line 21) with what MIL introduced. After getting agreement from her co-participants, MIL adopts an evaluative stance and evaluates different schedules as a challenge (`it wasn't always that easy to find time (.) for the meeti:ngs (0.3)`) in lines 20 and 22. In line 23, EMA shows verbal alignment with whisper tone (`°exactly°`) while her nodding, which started in line 19, continues.

Extract 8.1 revealed that PSTs positively evaluated the project in terms of their professional life. They both explicitly expressed this and showed alignment with their co-participants by using embodied resources. After their evaluation, they elaborated on it with a focus on future orientation. To make the ground for their takeaway lessons for the future, they referenced their own VE experience and challenges they faced with. To express the change in their epistemic status, they used the constructions such as "good to realize" and "we realized". These constructions explicitly highlighted the shift from a lack of knowledge (K-) in the past to a state of knowledgeable (K+) status starting from the initial encounter with challenges related to different time zones, technology, and different schedules up to the time of speaking. It is also notable to underscore that, the PSTs effectively employed their embodied resources to convey alignment and to emphasize the points in accordance with their talk throughout the extract, such as shaking head left and right when expressing disagreement "no".

All their realizations about challenges that they encountered pave the way for further group realizations as explicitly stated by MIL in Extract 8.2 below. Extract 8.2 starts immediately after Extract 8.1 and depicts how the PSTs make use of their experience of VE for their careers and what kind of teacher learning opportunities they gained.

Extract 8.2: Realized – Final reflection meeting - [11.00-11.27]

```
25 MIL: >>♠and (0.9) yeah and (.) experienci:ng♠ (.) ♣these (1.1)

   ema   >>♠-------------------nods------------♠

                                        ♣rolls hands--->

26      things ↑myse:lf (.) ♠it also   >makes me<↑reali:ze♣

   ema                      ♠nods--->

                                               --->♣

27      (.) that (.) when i:: (.) do (0.5) a project >like

28      this in the future< with ♣♦my student:s♣♦♠
```

```
                                    ♣-rolls hands♣

   sah                              ♦-----nods----♦

   ema                                      --->♠

29      (.) you just ♠have to ↑be >i don't know<

   ema              ♠scratches her hair--->

30      fle♠xible and+♦♥you+ have to understa:nd hh. (0.4)

. ema --->♠           +nods+

   sah             ♦nods--->

   bur             ♥nods--->

31      [that♦♥

   sah   --->♦

   bur   --->♥

32 BUR: [yeah

33 MIL: it [does not only take time

34 BUR:    [(huh)

35 MIL: ♠but it also takes (0.8) ene+rg:y+ ♠because it

   ema  ♠1--->                    +-2-+  ♠nods--->

      1: puts her right hand on her hair and plays with it

      2: opens her eyes widely and nods

36      might be stressful  (.) and (.) frustrati::ng (.)

37 BUR: yeah

38 MIL: a::nd (.)♠ but like ↑to remember that it's still (.)

   ema       --->♠

39      worth it ↓because♠

   ema             --->♠
```

The second part of extract 8 starts with the topic shift of MIL with a transition marker (`and`). She emphasizes her experience of the challenges with a reflexive pronoun (`experienci:ng (.) these (1.1) things ↑myse:lf`) that she put forward in the first part of the extract. In line 26, she deploys realize one more time (`it also >makes me<↑reali:ze`). Differently from the first part of the extract which depicts realization of unexpected challenges, this time unexpected challenges result in realization. In what follows, she initiates a hypothetical scenario (İşler et al., 2024) with a future orientation (`when i:: (.) do (0.5) a project >like this in the future< with my student:s`) in lines 27 and 28. Then, MIL initiates telling what she has taken as a result of her realization (`you just have to ↑be`). After a hesitation marker (`>i don't know<`), MIL grammatically completes her sentence and conveys a proposal (`flexible and you have to understa:nd hh. (0.4) that`) in lines 30 and 31. Following MIL's utterance of "flexible", all her co-participants show bodily alignment, and BUR shows verbal alignment as well, with an acknowledgement token. Then, MIL elaborates on her proposal (`it does not only take time`) in line 33 which is aligned by BUR with another acknowledgement token and in line 35 (`but it also takes (0.8) energ:y`). In the remaining part of line 35, MIL initiates account giving and deploys doing a project can be stressful and frustrating in line 36. In what follows, BUR shows verbal alignment one more time. In line 38, MIL signals topic shift again with elongation (`a::nd`) and utters a contrasting marker (`but`). In remaining of her turn in lines 38 and 39, she appreciates having the experience, and the extract ends with her initiation of account giving.

Taken together with Extract 8.1, Extract 8.2 showed that PSTs had takeaway lessons by referring to their own experience. They expressed the change in their epistemic status by deploying various constructions with the verb "realize". The verb highlighted the change in their epistemic status, particularly the aspects that they had not noticed before. While Extract 8.1 highlights their increased awareness of unexpected

challenges, Extract 8.2 provides future-oriented insights. Furthermore, the realization in the second part that flexibility as a teacher was necessary, stemmed from the challenges they encountered as PSTs. In other words, teacher learning was triggered by their experience as PSTs. Thus, their realization of the challenges that they experienced as PSTs paved the way for deeper insights and growth.

Extract 9 comes from the final reflection meeting of the PSTs. Before the extract starts, the PSTs collaboratively evaluate their collaboration. Following a discussion on various aspects of collaboration, they provide a positive assessment of their group work, which initiates Extract 9 wherein they elaborate on their positive evaluation. The extract will showcase the future orientation of PSTs as they reflect on their experience. They highlight the lack of observation in their earlier task-plan and lesson-plan experiences, and problematize this issue. Additionally, they explicitly acknowledge a shift in their epistemic status.

Extract 9: changed – Final reflection meeting - [10.35-11.45]

```
1  VIK: ♣°we didn't have any big issues°♣ >↑but would you do

   eli  ♣--------slightly nods--------♣

2       something like that with your students<

3       (2.7) ♠(0.3)

   mer                         ♠raises head and frowns--->

4  ELI: i did not understand

5  MER: would you do ((what))↑ ♠

                    --->♠

6       (2.0)

7  VIK: would you do something like a virtual exchange↑♣

   eli                                           ♣1--->

        1: scratches her eyebrow
```

```
8       (0.5)

9  ELI: huh

10      (0.5)

11 VIK: would you like to do that (.) err with your

12      future students

13      (2.0) ♠ (0.5) ♣

   mer        ♠looks up--->

   eli           --->1♣

14 VIK: what do you think♠ this project helped ♥you: (0.7)

  mer                 --->♠

  vik                                       ♥averts gaze-->

15      <in some way>♥ (.) for your future as a teacher

        --->♥

16      (3.1)

17 ELI: it helped me (.) because i saw the ♥outcomes (0.5)

   vik

                                  ♥bends towards the

                                   screen--->line 33

18      of my (.) task ♣ (.) our task♣

                                  ♣rolls hands♣

19      (0.5)

20 VIK: ♥huh huh♥

         ♥slightly nods♥

21 ELI: and you know ♣it was a♣ (0.5) helpful feedback♥ for me♥

               ♣looks up♣

                                       ♥slightly nods♥
```

```
22        (0.9)

23        for my future designs of digitasks↓

24        (1.2)

25 MER: yeah because ♠we just (.) plan lessons plan activities

                    ♠nods--->

26        ♥and we just assume that (1.0) they'll just (.) go

          ♥shakes his head left and right--->

27         as we planned (.) and move on

28         ♣ (0.8) ♣

   eli     ♣--nods-♣

29        ↑but (.) in this project (1.0) >yeah we made the

30        activities< and we also saw (1.0) how they turned up

31        (0.6) we also saw the re- results

32        (1.0)

33        and (1.3) it's (0.5)honestly changed my perspective a

          little bit♠♥♥♣

          lends --->

          nods---♥

          ♣smiles>>
```

Extract 9 starts with the evaluation of VIK (°we didn't have any big issues°). Then, she starts posing a hypothetical question to her co-participants after a contrasting marker with rising intonation (>↑but would you do). In line 2, she completes her question (something like that with your students<). As they are PSTs who do not teach currently, this question is asked with a future orientation. Her question is followed by a lengthy silence of 3.0 seconds in total in line 3. In the last 0.3 sec of this pause, MER raises his head and frowns until the end of line 5. In line 4, ELI claims

nonunderstanding (`i did not understand`) and in line 5, MER repeats the question by replacing the object with 'what' to show nonunderstanding (`would you do ((what))↑`). Therefore, MER's raising head and frowning behaviors align with his verbal utterance. After 2.0 seconds of pause in line 6, in line 7 VIK takes the turn again and reformulates her question (`would you do something like a virtual exchange↑`) with a rising intonation at the end. After VIK completes her question grammatically, ELI starts scratching her eyebrow at the end of TCU. Then, ELI shows listenership (`huh`) in line 9 after 0.5 sec of silence in line 8. Another silence of 0.5 sec emerges in line 10. What follows is VIK's reformulation of her question one more time in lines 11 and 12 (`would you like to do that (.) err with your future students`). As seen in a total of 2.5 seconds of silence, VIK cannot elicit any responses from her co-participants, and she reformulates her question in lines 14 and 15 (`what do you think this project helped you: (0.7) <in some way> (.) for your future as a teacher`). VIK's question was followed by the 3.1 seconds of silence in line 16. In line 17 ELI takes the turn to respond the question and states the project was helpful and gives account (`it helped me (.) because i saw the outcomes (0.5)`). Through the end of the line, VIK leans towards the screen to show her listenership until the end of the extract. In the next line, ELI self-repairs herself and change the first person singular possessive adjective to first person plural possessive adjective (`of my (.) task (.) our task`) which shows her collaborative orientation. Also, in her account giving, she refers to students' performance as the outcome of their task. After 0.5 sec of silence in line 19, VIK shows bodily and verbal alignment with ELI in line 20. ELI elaborates on her turn by adopting an evaluative stance (`it was a (0.5) helpful feedback for me`) in line 21. Another lengthy silence emerges after ELI's turn in line 24. In what follows, MER gives a response to VIK's question with an acknowledgement token (`yeah`). Following the acknowledgement token, he starts giving account in lines 25-27. In his account giving, MER problematizes that they only assume

how their tasks will be performed. During the silence of 0.8 sec in line 28, ELI shows bodily alignment by nodding. MER starts with a contrasting marker with a rising intonation and refers to the project (Digitask4IC) in line 29 (↑`but (.) in this project`). After his reference, he explains that they could see the results of their task in lines 30 and 31 which is students' performance in this context. Following the silence of 1.0 sec in line 32, he moves on explaining how the project helped him in line 33 (`it's (0.5) changed my perspective a little bit`). He claims change of epistemic status in a mitigated fashion.

In extract 9, the hypothetical question of VIK prompted MER to express a change in his epistemic status. Initially, ELI took observation of students' performance as feedback for her future career. Then, MER criticized their earlier lesson and task planning activities and set their current experience apart from the previous ones. While ELI viewed students' performance as feedback, MER perceived it as the result of their task design. Besides, MER explicitly acknowledged a change in his epistemic status which was sparked by observing how students engaged with their task. Therefore, Extract 9 demonstrated that the data of students helped the PSTs gain insights into teacher learning regarding future VE projects.

Extract 10 comes from the final reflection meeting of PSTs. Before the extract begins, PSTs discuss if they would change anything. They liken observing students' performance to "proofreading". Accordingly, they acknowledge and problematize that they did not consider some details, and they highlight the difficulty of recognizing flaws in one's own task design during task design process. Then, in Extract 10, they reflect further by elaborating on their unawareness of their flaws. They admit that they did not notice some issues even when they received feedback. As a result of their problematization, LIN deploys the insight she gained with the construction, "what I took out of it".

Extract 10- What I took out of -Final Reflective Meeting II – [2.29-2.50]

`1  LIN: i mean we have feedback (.) but even even in the feedback`

```
2        ♥ (1.2) ♥

  lin   ♥--1---♥

        1: shakes head right and left

3  LIN: there are some things that (.) we didn't think of

4       (0.4)

5  DER: [yeah

6  LEY: ♠[yeah♠

        ♠-nods♠

7       (1.1)

8  DER: ♣huh huh♣

        ♣---2---♣

        2: slightly nods

9       (1.2)

10 LIN: but i think for (.) what i took out of it is ♣ (0.3) ♣

  der                                               ♣ frowns♣

11      ♣is yeah♣ (0.8) to give clear instructions (.) and even

  der  ♣--nods--♣

12      if for me something is very clear (0.6) ♣it's just♣

  der                                          ♣---nods--♣

13      better to put (0.4) maybe (.) ♥more instructions (.)

                                      ♥rolls hands--->

14      ♣♠just in case♥♠♣

  ley   ♠slightly nods♠

  der   ♣------nods----♣

                 --->♥
```

In the first line of extract 10, LIN elaborates on her problematization which was deployed before the extract started. She refers to the availability of feedback they received from teacher educators (`we have feedback`). Then, with a contrasting marker (`but`), she starts problematization in line 1. After the silence of 1.2 seconds in line 2, she grammatically completes her turn and problematization in line 3. Without specifying (`there are some things`) what they did not consider, she problematizes their lack of thinking. After waiting for 0.4 sec, DER and LEY show verbal acknowledgement in an overlapping fashion with an acknowledgement token (`yeah`). LEY's nodding accompanies her verbal acknowledgement in line 6. Following 1.1 seconds of silence, DER shows acknowledgement again but this time she also shows bodily alignment through slightly nodding in line 8. Her acknowledgement is followed by another silence of 1.2 seconds. Then LIN takes the turn again in line 10 and elaborates on her problematization. She adopts an epistemic stance in the beginning of her turn with a contrastive marker (`but i think`). In the remaining of the line, she initiates deploying her "take-away" lesson from the problematized situation (`what i took out of it is`). During a pause of 0.3 DER frowns to show lack of understanding. Then, LIN repeats her initiation (`is yeah`) in line 11 which is accompanied by DER's nodding to show listenership. Differently from nodding behaviors in the previous lines which show alignment, nodding of DER in line 11 is preceded with the initiation of LIN and frowning. Therefore, the nodding in line 11 differs from other nodding behaviors. In the same line, LIN waits 0.8 sec and deploys her take-away lesson as a solution to what she has problematized (`to give clear instructions`). In what follows, LIN elaborates on her teacher learning, adopts an evaluative stance (`it's just better`), and proposes her alternative action proposal (`to put (0.4) maybe (.) more instructions (.)`). In her utterance, "more" was stressed as this is the focal point of her proposal. LIN's alternative action proposal was bodily aligned by LEY and DER in line 14 accompanying LIN's TCU.

Extract 10 revealed that LIN's problematization was followed by her alternative action proposal after some delays with silences. Her alternative action proposal was constructed with an expression of change in her epistemic status which is "what i took out of it is". This construction indicates the problem that she and her co-participants faced with paved the way for her proposal. That said, her problematization led to teacher learning on giving instruction, and teacher learning was expressed with the construction "took out of". The stress on "more" in line 13 highlighted what she derived as a lesson. The alignment of her co-participants with her alternative action proposal by nodding at the end of the extract demonstrated the shared cognition within the group.

Overall, the first analytic section depicted how the transnational PSTs expressed the change in their epistemic status using diverse constructions to disclaim past knowledge, criticize past knowledge and claim a change in epistemic status. In the subsequent section, teacher learning was claimed and how the objects of teacher learning were manifested will be analyzed.

Claim of Teacher Learning

The second analytic section presents three cases on teacher learning. Each case comprises two extracts. The first extracts in each case (Extract 11, Extract 13, and Extract 15) feature the teacher learning claims made by transnational PSTs during their final reflection meetings. Building upon their claims, I have tracked the data to see the moments of manifestation of teacher learning in their earlier conversations regarding the topic of claimed teacher learning. Thus, the second extracts in each case (Extract 12, Extract 14, and Extract 16) exhibit earlier moments where the topics of teacher learning were negotiated. Namely, the order of the extracts in the cases does not align with the chronological order of events. However, this order is intentional and aligns with my analytical framework. The first case will initially depict a claim of teacher learning

regarding CC licenses. Retrospective analysis will then show how CC licenses were negotiated, and teacher learning was manifested in the earlier video-mediated meetings.

Case1: Teacher Learning on CC Licenses through Training and Task Design Meetings

The first case introduces a claim of teacher learning on CC licenses and traces the earlier topicalization of CC licenses during the task design meetings. Extract 11 comes from the final video-mediated reflection meeting. TAR screen-shares the guideline document with the guiding questions for reflection with his co-participants on Microsoft Teams.

Extract 11- Claim of Teacher Learning-CC Licenses–Final Reflection Meeting

[0.32-1.02]

```
1  SUS: >>2#ha[ha

2  TAR:      [i've learned

          2 #guideline is open on TAR's screen and screen-

          shared(Figure 1)
```
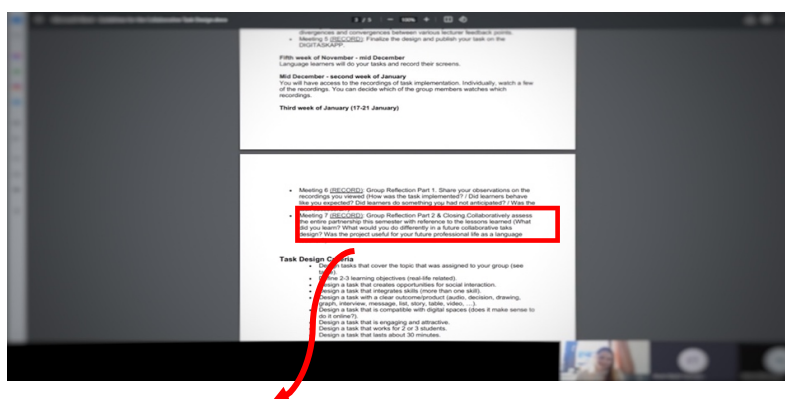

Figure 1

Meeting 7 (RECORD): Group Reflection Part 2 & Closing.Collaboratively assess the entire partnership this semester with reference to the lessons learned (What did you learn? What would you do differently in a future collaborative task design? Was the project useful for your future professional life as a language teacher?)

Figure 2

```
        Figure 2: Guiding questions for final reflection on the
        guideline

3  TAR: that (0.3) in the internet there's something that called

4       (.)cc by ♣ (0.5)♣ sa *or >something like* this<

   sus           ♣averts gaze♣ *------nods------*

5             ♣that is a cop♣yright thing

   sus   ♣scratches her nose♣

6       (0.7)

7  TAR: ♣i have never♣ (0.3)thought about this

   sus  ♣----nods----♣

8       ↓like i just (0.8) randomly use pictures materials=

9  MEL: =hahaha

10 TAR: from the internet (0.5) ♣by not giving any♣ (0.7) erm

   sus                          ♣ nods and smiles ♣

11      copyright (0.6) thing or something ♣never just (0.8)

   sus                                     ♣slightly nods--->

12       i just take them use them (.) in♣ whatever i want (0.6)

   sus                          -->♣

13      but (0.5) this is what i've learned

14      (0.6)

15 SUS: ♣huh huh♣

       ♣--nods-♣
```

Extract 11 starts with the overlap of SUS's laughter for a previous utterance in line 1 and TAR's claim of learning in line 2 (`i've learned`). As seen Figure 1 and 2, guiding questions on the guideline document (see Methodology) is open on TAR's screen and the screen is shared with his co-participants. So, the claim of learning is a response to the

research question 'what did you learn?'. Following the initiation of claiming learning, TAR topicalizes the object of the learning practice from line 3 to 5 as the past learning event (Can Daşkın & Hatipoğlu, 2019) by specifying the license type (`cc by (0.5) sa`), relevant domain of license use (`in the internet`), and the function of CC licensing (`that is a copyright thing`). What follows, TAR express a shift in his epistemic status by disclaiming past knowledge (`i have never (0.3) thought about this`) in line 7 after 0.7 sec of silence in line 6. TAR's expression of a change in his epistemic status is aligned by SUS through nodding in lines 4 and 7. Then, TAR continues elaborating on his claim of learning by referring to his past action (`i just (0.8) randomly use pictures materials`) in line 8 and MEL orients with a laughter in line 9. After MEL's laughter, TAR maintains his turn and adds details to his elaboration on the epistemic status shift by deploying his past unknowledgeable status regarding copyright issue. During TAR's elaboration, SUS smiles and nods. In the beginning of line 13, TAR utilizes a contrastive marker (`but`) to indicate the shift in his epistemic status and in the remaining of the line, he claims learning (`this is what i've learned`). Namely, the critical assessment of past epistemic status of TAR was finalized with the repetition of claim of learning. His claim was followed by 0.6 sec of silence in line 14 and the extract closes with SUS' bodily and verbal orientation with TAR's claim of learning with an acknowledgement token (`huh huh`) and nod in line 15.

Extract 11 showcased TAR's explicit claim of teacher learning of CC licenses, on which the PSTs received training. TAR topicalized his past epistemic status to show change in his epistemic status from unknowing/unaware to knowing/aware. Based on TAR's claim of teacher learning, I pursued for further evidence of PSTs' earlier engagement with the targeted learning object. To do so, I retrospectively tracked the data and found evidence that they topicalized the object of the claimed learning in their earlier teacher education events. The next extract comes from the second task design meeting of

the focal group and showcases how PSTs collaboratively negotiate the CC license type of

a material while selecting materials for their online task design.

Extract 12- Negotiation of CC-Task Design Meeting 2-[30.15-31.05]

```
1  TAR: i guess(0.6) photographs (.) one of them is going

2       to be (.) a waiter↓

3       (1.2)

4  TAR: right

5       (0.8)

6  MEL: huh

7       (0.6)

8  SUS: yeah=

9  TAR: =okay (1.2) err right now i'm looking for (1.5) a waiter

10      (0.8) yeah i guess i found it (.) hehe (0.4)

11      it's an °easy thing°(0.6) erm (.)

12      and it's cc by (1.4) there is no sa

13      (1.0)

14      >is it illegal<

15      (0.8)

16      okay

17 MEL: yeah yeah we can use that

18 TAR: okay you're free to share you are free to re remix↓(.)

19      and the attribution okay (.) hh.

20 SUS: we just i think cc has that we have to mention the name

   right

21      (2.0)

22 TAR: uh what (1.1) can you repeat

23      (1.6)
```

```
24 SUS: i i thought that cc by means that you have to mention

25 TAR: yea:h

26 SUS: the name of the (inaudible)

27 TAR: [yeah

28 SUS: [right

29      (1.2)

30 SUS: okay
```

Extract 12 starts with TAR's initiation for material selection. He topicalizes the material (`one of them is going to be (.) a waiter`) regarding the content of the photographs they will use in their task design in lines 1 and 2. His topicalization does not receive any agreement from his co-participants and after 1.2 seconds of silence, TAR seeks for agreement (`right`) for his proposal in line 4. His initiation was aligned by MEL with an acknowledgement token (`huh`) in line 6 after 0.8 sec of silence. After MEL's alignment, another silence of 0.6 sec occurs, and SUS also acknowledges TAR (`yeah`) in line 8. After agreement was established on TAR's initiation, TAR takes the turn again and starts declaring his screen-based actions in line 9. First of all, he declares searching for the material (`i'm looking for (1.5) a waiter`) in line 9 and then he declares finding the material in line 10 (`yeah i guess i found it`). What follow, he takes evaluative stance regarding the material search (`it's an °easy thing°`) in line 11. Then, TAR reads the CC license type of the material he has just found (`and it's cc by (1.4) there is no sa`). CC license telling includes that existing features (`it's cc by`) and after 1.4 seconds of silence nonesixting feature (`there is no sa`). He does not get any response for 1.0 sec in line 13 and he starts negotiation of the useability of the material by questioning the legality of the material to use in their task design (`>is it illegal<`) line 14. In line 17, MEL involves in the negotiation and acknowledges the usability of the material (`yeah yeah we can use that`). TAR does not show any orientation to MEL's acknowledgement and reads aloud the information on her screen

regarding the focal license type. Then, in line 20, SUS takes the turn and acknowledges usability of the material by adopting an epistemic stance (`we just i think cc has that we have to mention the name`). With an orientation to TAR's initiation of repair in line 22, she repeats the confirmation in line 24. Towards the end of the extract, TAR confirms his co-participants' display of knowledge with acknowledgement token.

Extract 12 indicated that the participants topicalized and negotiated theoretical knowledge on CC licenses that they had received through training before the data collection procedure started. Based on initiation of one PST regarding the legality of using a material for their task design, they collaboratively displayed and applied their theoretical knowledge and established a mutual understanding to proceed in their task design.

The first case demonstrated that training raised PSTs' awareness regarding CC licenses, and they could negotiate their theoretical knowledge during their online task design meeting through VE. Therefore, the object of claimed teacher learning, CC licenses, were topicalized and negotiated in their earlier task design conversations. Namely, teacher learning was not only claimed but generated with reference to their experience. Thus, the first case traced and exhibited fingerprints of teacher learning through training and application of theoretical knowledge in a video-mediated setting. The second case presents how the screen-recordings coming from students' performance can create rich teacher learning opportunities as claimed by PSTs.

Case 2: Teacher Learning on Giving Task Instructions through Data-Led Reflection on L2 Learner's Task Implementation

The second case introduces claim of teacher learning on task instructions in an online task design. Upon the claims of PSTs, it uncovers how task instructions were negotiated and topicalized in their earlier conversations. Extract 13 comes from the second data-led collaborative reflection meeting of the PSTs and it presents PSTs' orientation to giving instruction in online and face-to-face settings.

Extract 13- Claim of Teacher Learning Giving Tasks Instructions-Final Reflection Meeting-[3.40-4.32]

```
1  MEL: yeah and err it was my first (.) time (.) designing an

2       (0.8) designing a task (.) on (0.7) online

3       (0.5)

4  TAR: yeah (0.6) ♥ and i (0.5)♥ if i (0.3) were in a real (.) if
   sus:            ♥----nods----♥

5       i were in the real life (0.7) this (0.6) would be ♥quite
   sus:                                              ♥nods--
       ->L6

6       (0.4) easy♥ (.) ♥like (0.3) because (0.3) if there's a
   problem
   sus:        --->♥     ♥looks up--->L10

7       with the instruction i can give them (.) right away

8  SUS: *huh huh
   sus: *nods-->L10

9  MEL: [huh

10 TAR: [but (1.3)* this is a new experience♥
   sus:         --->*                     --->♥

11      ♥(0.3) i just learned♥
   sus: ♥--------smiles------♥

12      ♥that (.) every instruction♥ should be (0.6) so erm (.)
   sus: ♥-----------nods---------♥

13      how can i say (1.2) open so  [understandable

14 SUS:                              [((inaudible))

15 TAR: yeah (.)they should be so understandable that (.) we (.)
```

```
16        they (0.7) do not have to (.) come(.) to us and ask some

17        questions because(0.6)this is not (0.3) how it works right

18        (0.6)

19 SUS:   ♥yeah♥

   sus:   ♥nods♥
```

Extract 13 starts with MEL's announcing being novice in designing an online task (`it was my first (.) time (.) designing an(0.8) designing a task (.) on (0.7) online`). Following 0.5 sec of silence, TAR acknowledges MEL's episode with a token (`yeah`). While TAR maintains his turn, SUS also acknowledges MEL by nodding in line 4. TAR continues his turn with a comparison between online and face-to-face settings regarding easiness with reference to absence of the teacher with an unreal conditional structure (`if i (0.3) were in a real (.) if`). What follows, he elaborates on his comparison and verbalizes instruction as the object of comparison (`if there's a problem with the instruction i can give them (.) right away`). SUS shows both bodily and verbal alignment with TAR's comparison regarding instruction in line 8, while MEL acknowledges TAR with an acknowledgement token in line 9. MEL's alignments ovelaps with TAR's turn entry device, which is a contrasting marker (`but`). Besides MEL's announcement in the beginning of the extract, TAR claims being novice (`this is a new experience`) after 1.3 second of silence in line 10. Then, he claims learning (`i just learned`). Starting from line 12, he elaborates on his learning regarding giving instructions which was interrupted by his self-resolution of a word search (`how can i say`). After the resolution of the word search, TAR grammatically completes his utterance (`open so  [understandable`). His word search is overlapped by SUS's initation, but her turn is inaudible. In line 15, starting with an acknowledgement token, he repeats his proposal once more regarding instructions (`they should be so understandable`). Through the end of the extract, TAR re-topicalizes the comparion between online settings and face-to-face settings by highlighting

the nature of online settings in lines 16 and 17. His re-topicalization was aligned by SUS with an acknowledgement token in line 19.

By the end of extract 13, TAR claims learning about giving clear instructions in an online task design. His comparion of online settings and face-to-face settings throughout the extract leaded him to takeaway a lesson about giving instructions in their task design. Similar to the first case, I tracked the data to see the topicalization of the object of the claimed teacher learning. Through tracking, I identified the negotiation of instructions in their task by the focal group in their previous reflective meeting where they were supposed to critically reflect on students' performance on their task design. Thus, Extract 14 comes from the first data-let collaborative reflection meeting of the focal PST group. TAR shares his screen with his co-participants during the extract and one of the screen-recordings coming from the students' performance is open on his screen. As prompted by the guideline shared with the PSTs (see Methodology), the focal group critically evaluates the students' performance and reflects on them. In the extract, their evaluation of the students' performance ends up with the evaluation of the task instructions. For the sake of brevity, I omitted lines between the initiation for the evaluation of students' performance and their answer to a guiding question as they criticize the same practice of various dyads in the omitted lines.

Extract 14- Critical Evaluation of Task Implementation–

Data-Led Reflection Meeting I-[5.53-9.40]

```
1  TAR: 4# ↖ is (0.3) actually good (.) but (0.8)there is a problem

   tar:   ↖ cursor movements on students' recording---> line 2
```

#fig 3

```
2          (0.3) that (.) they didn't (0.5) 🖱 erm (.) talk about
   (0.4)

   tar:                              ---> 🖱

3        how to do er (0.6) the interview (.) part (.) they just
   do

4          (.) doing any interview (0.7) that's all

           ((75 lines are omitted))

80 TAR: 🖱 so .hh (0.7) how was the task implemented(0.5)

   tar: 🖱 moves cursor on the question on the guideline

81        $the question$ (0.7) is (0.7)

82        the answer is (1.0)it wasn't (.) quite good

83        (.) because (.) i think (1.6)

84        the task instructions (0.3) was a problem (.)

85        was (0.5) er the (0.4) biggest problem (0.5)

86       what do you think

87 SUS: yeah
```

Extract 14, begins with TAR's evaluation (`is (0.3) actually good`) which is followed by a contrasting marker and announcement of an initiation of problem telling (`but (0.8) there is a problem`). While doing so, he moves the cursor on screen-

recording which was obtained during performance of a dyad of students and his screen was shared his co-participants on Microsoft Teams. Then from line 2 to 4, he problematizes how students performed the task they have created. Their task required students to get prepared for and to role-play an interview. He proposes students did not get prepared for the interview but directly started role-playing, problematizes this. Starting with the student group on the screen (See figure 3), he opens other student groups and problematizes the lack of getting prepared for the interview in the omitted lines. Then, after 75 lines, TAR reads one of the questions on guideline with a topic transition marker (`so .hh (0.7) how was the task implemented`)in line 80. Following the question, he answers the question with a negative evaluation (`the answer is (1.0)it wasn't (.) quite good`) in line 81 and in line 82, he states reason for his negative evaluation with "because". After creating the space for reason giving, first of all, he shows his epistemic stance and then problematizes task instruction (`i think (1.6 the task instructions (0.3) was a problem (.) was (0.5) er the (0.4) biggest problem`). After a 0.5 second of silence in line 83, he asks for his co-participants' epistemic stance regarding instruction in line 84. Lastly, the extract closes with acknowledgement token by SUS in line 85.

Taken together with Extract 13, the second case revealed that the observation and evaluation of students' performance enabled the PSTs to see their task in process. With reference to the students' performance and the problematization of students' performance, they criticized the task instructions which ended up co-construction of teacher learning as seen in Extract 14 as it was explicitly claimed by TAR in Extract 13. As the first case, the second case showed that claimed teacher learning was manifested in situ in earlier teacher education events, which was observable through retrospective tracking. Hence, I put forward that teacher learning was co-constructed through observation and data played a significant role in creating and shaping teacher learning opportunities. It also suffices to say that although it does not document whether the PSTs

will be better in giving instruction, it is incontrovertible to argue that they gained insight on giving instruction in face-to-face versus online settings. In what follows, I present another case which displays how feedback from teacher educator paved the wat to manifestation of teacher learning on a different topic.

Case 3: Teacher Learning on Task Design through Trainer Feedback

The third case documents claim of teacher learning on task which was manifested through resistance to teacher educator feedback. As in the previous cases, the claimed teacher learning was traced retrospectively to see the fingerprints of teacher learning. Accordingly, Extract 15 presents a teacher learning claim of the PSTs. The extract is taken from the final data-led collaborative reflective conversation of the PSTs. In the extract, the PSTs collaboratively reflect on their task design regarding the completion option that they selected for the task. Upon their reflection, they propose alternative actions, leading to the claim of teacher learning.

Extract 15- Claim of Teacher Learning Task Design-

Final Reflection Meeting-[5.08-5.30]

```
1  FER: *also about the output (.) like (.)* be more clear
   fer: *raises index finger and shows screen*

2       (0.6)

3  NIS: ♥huh huh♥
   nis: ♥--nods-♥

4       (1.0)

5  FER: just put *some (.) mm (.) word .hh♥♠ (1.5)*
   fer:           *--------rolls hands-----------*
   nis:                              ♥nods--->
   jul:                              ♠nods--->
```

```
6       stuff (.) word  *limit♠

  fer:                 *bonds hands in front of herself--->

  jul:                      --->♠

7 FER: [instead of♥

8 NIS: [yeah yeah ♥

  nis:        --->♥

9 FER: exact wor er value.hh*

  fer:                   --->*

10      *(0.8)

  fer: *puts hands on her chin--->

11 NIS: exact value was ♥just

  nis:                   ♥shakes head--->

12      (1.4) ♥

  nis:   --->♥

13 FER: +risky*

  fer: +nods--->

  fer:   --->*

14      (0.7)

15 NIS: yeah

16      (0.9)

17 NIS: ♠ [it's pre♠tty risky+ (.) and we've learned it (0.6) from

  jul: ♠---nods---♠

  fer:                       --->+

18 FER:   [((inaudible)

19 NIS: the first hand
```

Extract 15 starts with a transition marker (`*also`) and proposal of FER (`about the output (.) like (.)* be more clear`) about the completion point of their task. After a 0.6 second of silence, NIS shows both bodily and verbal alignment with FER's proposal (`♥huh huh♥`) in line 3. Following a 1.0 second of silence, FER elaborates on her suggestion (`just put *some (.) mm (.) word .hh♥♠ (1.5)* stuff (.) word *limit♠ [instead of♥`) in lines 5 and 6. During her elaboration, both JUL and NIS show bodily alignment by nodding in lines 5 and 6. In addition to her bodily alignment in previous turns, NIS shows verbal alignment with acknowledgement token (`[yeah yeah`) in line 7. In line 8, FER completes her elaboration (`exact wor er value.hh*`) and she proposes that instead of exact value as a completion point of their task, word limit could be more clear. In word limit option, task performers need to reach a pre-defined word count to be able to finish the task, while in exact value section, they are supposed to type and submit pre-defined words to finish the task (also see Methodology). In line 9, FER puts her hand on her chin and allocates turn to her co-participants by taking a listenership status. Then, after 0.8 seconds of silence, NIS takes the turn in line 10 and starts an extension of what FER already mentioned (`exact value was ♥just`) with an incomplete utterance. After 1.4 seconds of silence in line 11, FER orients to NIS's word search and completes NIS's incomplete utterance (`+risky*`) in line 12. NIS accepts FER's completion with an acknowledgement token in line 14 and uses FER's suggestion in her upcoming turn in line 16 (`♠ [it's pre♠tty risky+`) and she claims teacher learning in the same line (`and we've learned it (0.6) from`) and she highlights their hands-on learning (`the first hand`) in line 18.

All in all, Extract 15 presented another instance of claim of teacher learning. Regarding the collaborative problematization of task completion in their task design and comparison of task completion options on Digitask web application, NIS claimed teacher learning on the topic. Like the previous cases, the claimed teacher learning was traced retrospectively. Extract 16 comes from the first data-led collaborative reflection meeting of

the focal group of the PSTs. In the meeting, we were required to reflect on students' performance as prompted by the guiding questions on the guideline (see Methodology). In the extract, the feedback they have received from the teacher educator on task completion options and how their resistance to feedback affected the students' performances were topicalized by the PSTs.

Extract 16- Reference to Trainer Feedback–Data-Led Reflection Meeting-[4.38-4.52]

```
1  FER: *it is kind of wrong that we put*

   fer: *-----scratches her chin--------*

2  NIS: ♥huh♥

   nis: ♥nods♥ slightly

3  FER: *the exact♠ (0.3)[*value?* ♠

   fer: *raises hands-palms look*each other

   jul:            ♠------nods------♠

4  NIS:                  [*yes

   nis:                   *raises index finger and shakes it--->

5  FER: ((inaudible))

6  NIS: yeah* *our teacher actually (.) warned us about that (.)

   nis: --->*

   fer:      *smiles--->

7    but $we didn't (0.5) +we don't care about it that+ much$

   fer:                +puts hand on forehead and l+ooks down

8       (0.7) just (.) quite (.) sad but*

   fer:                    --->*
```

Extract 16 starts with FER's initiation for evaluation (it is kind of wrong that we put*) which was oriented by NIS with both bodily orientation and verbal listenership (♥huh♥) in line 2. FER completes her evaluation in line 3 and she criticizes

the completion option they have selected for their task design, which is exact value option on the interface. Upon FER's criticism, JUL shows bodily alignment in line 3 and NIS shows verbal orientation with an acknowledgment token (`yes`) in line 4. Then, in line 6, NIS takes the turn back and after an acknowledgement token, she refers to trainer's feedback (`our teacher actually(.)warned us about that(.)but`) and topicalized it. What follows, she verbalizes their misalignment with the feedback (`$we didn't (0.5) +we don't care about it that+ much$`) in line 7. Lastly, she shows her regret in the last line of the extract (`quite (.) sad`).

Also note that, like the claim of collaborative teacher learning in the previous extract, here, what FER initiated with a negative evaluation has been furthered by a co-participant, and the past reference to trainer feedback as well as the group's misalignment with it has been referred to as a collaborative act through the use of first-person plural pronouns (we, us, our). Overall, Extract 16 showed that the group's earlier design decision had already been negatively evaluated by the teacher educator during the feedback event with the PSTs; however, NIS and co-participants resisted to the trainer feedback (also see Balaman, 2023).

Taken together with extract 15, the third case revealed that the PSTs' claimed teacher learning on task design (more specifically, task completion options) was traceable to earlier teacher education activities within the project timeline. Although the PSTs did not initially align with the trainer's feedback, the critical evaluation of students' task performances during the data-led reflection meeting prompted them to rethink what the trainer suggested. Unlike earlier cases, the claim of teacher learning was designedly collaborative in the third case. Therefore, I argue that data-led reflection and earlier teacher education activities also afforded collaborative teacher learning opportunities in situ.

All in all, the transnational PSTs utilized various constructions to express a change in their epistemic status. The first analytic section focused on the diverse constructions

that the PSTs deployed to adopt an epistemic stance. These constructions included claim of lack of knowledge in the past (K-), claim and problematization of knowledge status in the past (K+), and claim of change in the epistemic status. On the other side, the second analytic chapter indicated the teacher learning claims of the transnational PSTs and how these claimed teacher learning events were manifested and negotiated. The findings will be further discussed, and pedagogical implications will be provided in the subsequent chapter.

Chapter 5

Discussion, Conclusion and Suggestions

Chapter 5 is dedicated to discussion and conclusion of the dissertation. The findings will be discussed in relation to the relevant literature across two sections: (i) unfolding of collaborative data-led reflections of the PSTs in response to the first two research questions; and (ii) affordances of reflection for teacher education in response to the third research question. The first section will discuss how data-led reflection was performed among the PSTs without presence of a teacher educator (RQ1). The levels of reflection such as problematizing, comparison, proposing alternative solutions will be detailed with reference to data and relevant body of literature. Besides, how the PSTs express their epistemic status in the unfolding of the conversation will be addressed (RQ2). Subsequently, the second section will cover the affordances of reflection in teacher education (RQ3). How teacher learning was manifested will be depicted in this section. Next, limitations of the study will be listed and explained. After limitations, pedagogical implications derived from the study and recommendations for future studies will be elucidated. Lastly, concluding remarks will be detailed under the section of conclusion.

Unfolding of Collaborative Data-led Reflection of PSTs

Unlike the reflective practice guided by a teacher educator, which often bears power asymmetry to some extent (Beck & Kosnik, 2002; Bonilla & Rivera, 2008; Copland, 2011; Copland et al., 2009; Harris et al., 2013; Skovholt, 2018a; Solem, 2016a), this study has focused on reflective conversations among PSTs in the absence of a teacher educator. The setup has provided a context in which participants have had respectively more symmetrical power. In contrast, settings with teacher educators inherently involve an epistemic authority (Harris et al., 2013; Kim & Silver, 2016; Waring, 2017). This said, all the authority to open and close sequences, facilitate reflection and lead discussion have fallen entirely on the PSTs unlike in teacher educator guided reflection (Veen & de la

Croix, 2016). For instance, in Extract 3, LIN has taken the floor after DER and shifted the topic of the discussion. The PSTs have had no chance to remain silent (cf. Copland, 2011) but had to actively engage in and maintain reflection which has led to a pattern of reflection different from the teacher educator guided reflection. In other words, the transnational PSTs have not followed the IRF pattern (Mehan, 1979), but have extended turns in their reflective conversations without presence of a teacher educator. For example, in Extract 2, GOK has been the only one who speaks from line 1 to 19, while his co-participants have used their embodied resources to display their stance. Similarly, in Extract 3, VIK has maintained the floor throughout the extract, which has been only briefly interrupted by ELI's laughter in line 6. Moreover, without a teacher educator providing feedback and assessing the PSTs' performance in situ, the PSTs have not felt compelled to fit their ideas to ideas of teacher educator (cfs., Beck & Kosnik, 2002; Bonilla & Rivera, 2008; Farr, 2010). In this context, they have needed to negotiate and co-construct reflective conversations with their partners. In this regard, they have had an open floor to express their ideas without any manipulation from teacher educators (cf., Copland et al., 2009; Skovholt, 2018) or without the need to employ face-saving strategies, which are commonly used by PSTs or teacher educators (cf., Bjørndal, 2020; Waring, 2017). All in all, reflection without a teacher educator has provided more space for the transnational groups of PSTs to reflect. Although their reflection has been recorded and will be accessible to teacher educators, there has been no immediate pressure to resonate their ideas with those of an authority figure in situ, and consequently, there have been no preferred answers expected by educators. Furthermore, the reflection of the PSTs has not been influenced by the agendas of teacher educators, as the PSTs have been supposed to respond to some guiding questions provided in advance. Therefore, I argue that to be able see how reflection has led to teacher learning and how teacher learning has been manifested, we need to further explore reflection without the presence of teacher educators.

Although there has been no teacher educator who can provide evaluation and feedback, reflective conversations among the PSTs have not lacked evaluation. They have adopted evaluative stance towards various aspects. They have evaluated the clarity of material (Extract 2), their task design experience through VE (Extract 3, Extract 5 and Extract 8.1), allocated time for their tasks (Extract 4 and Extract 7), their own performance (Extract 5), the disappearance of instructions (Extract 6), design of their VE project (Digitask4IC project) (Extract 9), the students (Extract 14), and the task completion options (Extract 15 and Extract 16). Therefore, they have conducted evaluations towards all the steps and components of their task design, from material choice to instruction, allocated time, and completion options for the task. Their evaluations have also comprised participants in the projects, assessing both themselves as task designers and students by examining their task performance. Besides their task design and participants, the PSTs have evaluated their overall experience and design of the VE project (Digitask4IC Project) beyond the individual task steps or components. Therefore, although the evaluations have not been assessment-oriented, the PSTs have taken various aspects into consideration and carried out thorough evaluations. While some aspects they have evaluated were prompted by guiding question (see Methodology), they have elaborated on these aspects and introduced new aspects for consideration.

In addition to the evaluation in their data-led reflective conversations, the PSTs have performed various social actions such as problematizing, proposing alternative actions, and comparison (see Farrell, 2015; Jay & Johnson, 2002). If the problematizations of the PSTs have been able to be resolved through alternative actions (Kleinknecht & Gröschner, 2016), they have proposed alternative actions. The alternative actions solutions might have preceded or followed the problematization of the PSTs. For example, VIK, in Extract 3, has initially problematized time difference and then she has proposed an alternative action for their future projects, eventually adopting an evaluative stance towards their experience. Similarly, Extract 4 and Extract 7 have started with the

problematization of the PSTs regarding timing issues, and they have collaboratively generated an alternative action to solve the allocated time problem. Extracts 8.1 and 8.2 have also presented a sequence of problematization followed by an alternative action proposal. While the arrangement for the meeting has been problematized in Extract 8.1, in the subsequent extract alternative action has been proposed for future projects. Lastly, the problematization of clarity of instructions has also been followed with an alternative action proposal in Extract 10. Unlike the previous extracts, Extract 2 has started with an alternative action proposal of one of the PSTs. Then, he has referred to data coming from the students' performance and accounted for his proposal. He has, finally, problematized their past epistemic status. Namely, alternative action has preceded the problematization in Extract 2. Briefly, while alternative action proposals have followed problematization in the Extract 3, Extract 4, Extract 7, Extracts 8.1-8.2, and Extract 10, alternative action proposal has preceded problematization in the Extract 2. Additionally, it has been seen that alternative actions have not been generated immediately on site. For example, in Extract 14, we have observed that the PSTs have evaluated the performance of students and problematized instructions in their task design during the first reflection meeting. While they have not proposed any alternative solutions immediately in situ, they have come up with a solution in their next reflection meeting, as seen in Extract 13. However, not every problematization has ended up with or has been preceded by an alternative action proposal. For example, in Extract 5, the PSTs have collaboratively negotiated the difficulty of creating task and problematized their epistemic stance in the past regarding designing a task. Thus, their problematization has focused on their epistemic status in the past rather than on their specific actions, and there has been no alternative action proposal. Namely, this reflection has highlighted that the epistemic status has been problematized to show their changing perspective about the hardship of designing a task. Similarly, Extract 6 has lacked an alternative action proposal as well. The PSTs have problematized the disappearance of input they have included in their task due to a problem in the interface of Digitask web application. Although they have not proposed an

alternative action, their problematization has turned out to be a teacher learning opportunity eventually (e.g., Chan & Wong, 2021; Dikilitaş, 2015; Farrell, 2015; Johnson & Freeman, 2001). Therefore, it can be speculated that whether or not problematization has been accompanied by an alternative action proposal, the act of identifying, delivering, and discussing problems have raised awareness of the PSTs (Farrell, 2016b). Furthermore, not achieving the level of alternative action proposal does not mean there has been no teacher learning opportunity, depending on the context of the problematization.

Comparison has been another social action (Farrell, 2015b; Jay & Johnson, 2002) that PSTs have employed in their data-led collaborative reflections. In Extract 1, the PSTs have compared their previous knowledge of CC licenses, and they have acknowledged their extended epistemic status regarding them. Similarly, they have compared their epistemic status on designing a task in Extract 5 (Burton, 2009). Beyond their past and present epistemic status, they have also compared themselves with students. They have identified common grounds with students and recognized the challenges students might face, which has led them to propose considering these challenges in determining allocated time (see Extract 4). The act of finding common ground and understanding the challenges from both their own and students' perspective has broadened our perception of teacher learning that will be discussed in detail in the next section. The PSTs have also compared online and face-to-face task design settings, generating knowledge on giving instructions in an online setting based on their comparison (Extract 13).

The micro analysis of the data has shown that the PSTs have employed various constructions to express change in their epistemic status (Heritage, 2012a, 2012c, 2013). These constructions have encompassed disclaiming past epistemic status (K-), claiming past epistemic status (K+), claiming change in the epistemic status and claiming learning. One of the common practices has been disclaiming knowing in the past. By disclaiming knowledge in the past, the PSTs have not only problematized their previous epistemic status, but also, they have underscored the change in their epistemic status and current

state of knowledge (e.g., Extract 1, Extract 2, Extract 3, and Extract 4). Therefore, through disclaiming knowledge in the past (e.g., I didn't know), PSTs have articulated a transition to a more knowledgeable (K+) status at the present moment (see Koole, 2010; Sacks, 1992). Put simply, they have strategically disclaimed knowledge in the past to adopt K+ epistemic stance in their current discourse.

Having access to students' epistemic status is crucial in educational settings as it enables educators to better organize their teaching practice accordingly. For example, acknowledging disclaiming knowledge of students can serve as a catalyst to create learning opportunities (Sert, 2011, 2013). However, disclaiming knowledge in this study differs from the examples found in the literature (e.g. Heller, 2017; Ingram, 2020; Sert & Walsh, 2013). In this study, claiming lack of knowledge has been characterized by the use of past syntactic markers and negation (I didn't know), whereas other studies explored claiming lack of knowledge with present syntactic markers and negation (I don't know). Therefore, rather than providing an opportunity to educators, the disclaim of knowledge regarding the past has given clues about what has been achieved. Specifically, it has provided educators to recognize accomplishments in their agenda and to create learning opportunities beyond the objects of disclaimed knowledge.

Another construction has been expression of epistemic status in the past with a syntactic marker and lexicon such as "imagined" and "thought" (see Extract 5 and Extract 6). These constructions have been often accompanied by problematizations of the PSTs. For example, in Extract 5, the PSTs have problematized their past epistemic status of designing a task. The act of problematization of their past epistemic status has demonstrated that their epistemic status has changed and, consequently, it has been claimed as such (Koole, 2010; Sacks, 1992b). Although they have not claimed moving from K- to K+ in the analysis of these constructions, the constructions have served to interrogate and problematize their past K+ status, ultimately ending up with knowledge reformulation based on the experience and regulated their epistemic status.

The PSTs have also frequently employed constructions which consists of lexicon inherently signaling change such as "recognize", "realize", "change", and "take out of" (e.g. Extract 7, Extract 8.1, Extract 8.2, Extract 9 and Extract 10). The constructions have inherently indicated a change from K- to K+ of epistemic status within the context they are used. In Extract 7 "recognize" has been utilized twice with a past syntactic marker in lines 2 and 25. Both usages have been followed by a reference to the data coming from the students' performance and by problematization. The PSTs' recognition of the problematic situation has prompted an alternative action proposal in the extract. Similarly, in Extract 8.1, "realize" has been used in different formats followed by a problematic situation like challenges in doing a project and varying schedules of PSTs, which makes it difficult to arrange time for the meetings. Apart from the other usages, "realize" in Extract 8.2 has been followed by a future-oriented take away lesson (Turhan & Kirkgöz, 2021). Therefore, realization of the PSTs of problems in their task design has led to another realization of the PSTs for their future career. Another construction observed is "changed". In Extract 9, after an elaboration on students' performance, MER has explicitly claimed a change in his epistemic status. Therefore, it will not be wrong to assume that seeing students' performance, namely data (Mann & Walsh, 2013, 2017; Veen & de la Croix, 2016; Walsh & Mann, 2015), has influenced the change in his epistemic status. Last construction has been "what I took out of it is X" (Extract 10). Preceded this construction has been the problematization of the PSTs. Through this construction, they have verbalized the teacher learning they have gained as future teachers. Overall, the PSTs have employed constructions, indicating a change in their epistemic status from K- to K+. These constructions have been utilized either to show raised awareness of a problem (Extract 7 and Extract 8.1), to express teacher learning (Extract 8.2 and Extract 10) or to simply claim change in the epistemic status (Extract 9).

The most frequently encountered construction in the dataset has been "I/we (have) learned X", appearing 87 times throughout the dataset. Through this construction, the

PSTs have claimed professional development (see Koole, 2010; Sacks, 1992), specifically teacher learning. Although it can be seen in Extract 1 and Extract 4, I have explicated three specific cases of claim of teacher learning (Extract 11, Extract 13, Extract 15) which will be detailed in the next section. What I want to focus on in this section is the unfolding of the conversation. As mentioned earlier, the PSTs have been given some guiding questions through a guideline (see Methodology), and one of the questions was "What did you learn?". Therefore, the PSTs have been required to state their learning. Still, the claim of teacher learning practices of the transnational groups of PSTs have been interesting. For instance, in Extract 11, TAR has not only claimed learning on CC licenses, but he has also elaborated on the object of learning. It can be argued that TAR has attempted to demonstrate his learning by problematizing his past practices of using pictures and materials randomly, thus demonstrating an increased awareness of copyright issues (see Koole, 2010; Sacks, 1992). Another case of claiming learning has been evident in Extract 13. Following a comparison between face-to-face and online task design settings, claiming teacher learning has been achieved on giving instructions in online tasks. Similar to Extract 11, after claiming, TAR has attempted to demonstrate his learning through elaborating on online task settings (see line 15 onwards in Extract 13). The last case of claiming comes from Extract 15. After comparing various completion options for their task design, the PSTs have claimed teacher learning about the risk of "exact value option" (see Methodology for completion options). All in all, the act of claiming teacher learning has not been performed only as a response to guiding question but has also arisen from the PSTs' attempts to regulate their knowledge (Extract 13 and Extract 15). It also suffices to note that instead of listing what they have learned, the PSTs have contextualized their learning claims and attempted to demonstrate learning (Extract 11 and Extract 13). Lastly, I posit that demonstration of teacher learning differs from demonstration of knowing and demonstration of understanding. While the latter two can be more obvious in the unfolding of the interaction, demonstration of teacher learning is not that obvious, aligning with the

definition of teacher learning as it is experienced and applied (Crandall & Christison, 2016; Freeman & Johnson, 1998; Wright, 2010) which will be detailed in the next section.

In summary, this section has provided answers to first two research questions of the dissertation. First, the study has elucidated that the PSTs have had extended turns in compared to teacher-guided reflection and have collaboratively managed the conversations. They have accomplished various social actions such as evaluation, comparison, problematization and proposing alternative solutions. Second, it has disclosed that PSTs have utilized constructions to show a shift in their epistemic status from K- to K+. To achieve this, they have employed a range of lexicon and syntactic markers. Their constructions have included disclaiming past knowledge (K-), criticizing previous epistemic status (K+), using lexicon that inherently implies a change in epistemic stance (e.g. realized) (see the first analytic section in Findings), and claiming teacher learning (see the second analytic section in Findings). In what follows, I will discuss the findings in relation to the relevant body of literature concerning the third research question.

Affordances of Reflection for Teacher Education

In accordance with the third research question, the study has aimed to explore the affordances of collaborative data-led reflection for teacher education. The findings have displayed that micro-moments of teacher learning have emerged in and through reflection from the participants' own orientation.

In alignment with the overall body of literature, the study has demonstrated that collaborative data-led reflective conversations of the transnational groups of PSTs have afforded various opportunities for teacher learning (Burton, 2009; Chan & Wong, 2021; Dikilitaş, 2015; Dikilitaş & Bostancıoğlu, 2019; Dikilitaş & Mumford, 2023; Farrell, 2016b; Huth et al., 2019; Koskela et al., 2023; Kumaravadivelu, 2006; Roskos et al., 2001; Turhan & Kirkgöz, 2021). Primarily, the reflective practice has raised awareness of the

PSTs towards their epistemic status (Farrell, 2015b, 2016b). First, in-and-through reflection, the PSTs have regulated their epistemic status, and they have raised awareness of their epistemic status in the past and at present. One of the most explicit examples can be seen in Extract 1, In the extract, LIN has started claiming learning (`i learned that too`) then she has revisited past knowledge (`i mean i already knew`). Through the end of the extract, she has deployed extension in her knowledge and awareness (`now i'm (1.0) also more conscious of that aspect`). Thus, it is evident that LIN has raised awareness of her epistemic status in situ. Likewise, in Extract 2, following a critical examination of his past epistemic status (`we didn't foresee (.) this problem (.) to happen`), GOK has adopted a K+ epistemic stance and deployed extended epistemics (`i err think. hh (.) wider`). In addition to these extracts, raised awareness has been evident across all extracts. The extended awareness of epistemic status has been deployed through various strategies. The transnational groups of PSTs have either claimed lack of knowledge in the past (K-) (Extract 1, Extract 2, Extract 3, Extract 4, Extract 12) (e.g., I didn't know), or they have critically assessed their past K+ epistemic status (Extract 5, Extract 6) (e.g., I thought) or they have asserted a change (Extract 7, Extracts 8.1-8.2, Extract 9, Extract 10) (e.g., I recognized), or they have explicitly stated learning (Extract 11, Extract 13, Extract 15) (e.g., I learned). Consequently, reflection has helped them to recognize gaps in their knowledge status and fostered teacher learning opportunities (Balaman, 2023). Moreover, raising awareness of epistemic status and knowledge gaps has also triggered active engagement in the learning process, enhancing active learning (Chan & Wong, 2021), and prompting taking responsibility and initiative for their ongoing learning journey.

Through reflection, the PSTs have also engaged in knowledge generation by observing the students and analyzing their VE experience. Cultivating teachers who generate knowledge has become especially important with the evolving nature of educational settings. Teachers need to keep up with the time and meet the needs of

upcoming generations (Howard, 2003). Therefore, it is significant for them to adjust their teaching practice according to the necessities of time. In other words, rather than consuming knowledge and applying theoretical knowledge gained in the teacher education programs, teachers need to take action in response to the dynamics of the pedagogical environments. Accordingly, drawing from their observation of students' performance, in Extract 2, GOK has generated knowledge on task materials. By comparing the materials used, he has concluded that all the materials can be as self-explanatory as a particular material they have used. Additionally, in Extract 3 and Extracts 8.1-8.2, the PSTs have raised insights into time difference and generated a future project-oriented knowledge. Similarly, in Extract 4 and Extract 7, the PSTs have generated knowledge on allocated time by referring to technical problems that they encountered. In Extract 6, the PSTs have generated input related knowledge, while in Extract 10, the PSTs have generated instruction-related knowledge. Overall, the findings are in line with the existing literature (Bain et al., 2002; Farrell, 2015b; Ryan, 2013), as reflection has provided a setting to the PSTs to generate knowledge. Moreover, it has enabled the PSTs to develop insights into diverse aspects of teaching such as determining allocated time, providing input, choosing material, giving instruction, and organizing future VE projects.

Reflection has also facilitated the PSTs in linking their theoretical knowledge and experience. Through experience and observation, they have refined knowledge they gained through training. One of the most explicit examples has been illustrated in Case 1 (Extract 11-12). Although the PSTs have received training on CC licenses, they have regulated their knowledge through negotiation during their task design conversations. In addition, observing students' performance has helped them establish the link (Extract 3, Extract 4, Extract 5, Extract 6, Extract 7 Case 2, Case 3) between practice and theoretical concepts they received until reflection thorough training and feedback. Therefore, it has been only through applying knowledge and observing students' performance that the PSTs noticed gaps in their knowledge status (Bain et al., 2002; Farrell, 2015b, 2019;

Pedro, 2005; Ryan, 2013). Although, I refrain from speculating teacher learning has been achieved as the transferability of claimed learning objects into actual pedagogical settings remains beyond the scope of this dissertation, it is important to note that establishing link between theory and practice enhances teacher learning when the definition of teacher learning is considered.

Through reflection, the PSTs have identified problems and brought solutions to them (Farrell, 2015b; Ryan, 2013; Schön, 1983). For example, upon their problematization of the disappearance of instructions, the PSTs have come up with another idea on selecting self-explanatory materials (Extract 3). Likewise, their noticing of a problem about the allocated time for the task has prompted them to address potential technological challenges when designing an online task (Extract 4 and Extract 7). In a similar vein, Case 2 has shown that the PSTs' problematization of the students' performance has led them to formulate solutions about giving instruction. Therefore, as it is evident and mentioned in the previous section, problematization has often ended up with generating alternative action solution. Thus, PSTs have collaboratively utilized and improved their problem-solving skills. In this regard, it is reasonable to argue that improved problem-solving skill of the PSTs prepares them to be more resilient (Ayoobiyan & Rashidi, 2021; Farrell, 2015b; Leroux & Théorêt, 2014). As they receive education to transform into individual teachers who approach problems with a solution-orientation, they will develop their ability to withstand and adapt to various situations. In a similar vein, from the PSTs' own orientations, the process and the challenges they encountered have made them to realize the necessity to become more flexible as future teachers (Extract 8.1 and Extract 8.2). Hence, I suggest that the process of identifying challenges and bringing solutions to them holds significant potential to better equip the PSTs for future practices and to reduce the degree of adjuctment and initial stress as novice teachers in the future (Farrell, 2016a).

The study has shown that the transnational PSTs have drawn on their own VE experience in their learning relevant discourses and found common ground with the

students. Basing on the challenges they have encountered regarding technology (Extract 4 and Extract 7) and difficulty in arranging a meeting time (Extract 8.1and Extract 8.2), they have developed an understanding of students' perspectives and practices. Thus, the results support the idea that teachers bring their past experiences as students to their teaching practice (Farrell & Kennedy, 2019; Huth et al., 2019; Johnson, 2006; Johnson & Freeman, 2001; Kurek & Müller-Hartmann, 2017). In other words, their prior experiences as students significantly shape their teaching practice. Moreover, the PSTs have explicitly stated that their experience paved the way for the manifestation of teacher learning. Thus, I argue that reflection has enabled the PSTs to compare their VE experience and students' performance and experience, facilitating the identification of shared experiences, and thereby fostering teacher learning opportunities.

As already mentioned in the preceding section, data has played a pivotal role in the reflective conversations of the PSTs and numerous references have been made to the students' performance throughout the extracts. Observing students' performance has helped them notice their deficiencies in designing a task and shaped teacher learning. The PSTs have frequently referenced to data to account for their problematization and alternative action proposals. For example, basing on different materials they use, they have seized a teacher learning opportunity and proposed an alternative action (Extract 2). Also, their observation has informed insights regarding allocated time (Extract 4 and Extract 7), providing input to students to accomplish task (Extract 6), individual differences (Extract 4) and giving instructions (Extract 14). Importantly, the PSTs have not only referred to the data, but also highlighted the importance of it while articulating their teacher learning relevant discourses. Thus, the findings align with the literature and underscore the crucial role of data in facilitating reflective practice (Eröz-Tuğa, 2013; Körkkö, 2019; Körkkö et al., 2019; Mann & Walsh, 2013, 2017; Richter et al., 2022; Walsh & Mann, 2015).

Notably, the PSTs have not perceived reflection as a repair tool but utilized it for an opportunity for teacher learning. Extract 9 has demonstrated an explicit example of this. VIK has taken the initiative and deployed a future-oriented question in the extract asking if her co-participants would do such a project in the future (`would you like to do that (.) err with your future students`) (Turhan & Kirkgöz, 2021). Such an initiative and future orientation may not arise in teacher educator guided reflections as PSTs have limited authority in these contexts (see Harris et al., 2013; Veen & de la Croix, 2016). Therefore, I suppose that absence of a teacher educator has prepared the ground for VIK's future orientation and initiative for a question which otherwise might not emerge.

Teacher learning has been expressed and claimed with various constructions. Upon the teacher learning claims of the PSTs, study has also aimed to track the micro-moments of arousal of teacher learning. To do so, by analyzing their claims of teacher learning in the second analytic section (see Findings), the data has been traced retrospectively to see how teacher learning has been triggered in the earlier moments of the project (e.g., task design conferences, feedback etc.). In the first case, retrospective tracking of learning on CC licenses has shown that the PSTs have co-constructed and negotiated the knowledge they have gained through training. Therefore, they have had the chance to apply their knowledge during task design conversations (Balaman, 2023; Huang, 2001; Lee, 2005; Töman, 2017; Waring, 2017). The second case has demonstrated that observing students' performance has shaped claimed teacher learning of the PSTs marking the significance of data (Calandra et al., 2009; Eröz-Tuğa, 2013; Körkkö, 2019; Körkkö et al., 2019; Richter et al., 2022; Shepherd & Hannafin, 2008; Walsh & Mann, 2015). Data has helped the PSTs bridge the gap between theory and practice (Farrell, 2015b, 2019). The third case has showcased claiming teacher learning on task design, specifically completion options of the task. Through retrospective tracking, it has been shown that the PSTs' resistance to and misalignment with teacher educator's feedback (Badem-Korkmaz et al., 2022; Balaman, 2023; Ekin et al., 2024) have resulted

in problems in task implementation (Extract 16). Put simply, the feedback from teacher educator, observing students' performance and reflection have all shaped the teacher learning relevant discourses of the PSTs. All three cases have revealed that the objects (CC licenses, giving instructions, task design) of claimed teacher learning were negotiated in earlier conversations of the PSTs in different phases of the project. Therefore, the tracking of the moments of manifestation of teacher learning has uncovered that teacher learning is not absorbed (Opfer & Pedder, 2011) but experienced, applied and experimented (Crandall & Christison, 2016; Johnson, 2006; Johnson & Freeman, 2001) which aligns with the definition of teacher learning according to the social constructivist approach. Accordingly, teachers' agency is underscored, and teacher learning is achieved with active participation in educational settings. Although the PSTs have claimed teacher learning and retrospective tracking has indicated manifestation of teacher learning, I do not speculate that teacher learning has been achieved as there has been no prospective tracking. Still, upon the retrospective tracking in the second analytic section and epistemic status change expressions of the PSTs, it can be seen that teacher learning has been manifested in and through reflective conversations of the PSTs, marking the potential of reflective practice for teacher learning (Ayoobiyan & Rashidi, 2021; Balaman, 2023; Farrell, 2019; Kurek & Müller-Hartmann, 2017; Leroux & Théorêt, 2014).

All in all, the findings have indicated that different sources have triggered teacher learning: training, teacher educator feedback, students' implementation, task design experience through VE. The PSTs have had the chance to apply the theoretical knowledge they gained through courses and negotiated it during their task design conferences. Reflection has enabled the PSTs to review all the steps they went through and claim teacher learning or epistemic status change through this revision. Thus, the findings have uncovered that teacher learning is beyond applying theoretical knowledge aligning with the criticism towards the knowledge base of SLTE before the shift to social

constructivist paradigm (Freeman, 1993b; Gray, 2004; Johnson & Golombek, 2020; Nguyen, 2016, 2019; Tarone & Allwright, 2004; Ur, 1992).

Notably, the extracts have been chosen on purpose to present the range of topics on which teacher learning opportunities have been created. Teacher learning has been manifested across different subjects such as giving instruction, material selection, task completion options, allocated time for task, and organization of VE project. As, it is evident, the subjects have comprised different steps of task design (see Methodology) from choosing materials to determining allocated time, to writing instructions, and to deciding on task completion option. Besides them, the PSTs have raised an understanding of organizing a VE project with their future students. Therefore, reflection has created teacher learning opportunities from small scale subjects such as choosing materials to a more holistic understanding as organizing a future VE project. Hereby, I argue that reflection has been a useful tool for the PSTs to develop an insight towards online tasks and projects, and created teacher learning opportunities which are hardly created through theoretical knowledge.

Overall, the transnational groups of PSTs have gained new insights into teaching and regulated their already existing insights. Namely, their epistemic status has changed. This change has been achieved in two ways. First their epistemic status has changed from K- to K+ (Sacks, 1992b) through their experience. Second, their knowledge has evolved which has been explained through problematizing their existing knowledge in the past. Namely, they have formed new knowledge and regulated their past knowledge in and through reflection. Thus, the study has contributed to the body of literature on epistemics in interaction and reflective practice for teacher education. In addition to claim of understanding (Koole, 2010; Sacks, 1992b), claim of knowing (Koole, 2010), claim of insufficient knowledge (Sert & Walsh, 2013) "claim of teacher learning" has been introduced. Moreover, the notion of claim of insufficient knowledge has been extended with claim of past insufficient knowledge highlighting change from a K- to K+ status (cf.,

Heller, 2017; Ingram, 2020; Sert, 2011; Sert & Jacknick, 2015; Sert & Walsh, 2013; Skogmyr Marian et al., 2021; Somuncu & Sert, 2019). The study has also revealed how reflection without the presence of teacher educator unfolds and its affordances for teacher education. The results suggest that reflection is a useful tool and teacher educators should further make use of it (Beauchamp, 2015; Dikilitaş & Comoglu, 2022; Farrell, 2019; Kumaravadivelu, 2006; Turhan & Kirkgöz, 2021).

Overall, this section has provided insights concerning the third research question of the dissertation. They study has exhibited that reflection without guidance of a teacher educator offered rich opportunities for teacher learning. The PSTs have had the chance to review the entire process they have undergone from training to final reflection meeting, and they have generated teaching-related knowledge. The generated knowledge comprised various aspects of online task design such as giving instructions, CC licenses, allocated time, and organizing future projects. In generating the knowledge, they relied on the problems they have encountered, data coming from the students' performance, and shared experiences with the students. The micro-moments of teacher learning have been manifested through observing the performance of the students, receiving feedback from teacher educators, applying theoretical knowledge into practice and reflecting on the experience and students' performance.

I also would like to acknowledge that although teacher learning has been claimed and expressed through various linguistic and interactional constructions in the reflective conversations of the PSTs, it does not assert that teacher learning has been definitely achieved. Instead, it proposes how teacher learning can be achieved through such interactions. The study deliberately avoids evaluating teacher learning of the PSTs. Notably, the reflective conversations of the PSTs without presence of a teacher educator have provided a fruitful setting for creating teacher learning opportunities. However, the study remains agnostic to propose whether the lessons internalized by the PSTs were fully appropriate and comprehensive, acknowledging the potential gaps that may arise in

the absence of a teacher educator. Namely, the study does not undermine the significance of teacher educator on site. Rather, it elucidates how reflection is effectively accomplished through the collaborative efforts of the PSTs and advocates presenting such opportunity to PSTs to express themselves freely within such settings.

Last but not the least, CA has been a useful tool in line-by-line analysis of the extracts and revealing the affordances of reflective practice (Ishino, 2018). Through rigorous tools of CA, turn-taking mechanism of the PSTs has been clearly displayed. Unlike teacher educator guided reflection, the analysis has presented that the PSTs managed the conversations independently and deployed extended turns. Conversation analytic approach to data has demonstrated that the PSTs have made use of various constructions to express teacher learning. Moreover, they have accomplished various social actions, leading to the claim of teacher learning. In sum, they have not only claimed teacher learning, but collaboratively created teacher learning opportunities and co-constructed teacher learning. In other words, teacher learning was manifested and expressed in micro-moments of reflective conversations of the PSTs. Through the prensentation of the micro-moments, the study showed that teacher learning was manifested during different the teacher education event at different phases of the study, suggesting that teacher learning is a complex phenomenon. All in all, the study has added up to the CALTE literature (also see Balaman, 2023) by showing how teacher learning has been manifested and later claimed through the micro-lenses ov CA. In a broader sense, the study has contributed to the knowledge base of SLTE with other evidence-based and data-led approaches (Sert, 2015; Walsh, 2006; Waring & Creider, 2021) by using rigorous tools of CA.

Despite its contributions to the literature, this study is not without limitations. In what follows, the limitations of the study will be discussed.

Limitations of the Study

The current study has a number of limitations that should be acknowledged. The first limitation is the lack of prospective activities of the PSTs. The study has explored data-led collaborative reflective conversations of the transnational PST groups. Upon their task design and students' performance, the PSTs have engaged in reflective practice. Through multimodal CA, the study has documented that teacher learning opportunities have been created in and through reflection from the participants' own orientations. Although data has been tracked retrospectively to identify the manifestation of teacher learning, the study has not provided prospective tracking as the PSTs did not engage in editing their task designs or creating new tasks after their reflective practice. Therefore, while the study has elucidated the potential of reflection to provide teacher learning affordances for PSTs, it has not conclusively demonstrated whether teacher learning has been achieved. To delineate a more proper picture of teacher learning, prospective task design orientation is needed. Thus, it would be more comprehensible to include task editing or new task design practices following the reflection of the PSTs.

Another limitation has been the screen-recording process. Although the PSTs have been trained on how to use Screencast-o-Matic (SoM) application to record their screens, they have encountered trouble in recording. While most troubles have been resolved with the assistance of the project team, some PSTs have faced problems related to their computers and insufficient space in their computers and have been unable to record their screen. Moreover, there have been overlaps in some parts of the audio, and audio has been completely unavailable in some recordings. As it has beenanticipated by the project team and to mitigate this problem, one of the PSTs in each group has been supposed to record their meeting by using the built-in-recorder of Microsoft Teams in addition to SoM. Although these precautions have been helpful, they have been not sufficient to prevent data loss entirely.

Lastly, due to the nature of VE projects, everything has depended on the internet and computers. Some PSTs have not had access to computers, and they have participated VE via their smart phones, which has made it difficult to engage in the project relevant practices as they have been supposed to switch between windows when designing a task. Additionally, unstable internet connections occasionally has caused freezes in the recordings. However, because of the nature of such projects and VE, internet is an inseparable component, and ensuring smooth online communication and stable internet connection can be challenging. Therefore, it is essential to acknowledge this as an integral part of the process. It is also notable that, from the conversation analytic perspective, the occasional freezes have not negatively affected the data analysis, as an emic (participant-relevant) perspective has been adopted. The next section will cover pedagogical implications and suggestions for the future research and conclude the dissertation.

Pedagogical Implications and Suggestions for Future Research

The study has explored data-led collaborative reflective conversations of transnational PST groups in the absence of a teacher educator. Based on the findings and discussion, it proposes some pedagogical implications.

The findings have unveiled that despite the absence of a teacher educator during the video-mediated meetings, the transnational PSTs have accomplished various action in their data-led collaborative reflections including evaluation, comparison, problematizing, and proposing alternative solutions. Although they have not been prompted to do so, they have conducted detailed analysis and evaluation towards all the components, participants and steps of the project, they have made comparisons of themselves and students, and their previous and current epistemic status. Moreover, they have problematized various aspects of the project or task design and generated alternative action solutions to them. Therefore, the setting has not hindered them to perform actions that are seen in teacher

educator guided reflective practice. In contrast, they have had the freedom and opportunity to manage the conversations and have extended turns different than IRF pattern which is the typical turn pattern in teacher educator guided reflections. Furthermore, as there has been no epistemic authority on site, they have reflected on the students' performance and their VE experience without an urge to fit their ideas to a teacher educator. Briefly, the study has demonstrated that reflective practice of the PSTs has not lacked the levels or components of teacher guided reflective practice. In contrast, it has provided a richer set of opportunities to make use of reflective practice rather than a checklist. Accordingly, I suggest further conducting and exploring reflective practice without power asymmetry to give space to PSTs to freely express themselves and find their own ways to enhance our understanding of how reflection unfolds in such settings and what affordances it brings.

The analysis has indicated that the PSTs have frequently problematized various aspects, and most of the time, proposed alternative solutions to the problems they identified. Even in the cases they have not proposed a solution, they have acknowledged the existence of a problem and take it as a lesson for their future career. Here, I posit that reflection helps furnishing PSTs for their future careers. They raise as teachers who approach problems with a solution-orientation and can generate knowledge when they encounter problems. Thus, they acknowledge challenges in teaching and develop counter actions to solve them. So, I primarily argue that PSTs get more resilient and may have less difficulty in adapting to teaching practice. Second, through generating knowledge from problems and experiences, they can transfer their teaching to upcoming generations as needs of students and the nature of teaching may change across generations. In this regard, although the findings have provided some implications, it merits further longitudinal research to see the effects of reflective practice in the long run.

In and through reflection, the PSTs have collaboratively formulated knowledge and extended their shared cognition. Therefore, dialogic reflection has enabled a setting in

which the PSTs have co-constructed teacher learning. Thus, it is a useful tool to cultivate reflective practice. Rather than insisting on written forms of reflection, spoken reflection sparks interaction and thus collaboration. Through collaboration, the PSTs have gained perspectives different from their own which has helped them to extend their epistemic status. Moreover, data has played a pivotal role and the findings have displayed that it bears a potential to shape teacher learning as the transnational PSTs have referenced to data occasionally during their reflection. Therefore, I suggest incorporating dialogic, collaborative and data reflection into the agenda. I see merit in further exploring such reflective practices through the micro lenses of multimodal CA.

It has also been evident that reflection holds the potential to improve teacher learning in various facets and in and through reflection, the PSTs have claimed teacher learning or deployed teacher learning-relevant discourses across diverse topics. The source of teacher learning from the participants' own orientations has varied across different steps of the project. Therefore, reflection has helped the PSTs bring their experiences together and formulate knowledge. This suggests that teacher learning is not a product of a single moment or experience but a cumulative outcome of various teaching related practices such as training, feedback, task design, observing students' performance and reflection. Here, I argue that knowledge base of SLTE should be enriched by empirical approaches. So, I advocate to conduct more evidence-based, data-led studies within in the scope of CALTE.

Lastly, within the developments in technology, borders are fading and teaching contexts are evolving. In this regard, it is crucial to prepare PSTs for globalized teaching. Engagement in VE projects with their peers from other universities allows them to exchange knowledge and get familiar with different teaching contexts and practice in different countries (Koskela et al., 2023). Thus, I argue that such projects afford potential to meet the needs of PSTs depending on the recent conditions and more studies are

needed explore effectiveness of them. In the last section, conclusions drawn from the dissertation will be presented.

Conclusion

This study has focused on the video-mediated, data-led, and collaborative reflective conversations among transnational PST groups, conducted without the presence of a teacher educator. It has documented epistemic change expressions and claims of teacher learning of the PSTs. The findings have revealed that the PSTs have employed various constructions to display the changes in epistemic status and claimed teacher learning. Through the bottom-up analysis of the data using robust methodological tools of CA, the study has first examined the epistemic stance markers of the PSTs. The analysis has highlighted the PSTs' claims of lack of knowledge (K-) in the past, problematization of epistemic status in past (K+), expressions of change from K- to K+. It has been identified that these constructions have been used for teacher learning relevant discourses. In addition to these constructions, the act of claiming teacher learning in reflective conversations of the PSTs has been closely monitored. Upon these teacher learning claims of the PSTs, the dataset has been retrospectively tracked to identify micro-moments of the manifestation of teacher learning on the objects of the claims of teacher learning. Retrospective tracking of the data has guided me to different phases of the project (i.e., training, teacher educator feedback, students' implementation, and reflection), marking the longitudinal nature of teacher learning. That said, the retrospective analysis of the claims of teacher learning has unveiled that claimed teacher learning has often been triggered in earlier conversations among the PSTs with observable fingerprints. This suggests that through reflective practice, the PSTs have established a link between theoretical knowledge and practice, and across different phases of the project. Thus, the study has demonstrated that reflection has the potential to create teacher learning opportunities rather than serving as a remedy tool for the retrospective actions. Also, the unfolding of collaborative reflection without the presence of a teacher

educator has been examined. The study has disclosed that the setting without power asymmetry has provided the PSTs enough space to manage interaction, take initiatives to ask question to their interlocutors, and to engage in extended turns without an urge to fit their ideas to those of an epistemic authority.

The study has shed light on how reflection serves as a catalyst for changes in the PSTs' epistemic status and their claims of learning across various topics. It has underscored reflection as a dynamic domain conducive to multiple facets of teacher learning. Hence, reflection has provided a setting for various teacher learning objects. In sum, the study has enriched the literature on teacher education and epistemics in interaction by introducing the notion of "claim of teacher learning" and extending "claim of lack of knowledge" with "claim of lack of past knowledge". Also, it has offered valuable implications for the use reflective practice for teacher education. In a broader sense, the study has contributed to understanding how teacher learning progressed within the reflective conversations, depicting its unfolding and manifestation in and through reflection. Thus, with the rigorous analysis of the data through multimodal CA, the study has enhanced the knowledge base of SLTE with empirically grounded insights by adding up to the data-led and evidence-based studies.

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APPENDIX-A: Jefferson Transcription Convention (Jefferson, 2004)

[ ]	Overlapping utterances – (beginning [) and (end])
=	Contiguous utterances (or continuation of the same turn)
(0.0)	Represent the tenths of a second between utterances
(.)	Represents a micro-pause (1 tenth of a second or less)
:	Elongation (more colons demonstrate longer stretches of sound)
.	Fall in pitch at the end of an utterance
-	An abrupt stop in articulation
?	Rising in pitch at utterance end (not necessarily a question)
WORD	Loud/forte speech
<u>word</u>	Underline letters/words indicate accentuation
↑↓	Marked upstep/downstep in intonation
hhh	Exhalations
.hhh	Inhalations
(hhh)	Laughter within a word (can also represent audible aspirations)
>text<	Surrounds talk that is spoken faster
<text>	Surrounds talk that is spoken slower
(text)	Approximations of what is heard

APPENDIX-B: Mondada (2018) Multimodal Transcription Convention

* *	Descriptions of embodied movements are delimited between
+ +	two identical symbols (one symbol per participant's line of action) and are synchronized with corresponding stretches of talk/lapses of time.
*--->	The action described continues across subsequent lines
--->*	until the same symbol is reached.
>>	The action described begins before the extract's beginning.
-->>	The action described continues after the extract's end.
. . . .	Preparation.
------	Full extension of the movement is reached and maintained.
,,,,,	Retraction.
ava	Participant doing the embodied action is identified when (s)he is not the speaker.
fig	The exact moment at which a screen shot has been taken is indicated
#	with a symbol showing its temporal position within turn at talk/segments of time.

APPENDIX-C: Ethics Committee Exemption Form / Ethics Committee Approval

<div align="center">

T.C.
HACETTEPE ÜNİVERSİTESİ REKTÖRLÜĞÜ
Rektörlük

</div>

Sayı : E-35853172-300-00002138909   16.04.2022
Konu : Etik Komisyon İzni (Gülşah UYAR)

<div align="center">

EĞİTİM BİLİMLERİ ENSTİTÜSÜ MÜDÜRLÜĞÜNE

</div>

İlgi: 16.03.2022 tarihli ve E-51944218-300-00002088064 sayılı yazınız.

Enstitünüz Yabancı Diller Eğitimi Anabilim İngiliz Dili Eğitimi doktora programı öğrencisi **Gülşah UYAR'ın, Doç. Dr. Ufuk BALAMAN** danışmanlığında yürüttüğü *"Sanal Değişim Görevleri Üzerine Ulusötesi Öğretmen Adayı Gruplarının Video-Temelli Veri-Odaklı Yansıtmaları"* başlıklı tez çalışması Üniversitemiz Senatosu Etik Komisyonunun **12 Nisan 2022** tarihinde yapmış olduğu toplantıda incelenmiş olup, etik açıdan uygun bulunmuştur.

Bilgilerinizi ve gereğini rica ederim.

<div align="right">

Prof. Dr. Vural GÖKMEN
Rektör Yardımcısı

</div>

APPENDIX-D: Declaration of Ethical Conduct

I hereby declare that…

- I have prepared this thesis in accordance with the thesis writing guidelines of the Graduate School of Educational Sciences of Hacettepe University;

- all information and documents in the thesis/dissertation have been obtained in accordance with academic regulations;

- all audio visual and written information and results have been presented in compliance with scientific and ethical standards;

- in case of using other people's work, related studies have been cited in accordance with scientific and ethical standards;

- all cited studies have been fully and decently referenced and included in the list of References;

- I did not do any distortion and/or manipulation on the data set,

- and **NO** part of this work was presented as a part of any other thesis study at this or any other university.

(11) /(07)/(2024)

(Signature)

Gülşah UYAR

APPENDIX-E: Thesis/Dissertation Originality Report

10/07/2024

Graduate School of Educational Sciences
To The Department of Foreign Languages Education

Thesis Title: Video-Mediated Data-Led Reflection of Transnational Pre-Service Teacher Groups on Virtual Exchange Tasks

The whole thesis that includes the *title page, introduction, main chapters, conclusions and bibliography section* is checked by using **Turnitin** plagiarism detection software take into the consideration requested filtering options. According to the originality report obtained data are as below.

Time Submitted	Page Count	Character Count	Date of Thesis Defense	Similarity Index	Submission ID
10/07/2024	217	294108	13/06 /2024	%12	2384699212

Filtering options applied:
1. Bibliography excluded
2. Quotes included
3. Match size up to 5 words excluded

I declare that I have carefully read Hacettepe University Graduate School of Educational Sciences Guidelines for Obtaining and Using Thesis Originality Reports; that according to the maximum similarity index values specified in the Guidelines, my thesis does not include any form of plagiarism; that in any future detection of possible infringement of the regulations I accept all legal responsibility; and that all the information I have provided is correct to the best of my knowledge.

I respectfully submit this for approval.

Name Lastname:	Gülşah UYAR	
Student No.:	N19146580	Signature
Department:	Foreign Languages Education	
Program:	English Language Education	
Status:	Masters ☒ Ph.D. ☐ Integrated Ph.D.	

ADVISOR APPROVAL

APPROVED
Assit. Prof. Dr. Nilüfer CAN DAŞKIN

APPENDIX-F: Yayımlama ve Fikrî Mülkiyet Hakları Beyanı

Enstitü tarafından onaylanan lisansüstü tezimin/raporumun tamamını veya herhangi bir kısmını, basılı (kâğıt) ve elektronik formatta arşivleme ve aşağıda verilen koşullarla kullanıma açma iznini Hacettepe Üniversitesine verdiğimi bildiririm. Bu izinle Üniversiteye verilen kullanım hakları dışındaki tüm fikri mülkiyet haklarım bende kalacak, tezimin tamamının ya da bir bölümünün gelecekteki çalışmalarda (makale, kitap, lisans ve patent vb.) kullanım hakları bana ait olacaktır.

Tezin kendi orijinal çalışmam olduğunu, başkalarının haklarını ihlal etmediğimi ve tezimin tek yetkili sahibi olduğumu beyan ve taahhüt ederim. Tezimde yer alan telif hakkı bulunan ve sahiplerinden yazılı izin alınarak kullanılması zorunlu metinlerin yazılı izin alınarak kullandığımı ve istenildiğinde suretlerini Üniversiteye teslim etmeyi taahhüt ederim.

Yükseköğretim Kurulu tarafından yayınlanan **"Lisansüstü Tezlerin Elektronik Ortamda Toplanması, Düzenlenmesi ve Erişime Açılmasına ilişkin Yönerge"** kapsamında tezim aşağıda belirtilen koşullar haricince YÖK Ulusal Tez Merkezi / H.Ü. Kütüphaneleri Açık Erişim Sisteminde erişime açılır.

o Enstitü/Fakülte yönetim kurulu kararı ile tezimin erişime açılması mezuniyet tarihinden itibaren 2 yıl ertelenmiştir. [1]

o Enstitü/Fakülte yönetim kurulunun gerekçeli kararı ile tezimin erişime açılması mezuniyet tarihimden itibaren … ay ertelenmiştir. [2]

o Tezimle ilgili gizlilik kararı verilmiştir. [3]

11 /07 /2024

(imza)

Gülşah UYAR

"Lisansüstü Tezlerin Elektronik Ortamda Toplanması, Düzenlenmesi ve Erişime Açılmasına İlişkin Yönerge"

[1] *Madde 6. 1. Lisansüstü tezle ilgili patent başvurusu yapılması veya patent alma sürecinin devam etmesi durumunda, tez danışmanının önerisi ve enstitü anabilim dalının uygun görüşü Üzerine enstitü veya fakülte yönetim kurulu iki yıl süre ile tezin erişime açılmasının ertelenmesine karar verebilir.*

[2] *Madde 6. 2. Yeni teknik, materyal ve metotların kullanıldığı, henüz makaleye dönüşmemiş veya patent gibi yöntemlerle korunmamış ve internetten paylaşılması durumunda 3. şahıslara veya kurumlara haksız kazanç; imkânı oluşturabilecek bilgi ve bulguları içeren tezler hakkında tez danışmanın önerisi ve enstitü anabilim dalının uygun görüşü üzerine enstitü veya fakülte yönetim kurulunun gerekçeli kararı ile altı ayı aşmamak üzere tezin erişime açılması engellenebilir.*

[3] *Madde 7. 1. Ulusal çıkarları veya güvenliği ilgilendiren, emniyet, istihbarat, savunma ve güvenlik, sağlık vb. konulara ilişkin lisansüstü tezlerle ilgili gizlilik kararı, tezin yapıldığı kurum tarafından verilir*. Kurum ve kuruluşlarla yapılan işbirliği protokolü çerçevesinde hazırlanan lisansüstü tezlere ilişkin gizlilik kararı ise, ilgili kurum ve kuruluşun önerisi ile enstitü veya fakültenin uygun görüşü Üzerine üniversite yönetim kurulu tarafından verilir. Gizlilik kararı verilen tezler Yükseköğretim Kuruluna bildirilir.*

Madde 7.2. Gizlilik kararı verilen tezler gizlilik süresince enstitü veya fakülte tarafından gizlilik kuralları çerçevesinde muhafaza edilir, gizlilik kararının kaldırılması halinde Tez Otomasyon Sistemine yüklenir

*Tez danışmanının önerisi ve enstitü anabilim dalının uygun görüşü üzerine enstitü veya fakülte yönetim kurulu tarafından karar verilir.