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INSTRUCTIONAL CONVERSATIONS IN SYNCHRONOUS ENVIRONMENTS:

MULTIPLE CASE STUDIES OF ESOL INSTRUCTORS

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Approval of Dissertation

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STUDIES OF ESOL INSTRUCTORS**

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Abstract

Inspired by the sociocultural theory (SCT) for language learning, this qualitative multiple case study examines the implementation of instructional conversations (ICs) of instructors of English for speakers of other languages (ESOL) teaching novice adult learners in online synchronous environments. It addresses the lack of research, informed by teachers themselves, on the implementation of ICs with ESOL adult learners in synchronous environments, and how their beliefs and second language acquisition theories (SLA) influence that. The purpose of this study is to explore how SLA manifests in ICs, how they are demonstrated, and how instructors apply ICs in a synchronous online classroom. This study employs a qualitative multiple case study methodology using semi-structured interviews, recordings of synchronous sessions and follow-up interviews to investigate the beliefs and attitudes as well as the synchronous classroom actions of three ESOL instructors regarding SLA, and how ICs may be used to mediate language learning. This qualitative study is grounded in the social and ecological constructivist paradigms to learning and teaching. It builds on existing theories of assistance through language mediation and is guided by SCT of second language learning. The findings show that orchestration of ICs in the synchronous online environment reflects an ecological approach that recognizes the holistic nature of language learning and values the interconnected aspects including pedagogy, task, purposeful use of the affordances of the digital technology and that the way these depend on and influence one another. These findings further support an SLA-informed and teacher-inspired language pedagogy and contribute to refining synchronous online language instruction that mediates language learning and development.

Keywords: instructional conversations, SLA mediation, SCT, synchronous language pedagogy, adult learners, ecological constructivism

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Glossary of Terms

Affordances	Van Lier (2000) defined an affordance as “... a particular property of the environment that is relevant – for good or ill – to an active, perceiving organism in that environment” (2000, p. 252).
Case Definition in This Study	ESOL instructor’s beliefs, role, and actions in relation to language teaching and learning in the synchronous environment.
Collaborative Dialogue	Means “knowledge building [and] involves at least two persons who co-construct knowledge that may be new for one or both of them” (Swain et al., 2015, p. 148).
Comprehensible Input Hypothesis	Means receiving the right input that is one level higher than the actual level of a learner (i+1) in the form of receptive skills (reading and listening) is the only way to lead to language acquisition (Krashen, 1985).
Comprehensible Output Hypothesis	Claims that the output (productive skills: speaking and writing) is also part of the process of second language learning and that <i>collaborative dialogue</i> is crucial in modifying the output to mediate language acquisition (Swain, 2007).
Emergency Remote Teaching (ERT)	Also referred to as crisis prompted remote teaching (Hodges et al., 2020) is a term used to differentiate between pre-planned online design and teaching from the forced pivoting to online teaching in crises such as the COVID-19 pandemic.
English as an Additional Language (EAL)	“ <i>English as an additional language</i> (EAL) is a contemporary term (particularly in the United Kingdom and the rest of the European Union) ... for the use or study of the English language by non-native speakers in an English-speaking environment” (Nordquist, 2020, p. 1).
English as a Second Language (ESL)	“ <i>English as a Second Language</i> (ESL or TESL) is a traditional term for the use or study of the English language by non-native speakers in an English-speaking environment (it is also known as English for speakers of other languages.) (Nordquist, 2020, p. 1)”.
English for Speakers of Other Languages (ESOL)	English that is learnt by adults (other than L1) in a constrained and instructed environment such as the classroom (Rosamond, 2013).

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First Language (L1)	The first language a child acquires is spoken naturally at home and/or is the language spoken by a monolingual community (Hoff, 2009).
First Language Acquisition	Studies language acquisition as a concept and child's first language development. First language acquisition theories explain how a first language is acquired (Hoffman, 2009).
Input-Output Hypothesis	Goes beyond the role of input and unfolded the role of interaction in modifying the learners' output to attain language acquisition (Long, 1996; Pica, 1992).
Instructional Conversations	Is a means of assisting learners' performance to go beyond their capacity through dialogue that is instructional and conversational in nature (Tharp & Gallimore, 1988, 1991).
Instructed Second Language Acquisition (ISLA)	<p>Emerged in line with second language acquisition theories to investigate the role of instruction in supporting second language acquisition in an instructed classroom environment (Loewen, 2020).</p> <p>In this study, ISLA refers to instructed second language learning and development using SLA theories for adult ESOL teaching and learning.</p>
Language acquisition	The concept that depicts the mechanism and explains processes of L1 acquisition occurring in natural contexts (Hoff, 2009).
Language learning	The concept that depicts the mechanism and explains processes of OL learning in constrained environments such as the classrooms (Hoff, 2009).
Language development	The concept of language progress that reflects full or partial internalization. It could occur throughout language acquisition for child L1/L2 and/or adult language learning of OLs (Hoff, 2009).
Mediation (material and symbolic)	“All human behavior is organized and controlled by material (i.e., concrete) and symbolic (i.e., semiotic) artifacts. Mediation is the process which connects the social and individual” (Swain et al., 2015, p. 148).
Modality (synchronous online)	Delivery method for real-time computer- based classroom: the instructor and learners meet via the virtual channel of video conferencing (such as Zoom) at the same time, regardless of their geographical locations (Mullen, 2020).

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Modality (in-person)	Delivery method for physical classroom: the instructor and learners meet in-person at the same physical geographical location (Mullen, 2020).
Mode	“Used to represent information such as verbal (printed words, spoken words) and non-verbal (e.g., illustrations, photos, video, animation)” (Moreno & Mayer, 2007, p. 310).
Multimodal learning environments	“Virtual learning environments that use two different modes to represent the content knowledge: verbal and non-verbal (e.g., text, sound, graphic, art, animation, and video)” (Moreno & Mayer, 2007, p. 310).
Online ESOL Instructor	<p>ESOL Instructor who:</p> <ul style="list-style-type: none">• has developed the competencies to “facilitate learning” and competencies for “pedagogical strategies”, as per Ally (2019) recommendations for the competency profile of the digital and online teacher OR has been involved in professional development, and/or credentials for teaching languages online.• With a minimum of 2 years of teaching experience before and/or during COVID-19 pandemic• is aware of and uses instructional conversations.• is aware of and refers to SLA in classroom practice.
Other languages (OLs)	Languages that are learnt by adults other than L1 and that occur in a constrained environment (Rosamond, 2013).
Second Language (L2)	<p>The second language a child acquires whether simultaneously or sequentially with L1. It is spoken naturally at home by one of the parents and/or is spoken outside of home by the community.</p> <p>OR</p> <p>The second language an adult learns other than their L1 in the classroom (Hoff, 2009).</p>
Second Language Acquisition (SLA)	<p>“Investigate[s] how a second language is acquired, describing different stages of development and assessing whether second language acquisition follows a similar route to that of first language acquisition” (Gitsaki, 1998, p. 90)</p> <p>It also refers to the process of learning any other or additional language after one’s first language.</p>

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Second Language Teacher Education (SLTE)	A growing field of study of teacher cognition, teacher identity, reflective practice, teacher research, narratives and teacher self-development, teacher expertise, teacher emotions, and teacher immunity. “It serves as a bridge to what is known in the field with what is recommended that teachers implement in the classroom” (Farrell, 2018, p. 1).
Task	Task refers to the activities being performed in the recorded session (reading/writing and listening/speaking with integrated (planned and unplanned) grammar activities
Task-Based Language Teaching (TBLT)	It is a teaching approach where learning is based on authentic, communicative, and meaningful real-world tasks. Task-based language learning is student centered and mandates problem solving and negotiation of meaning (Nunan, 2004).
Task Design	Task design in this study refers to lesson planning and its related activities and execution.
Teaching English to Speakers of Other Languages (TESOL) Association	“Advances the expertise of professionals who teach English to speakers of other languages in multilingual contexts worldwide. We accomplish this through professional learning, research, standards, & advocacy”. https://www.tesol.org/about-tesol/association-governance/mission-and-values
Teachers of English as a Second Language Association of Ontario, Canada (TESL, ON)	“An independent not for profit association serving the professional development needs of English language educators in Ontario... provides an accreditation system for educators working in the adult language training field and a recognition program for TESL training institutions in Ontario”. https://www.teslontario.org/organisation/mission-statement

Chapter 1. Introduction

Over the past few decades, theories of “first language acquisition” have inspired “second language acquisition” (SLA) theories which investigated how children and adults learn “languages other than their first language” (OLs). Many of these SLA theories have had tremendous implications for language teaching and learning (Gitsaki, 1998). SLA theories have been utilized to investigate and inform effective classroom pedagogies for OLs. SLA researchers have long raised questions about the role of instruction in OLs classrooms and whether it supports language development and learning. They have long debated whether second language teaching makes a difference in “language acquisition” (Long, 1983). The “instructed second language acquisition” (ISLA) movement emerged to address the role of instruction and teachers in supporting adult OLs learning in physical classrooms (Ellis, 1990; Ellis, 2005; Loewen, 2020). Vygotsky’s (1978) work on child psychology and his approach to child learning are rooted in his “sociocultural theory” (SCT) and based on the concept of scaffolding or assistance by a caregiver or “a more competent other”, at the initial stage of the Zone of Proximal Development (ZPD) (see Figure 1 below). “Scaffolding” is a concept coined by Wood et al. (1976) to refer to the assistance an adult provides to a child in problem solving mainly through asking questions. This concept contributed to the theory of instruction and has become a prominent pedagogical approach in the classrooms in many fields. Despite its popularity, scaffolding as the start of the concept of “assistance performance” has been drawn from work on child psychology, and used vaguely as an instructional tool without specificity on the processes of its implementation. Tharp and Gallimore’s (1988) concept of “instructional conversations” (ICs) is an evolution of Wood et al. ’s (1976) construct of scaffolding and Vygotsky’s construct of assistance. ICs emerged as an

educational reform tool that denounced scripted instruction and called for interactive and conversational teaching. ICs have been adopted in the language teaching and learning field and gained interest mostly in children language classrooms.

With the rise of technology and multimodal learning environments, language teaching and learning research has also gained interest in using these environments. Research on quality teaching that mediates adult OLs development and learning in such virtual environments, particularly in the synchronous modality, is needed (Kozlova & Zundel, 2013). This multiple case study research investigated the assistance that teachers of “English for Speakers of Other Languages” (ESOL) provide to their novice adult learners through the use of ICs in the synchronous online environment. The purpose of this qualitative investigation was to identify what ESOL teachers use, when, for what purpose, and how they orchestrate ICs with their novice adult learners. It also revealed manifestations of ICs and how they relate to SLA, and mediate adult ESOL learning and development in a synchronous online environment, thus bridge SLA theories with synchronous classroom practice. This opening chapter introduces the background of this study, sets the scene for the theoretical underpinnings, presents the statement of the problem, its significance, the guiding research questions, and theoretical framework.

Setting the Scene: Theoretical Background

English Language Learning and Teaching: Terminology Debate and Gap

There has been a debate over what constitutes English as a second language and whether it is for children and adults occurring in an English-speaking country and in natural environments, or only in constrained environments such as the online classroom and whether to call it English as a second language (ESL). A more recent movement in the English teaching and learning field has leaned away from the traditional use of ESL to refer to learning English as

language that is different from L1 because this traditional approach has failed to recognise the fact that for many, English could be learned not only as their L2 but even as their L3, L4 and so on, other than L1 or the so called home language (Nordquist, 2019). The alternative terminologies that have been suggested for ESL in the context of languages that are learned other than L1 are “other languages” (OLs) or “additional languages” (ALs). Accordingly, the terms for learning English as L2 or more are “English for speakers of other languages” (ESOL) and “English as an additional language” (EAL). EAL is a contemporary term that is particularly used in the United Kingdom and Europe (Nordquist, 2020) and that recognises that learners already speak at least one more language at home (Baker, 2011). However, “sometimes the same terms have different connotations” (p. 4) in different regions, such as the use of “bilingual” in the United Kingdom or the use of ESL in the United States and Canada to refer to EAL (Edwards & Redfern, 1992). For the purpose of this study and because of the longstanding literature and names of language associations, I used the term ESOL to describe adults who are learning English as a language other than their L1, either in an in person or online environment. The focus of this multiple case study was to investigate the use of ICs by instructors of novice adult ESOL learners online. As the use of ICs with novice adult ESOL learners is scarce, I reviewed the literature related to using ICs in teaching young ESOL learners (elementary and high school) in the in-person classrooms and online.

This study aimed to bridge SLA theories to language classroom pedagogy. The goal of such a bridge is to inform language teachers about a purposeful use of ICs where teachers, intentionally and reflectively, link SLA theories to their teaching to mediate ESOL learning. This multiple case study also values language instructors’ classroom practices and intends to inform SLA theories, hence fill the gap between theory and practice that second language teacher

education (SLTE) has been facing. SLTE needs “a more reflective approach where teachers themselves consider filling in the gap [of] theory and practice divide by embracing a reflective teaching that endorses [and] /considers teacher learning as theorizing of [practice] and from practice” (Farrell, 2018, p. 5). In other words, there is a need for teachers to not only learn from their classroom practice through reflection, but to also become creators of knowledge which can be distilled from their practice and form a basis for applied theory. ESOL instructors, including those who teach in the synchronous online environments would benefit from a knowledge base on how they assist their novice adult learners using ICs.

In order to contextualize this study, it is important to have a brief overview of how adult language learning, whether it is in the in-person or online classroom, has been driven by language acquisition theories, in particular and applied linguistics research, in general. Hence, in the following sections, I introduce child language acquisition and adult OLs learning. I then, present the origin of applied linguistics and its related subfields namely first language acquisition, SLA and ISLA, and contextualize and discuss how SCT with its tenets of ICs support SLA in this study.

Child Language Acquisition and Adult OLs Learning

SLA research distinguished between child language acquisition and adult OLs learning. Adult OLs learning happens mostly in constrained environments such as the in-person and online classrooms while using L1 at home or with a community (Brown, 2007). ESOL investigates language learning by adults who speak an L1 other than English at home and learnt English as OL in an instructed context for different purposes (Rosamond et al., 2013). In acquiring L1 and OLs, children and adults engage cognitively and affectively. However, child language acquisition and adult OL learning differ in terms of the cognitive maturity related to age,

developmental stages, contexts (natural versus instructed), and purposes and strategies of learning (Brown, 2007).

Nevertheless, children and novice adult learners need assistance in their performance from a more knowledgeable person (Tharp & Gallimore, 1995). In the ESOL context, the assistant is a more knowledgeable person to assist adults in learning English as an OL. They could be a native speaker, a teacher, or a peer. Furthermore, while the means of assisting adults in their language performance could be the same as children, how to implement them may differ due to the various factors briefly mentioned above.

This study adopted an applied linguistics approach to refer to first language acquisition and SLA, and adult language learning research, as well as drew from the field of psychology and the concept of assistance in learning through the means of instructional conversations. It also considered a recent research body that has emerged to further investigate instruction in relation to language development and learning such as the field of study namely ISLA.

Applied Linguistics and This Study

Applied linguistics is an interdisciplinary field that draws its sources from different disciplines such as psychology, sociology, education, and linguistics. One of the tenets of applied linguistics is to examine language acquisition and learning theories. The purpose of such research is to provide theoretically informed and practically oriented solutions to language-related issues such as language teaching and pedagogy (Kaplan, 2002). Hence, applied linguistics research is a two-way process that attempts to bridge language acquisition and learning theories with physical and virtual classroom teaching practice. The study embraced the tenets of applied linguistics as it attempted to solve a practical issue related to synchronous online pedagogy and instruction through ICs. It drew its sources from the work of learning in the

field of psychology, second language acquisition theories and teacher education. In addition, it aimed to bridge language instructors' tacit knowledge and their practices in the online classroom with SLA theories to mediate language development in the adult ESOL classrooms.

The following section discusses the need to bridge language learning theories with classroom practice and clarifies some of the terminology in the English language learning and teaching that are used in this multiple case study.

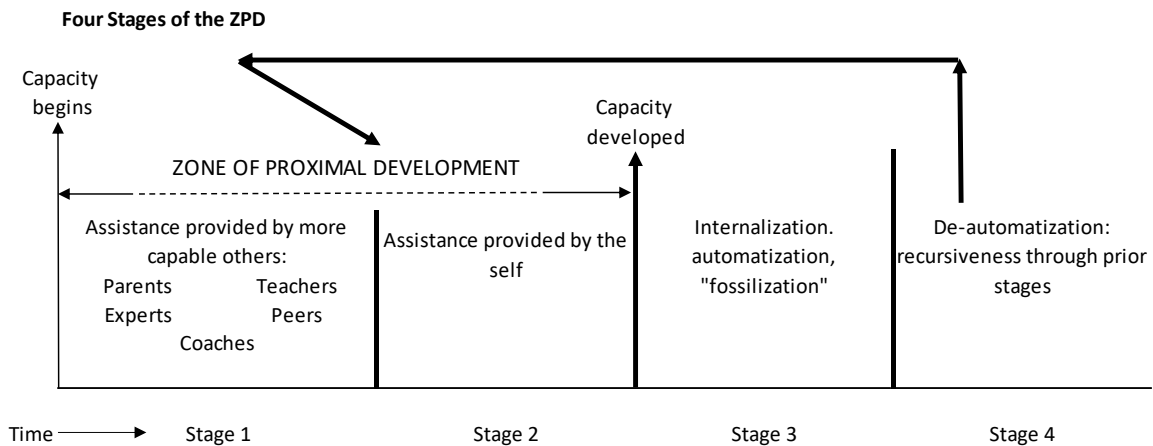
Language Learning Theory and Classroom Practice

Despite its invaluable research that is recognised and embraced by higher education institutions, language associations and scholarly journals, the field of SLA is still facing the debate over praxis on the premise that theory cannot have pedagogical implications or be applied in the classroom unless results have long been proven (Lantolf & Poehner, 2010).

Lantolf and Poehner (2010) argued that Vygotsky's (1978) ZPD is an artifact of his devotion to theory and practice and that his work on psychology promoted "the integration of theory with practice, a 'praxis' whereby theory provides a basis to guide practical activity, but at the same time practice informs and shapes theory" (p. 12). According to Vygotsky's (1978) SCT, humans rely on semiotics tools among which language is the most influential in shaping the relationships with others and oneself. Vygotsky argued that language regulates and mediates social and cognitive activities (Lantolf, 2000). SCT claims that language learning is socially mediated within the interactions that occur between instructors and learners as well as among learners. In addition, language is the subject of learning as well as the tool used to assist language development (Lantolf & Thorne, 2006). Vygotsky's (1978) ZPD, rooted in SCT, is a lens through which language development is promoted whereby learners are assisted by a more competent person to move through developmental stages and reach independent performance.

Figure 1:

Vygotsky's ZPD Adopted From Tharp and Gallimore (1995)



Note: The figure above illustrates the four stages of ZPD and “the genesis of performance capacity during the ZPD [as depicted in stages 1 and 2] and beyond [as depicted in stages 3 and 4]” (Tharp & Gallimore, 1995, p. 35). During ZPD, assistance is provided by a more competent other and gradually fades away as the capacity for performance rises for the self to become the source of assistance.

Vygotsky’s work has inspired SLA researchers to understand the social and cultural artifacts that mediate language learning and cognition whereby language could be a target of learning and at the same time used as a tool to mediate language development (Lantolf, 2000). This mediation through language to assist SLA language development is complex not only when it comes to providing theories to describe it, but also understanding ways of its classroom application. Examples of teaching theories offering frameworks to explain how language in the form of conversations mediate learning are Tharp and Gallimore’s (1988; 1991) means of assistance and ICs, as well as Goldenberg’s (1991) model proposing 10 IC elements for teachers to use in the classroom. This study emphasized the importance of using proven theories and frameworks such as SLA, SCT and ICs to guide classroom praxis. It explored how practices and

feedback from the instructors can refine the existing ICs approach and its real-life application. It intended to connect theory to practice for ESOL instructors, in Canada, on how they assist their novice adult learners using ICs in a synchronous online environment in order to mediate their language learning and development. Most importantly, this multiple case study sought to distill knowledge from practice to further inform ICs theory and provide a framework that helps ESOL instructors refine their orchestration of ICs in the oral synchronous and delayed synchronous chat modalities (Hoven, 2006).

Language Acquisition and its Emergent Subfields

Language acquisition, as an umbrella field, and its emergent fields such as first language acquisition and SLA have drawn from one another and build upon other disciplines and their findings to further explore adult language learning. First language acquisition research focused on investigating and explaining general language acquisition phenomena (VanPatten & Williams, 2015). Researchers referred to child language acquisition theories and built upon them to also explain SLA for adults in instructed controlled contexts such as physical and virtual classrooms. Accordingly, another subfield of SLA has recently emerged to focus on instructed SLA and to define its scope and focus, namely ISLA (Ellis, 1990; Ellis 2005; Loewen, 2015; Loewen, 2020; Long, 2017; Toth & Moranski, 2018).

In the sections below, I introduce approaches to language acquisition that inform this research study. I then discuss SLA, ISLA and SCT in relation to this study.

Approaches to Language Acquisition. Some of the influential approaches to language acquisition are the cognitive, interaction, and sociocultural approaches (Rosamond et al., 2013). These theories generated different models for child's language acquisition and became more reported in SLA research on how they influence adult language learning (Rothman & Slabakova,

2018). The cognitive and interaction approaches around SLA include the “input” and “output” hypotheses. The social approach, widely adopted in SLA and adults’ language learning, values the social and cultural role in language learning. Research generated from these hypotheses contributed to informing and improving classroom practice, in the guided and instructed learning environment, as reported (Loewen, 2020). The section on ISLA (in this chapter) briefly discusses these approaches, and the literature review chapter further expands on them. Below, I address differences and similarities between child language acquisition and adult OLs learning.

In the following section, I briefly discuss ISLA in relation to my study, and the SCT and how it informs SLA and supports the role of instruction in assisting learners’ performance through ICs in the synchronous online environment.

ISLA. ISLA is rooted in SLA and investigates instruction and its effect on L2 learning (VanPatten & Williams, 2015). More specifically, ISLA focuses on SLA in an instructed environment where teachers control and modify the process of L2 acquisition and language development (Loewen, 2020). As a field of research, ISLA seeks to address effective ways of manipulating language learning (Loewen, 2020). Numerous SLA hypotheses that inform classroom pedagogy have gained ground in ISLA. They are of particular importance to this study as they relate to language learning, the input of the instructor and how it affects the output of learners through interaction in the forms of ICs to mediate novice adult language learning online. Among these are hypotheses that relate to the role of input, output, and interaction such as: 1) Krashen’s (1985) “Comprehensible Input Hypothesis”; 2) the “Input-Output Hypothesis” (Long, 1996; Pica, 1994); and 3) Swain’s (2000) “Comprehensible Output Hypothesis”.

In accordance with Krashen’s input hypothesis, the only way to language acquisition is receiving comprehensible input in the form of receptive skills (reading and listening) at one level

higher than the current level of the learner ($i+1$). Krashen's $i+1$ has been mis-conceptually used synonymously with ZPD. Lantolf (2011) differentiated the comprehensible input and ZPD stating that:

Krashen's concept is grounded in a Piagetian perspective that assumes a common internal syllabus for interlanguage development across all learners provided they receive sufficient comprehensible input, while development in the ZPD differs for different learners depending on the quality of mediation negotiated with others (p. 30).

This study differentiated between the two concepts and focused on more competent other or "expert" assisting the performance of a child or "novice" from the Vygotskian lens of the sociocultural input.

The input-output hypothesis (Long, 1996) goes beyond the role of input to unfold the role of interaction in modifying the learners' output to attain language acquisition. Swain's (2000) comprehensible output hypothesis takes a sociocultural theory perspective to value negotiation of meaning that "pushes" learners to modify their input. This occurs in the "collaborative dialogue" and supports language acquisition (Swain, 2000, 2005, 2007). In addition to these hypotheses, ISLA researchers mainly draw from theories that "view instruction as potentially optimizing L2 development" (Loewen, 2020, p. 9).

As mentioned above, ISLA is surely a recent movement that gives hope to the continuous advancement of SLA field and that embraces SLA theories to inform practice and investigate the role of instruction in language classrooms. Therefore, this study recognized ISLA research and the need of investigating classroom instruction in relation to SLA, acknowledged the existence of such a growing field and situated it within this study. However, this study did not refer to adults who are learning OLs, whether this is an in-person or online classroom setting, as second

language acquisition, but rather as language learning and development. Accordingly, while this study referred to ISLA's research on language classroom instruction and its effects on OLs learning, it followed the premises and terminology of the SLA field drawing from its theories and research. SLA differentiates between child language acquisition and adult language learning in the constrained environment; in this regard, SLA informs this study as it focused on adult ESOL language learning and development in the synchronous online classroom. The following section discusses SLA in relation to SCT.

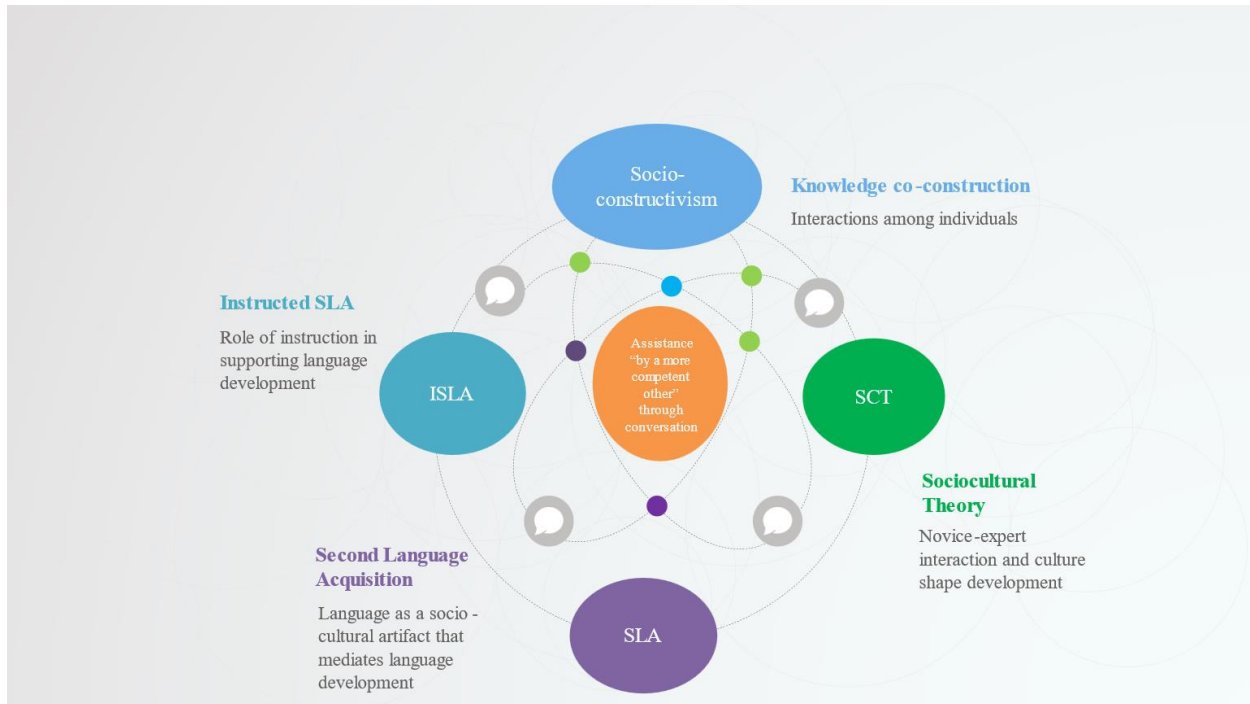
Sociocultural Theory and SLA

Figure 2 below depicts the relationship between socio-constructivism, SCT, SLA and ISLA. It illustrates how these theories interconnect, highlighting the various elements that relate to the concept of assistance performance through interaction within conversations. In the outer circle, the clockwise motion reflects how the theories, in this study, relate to and inspire one another. Starting with socio-constructivism, the notion of interaction among individuals drives knowledge co-construction. SCT builds on this to include the role of novice-expert in interaction through language as a tool for learning. SLA considers the use of language as an artifact to mediate interaction pivotal for language learning and development. Moving forward towards ISLA, using language as a mediation tool inspires ISLA and its focus on instruction to optimize language learning. The inner circle motion and its related lines point in different directions to reflect how the concept of assistance performance and the use of ICs in this study is influenced by these theories. This non-linear motion depicts the dynamism of assistance and the relational interconnectedness of these theories; they intersect at the colored dots through interactions and around the notion of using ICs, in the center. This section further explains how SCT and SLA

interconnect as they view the crucial role of assistance through conversation (language as a mediation tool) in the learning and development process.

Figure 2

Relational Illustration: Socio-constructivism, SCT, SLA, and ISLA



SCT gained popularity in SLA research, building on similarities between children learning in general, and their learning of language. Vygotsky (1978) asserted the power of language in mediating linguistic and cognitive development. The application of SCT in SLA has also gained ground. Rosamond et al. (2013) stated the following:

Lantolf and Thorne (2006) provided the most substantial theoretical overview of applications of SCT concepts to SLA to date...others have provided updates regarding theoretical developments as well as summarizing a wider range of empirical sociocultural research (for example, Lantolf & Poehner, 2008, 2009; Lantolf, 2011; Swain, 2011; Lantolf, 2012) (p. 220).

Assistance Performance and SLA. Similar to the child's origin of learning (linguistic and cognitive development) that Vygotsky (1978) traced back to the use of conversation with others, instructed learning is a process that requires assistance from "a more competent other" or an expert, to develop linguistic and cognitive skills (Tharp & Gallimore, 1988). In school settings, "teaching occurs when performance is achieved through assistance" (Tharp & Gallimore, 1991, p. 5). SCT views language as a mediation tool and an object for learning (Lantolf & Thorne, 2006). This mediation is socially constructed and is situated within the ZPD that is "the distance between the actual development level as determined by independent problem solving and the level of potential development as determined through problem-solving under adult guidance or in collaboration with more capable peers" (Vygotsky, 1978, p. 86). Vygotsky's scholarship on assisting the performance of children through conversations in natural social contexts have been influential and adopted in formal learning, including instructed adult OLS learning.

There are three major conditions for OLS learning, namely: instruction, intention to learn the language and a systematic attempt to manipulate the conditions for learning (Loewen, 2020). In successful OL learning, the teacher is responsible for various actions including the use of the target language as the medium and object of instruction, and ensuring opportunities for input and output, meaning and form as well as interaction that leads to proficiency development (Ellis, 2005; Loewen, 2020). Teacher's assistance requires interaction during which teachable moments arise to guide and support learners. Intentional instruction through language as a mediating tool with conversations supporting learners in problem-solving or task performance is, therefore, crucial for learning to happen. ICs represent this intentional instruction that occurs through

orchestrated conversations as a means of assisting learning (Tharp & Gallimore, 1991; Goldenberg, 1991).

Learners of OLS greatly benefit from interaction assisting their performance in task completion, however, not all interactions result in language development (Ellis, 2003). Research about ICs has emphasized that they are not randomly used but rather employed at a particular time, and in purposeful ways. In OLS classroom, assisted performance in the form of ICs construct ZPD and is crucial for the interaction that attends to second language learning and development (Ellis & Shintani, 2014). Language learning researchers and educators have recognized the importance of ICs and engaged in research in instructed OLS to prove ICs' effectiveness in mediating SLA, based on language acquisition theories and classroom pedagogy. ICs have been investigated mostly in K-12 language settings (elementary through high school levels); however, little is known about how they are and should be implemented to promote effective classroom practice. In addition, research on the implementation of ICs in adult language classrooms (in person and/or online) in a way that mediates instructed second language learning and development is limited. Research that focuses on the role of assistance for the English learning of speakers of other languages is still needed, particularly research into the role ICs may play in synchronous environments in assisting adult ESOL learners to progress through the ZPD phases as illustrated in Figure 1 earlier.

In the following sections, I provide an overview of the research study where I introduce the statement of the problem as a rationale for this multiple case study, pose the research questions, and present its theoretical and conceptual frameworks.

Overview of the Research Study

This study used multiple case study methodology to describe and analyze the role of online ESOL instructors' beliefs and assumptions as well as their actions regarding the implementation of ICs in the synchronous online classroom. Case study aligns with the interpretivist/social constructivist epistemology (Cohen et al., 2018) and suits research that seeks to understand the complexities of processes that address the “how” and “why” of a phenomenon and its particularities within its situated context (Merriam, 2009). This study examined three cases of ESOL instructors teaching adult novice learners whose English proficiency fits within one of the Canadian Language Benchmark (CLB) levels of beginner learners (CLB1 - CLB5). Data was collected by means of in-depth semi-structured and follow-up interviews as well as through analysis of recordings of synchronous sessions of the three ESOL instructors. Data analysis consisted of description, thematic coding, interpretation, and conclusion drawing (Miles & Huberman, 1994) within and across the cases. The analysis generated insights and assertions regarding ESOL instructors' orchestration of ICs in the synchronous environment, which was “the binding concept or idea that holds the cases together” (Stake, 2006, p. 9).

Statement of the Problem

Research on ICs in the language classroom recognizes their usefulness and their contribution to language pedagogy, as well as the need to train teachers on ways to apply them in their classrooms. Nonetheless, it has failed to address how teachers could inform other language educators about the implementation of ICs in their classrooms. Moreover, the existent literature on ICs in the language field has mostly focused on young learners given little attention to how ESOL teachers apply ICs practically in their classrooms with adult learners, whether in person, or online. Despite the growing research on ICs in assisting learning, the existing frameworks

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describing IC elements do not elaborate on how ESOL instructors, in particular, apply them in their in-person and online synchronous classrooms to assist their novice adult learners and mediate their language learning and development.

With the continuous interest in online learning and the demand for the synchronous web conferencing environment, especially due to the COVID-19 pandemic, research into online language pedagogy is needed as it greatly benefits novice teachers and helps them refine their practice. This multiple case study further helps novice teachers implement SLA online as well as inform SLA theories about ways, inspired by synchronous pedagogy, to mediate adult language learning. Such knowledge is related to these instructors' actions and practical recommendations that are inspired by their orchestration of ICs in their online classroom as well as informed by their perceptions of ESOL learning and how it is mediated by ICs.

ESOL instructors of adult learners need practical insights that go beyond abstract language such as scaffolding and general statement such "effective use of ICs". There is a need for SLA informed application of ICs in online synchronous ESOL classrooms as well as a base of practical knowledge that is derived from the experience of online ESOL experts, their beliefs and values about ICs and its relation to SLA. Accordingly, findings from the online ESOL instructors, in this multiple case study, helped provide insights on the nature and goals of ICs as well as on the processes of their implementation with speakers of other languages synchronously. These instructors' beliefs about the practical application of ICs in language learning contribute to bridging the already existing theoretical frameworks of ICs with how to put them in practice. Such practical knowledge is significant as it emerges from the grassroots, that is, online ESOL instructors. Findings also revealed processes of how to orchestrate ICs in synchronous environments.

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SLA, as a body of research, draws on cognitive processes, the role of input and output, and interaction to achieve communicative, engaging, and active learning and should inform teachers' design and pedagogical choices. Equally, the role of instruction and teachers' practices in fostering and supporting language learning and development in classroom settings cannot be overlooked or devalued. In addition to referring to SLA research and language learning theories in teaching ESOL, it is crucial to further investigate and explain why, in what capacity, when, and how teachers think they assist ESOL learners to optimize and mediate their language learning and development, and how they actually enact it. Also, with the increased demand on the use of multimodal learning environments for adult language learning, this multiple case study investigated the use of ICs in mediating OLs learning and development in the synchronous modality.

Scope and Limitations

The scope of this study is limited to teaching adult ESOL learners in the synchronous component of online or blended courses. This includes audio interactions and delayed-synchronous chat and any communication that may occur within the duration of the real-time virtual session. This study excludes any interaction taking place in asynchronous forums to narrow the focus and delve deeper into the investigation and analysis of the data. This exclusion is made due to the complexity of this multiple case study and its voluminous data, time constraints of this doctoral study and limited access to asynchronous resources to investigate the use of ICs in teaching novice ESOL adult learners.

The participants' inclusion criteria consist of recruiting three to five ESOL experts with two to three years of teaching experience prior to and/or during COVID-19 in synchronous environments. Exclusion criteria relate to teaching only in asynchronous environments and

COVID-19 emergency remote teaching with no professional development or certification on online teaching. In Chapter 4, I elaborate on the challenges I faced, as a novice researcher, with the recruitment of the participants and the adjustments I made in relation to the data collection to address its limitations and ensure the trustworthiness of the study. I also explain the research ethics process, and the lessons I learned.

Why Is the Focus on Synchronous Environments? The focus of this study is synchronous environments where ESOL instructors orchestrate ICs. The online synchronous environment is a technology mediated system where the distributed instructor and students meet virtually (Payne & Whitney, 2002). Synchronous communication is a “dialogic communication that proceeds under conditions of simultaneous presence (co-presence) in a shared communicative space, which may be physical or virtual” (O’Rourke & Stickler, 2017, p. 2). Hence, in the online synchronous environment, the instructor and learners meet at the same time in a shared virtual space such as in Zoom or Microsoft Teams. Synchronous communication includes oral interactions via audio and “synchronous computer-mediated communication (CMC) or chatting” (Payne & Whitney, 2002, p. 10). Garcia and Baker Jacobs (1999) referred to synchronous CMC or chatting by using the term quasi-synchronous and Hoven (2006) defined it as “delayed synchronous” chat; this latter refers to the “keyboard-based communication delayed by the enter key” (p. 12). Synchronous chatting and oral conversation share the same cognitive mechanisms to produce the target L2 conversation (Payne & Whitney, 2002). The only difference between oral L2 conversation and synchronous chat is “engaging the musculature to produce overt speech” (Payne & Whitney, 2002, p. 14). Using synchronous CMC or chat as a communicative language instruction has positive impact on L2 oral proficiency (Payne & Whitney, 2002, p. 25). This study used the term delayed synchronous chat. It attempted to

investigate how the oral synchronous interactions and “delayed synchronous” chat influence the instructors’ orchestration of instructional conversations in the oral and written forms as dictated by these two affordances of the synchronous environment.

Synchronous learning creates a sense of community for learners which in turn decreases isolation (Hrastinski, 2008) and has an impact on affective learning, cognition, and motivation due to instructor immediacy and presence (Baker, 2010). For language learning, “expressing oneself effectively and appropriately during oral conversational exchange with native or expert speakers of a target language represents for many learners and teachers the ultimate goal of language instruction” (Payne & Ross, 2005, p. 35). This is possible through synchronous learning for its real-time interactions (Giesbers et al., 2014; Hrastinski, 2008; Hoven, 2006; Meskill et al., 2012) and spontaneous production of language output (Payne & Ross, 2005). Furthermore, synchronous affordances “can scaffold learners in their development of second language productive skills” (Payne, 2020, p. 243). For these reasons, this study focused only on the synchronous interactions and delayed synchronous chat in teaching ESOL.

Why Teachers Only and not Learners? The concept of assistance is based on a more knowledgeable other, a more competent other or the expert. In the classroom context, this could be the teacher as the expert, or a more competent learner assisting a peer (Hawkins, 2021). One of the important roles for online instructors, asynchronously, is “weaving together various discussion threads” (Berge, 1995, p. 1). Similarly, online instructors play a major role in facilitating synchronous interactions online. Because the purpose of this study was to further inform online synchronous pedagogy through the use of ICs, it only focused on the assistance of three ESOL instructors. ESOL instructors in this study referred to those who have developed the digital teacher competencies of facilitation of learning and pedagogical strategies competencies

(Ally, 2019), are aware of and use ICs, relate SLA theories to classroom practice, and have earned a certification in online teaching and/or engaged in professional development during remote emergency teaching. Each of the three instructors in this multiple case study, namely Sam, Dima, and Noor, represented a case that investigated their role in using ICs synchronously. The investigation of the use of ICs as a means of assistance by a more competent learner remained out of the scope of this study.

Research Questions

The focus of this qualitative multiple case study was on novice adult ESOL teaching from an SLA perspective. It investigated the implementation of ICs of online ESOL instructors (Sam, Dima, and Noor) who are experts in teaching in synchronous environments. The selection of the instructors is presented in Chapter 3. The main question and its related sub-questions guiding this study are as follows:

Overarching Question

How do instructors of English for Speakers of Other Languages (ESOL) for novice adult learners orchestrate Instructional Conversations (ICs) to mediate the process of English language learning in synchronous online environments?

Sub-Questions

- (1) In what ways does the instructors' assistance through ICs, in the form of synchronous interactions, mediate the process of English language learning?
- (2) What other elements of synchronous environment, in relation to linguistic and pedagogical effects, seem to shape the types of ICs that the instructors use?
- (3) What aspects of ICs are emerging in the synchronous oral and text-based interactions of the ESOL instructors with their learners?

Defining the Environment

To clarify the sub-questions, it is important to define the learning environment within the scope of my research. Jonassen (2014) presented eight principles that facilitate knowledge construction in a constructivist learning environment:

1. Provide multiple representations of reality;
2. Represent the natural complexity of the real world;
3. Focus on knowledge construction, not reproduction;
4. Present authentic tasks (contextualizing rather than abstracting instruction);
5. Provide real-world, case-based learning environments, rather than pre-determined instructional sequences;
6. Foster reflective practice;
7. Enable context and content dependent knowledge construction;
8. Support collaborative construction of knowledge through social negotiation (p. 35).

My qualitative research study was driven by the constructivist paradigm (introduced at the end of this chapter and further discussed in Chapter 3). Hence, the environment within the scope of my research questions related to Jonassen's above principles. Such an environment focused on the task design and its relevant constructs such as authenticity, contextualization, reflective practice, and is scaffolded by social negotiations. The interaction of the instructors represented their use of ICs to foster such construction of knowledge that leads to higher order thinking and fosters linguistic skills. These interactions occurred in the virtual synchronous channel. The virtual synchronous space and its technological affordances that support immediacy of communication (such as oral interactions through the audio medium and written interactions through the medium

of chat) were part of the environment that created the real-world context in which instructors used ICs to mediate the learners' task performance where learning was occurring.

In addition, the types of tasks, their design, and elements play an important role in the environment as a given task situates learning, enables the content, and mandates collaboration. Research on task-based language teaching (TBLT) has identified several types and aspects of tasks that contribute to SLA. Scholars identified two types of tasks in the TBLT: target tasks and pedagogical tasks (Long, 1985; Nunan, 2004). While a target task occurs in a real-world environment (outside the classroom), a pedagogical task is its simplified version that language learners can work on in a constrained environment such as the classroom (Long, 1985; Nunan, 2004). In other words, it is an attempt at recreating the real-world task in a classroom setting. Tasks that "produce the best interaction, level of communication, and negotiation of meaning among learners" are considered well-designed tasks (Hoven, 1997, p. 40) and meet TBLT requirements that contribute to SLA (Jung, 2016; Long, 1985; Nunan, 2004). Regarding what constitutes the environment in this study, the decisions Sam, Dima, and Noor made in terms of the type of task, its design and communicative elements are considered part of the instructors' tacit knowledge and the environment that shaped the way these instructors used ICs in facilitating adult ESOL learners' task performance. Decisions made based on such knowledge influence the opportunities the pedagogical task provides for SLA (Hoven, 1997) as they reflect the beliefs, attitudes, and assumptions of the instructors towards SLA. They also shaped their actions as they used ICs while facilitating the learners' performance of the task in the synchronous online environment.

Accordingly, the constructivist learning environment includes the virtual space, the assigned task and the instructors' beliefs, attitudes and assumptions towards SLA and ICs. The

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findings of this multiple case study revealed that the environment with its components influenced the way Sam, Dima, and Noor orchestrated ICs.

To sum up, the environment in my study includes the following within its scope:

- the synchronous modality or virtual space with its elements that create the real-world like context;
- task design: its influence on ICs orchestration;
- Sam, Dima and Noor's beliefs, attitudes and assumptions towards SLA and ICs that are reflected in the task and the actions of these instructors while using ICs.

Research Outcomes and Significance

The purpose of this study was to examine the use of ICs of ESOL instructors teaching adult online learners to provide a framework for their implementation of ICs synchronously in the oral and text-based interactions formats. Building on the theory of teaching as assistance performance through ICs (Tharp & Gallimore, 1988), the findings of this study increased the granularity of research on Goldenberg's 10 elements of ICs discussed below. As a result, it provided adult ESOL teachers with a more detailed framework and insights that further explain the mechanism of classroom application of ICs. Further, this study extended the research of using ICs to online synchronous environments to inform ESOL teachers on practical ways to orchestrate ICs to mediate SLA.

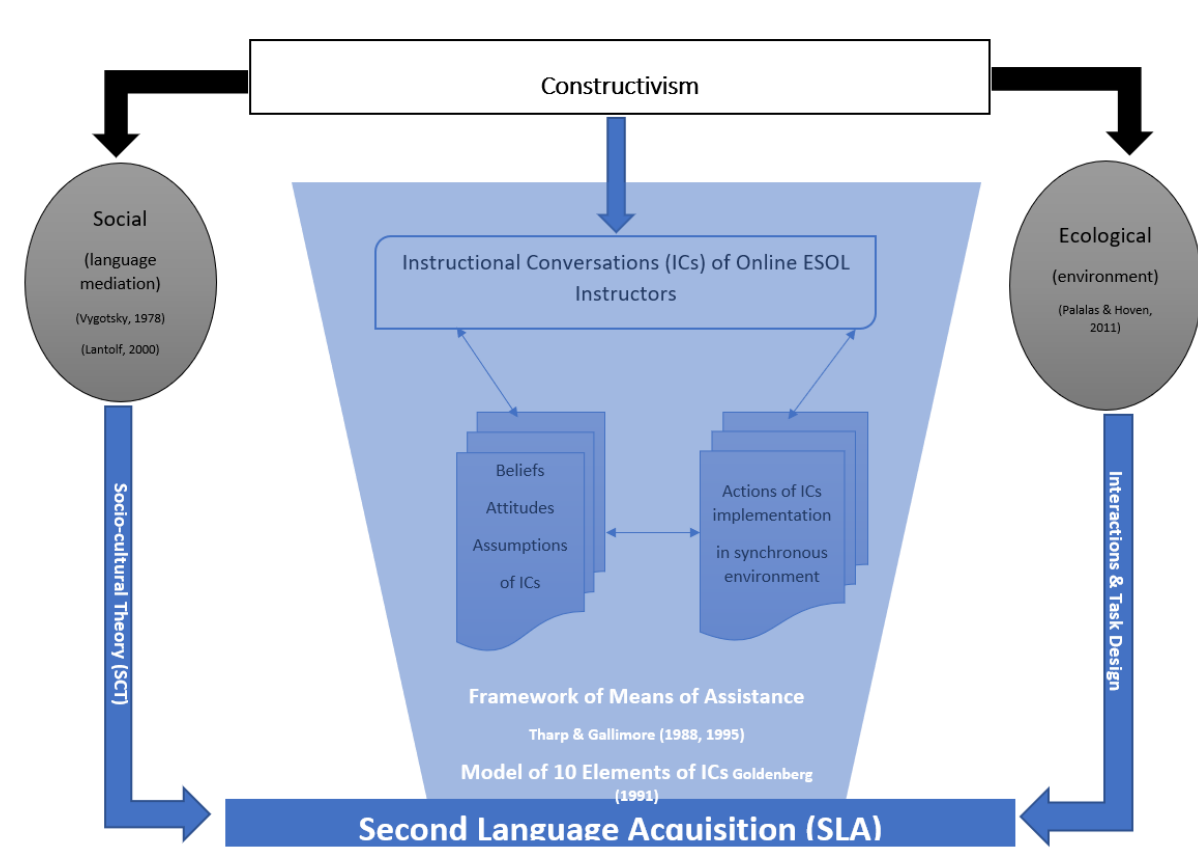
Theoretical Framework

Based on my ontological and epistemological views of multiple realities, contextual perceptions and co-construction of knowledge, this study embraced the constructivist paradigm, with social constructivism and ecological constructivism as interrelated paradigmatic approaches, and qualitative research methodology. As mentioned earlier, the purpose of the

study was to investigate ESOL instructors' implementation of ICs, their beliefs and attitudes of what constitutes ICs, how they should be enacted, and how they mediate SLA. Therefore, the theoretical framework of this study was driven by SCT, Tharp and Gallimore's (1988, 1995) means of assistance framework and Goldenberg's (1991) model of the ten elements of ICs.

Figure 3

Theoretical Framework



Based on the above theoretical framework (Figure 3), ICs are rooted in Tharp and Gallimore's Framework of the seven means of assistance and Goldenberg's model of the ten elements of ICs. Inspired by Vygotsky's (1978) SCT aspects of children's learning through language, Tharp and Gallimore (1988, 1995) adapted seven means of assistance performance from different disciplines to use in formal schooling and improve learning for both children and adults: "modeling, contingency managing, feeding back, instructing, questioning and cognitive

structuring” (Tharp & Gallimore, 1995, p. 44). Their framework coined ICs as another means of assistance performance through language that is both instructional and conversational in nature. Goldenberg (1991) further built on Tharp and Gallimore’s framework on the concept of ICs and their definitions and provided a model of ICs. This model consists of five instructional and five conversational elements to inform teachers professional development practice. These are further discussed in the subsequent literature review chapter and are used as the theoretical framework for my study.

Conceptual Framework

The conceptual framework of this study was driven by the constructivist paradigm. Accordingly, SCT, SLA and the synchronous modality are the guiding theories. The concept of assistance and instructional conversations function within these theories. Chapter 3 provides details and further discusses the conceptual framework underpinning this multiple case study which has emerged from considerations of the various theories from SLA, SCT, ISLA and socio-constructivism. The relationship between these theories have been illustrated in Figure 2 in the Setting the Scene section of this chapter.

Chapter 1 Summary

In this introductory chapter, I provided the background of the research study by briefly discussing child and adult learning and introducing language acquisition theories and SCT for language learning. I also provided the overview of this multiple case study. Subsequently, I positioned my study within its theoretical framework that is based on SCT, Tharp and Gallimore’s (1995) seven means of assistance framework and Goldenberg’s (1991) ten elements of ICs. I also introduced the conceptual framework for the study. The focus of this qualitative multiple case study research was the orchestration of ICs of instructors of ESOL to mediate SLA

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in the synchronous online environment. The findings of this study also aspired to add a knowledge base that came from ESOL instructors' tacit knowledge and practical experiences as well as SLA theories, hence bridging theory with practice in ESOL synchronous environments. The following chapter presents a more comprehensive overview of the theoretical framework underpinning this research and review of the literature around ICs in the language field. This is followed by Chapter 3 that discusses the qualitative methodological approach. Chapter 4 introduces the processes of the study while Chapters 5, 6 and 7 present the within case findings. Chapter 8 discusses the within and cross-case analyses and Chapter 9 addresses the significance, limitations, and future directions.

Chapter 2. Literature Review

In this multiple case study, I conducted a qualitative investigation that drew from research into the socio-cultural aspects of language learning and pedagogy. Hence, SCT and SLA guided it. Based on these underpinning theoretical frameworks, in the review of the literature, I discuss elements of child and adult learning, scaffolding and language learning, assistance performance, language mediation, and instructional conversations in the language field. This chapter situates ICs within SLA and SCT and reviews the literature on ICs, mapping its origins and the research that has arisen to investigate it. It also discusses how research on ICs, particularly in the language field, tackled different subjects, focuses, purposes and modalities. In reviewing the literature, I highlight the importance of social constructivism/sociocultural theory and second language acquisition research in unfolding this research study. I also argue that research on ICs values the use of ICs for different purposes and in different modalities (in-person, hybrid and asynchronous, mainly) and that is exclusively focused on ICs with elementary and high school learners. In addition to the limited literature about the use of ICs with adult OLs learners, it does not tackle how teachers perceive their own applications of ICs and how they actually put them into action in their online synchronous classrooms to mediate SLA. In the following section, I start by briefly introducing the type of literature used in this chapter, then I discuss child and adult learning tracing the concept of assistance and how it relates to this study.

The literature followed a thematic organization that included SCT and “assistance performance” in relation to SCT and SLA, ICs, and ISLA as well as research about ICs in the in-person and online classroom. In reviewing the literature, the discussion around child and adult

learning and scaffolding helped tracing the emergence of ICs and revealed a gap in research on their use with adult learners. The following section covers child and adult learning.

Child and Adult Learning

Research on child and adult learning has shown differences such as the cognitive maturity (Glisczinski, 2011), emotions, past experiences, and knowledge that adults bring into their learning (Merriam et al., 2007), and purposefulness and self-directedness of their learning (Knowles, 1970). “The social, emotional, developmental, and situational variables that affect learning are different for adults and children” (Mackeracher, 2004, p. 26). For language learners, the differences relate to “their preferred channels of perception, the learning processes they activate, their background experience and education, their aptitude and motivation for language learning or learning in general, and their age and level of maturity” (Hoven, 1997, p. 130). Teaching design differs based on these disparities, and teachers tailor their pedagogical choices regarding the most suitable form of interaction to adopt in order to mediate language learning (Hoven, 1997). English language instruction occurs in a variety of contexts and programs, and language instructors need to consider the level and age of the group of learners they are teaching (Finn, 2011). Accordingly, teachers of adult English language learners should be aware of the pedagogical decisions they make to create learning experiences “that are inviting, engaging, motivating, and personally rewarding” for their adult learners (Finn, 2011, p. 34).

Despite the differences between adults and children learning, “the cognitive and physiological processes involved in learning may indeed be similar in adults and children, since they are based on processes that do not change markedly over time” (Mackeracher, 2004, p. 26). For instance, research has unfolded commonalities between the processes children and adults undertake in learning, particularly novice adult learners: those who are new to the subject matter

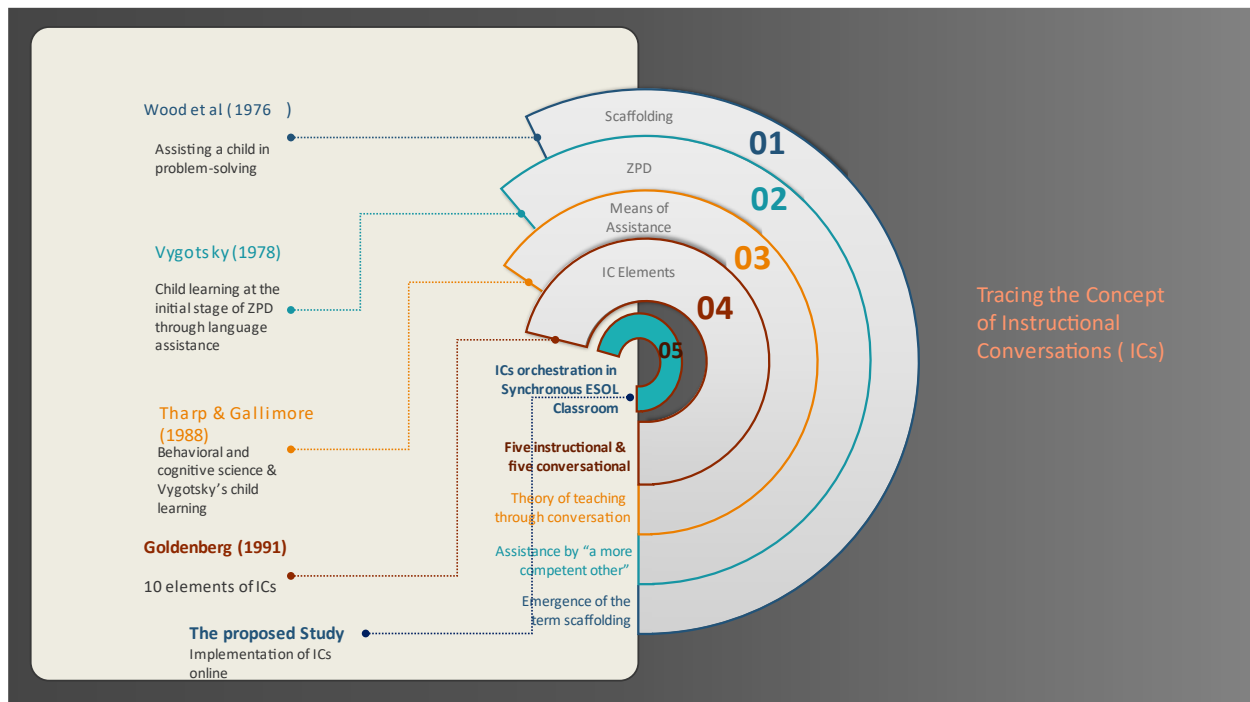
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(Fenwick et al., 2006; Mackeracher, 2004; Merriam et al., 2007). Regardless of age, learners go through similar stages of the learning continuum moving from dependent learners in need of assistance to more independent learners. Accordingly, “pedagogy, identified as directed learning and teacher-dependent, is still a necessary step for a learner of any age who is new to a skill or knowledge transfer” (Doran, 2014, p. 8). Carefully monitored, teacher-guided instruction is then crucial in establishing a good foundation for learning. Assistance in learning is part of the instructional process that leads to cognitive and linguistic development (Vygotsky, 1978); therefore, it has gained the attention of researchers from different fields. This study recognized this essential need of assistance for novice learners and focuses on the assistance of ESOL adult learners in the synchronous language classroom. The concept of assistance has evolved from the metaphor of scaffolding (Wood et al., 1976) and its ongoing deconstruction of meaning and processes in action and mutated to child’s assistance (Vygotsky, 1978) and assistance performance, for all ages, through instructional conversations (Tharp & Gallimore, 1988; 1995). The following section discusses the construct of scaffolding and how it evolved into the concept of instructional conversations in relation to this study.

The Construct of Scaffolding and Language Learning

Figure 4

Tracing the Concept of Instructional Conversation



Many of the concepts of child learning that arose from the field of psychology have influenced other fields such as education and language learning. The process of assistance of a child by “an older other” or a “more expert” was described by the term scaffolding, coined by Wood et al. (1976). Scaffolding is a term that is attributed to the act and process of assisting a child (3 to 5 years old) in problem solving by “an older human” or a more expert to build a pyramid using building blocks and has been widely used in the in-person and online classroom instruction across age groups. Scaffolding consists of: 1) recruitment (getting the attention and initial engagement of the child, 2) reduction in degrees of freedom (involves simplifying the task), 3) direction maintenance (getting the child back on track when distracted), 4) marking critical features (highlight certain features of tasks as needed), frustration control (demonstration /modelling solutions) or “idealization of the act to be performed” (Wood et al., 1976, p. 99).

Similar to Wood et al.'s (1976) scaffolding and Vygotsky's (1978) approach of child learning at the initial stage of ZPD through assistance, adult learning approaches also claim that adult learners who are novice to the subject matter, move throughout the learning continuum from in need of more guidance, support, and assistance by "expert" to a more independent and self-directed learning (Fenwick et al., 2006; Knowles, 1970; Merriam et al., 2007). The concepts of scaffolding and assistance in learning have also inspired language researchers, notably those adopting the socio-cultural approach to language learning and language pedagogy. The focus of such research has been to investigate the processes of learning and instruction in the classroom. While Wood et al.'s (1976) concept of scaffolding and Vygotsky's (1978) concept of assisting in learning through conversation to foster the cognitive and linguistic development contributed to the theory of instruction (Wood et al., 1976), neither one was rooted in education or the classroom but rather in psychology. Nonetheless, these concepts have been widely used in the education field across subjects, including the language classrooms. Despite its popularity, scaffolding is vaguely used, research on its classroom enactment is needed (Hammonds & Gibbons, 2005), and ways to engage instructors on how to use it in the language classrooms are under-investigated (de Olivera et al., 2020). As an attempt to fill in this gap in the literature to identify the intricacies of scaffolding in action, a few models and frameworks on the classroom application of scaffolding have emerged in the language field (Athanasas & de Oliveira 2014; de Olivera & Athanasas, 2017; Hammond & Gibbons, 2005). In their research with ESL learners in Australia, Hammonds and Gibbons (2005) attempted to provide an "enriched model of scaffolding" (p. 6) and "investigate what scaffolding looks like in the enacted curriculum" (p. 10). They proposed the "network model of scaffolding" based on a macro-level and micro level. The former is a "planned scaffolding" while the latter is "interactional scaffolding". The planned

scaffolding also called “designed-in scaffolding.” The realisations of designed-in scaffolding were found in “the ways in which classroom goals are identified; how classrooms are organised; and in the selection and sequencing of tasks” (Hammond & Gibbons, 2005, p. 12). Interactional scaffolding included 1) linking to prior experience and pointing to new experiences, 2) recapping, 3) appropriating, 4) recasting, and 5) increasing the presentiveness. Hammond and Gibbons argued that they consider “the designed-in level of scaffolding as enabling the interactional level, which in turn, enables teachers and students to work within the ZPD.” (Hammond & Gibbons, 2005, p. 20). de Olivera and colleagues (2020) built on Hammonds and Gibbons’ (2005) model and proposed a framework of the application of “interactional scaffolding moves” with first-grade learners in the “teaching-learning cycle” (de Olivera & Smith, 2019). This framework added five scaffolding moves: “moving conversational forward, probing, elaboration, clarification, and purposeful repetition” (Olivera et al., 2020 p. 8). Despite their contribution to the attempt of further clarifying scaffolding, the existent frameworks did not inform about the way scaffolding assist students in language learning, nor did they inform how scaffolding mediates SLA. In addition, the effect of these moves on the learner’s language participation and the scope as being mostly with young language learners remains a limitation (de Olivera et al., 2020).

Further enriching or clarifying Wood et al.’s (1976) metaphor of scaffolding in action, which in turn reflects the construct of Vygotsky ‘s (1978) assistance of learning is an ongoing research quest across age groups including adult learners. One of Vygotsky’s (1978) implications of these constructs and the linguistic and cognitive development is sociocultural theory. SCT has attracted many researchers in different fields and resulted in a mutation of the construct of scaffolding such as assistance performance and a theory of teaching through

instructional conversations (Tharp & Gallimore, 1988; 1995). This multiple case study research took the investigation of assistance performance further to study instructional conversations and their implementation in the adult ESOL synchronous online classroom and how they mediate SLA and adult language learning. In the following section, I discuss learning through the lens of SCT as well as the constructs of assistance performance and instructional conversations in relation to Vygotsky's (1978) work on social cognition and SCT.

Sociocultural Theory, Assistance Performance and Development

Research from various fields such as psychology, adult learning, and linguistics have built upon one another. Consequently, many theories and concepts of child learning have influenced language learning research, including adult OLs learning and teaching. Vygotsky's ideas on the importance of assistance, social contexts, and interactions in developing higher order cognition were influential in giving birth to social constructivism and SCT: a theory that has gained the attention of applied linguists in the 1990s. According to Vygotskian social constructivism, social interactions through language in social contexts are the basis for language acquisition and cognition. His work on child-parent assistance performance to develop the child's linguistic and cognitive skills are applicable to teacher-student formal pedagogy (Tharp & Gallimore, 1995). Hence, neo-Vygotskian research has also advocated for the social aspects of learning and cognitive development through language use as well as the important role assistance or instruction plays in promoting cognition and development through language mediation. In a call for a more constructivist approach to teaching and learning, Tharp and Gallimore (1988), for example, adapted the means of assistance performance through adding the construct of instructional conversations (ICs) to develop a teaching theory through instructional conversations; "a key element that can free classroom discourse from the tenacious hold of

recitation script can be seen now... This inquiry conversation entirely changes ordinary teaching interactions” (Tharp & Gallimore, 1988, p. 264). Language is a social construct and is a mediation tool in inquiry conversation that plays a fundamental role in shaping the thinking process and development, hence allows for co-construction of meaning. In the following section, I discuss Vygotsky’s work on social cognition, assistance through language as a mediation tool and its influence on cognitive development.

Vygotsky’s Social Cognition

According to Vygotsky (1978), the thinking process is a combination of cognition that is shaped by the socially constructed artifacts such as language as a means of mediation. In emphasizing the importance of the sociocultural environment, Vygotsky claimed that matters of mental development are rather qualitative in nature, as they represent complex processes that are transformed once they intertwine with the sociocultural environment (Lantolf & Appel, 2014). Assistance performance as a construct is rooted in Vygotsky’s (1978) work on psychology and SCT. According to Vygotsky (1978), social cognition is dependent on the crucial role linguistic means play in nurturing higher mental processes. In discussing this process, Vygotsky referred to the parent-child relationship where parents’ assistance through language leads to the child’s cognitive and linguistic development. Through social interaction, SCT views assistance performance as a learning approach, using language to mediate learning and reach higher-order thinking, and eventually “internalization” (Vygotsky, 1978). Higher-order thinking includes logical memory, voluntary attention, conceptual thought, planning, perception, and problem solving (Lantolf & Appel, 2014). Internalization is that stage where individuals’ cognition is developed and transmitted through others’ “speech, social interaction and the process of

cooperative activity” (Tharp & Gallimore, 1995, p. 29). Hence, for this to happen, performance and assistance are needed. In the following section, I discuss assistance performance and ZPD.

Child’s cognitive development throughout its ontogenesis experiences lower-order thinking and higher-order thinking. However, the child’s cognitive developmental process is not simply a biological and innate evolution, but it is rather shaped by the sociocultural environment (Vygotsky, 1978). “The sociocultural environment presents the child with a variety of tasks and demands and engages the child primarily-though not inclusively- through the use of language, itself as socially constituted and historically developed artifacts” (Lantolf & Appel, 2014, p. 11). Child learning and development require the assistance of an adult as the child engages in a task and the adult assists them through interaction to solve the problem in that task, then the child provides feedback to the adult who in turn changes the mechanism of their assistance to the child. According to Vygotsky, this back-and-forth interaction and alteration of interaction from the adult not only assist the child in problem solving but help develop their cognitive and linguistic skills. Assistance performance defines what a child can do with the support of the environment, of others, and of the self (Tharp & Gallimore, 1995). The distance between what a child can do alone and with the help of others is ZPD. It is “the distance between the actual developmental level as determined by individual problem solving and the level of potential development as determined through problem-solving under adult guidance or in collaboration with more capable peers” (Vygotsky, 1978, p. 86). In the processes of such an assistance within the ZPD, the child moves from a little control over the environment and cognition to gaining control over complex mental processes. To achieve such a stage of control, the child needs to voluntarily be willing to engage in a task. This voluntary act is at the heart of Vygotsky’s theory of social cognition (Lantolf & Appel, 2014). It involves the child or novice and the adult or

expert and “is directed by language as the most powerful tool of the semiotic system” (Lantolf & Appel, 2014, p. 9). The most important feature of this interpersonal and interactive activity between the novice and expert is the emergence of the higher mental processes through language mediation. The interpersonal activity between the novice who is assisted by the expert advances to become intrapersonal where the child/novice gains more autonomy over the environment. As a result, the mediation is no longer didactic as in the interpersonal stage but self-regulated through private speech (Swain et al., 2015).

One of adult learning characteristics is self-regulation and autonomy. However, adults who are new to the subject matter are also considered novice. Novice learners (similar to children) require assistance. In other words, novice adult learners go through the interpersonal activity where an expert (a more competent adult) engage in interaction that would shape and result in the emergence of higher mental processes. Then, they move to the intrapersonal stage where less assistance is required. However, according to Vygotsky’s social cognition theory, the child receives assistance from adults as they are considered initially incapable of gaining control over their mental processes. The assistance through language mediation helps the child move from the stage of no control over mental processes or strategic thinking (Interpersonal stage) to the next stage of gaining control over their mental processes or self-regulation (Intrapersonal stage). This process marks the child’s cognitive development (Lantolf & Appel, 2014). The expert in Vygotsky’s initial interpersonal stage is the adult in charge of the mediation of the child’s strategic mental processes.

In the OLs classroom context, adult learners who are novice to a subject matter such as ESOL need assistance from the expert in the target language (from a teacher or peer) who assists the adult learner in performing a language task through language mediation. Nevertheless, due to

their ontogenesis, adults at this stage of being novice to the target language are in control of the environment and their mental processes (Lantolf & Appel, 2014). Therefore, it could be assumed that the types and particularities of assistance adults receive through language mediation could be different from the assistance a child would receive due to the many differences between child and adult learning discussed earlier. Nonetheless, the body of literature investigating this construct of assistance is focused more on young learners and applying it the same way with young learners as with adults. The review of the literature revealed that the type of assistance of adult language learners and the intricacies of its application in the in-person and online environments remain under-investigated. This is part of the stimulus of this study which reviewed the type of assistance the teachers provide to ESOL adult learners in the synchronous online environment.

Instructional conversations (Tharp & Gallimore, 1988), inspired by Vygotsky's work on social cognition and the sociocultural theory, is a concept based on assistance as an alternative to scripted learning in the United States schools. Though ICs were not specifically targeting a particular age of learners (Tharp & Gallimore, 1988; 1995), the research on ICs in the language field has also focused on child learning (de Olivera et al., 2020) (elementary through high school), thus research on the use of ICs with adult learners is needed in the in-person and online classrooms. The following section further discusses ICs in relation to formal schooling and pedagogy.

Transfer of Vygotsky's Social Cognition to Schools' Formal Pedagogy

Assistance performance through language by a caregiver is key to child cognitive and linguistic development from a Vygotskian psychological perspective. "Vygotsky's child learning and developmental stages have been the focus on child research, but they can also be seen in

adults during skill acquisition” (Tharp & Gallimore, 1995, p. 249). Schools can utilize Vygotsky’s work on child-parent social cognition or what Tharp and Gallimore refer to as the transfer of *informal pedagogy of everyday life* through assisting and regulating their performance into *their formal and pedagogical practices* (Tharp & Gallimore, 1988). Bringing knowledge from child psychology, cognitive and behavioral sciences, and sociolinguistics together, Tharp and Gallimore (1988, 1995) suggested seven means of assistance using instruction and conversation to assist learners in the classrooms where a teacher’s function is to intervene, guide, moderate, and facilitate. Therefore, formal teaching needs to adopt the principles of assistance performance and their means and apply them to teacher-student relationships in their formal learning contexts for both child and adult learners (Tharp & Gallimore, 1995). I then, introduce the seven means of assistance that inspired the emergence of the concept of ICs and continue with the research that contributed to further investigate what constitutes ICs.

Means of Assistance Performance in Formal Schooling Pedagogy

In a critique of 20th century teaching and addressing the need for contemporary schooling reform, Tharp and Gallimore (1988) developed a unified theory of education that is inspired by Vygotsky’s work in psychology, cognitive science, and sociolinguistics. They introduced the “Theory of Teaching as Assisted Performance” (1988, 1990, 1992, 1993, 1994, 1995) where they discussed “the means of assistance performance: *modeling, contingency managing, feeding back, instructing, questioning and cognitive structuring*” (Tharp & Gallimore, 1995, p. 44). The authors claimed that by synthesizing the findings of the various studies of the means of assistance performance that “belonged to different theories, disciplines and nations [...], we can link large areas of knowledge into an articulated structure- a theory of teaching” (p. 44) that is inspired by western psychology and neo-Vygotskian development theory. According to Tharp

and Gallimore (1988), there are seven means of assistance performance that had been long studied in behavioural and cognitive science as follows:

1. **Modeling:** offering behaviour for imitation. Modeling assists by giving the learner information and a remembered image that can serve as a performance standard.
2. **Feeding back:** providing information on performance as it compares to a standard. This allows the learners to compare their performance to the standard and thus allows self-correction.
3. **Contingency managing:** applying the principles of reinforcement and punishment. In this means of assistance performance, rewards and punishment are arranged to follow on behaviour, depending on whether or not the behaviour is desired.
4. **Directing:** requesting specific action. Directing assists by specifying the correct response, providing clarity and information, and promoting decision-making.
5. **Questioning:** producing a mental operation that the learner cannot or would not produce alone. This interaction assists further by giving the assistor information about the learner's developing understanding.
6. **Explaining:** providing explanatory and belief structure. This assists learners in organizing and justifying new learning and perceptions.
7. **Task structuring:** chunking, segregating, sequencing, or otherwise structuring a task into or from components. This modification assists by better fitting the task itself into the zone of proximal development. (p. 4)

The seven means of assistance performance refer to the type of interactions that help construct ZPD and therefore foster learning (Ellis & Shintani, 2014). They are also manifested in scaffolding (Wood et al., 1976), and “collaborative dialogue” (Swain, 2000). “When these means

of assistance are woven into a meaningful dialogue during joint activity, there exists the instructional conversation, the sine qua non of teaching” (Tharp, 1993, p. 273). Adopting and implementing such teaching approach through ICs requires a change of teachers’ mindsets and values as well as their classroom practice where “teaching occurs only when assisted performance is provided to the learner in the ZPD” (Tharp& Gallimore, 1995, p. 249). According to Tharp and Gallimore (1995) the purpose of this is “to illuminate the development of higher-order teaching” (p. 249). Such an assistance performance is possible through conversations.

Assistance Performance Through Conversations

Tharp and Gallimore (1988) introduced a new teaching theory using conversations that are instructional and conversational in nature. This new theory utilized the seven means of assistance performance described above, and renounced contemporary teaching based on recitation and direct instruction. This new theory is based on Vygotsky’s ZPD, where assistance performance is needed at the first stage of ZPD (assisting through a more capable other) by means of conversations for both children and adults (Tharp & Gallimore, 1995). Assistance develops the learners’ thinking and linguistic skills and occurs by teachers and/or peers through “the questioning and sharing of ideas and knowledge that happens in conversations (Tharp & Gallimore, 1991, p. 4). Instructional conversations denote the use of instruction and conversation. In other words, they are conversations used by the teacher (or peer) to engage in learning. Also, this means of assistance through conversation has instructional components (is instructional) to assist learning.

Tharp and Gallimore engaged in extensive professional development to introduce and teach teachers about ICs through modeling, classroom observations, ICs discussions and analysis. The Kamehameha Elementary Education Program is the fruit of a 15-year research and

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involved psychologists, linguists, anthropologists, and educators to “improve the cognitive and educational development of a group of educationally at-risk ethnic minority” (Tharp & Gallimore, 1995, p. 115). The program represents an example of a system that adopted the new conversational teaching theory and transformed the school and its classrooms. Goldenberg (1991) built on the early work of Tharp and Gallimore of assistance performance through instructional conversations that advocated for professional development to provide “intellectual stimulation and opportunities to develop new knowledge and skills” (Goldenberg & Gallimore, 1991, p. 1). Goldenberg (1991) went beyond a general description of conversation assistance through ICs to focus on what the constituents and elements of ICs are and how to implement them in classroom interactions. Hence, “a more precise model or description of ICs” (p. 6) emerged.

Goldenberg's (1991) model of the ten elements of ICs comprises the following five instructional elements (#1 to 5) and five conversational elements (#6 to 10):

1. **Thematic focus:** the teacher selects a theme or idea to serve as a starting point to focus the discussion and has a general plan on how the theme will unfold, including how to “chunk” the text to permit optimal exploration of the theme.
2. **Activation and use of background and relevant schemata:** The teacher either "hooks into" or provides students with pertinent background knowledge and relevant schemata necessary for understanding a text. Background knowledge and schemata are then woven into the discussion that follows.
3. **Direct teaching:** when necessary, the teacher provides direct teaching of a skill or concept.

4. **Promotion of more complex language and expression:** the teacher elicits more extended student contributions by using a variety of elicitation techniques, for example, invitations to expand ("Tell me more about ____ "), questions ("What do you mean by ____ ?"), restatements ("In other words, ____ "), and pauses.
5. **Promotion of basics for statements or positions:** the teacher promotes students' use of text, pictures, and reasoning to support an argument or position. Without overwhelming students, the teacher probes for the bases of students' statements: "How do you know?" "What makes you think that?". "Show us where it says ____ ."
6. **Few "known-answer" questions:** much of the discussion centers on questions and answers for which there might be more than one correct answer.
7. **Responsiveness of student contributions:** while having an initial plan and maintaining the focus and coherence of the discussion, the teacher is also responsive to students' statements and the opportunities they provide.
8. **Connected discourse:** the discussion is characterized by multiple, interactive, connected turns; succeeding utterances build upon and extend previous ones.
9. **A challenging but non-threatening atmosphere:** the teacher creates a "zone of proximal development" ... where a challenging atmosphere is balanced by a positive affective climate. The teacher is more collaborator than evaluator and creates an atmosphere that challenges students and allows them to negotiate and construct the meaning of the text.
10. **General participations including self-selected turns:** the teacher encourages general participation among students. The teacher does not hold exclusive right to

determine who talks, and students are encouraged to volunteer or otherwise influence the selection of speaking turns. (p. 8)

Drawing upon the classroom practice of teachers and research based on Vygotsky's work, Goldenberg and Gallimore's (1991) used this model of ICs elements to conduct research on professional development with teachers of young learners and to teach them how to "use ICs skillfully and purposefully" and what it takes for "teachers to learn teaching skills as complex as ICs" (p. 71).

Tharp and Gallimore's theory of assistance performance through ICS and Goldenberg's (1991) model of the ICs elements did not directly address language learning and teaching, but rather the importance of cognitive stimulation in teaching and learning, advocating for education that goes beyond "impart[ing] knowledge and teach[ing] skills (Goldenberg, 1991, p. 3). Instructional conversations are key for such education. According to Goldenberg (1991), the over two million limited English proficiency (LEP) students in US schools represent such a gap in the US schooling system as such student population "experience inadequate cognitive and language environments in schools" and could therefore benefit from teaching that involves the use of ICs (Goldenberg, 1991, p. 3). Hence, Goldenberg's illustration of the elements of ICs relied on teachers of young learners who were transitioning from Spanish to English with the focus on the reading skill. Tharp and Gallimore's and Goldenberg's work on ICs inspired many researchers to explore ICs in various fields such as OLs learning and teaching. ICs are grounded in SCT and can also be situated within the SLA field of study. In the following section, I situate instructional conversations within SLA and interaction research, as well as ICs within the SCT and how they relate to language learning and teaching.

Instructional Conversations Within SLA and SCT

Interaction and Second Language Acquisition

As a field that studies the way people learn second and additional languages, research in SLA is varied and eclectic as it draws on different areas, including linguistics, psychology, and education. SCT for language learning “enriches the understanding of Second Language Acquisition (SLA) and Second Language Education” (Swain et al., 2015, p. 1). In accordance with SCT principles, learning occurs through interaction with others, amongst learners and through cultural artifacts, and is used to explain how language learning is mediated by social interactions, language, and communication technology as mediation tools (Lantolf, 2000). Second language acquisition hypotheses such as Krashen’s (1985) Comprehensible Input, Schmidt’s (1990) Noticing Hypothesis, and Long’s (1996) Interaction Hypothesis fit within the social constructivist paradigm and sociocultural theory for constructing knowledge through interaction, for second language acquisition to occur.

Krashen (1985) claimed that comprehensible input is indispensable for language acquisition and for learners to move from stage i to stage $i+1$. Negotiation of meaning (Pica, 1994) and collaborative dialogue (Swain, 2000) are forms of interactions that lead not only to comprehensible input but also comprehensible output. Krashen’s (1985) “Comprehensible Input Hypothesis” explained how people across ages are equally equipped to acquire second, additional languages or OLs given that they receive the right type of input named comprehensible input. Such input supports SLA when it is meaningfully beyond their current competence level. Krashen’s (1985) comprehensible input relates to receptive language skills (reading and listening) and does not address productive skills (speaking and reading). While Krashen’s hypothesis viewed the type and amount of input as being sufficient for language

acquisition even for adults, others valued modified input through interaction (Rosamond et al., 2013).

Schmidt (1990) argued that learners need to go beyond receiving comprehensible input and be able to engage in negotiation of meaning to produce comprehensible output. In accordance with the noticing hypothesis, learners notice issues in their output with the help of the teacher, peer, or self. Accordingly, the noticing hypothesis recognizes the input of teachers in helping second language learners reach this stage and modify their output for acquisition/learning to occur. Furthermore, the interaction hypothesis in its strong and weak versions value interaction in providing the right input and creating the right context for second language acquisition to occur. Long's (1996) 'strong' version of the interaction hypothesis perceives interactions as the main contributor to second language acquisition. Brown's (2007) 'weak' version views interaction as a means to provide learning opportunities to learners. In this regard, the interactions that teachers use to assist their OLs learners are a crucial vessel to make the language input comprehensible for learners. They are also crucial for learners to produce comprehensible output through interactions and negotiation of meaning. For example, Pica et al. (1996) related the negotiation of meaning through interaction to assistance performance. According to Pica, in negotiating meaning, learners can best learn through the input of a more competent speaker such as a native speaker or a more competent peer. Similarly, the teacher could assist learners through interaction in different ways, such as instructional conversations. The "Input-output Hypothesis" (Long, 1996; Pica, 1992) unfolds the effect of modified output on SLA. When teachers assist learners in breaking down form and meaning in their productive skills (speaking and writing), they modify their output which plays a crucial role in supporting SLA. Swain's (2000) "Comprehensible Output Hypothesis" in supporting SLA took a sociocultural

approach to OLs acquisition. Comprehensible output plays a mediation role in supporting language acquisition. Through negotiation of meaning among teachers and learners teachers push OLs learners to alter the formulation of a language in terms of structure, content, discourse, and communication. Swain (2000) adopted Vygotsky's (1978) view of learning and the role of semiotic tools such as language in mediating mental processes. According to Swain this mediation occurs through negotiation of meaning in "collaborative dialogue" which plays a major role in learning OLs.

Learner-environment interaction. Van Lier's (2000) ecological approach to language learning broadened the scope of interaction in SLA research and moved it from the input-output didactic channel to a more interactive channel: affordances. According to Hoven and Palalas (2011):

in language learning occurring in the presence of technology, affordances are only realized by the interaction of a learner with that technology and/or other humans and content, and the ways in which these in turn allow ("afford") access to learning and knowing. (p. 707)

Stressing the importance of interaction as a core element in SCT and various research in SLA, ecological educators "see language and learning as relationships among learners and between learners and the environment," and that learning is therefore "contextualized and process-oriented" (Van Lier, 2000, p. 258). Accordingly, the environmental affordances influence the relational aspect of the learning experience between the learning agents (teacher-student and/or student-student), their interactions among themselves and with the channel of communication or technological tool they use to do so. This ecological approach on interaction relates to ICs in a synchronous multimodal learning environment and addresses how the environmental affordances

could influence the teachers' use of ICs in the form of synchronous oral conversations and/or text-based interactions also called delayed synchronous chat (Hoven, 2006). This ecological constructivist paradigm supports the social constructivist paradigm (Hoven & Palalas, 2011) that grounds my research study.

Ecological constructivism captures “the processes of language learning, the systems of interaction among different participants or interactors, and [is] a research approach to exploring the mutual exchanges within these emergent systems” (Hoven & Palalas, 2011, p. 701) and is grounded in SCT and “other forms of Vygotsky-derived constructivism in which a greater emphasis is placed on the interaction and co-creation of knowledge *among groups and networks* of human learners” (Hoven & Palalas, 2011, p. 701). Accordingly, ecological constructivism provides valuable insights on the process and the relational aspect of the teacher's use of ICs, the environment and language learning, and the way it influences teachers' pedagogical choices on how they implement ICs in their ESOL synchronous classrooms.

Instructional Conversations Within Sociocultural Theory and Language Learning

In SLA, the use of ICs as a means of assistance is at the heart of interaction. Means of assistance through language mediation such as ICs are central for SLA to occur (Ellis & Shintani, 2014) as they “help learners perform a specific feature which is not part of their self-regulated L2 system” (p. 212). SCT argues that human cognition is a mediated process that occurs through cultural artifacts, among which is language use (Lantolf & Thorne, 2007). The socio-cultural aspect of language learning views ICs as an aspect of language in use and as a mediating tool (Lantolf, 2000). In other words, language is a target language to learn and is used as a mediating tool of instruction, using language to instruct and assist, thereby teaching the target language. This mediation of learning through language is at the core of Vygotsky's social

cognition and leads to internalization through a child-parent “joint activity” (Vygotsky, 1981) or a teacher- student “cooperative activity” (Tharp & Gallimore, 1995). Accordingly, ICs are the “dialogue between teacher and learners in which the teacher listens carefully to groups of students’ communicative intent, and tailors the dialogue to meet the emerging understanding of the learners” and that “teaching occurs when performance is achieved through assistance” (Tharp & Gallimore 1991, p. 2). In second language acquisition terms, this would “read that acquisition occurs when performance (both comprehension and production) is assisted through instructional conversations” (Meskill & Anthony, 2007, p. 8). Hence, SLA requires the use of language as a mediation tool to provide linguistic support that is tailored to the conversational needs and its evolving structure. This linguistic support to assist performance (in the form of instructional conversations) is key for language acquisition to occur. Therefore, this gained the attention of second and/or foreign language researchers and educators to investigate ICs in the language classroom for different purposes and in different modalities. In the section below, I review the literature that investigated ICs in language learning and teaching in in-person and online environments.

Research on Instructional Conversations in the Language Classroom

In attempting to investigate ESOL adult learners’ assistance performance through ICs in the synchronous online environment, the review of the literature revealed a gap that needs to be narrowed. Research investigating ICs in the language classroom has varied across levels and subjects as well as modalities (in-person and online) and is mostly centered around child learning: elementary through high school English language learners, while the literature on ICs in the adult language classroom is scarce. Different studies explored ICs in primary and/or secondary levels to teach different subjects such as reading comprehension and second language

writing (Newell et al., 2019), bilingual classrooms (Patthey-Chevez et al., 2019) English as a foreign language (Ghaffari & Fatemi, 2016; Meskil & Sadykova, 2011), English as a second language (ESL) (Howkins, 2021), content classes using the English language to teach math, biology, and art, (Hendy & Cuevas, 2020; Henry, 2013; Saunders & Goldenberg, 1999) English for academic purposes (Villar, 1999), and foreign languages teaching such as Spanish, Russian and French (Davin, 2013; Meskill & Anthony, 2005; Esteban-Guitart, 2015; Van Compernelle & Williams, 2012). The overarching focus of such research recognizes the importance of ICs as a tool in teaching the subject matter, hence, exploring ICs effectiveness to reach their outcomes and answer their inquiries. Mostly relevant to this study, the literature on the type and application intricacies of assistance that adult experts provide to novice adult learners remains limited in the in-person and online environments. This study intended to narrow such a gap.

Instructional Conversations Research in the In-person Language Classroom

The literature on ICs primarily focuses on the importance of using ICs in the classroom for different purposes. A common methodology in literature is therefore to analyze classroom conversations and/or testing their effectiveness in teaching the various subject matters of focus. Davin (2013) investigated the way a primary school teacher used the dynamic assessment (DA) framework and ICs using Tharp and Gallimore's ICs framework (modeling, feeding back, contingency managing, directing, questioning, explaining and task structuring), in creating a group ZPD, as Davin named it, in a Spanish as a foreign language classroom. Based on the classroom transcription and analysis of ICs, the findings showed that the teacher was able to use assistance through ICs whenever needed and used them effectively in creating a group ZPD. This study also emphasized the 'natural' use of ICs by teachers without requiring training. While Vygotsky's work on social cognition and parent-child assistance performance in ZPD through

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the natural use of language is applicable and recommended in formal learning contexts such as language learning, the use of ICs requires training to implement the means of assistance and ICs elements to implement effective formal teaching (Tharp & Gallimore, 1988; Goldenberg, 1991; Meskill, 2009). Furthermore, not only do teachers need formal training, but they also need a base of knowledge on how to implement ICs that is generated from their classrooms. For these reasons and with this background, my research investigated how teachers think they use ICs in the adult ESOL classroom and how they implemented the means of assistance and IC elements in a synchronous language environment. This study explored the teachers' perceptions as well as actions and processes of using ICs to demystify the natural use or the "I don't know, I just do it" of using ICs in the language classroom.

In a study of the assistance of fourth grade ESL learners, Hawkins (2021) claimed that within the process of assistance and the implementation of ICs, the teacher had to understand what students understand first, then she was able to assist them and had them understand what she offered "resulting in a continual back-and-forth process of connecting students' understanding to instruction" (p. 271) and an ever-shifting roles of expertise between subject, novice and expert within the interpersonal stage of ZPD. While Hawkins (2021) investigated the implementation of ICs in a tenth grade ESL classroom using Tharp and Gallimore's (1988) framework, their analysis of the data was through the lens of activity theory and the actions of the teacher and learners. Their emphasis was on the concepts of expert and novice and not how ICs implementation contributed to ESL learning and development; a lens from which this study investigated the orchestration of ICs. Adding to the existing literature and its focus on ICs mostly with young language learners, Hawkin's (2021) study also investigated the implementation of ICs with young learners and in the in-person ESL classroom. In contrast, my research granulated

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Tharp and Gallimore's means of assistance and Goldenberg's ten elements of ICs to frame a tangible pedagogy on the implementation of ICs in the synchronous online environment with adult ESOL novice learners. The findings of my study aimed to strengthen the knowledge base for and narrow the gap of how ICs are and can be used in the online language classroom with adult learners.

Various studies explored the use of ICs in the classroom based on teacher training as a preliminary condition of the research without investigating the actual practice of ICs by teachers. Saunders and Goldenberg (1999) experimented with the use of ICs and literature log in the first and second years of the English language art classroom. Their study did not provide details on how ICs were used by teachers in the classroom but rather focused on the effectiveness of ICs and Lit log on students' essays and whether it is contingent on the level of proficiency of students. Therefore, while their study examined the effectiveness of IC in English Language writing, it did not cover how these ICs were used. In addition, the five teacher participants had a one-year training on how to use ICs, but the study did not mention how the teachers were trained and whether they put ICs in practice the way they were trained.

In addition, Hendy and Cuevas (2020) warned about how to use ICs in the classroom. They tested the effectiveness of ICs and jigsaw activity in an elementary math classroom where learners were using the English language to learn math content. The study compared two groups: one group where teachers used ICs and jigsaw and another that did not use ICs and jigsaw in order to examine whether ICs and jigsaw would improve learners' academic development and engagement. As the results showed, the use of ICs only increased learners' engagement and did not have an impact on learners' academic development. Accordingly, Hendy and Cuevas called for using ICs "carefully" without framing what is meant by, or what it takes to be considered as

careful and *effective* use of ICs in their classrooms, and without discussing the effectiveness versus the misuse of ICs by teachers, in the control group. This is a recurrent theme where researchers recognized the need to examine the effectiveness of ICs in the classroom as a tool to investigate another research focus: ICs as a tool to teach speaking (Ghaffari & Fatemi, 2016), IC's role in shifting teachers' epistemologies on high school English language arts for argumentative essays (Newell et al., 2019), for promoting sociolinguistic competence in the classroom ZPD (Compernelle & Williams, 2012), and for developing academic language proficiency (Villar, 1999); without examining the actual use of ICs in the classrooms. Though not in the language classroom, Henry (2013) recognized this gap between theory and practice when it comes to ICs research and practice. To bridge theory with practice, Henry (2013) noted the importance of examining teachers' pedagogical practices to better inform schools' policies and refine learning. However, the scope of their research was limited to examining teacher teams' conversations, outside of the classrooms, about their instructional practices.

It is informative and useful for research on ICs in general and language learning more specifically, to report on how teachers assist adult learners' performance through ICs in their classroom. This is the window from which I conducted my research and further took it to online synchronous environments. In the next section, I review the literature on ICs in the online environment.

Research on Instructional Conversations in the Online Environment

Research on ICs in Online, Asynchronous, and Blended Environments

Meskill (2009) expanded the research on ICs to online asynchronous environments and recognized the gap in the literature, highlighting the fact that ICs have been talked about but rarely used and implemented in online classrooms. In addition, they recognized the need for a

“guided and systematic observation and analysis of teaching via online ICs” that serves as “immediately visible data educators need as models, as subjects of analyses, as practical experiences, and as models for extensive professional conversations” (p. 61).

As language learning via computer-mediated communication (CMC) is growing, the need for research that provides tangible examples of how to orchestrate ICs online is also growing. Meskill and Anthony (2007) examined whether “simulated instructional conversations using CMC [could] be used effectively in faculty professional development” showing that “readings, discussions, simulated practice, and reflections concerning engagement in instructional conversations can indeed foment awareness of the anatomy of effective online instructional conversations for foreign and second language instruction” (p. 5). In this study, a model of professional development was designed where simulated ICs were orchestrated by nineteen teacher participants being trained in an asynchronous online environment. CMC facilitated the use of ICs and provided learning opportunities for teachers to revisit, observe, discuss, and analyze the archived data of asynchronous instruction. “CMC afforded the participants time and static text, both of which allow for carefully constructed teacher and learner responses” (Meskill & Anthony, p. 12). While Meskill and Anthony’s (2007) study provided opportunities for applying (as teachers) and experiencing (as learners/students) the use of ICs to bridge theory to practice in language CMC instruction, it failed to meet its main goal of focusing on and informing about orchestrating effective ICs in the asynchronous CMC: “a professional development course that dealt solely with orchestrating effective online interaction was not a possibility at the time this course was delivered” (Meskill, 2007, p. 16). In addition, while Meskill’s focus was on preparing teachers how to use ICs mostly in the asynchronous online

environment, my multiple case study expanded research into ICs to synchronous environments and investigated what teachers do in their actual live synchronous classrooms.

To summarize, research on the use of ICs asynchronously through analysis of recorded classrooms to build on teachers' understanding of how ICs are applied and inform their future practice (Meskill 2009), or teachers observing and analyzing their students' use of ICs asynchronously to inform their own practice (Meskill & Sadykova, 2011) are good preparations for teachers for classroom application. However, investigating teachers' own use of ICs in their online classrooms help validate what teachers learnt from the professional development and inform how they put in practice the use of ICs in online English language classrooms with their students. That is what my study explored.

In addition, research on what teachers do with ICs in their own classrooms in the synchronous language context is modest. More studies such as scrutinizing the teachers' use of ICs in a hybrid Russian classroom (Meskill & Anthony, 2005) or the case study on what a biology teacher did in her biology class using ICs (Meskill et al., 2019) in the in-person classrooms are also needed in the synchronous multimodal OLs learning context. My research narrowed this gap in the literature and investigated how teachers say they use ICs compared to data on how they actually used them in their synchronous online classrooms. The significance of such research is that it is derived from teachers themselves: their beliefs, and attitudes as well as their behaviours in their classrooms to inform instruction practice and theory, in synchronous environments.

Research on ICs in Synchronous Online Environments

Research on teachers' use of ICs in synchronous language environments is limited. The anatomy of implementing ICs in online synchronous environments differs from asynchronous

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CMC and hybrid environments. Lamy (2004) studied oral conversations in a synchronous environment in response to the growing need to explore synchronous language classrooms. However, Lamy did not investigate language instruction through conversations but rather investigated learner-learner conversations in an intermediate French program that was mediated by voice-based groupware and other audio-graphic tools. In their study exploring the usage of the affordances of the multimodal synchronous environment, Kozlova and Zundel (2013) recognized the benefits and role in engaging language learners for language development using teachers' ICs. They analyzed twenty-five archived synchronous sessions of five different foreign language instructors to capture the variations among teachers' choice of affordances when using ICs to co-construct meaning with their high school language learners. The results showed that teachers' fundamental belief of how language learners learn a language played a major role in their choice of affordances in the synchronous environment to mediate their instructional conversations with their students. My study investigated the ESOL instructors' beliefs regarding SLA and classroom pedagogy in relation to their use of ICs, as well as the role the environment plays in the orchestration of ICs, synchronously.

Unlike Kozlova and Zundel's focus on "how the use of multi-modalities facilitates multiple students' engagement in instructional activities" (p. 6), my study focused on the intricacies and processes of how teachers use ICs, in synchronous environments. In such environment and for English language learning and instruction, synchronous affordances add another dimension of spontaneous and instantaneous conversational and engaging context where teachers' orchestration of ICs mediates language acquisition. The process of ICs orchestration is grounded in Tharp and Gallimore's (1988) applicability of Vygotsky's (1978) child-parent social cognition of assistance into formal schooling pedagogy using instructional conversations. This multiple

case study also provided insights on the instructors' beliefs of when and why they use ICs the way they do when applying ICs assistance in ESOL synchronous environments as well as how they actually did it.

Summary of ICs Research in the Language Context

Though research on ICs in the language classroom recognizes the importance of using ICs as a useful pedagogical approach, it tends to overlook the need to learn from teachers on their use of ICs and investigating how teachers implement them in their classrooms. Even those who embraced the natural use of ICs by teachers in their classrooms (Davin, 2013) failed to investigate or provide an explanation of such a natural application of ICs. Another observation that is drawn from the literature covered here is that researchers recognize the need for teachers to be trained on how to use ICs in their classrooms yet overlook the need to investigate whether such training is effective, by looking further into the teachers' actual implementation of ICs and examine whether teachers used ICs the way they were trained to. Tharp and Gallimore's (1988) theory of teaching through ICs and his framework of assistance performance through ICs have surely gained the attention of researchers in the language field. However, the body of literature on ICs in the language classroom has mostly focused on young learners and rarely elaborated on how ESOL teachers apply ICs practically in their classrooms, whether in person, asynchronously or synchronously. My research study therefore aimed to narrow this gap by providing insights into the complexity and intricacy of implementing ICs in the synchronous ESOL pedagogy for adult novice learners. This needed research helped build a knowledge base about ICs pedagogical practices that mediate language learning and development and that is coming from teachers' beliefs, attitudes, and actions about their use of ICs in their synchronous classrooms.

Chapter 2 Summary

The literature revealed the lack of research investigating the instructors' implementation and orchestration of ICs and its mediation of SLA in the synchronous online ESOL adult classroom. In fact, most of the research on ICs in the language field has focused on young learners and the in-person classroom. Moreover, there is a need of more research on ICs in the online environment, particularly, in the synchronous modality. The investigation of ICs online has been mostly related to the asynchronous modality and for teacher training purposes and not their actual implementation in the classrooms in the post-training phase. Finally, the literature on the use of ICs in the synchronous language classroom is limited. Narrowing the gaps of such an implementation with ESOL adult learners in the synchronous online modality contributes to further refining the existing frameworks of teaching through assistance of performance and SLA mediation in the language field, hence it helps bridge theory and practice.

Chapter 3. Qualitative Methodology

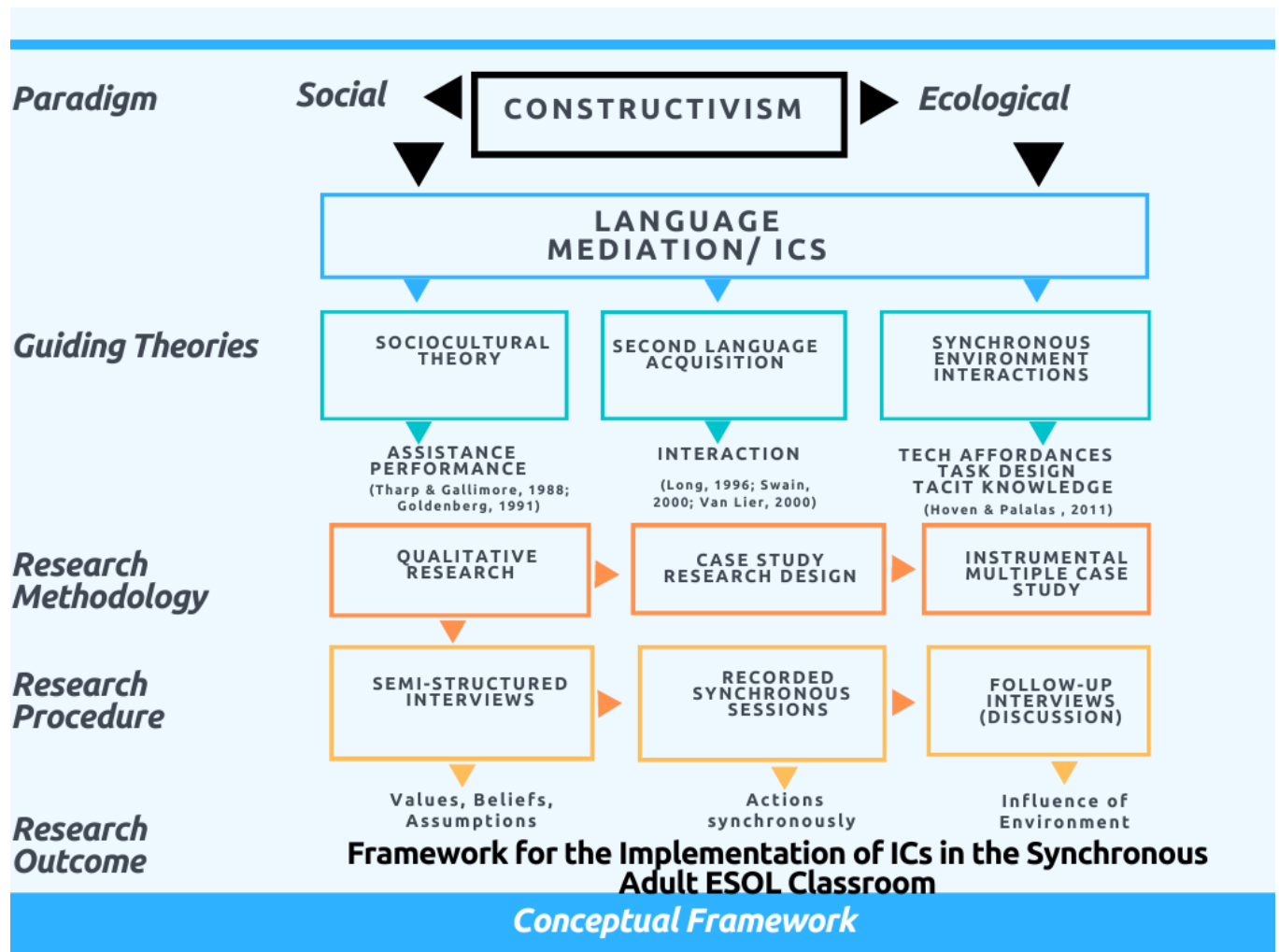
In this chapter, I present the qualitative approach to the methodology that I adopted to conduct this research in conjunction with the conceptual framework, scope, and research questions and design. I start by presenting the conceptual framework map of this study. Then, I provide the scope of the study and my position related to my beliefs about the nature of reality and knowledge. Next, I restate the problem (the identified gap based on the literature), the research outcomes and significance, and the research questions of my study. Subsequently, I cover the qualitative methodology, the research design, and conclude with the qualitative approach to data collection and analysis. In the following chapter (Chapter 4), I discuss the changes to the initial plan for data collection, the reasons for such changes and the decisions made to proceed with the research that influenced the processes related to the data collection.

Conceptual Framework

In this section, I present the conceptual framework map of this study and elaborate on its components: the paradigm, guiding theories, methodology and outcome.

Figure 5

Conceptual Map of Instructional Conversations in Synchronous Environments



The above conceptual framework (Figure 5) depicts the paradigm on which my research topic is based, the different dynamics that tend to regulate instructional conversations (ICs), and how they interact to mediate language learning in synchronous environments. Constructivism, as a paradigm, fits the purpose of my research. Hence, starting in the center, this study is inspired by the constructivist paradigm. More precisely, social constructivism and ecological constructivism are the paradigmatic approaches underpinning my research study. Instructional conversations which constitute the topic of this research are rooted within this paradigm and its

accompanying paradigmatic approaches. They are aspects of teachable moments that reflect the way the instructor and learners co-construct knowledge. Moreover, since these are situated in the synchronous online language environment, ecological constructivism relates to the impact of the environment on ICs and how they operate. Stemming from ecological constructivism, synchronous interactions are part of the mediation of ICs in such an environment. Moreover, language mediation through ICs as a semiotic tool drives SLA and synchronous online pedagogy.

SLA and SCT are theoretical frameworks that relate to the realm of social constructivism where ICs are grounded. The concept of ICs is derived from Vygotsky's (1978) SCT of learning that views human learning as evolving around an activity through different tools and that would lead to and explain second language acquisition and learning. These conversations constitute interactions in the form of language used as a tool for learning and language in use. Task-based approach (TBA) is situated under the two theoretical frameworks and relates to task design as being an important element of the environment that influences the construction of these conversations. A given task for learners for collaboration constitutes the basis for SLA input-output and interaction models as well as interaction from an ecological perspective. The dynamics of ICs and the mediation of the environment, in this regard, are another major theme under investigation.

Assistance performance is the driving concept of this study as it investigates ESOL instructor's perceptions, enactment, orchestration of ICs, and the role of the environment: the synchronous oral and text-based interactions as well as the design of the tasks that are performed in the classrooms of ESOL adult learners.

This study follows a qualitative research approach using multiple case study methodology. It utilizes semi-structured interviews to investigate the instructors' perceptions and assumptions about ICs and SLA. The recorded sessions scrutinize their actual actions while enacting and orchestrating ICs in their online ESOL classroom. The follow-up interviews conducted in the form of discussions include the instructors in the data analysis and lead to data triangulation. The distillation of the tacit knowledge about ICs and SLA and the tangible actions detected in the synchronous ESOL classrooms provide insights and a theoretical framework on the orchestration of ICs in the adult language classroom. The purpose of this outcome is to further enhance and guide the implementation of ICs as well as bridge SLA theories and synchronous online classroom language pedagogy. In the following section, I provide the scope of the study, then position it within my ontological, epistemological, and axiological beliefs.

Scope of the Study

Terminology Orientation

The terms “acquisition” and “learning” have been used synonymously by many linguists and researchers (Hoff, 2009; Loewen, 2020). However, Krashen (1982, 2003) made a central distinction between the two in his acquisition-learning hypothesis of his Monitor Model of SLA. In accordance with Krashen's distinction, language acquisition is “the subconscious process whereby learners construct the grammar of the L2” (Rosamond et al., 2013, p. 53) and “gain implicit knowledge to use it for communication” (Loewen, 2020, p. 4), while language learning is conscious and explicit. Loewen's (2020) claimed ISLA's stance on such a debate on language acquisition and learning and opted for the use of language acquisition, language learning, and language development synonymously. In contrast, this study followed the tenets of SLA research. It distinguished between child language acquisition and adult language learning and

development based on the clear distinction of early exposure and natural process for language acquisition and the adult later exposure and instructed processes for language learning and development that occur in constrained settings such as the online synchronous classroom.

Data Orientation

The scope of this study is limited to teaching adult ESOL learners in solely synchronous based online courses and/or the synchronous online component of blended courses. This includes audio/video interactions and delayed- synchronous chat and excludes any interaction taking place in asynchronous forums. The number of cases is limited to three instructors and the context is within the scope of teaching English to speakers of other languages (ESOL) online at Canadian post-secondary institutions. This establishes commonalities amongst the cases in terms of the subject matter being taught, and the context in which it is taught (Gomm et al., 2000).

In addition, due to time constraints, ethical complications, and institutional logistics (details provided in Chapter 4), this study included access to one recorded synchronous session for each case (a total of three recordings).

For the analysis of the recorded sessions and follow-up interviews, I excluded data (discussions) that are not related to ICs. I investigated the actions of the instructors to see how they are using ICs, and to trace which elements they are using and for what purposes as well as the influence of the environment in terms of the task design. I ran an analysis of the implementations of ICs referring to the framework of Tharp and Gallimore (1988) and the 10 IC elements of Goldenberg (1991). I checked if there were any manifestations of these in the teachers' use of ICs. In the follow-up interviews, I shared with the participants' extracts of these usages of ICs for them to analyze the environment's influence reflecting their pedagogical choices behind using ICs in the synchronous oral and delayed written chat formats. I also

generated a synthesis of the discussions and shared it with the three participants for member checking to confirm or adjust the authenticity and accuracy of their intended messages and conveyed meaning.

Positioning

Ontology depicts one's belief about the nature of reality and how one views the world (Cohen et al., 2018). In this regard, I believe that there is no single reality but rather multiple realities that depend on contextual, and cultural factors. I also highly value nominalism according to which reality is created in one own's mind and shaped by contexts, beliefs, assumptions, and values (Cohen et al., 2018). Accordingly, as a researcher, I value people's opinions, beliefs, and assumptions, and recognize their important role in co-constructing social reality and knowledge based on their social practices, perspectives, and contexts. This implies interpretations of multiple realities and contextual perceptions. In this study, I sought to understand what ESOL instructors of adult learners believe and how they perceive weaving instruction and orchestrating assistance through the use of ICs in the synchronous online environment.

The way one perceives reality determines their own epistemology: the way one views, accesses, and produces knowledge. According to my epistemological stance, I view knowledge as subjective, personal, and unique to the individual, group, and context (Cohen et al., 2018). In order to access knowledge, I strongly believe in practicality. This implies that the way the researcher accesses knowledge and collects data is driven by "what works to address the research question" (Creswell & Plano Clark, 2018, p. 38). I also believe that knowledge is mainly a social construct; individuals co-construct knowledge according to the way they perceive their own experiences, and by interacting with oneself and others. According to this epistemological view,

knowledge production includes investigating and interpreting social phenomena from different angles, and/or generating an applicable theory based on the interpreted multiple perspectives for the sake of transferability of such knowledge to similar contexts (Guba and Lincoln, 1994).

Accordingly, this study followed a qualitative multiple case study where the beliefs and assumptions of ESOL instructors about ICs are a valuable resource for knowledge access and co-construction. One of the main characteristics of qualitative research is to investigate phenomena occurring within their natural settings and contexts to depict the holistic as well as the particularities of such rich phenomena (Creswell, 2003). Equally, the interpretation of the actions of the instructors provided multiple perspectives of knowledge about the orchestration of ICs and their mediation of SLA in their natural context: the synchronous online classroom. In the following section, I revisit the statement of the problem of this study along with its research purpose and significance.

Statement of the Problem, Research Purpose, and Outcomes

Despite the research on the effectiveness of ICs as *a sine qua non for teaching* (Tharp & Gallimore, 1988), how ESOL instructors of novice adult learners apply them in the synchronous online environment to mediate SLA remains under-researched. Accordingly, the purpose of this study was to investigate the synchronous applications of ICs in the ESOL multi-modal web conferencing environment from the perspectives of ESOL instructors' beliefs, views, and actions in their classrooms. Therefore, my study further built on the knowledge of applying ICs; a knowledge that came from ESOL instructors in synchronous environments.

As introduced in Chapter 1, I developed one main question and three sub-questions to guide my methodology and research design.

Research Question

This qualitative study investigated the ESOL use of ICs in an online multi-modal web conferencing environment. The main question guiding this study is the following:

How do instructors of English for Speakers of Other Languages (ESOL) of novice adult learners orchestrate Instructional Conversations (ICs) to mediate the process of English language learning in synchronous online environments?

Sub-Questions

- (1) In what ways does the instructors' assistance through ICs, in the form of synchronous interactions, mediate the process of English language learning?
- (2) What other elements of the synchronous environment, in relation to linguistic and pedagogical effects, seem to shape the types of ICs that the instructors use?
- (3) What aspects of ICs are emerging in the synchronous oral and text-based interactions of the ESOL instructors with their learners?

In the following section, I discuss the methodology of this study to answer the presented research questions and the rationale behind such a choice.

Qualitative Methodology

This study followed a qualitative methodology within the constructivist paradigm. The purpose of the constructivist paradigm is “to understand the subjective world of human experience” (Cohen et al., 2018, p. 19). This paradigm values the actions of human beings from within and looks at the relationships of such actions and how they influence one another in co-constructing knowledge. In this regard, my study followed a constructivist paradigm with social constructivism and ecological constructivism as its related paradigmatic approaches.

Accordingly, I interpreted ESOL instructors' synchronous use of ICs. Investigating these

teachable moments in the form of instructors' ICs speaks to social constructivism and follows Vygotsky's (1978) sociocultural aspect of language learning that views assistance performance through language as a mediating tool (Lantolf, 2000). They are aspects of teachable moments that reflect the way the instructor and learners socially co-construct knowledge in online language environments. Since in this study ICs occurred in a synchronous online environment, looking into the impact of the environment on ICs and their processes speaks to ecological constructivism.

In qualitative research there are two approaches to case study: the socio-constructivist approach such as the one proposed by Stake (1995) and the postpositivist approach as the one proposed by Yin (2009). Case study research methodology is flexible and allows for in-depth investigation through description and interpretation of the subject of study (case) which makes it holistic (Merriam, 1988; Stake 1995) and "particularistic, descriptive, and heuristic" (Merriam, 2009, p. 46). The research design for this study aligned with the qualitative constructivist approach to case study research. The following sections cover the details of such a design.

Case Study Research Design

Instrumental Multiple Case Study Method

This study followed an instrumental multiple case study design. Case study is one of the primary research traditions used in qualitative research (Creswell, 1998; Merriam, 1988; Merriam, 2009), especially in the field of education and health (Merriam, 1988). Based on the constructivist paradigm underpinning this study and following Creswell and Poth (2018), I view case study research as "a qualitative approach in which the investigator explores a real-life, contemporary bounded system (case) or multiple bounded systems (cases) over time, through detailed, in-depth collection involving multiple sources of information... and reports a case

description and case themes” (p. 98). Thus, I adopted a social constructivist approach to case study following Stake (1995) and Merriam (1998) qualitative methodological approach to research.

Researchers propose three major phases to identify the case to study: “defining the case, bounding the case, and deciding on single or multiple cases” (Savin-Baden & Major, 2013, p. 160). Creswell and Poth (2018) stated that the types of case study are:

distinguished by the focus of analysis for the bounded case such as whether the case involves one individual, several individuals, a group...[and] in terms of the intent of the case analysis. The unit of analysis might be multiple cases or a single case. (p. 98)

Stake (1995) distinguishes between the instrumental and intrinsic case study as each has a different research intent. Unlike the intrinsic case study where the focus is on the case itself, instrumental case study goes beyond the individual case (Stake, 2006) and is conducted when “a research question, a puzzlement, a need for general understanding, and feel what we may get insight into the question by studying a particular case” (Stake, 1995, p. 3). Instrumental case study also provides insights on issue or is used to refine theory (Stake, 1995). I, therefore, used an instrumental multiple case study as a qualitative research method for this study to investigate the application of ICs in synchronous ESOL adult classrooms. Merriam (1998) defines a qualitative case study in education as “an intensive, holistic description and analysis of a bounded phenomenon such as a program, an institution, a person, a process, or a social unit” (p. xiii).

Case Selection, Inclusion Criteria, and Sampling

This instrumental multiple case study adopted deliberate sampling decisions (Marshall & Rossman, 2006) and initially planned for the selection of low sampling of three to five cases.

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Due to faced challenges (discussed in Chapter 4), the actual sampling met the minimum planned requirement of three cases. Each case met the criteria of informative case for ESOL adult teaching, and prior COVID-19 online language teaching experience and/or earned credentials and professional development for emergency remote teaching or online teaching. Each case constituted an online ESOL instructor teaching CLB1-CLB5 adult learners at Canadian post-secondary institutions. While this number of cases may seem low for other types of research designs, the purposeful selection of a low number of cases in a multiple case study design helps show the different perspectives on the issues (Creswell & Poth, 2018; Marshall & Rossman, 2006). Moreover, qualitative multiple case study design inherits voluminous data that require a thick description for each case and rigorous analysis across the cases. Hence, it is recommended for small group of comparison cases to be able to draw clear conclusions (Liebersohn, 2000). Working with three cases, such as in this study, represents an acceptable number within case study design (Gomm et al., 2000) and requires extensive data management and analysis to respond to the issue under investigation. Low sampling also enhances the credibility of the qualitative research (Marshall & Rossman, 2006).

The selection of cases was inspired by seeking “the opportunity to learn” (Stake, 1998, p. 102) through illuminating and informative cases. It also followed Cohen et al.’s (2018) purposeful sampling of qualitative research to identify people who have the knowledge and experience that provide informative input. Lastly, Creswell and Poth (2018) provided more criteria for purposeful sampling based on the accessibility of the cases. As part of the recruitment process, accessibility of the cases was considered and a questionnaire that included the criteria for selection was used (see Appendix B). For the sake of accessibility of cases, I adjusted part of the criteria to a minimum of 2 years before and/or during Covid-19 pandemic as well as

involvement in professional development and/or certificate related to teaching English online. Ethics approval, the language field's modest involvement in online teaching and learning and the context of the Covid-19 pandemic played a major role in the accessibility of cases and their selection. I present details on these challenges and rationale for such adjustments in Chapter 4.

Case Boundaries

In a case study research, case boundaries require different elements. Specifically, a bounded case should include “a finite number of people who might be interviewed, a finite number of documents to be reviewed, or a finite number of observations that might be made” (Savin-Baden & Major, 2013, p. 154). My bounded instrumental multiple case study included three cases. The case in this study is defined as the ESOL instructor's beliefs, role, and action in relation to language teaching and learning. Therefore, the three cases under investigation in this multiple case study are the instructors. Each instructor was given the option to choose a pseudonym that represents them as a case in this study. According to the pseudonyms they chose, I refer to the three cases henceforth as Sam (first case), Dima (second case) and Noor (third case).

Each case was interviewed twice and provided, in average, a ninety-minute recording of synchronous online teaching. The number of recorded sessions was adjusted based on the instructors' will, availabilities and logistics that made it possible to record only one synchronous session, instead of two, for each case. The first interview was in the form of a semi-structured interview, while the second interview was in the form of a follow-up interview. The latter occurred after the thematic analysis of the recorded session(s).

To investigate my bounded cases, I identified four embedded units of analysis within each case:

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1. Attitudes and beliefs of ESOL instructors on ICs and how they relate to SLA.
2. Their beliefs on the process of applying ICs in synchronous environments (how they think ICs should be applied/ they think they are applying them in their online classrooms).
3. How the environment shapes/influences the use of ICs by the instructors.
4. How instructors applied ICs based on the recorded sessions (instructors' processes/actions).

Qualitative Approach to Data Collection and Analysis

As discussed earlier, I epistemologically position myself as subscribed to the constructivist paradigm. I believe that knowledge is socially constructed through people's practices. I perceive reality as a social construct that exists in people's minds and that is shaped by their beliefs, assumptions, values, and contexts. Based on such epistemological stance, I find myself aligned with the qualitative socio-constructivist approach to case study. Accordingly, this multiple case study exclusively followed qualitative approaches to data collection and analysis. To ensure the trustworthiness of such qualitative research design (Korstjens & Moser, 2018), the data collection techniques, procedure, and analysis reflected Guba and Lincoln's (1994) notions of credibility, triangulation, transferability, dependability, confirmability, and reflexivity. Below, I discuss the data collection techniques, and in Chapter 4, I present the processes of data collection and analysis of the study.

Data Collection Techniques. Qualitative case study design requires intensive data collection from multiple resources (Creswell & Poth, 2018; Guba & Lincoln, 1994; Stake, 1998). This multiple case study used three techniques for data collection for each case: one semi-structured interview, one video recording of synchronous ESOL session to CLB1-CLB5 level adult learners (online ESOL instruction), a follow-up interview, and an interview guide, a

reflexive research journal and field notes as instruments for data collection. Table 1 illustrates the three main data collection sources and how they relate to the research questions.

Table 1

Illustration of Data Collection Techniques

Data collection technique	Focus of data collection technique	Data collection instruments/tools	Research question addressed
Semi-structured interviews	Beliefs and assumptions in relation to ICs and SLA Role of environment (task design)	Interview Guide Research journal & field notes	Sub Q1: In what ways does the instructors' assistance through ICs, in the form of synchronous interactions, mediate the process of English language learning? Sub Q 2: What other elements of the synchronous environment, in relation to linguistic and pedagogical effects, seem to shape the types of ICs that the instructors use?
Recording of synchronous sessions	Actions/enactment of ICs in the synchronous classroom	Research journal & field notes	Sub Q 3: What aspects of ICs are emerging in the synchronous oral and text-based interactions of the ESOL instructors with their learners?

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	Task design influence on those actions		
Follow-up interviews	Role of environment (oral synchronous vs delayed synchronous written chat)	Guided Discussion Research journal & field notes	Sub Q 2: What other elements of the synchronous environment, in relation to linguistic and pedagogical effects, seem to shape the types of ICs that the instructors use?

Note: The table above illustrates the data collection techniques and their respective focus, data collection instruments and the research question that each technique intended to answer.

Data Analysis. Instrumental multiple case study refers to the investigation of multiple cases observed in parallel or sequential order (Stake, 1995). In this research, I adopted a sequential observation and analysis where I inquired into each case holistically in its context (Stake, 1995, 1998) to draw themes and create meaning that encapsulates the various elements within each case. Equally, I was attentive to meaning that reflected their interdependencies as well as uniqueness. Then, I conducted a parallel investigation across the cases to be able to draw commonalities, preserve the uniqueness of each case, and create a foundation for understanding the phenomenon of using ICs in the synchronous multimodal learning environment.

A case study is holistic, particularistic, contextual, and concrete (Merriam, 1988, 2009; Stake, 1995; Yin, 1994). In multiple case study, researchers are urged to seek what is common

and what is particular about the cases. This involves careful and in-depth consideration of the contextual factors (Stake, 1998). Accordingly, in this multiple case study research, I used system thinking for a holistic investigation. Considering this, holistic in the within-case and cross-case analyses in this study means looking at all the elements within each case, their interconnectedness, and interdependencies in their situated contexts. In addition, the particularistic aspect in this study refers to the investigation of Sam, Dima, and Noor's use of ICs. It addresses how they think ICs should be used, hence their beliefs and assumptions. It also investigates their actions (how they used ICs) in the synchronous environment. Based on these phenomena under investigation in this study, the case refers to the role of each instructor using ICs that is shaped by their beliefs and assumptions as well as their actions and their online ESOL classroom practice. In the cross-case analysis, the particularities represent the uniqueness of each case. I use uniqueness to refer to the aspects that are only prominent and unique for each case: Sam, Dima, and Noor.

The Role of the Researcher

As the researcher of this study, I facilitated the different stages and processes I designed for this instrumental multiple case study. I was responsible for collecting, documenting, securing, and reporting on the data analysis and findings. As an applied linguist, I have my own biases that are based on SLA theories that influence classroom practice as opposed to practice that is inspired only by teaching experiences. Nevertheless, as demonstrated through this study design and purpose, I attempted to bridge SLA theories to teacher education perspectives on online pedagogy and second language learning. Accordingly, I played the role of a collaborator. I utilized ways such as member checking to give voice and stance to my participants through the use of the follow-up interviews. Therefore, I engaged them in the analysis of the recorded

sessions data related to their actions in their classrooms and their intake on the influence of synchronous environments. In addition, I shared my interpretation of the interviews for them to confirm or challenge it, when it did not reflect what they intended to say or did not align with their justification of their actions. I therefore reiterated their messages and documented what was agreed upon. While this multiple case study draws from multiple sources, my expertise as the researcher in SLA and adult teaching may be perceived as a source of bias in drawing conclusions, for post-positivist researchers. Nonetheless, in such qualitative research, my collaboration represents a justified involvement in the research and its drawn conclusions. As a collaborator, I was able to co-construct knowledge with the participants through our discussions in the follow-up interviews without leading the flow of decision-making and interpretations of that data and the final mutual agreement on its dissemination.

Chapter 3 Summary

To sum up this chapter, epistemologically, I position myself as subscribed to the constructivist paradigm. Hence, I view knowledge as socially co-constructed and emergent from people's values and assumptions, and consequently shaped by their cultures, contexts, and experiences. Suitably, my research adopted a qualitative multiple case study methodology to cultivate tacit knowledge from ESOL instructors teaching novice adult learners online at Canadian post-secondary institutions. The distilled knowledge was informed by their own assumptions and beliefs about SLA and how their orchestration of ICs in their online classroom mediated it. Such knowledge was derived through semi-structured interviews. A qualitative investigation of the actual enactment of ICs in their natural contexts of synchronous online ESOL classroom revealed the intricacies of weaving instructional moves through ICs. This was accomplished through an analysis of recorded sessions as well as follow-up interviews whereby

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the researcher discussed with the instructors of ESOL novice adult learners selected episodes of instructional orchestration through ICs. The data analysis of the episodes was driven by the teachers themselves. As a researcher, I also shared my analysis at a later stage of the follow-up interviews and engaged in a discussion with the participants to co-construct a mutual understanding of the factors and elements of the environment that influenced the use of ICs. The interpretation of the overall data of ICs enactment followed Tharp and Gallimore's (1988) means of assistance and Goldenberg's (1991) ten elements of ICs. Details about coding and analysis are presented in the process section in Chapter 4. The different qualitative data collection and analysis techniques enabled data triangulation across multiple sources for the sake of trustworthiness of the case studies findings including their transferability to similar contexts.

Chapter 4. Research Processes

In the previous chapter, I described the qualitative methodology and research design, the planned data collection procedure, and the analysis approach for this multiple case study research. In the current chapter, I present the actual study processes, including the faced challenges as well as the adjusted sampling and data collection procedure, then I discuss data triangulation and analysis. I start by briefly addressing the challenges faced and their related factors, the context in which this research occurred, the decisions I made, and the actions I took to ensure its trustworthiness. Following this, Chapters 5, 6 and 7 present the findings from the three selected cases: Sam, Dima, and Noor, respectively.

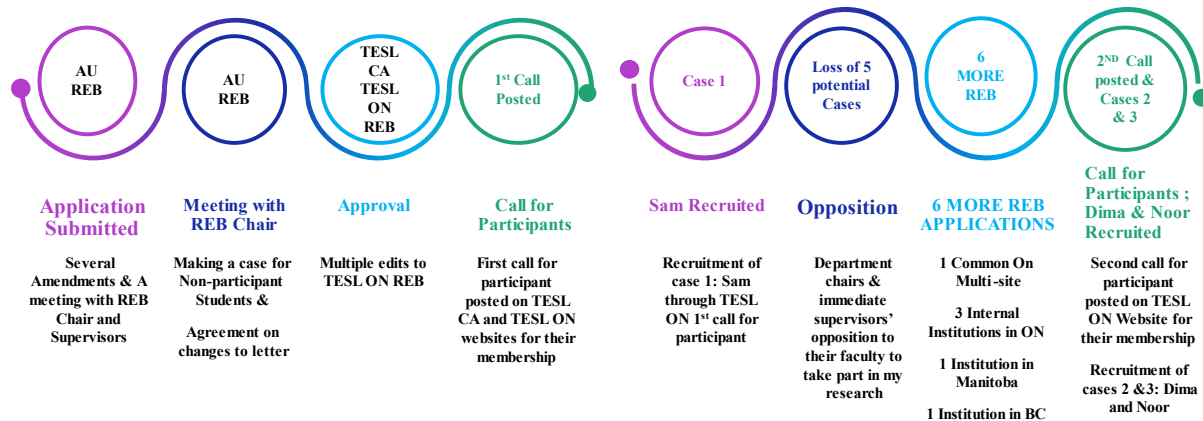
Ethical Challenges and Researcher's Actions

My research ethics initially intended to follow a two-step ethics procedure. The first step was to obtain ethical approval from Athabasca University (see Appendix J) to be able to post a call for participants. The second was to obtain approval from the identified institutions from those who replied to the criteria questionnaire and therefore apply for ethics approval from those institutions to be able to officially recruit the cases. However, ethics approval deemed to be complicated and lengthy due to non-participant students, and various institutional and language association requirements within Ontario and across Canada.

Figure 6 below illustrates the timeline of the phases and challenges faced in the ethics approval process.

Figure 6

Timeline of the Phases of Ethics Approval Process



The Synchronous Component, Non-participant Students, and Multiple REB

Due to the focus of my research on the synchronous modality of online teaching and to ensure ethical practices by protecting the identities of non-participant students, Athabasca University Research Ethics Board (AU REB) required the amendment of the letter to non-participant students. The major change addressed providing three options for the non-participant students to choose from: 1) opt to be present during the recorded session and keep their identities and cameras on, 2) opt to be present and change their names and connect with a pseudonym and keep their cameras off and 3) opt to withdraw from that session and watch the recording after class. A reiteration of the focus on the instructors and deleting all students' data from the recorded data were also provided (see Appendix E).

Another challenge was to seek ethical approval from the targeted language associations to be able to post a call for participants. This caused a delay in the recruiting timeline. In addition, I

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needed ethical approvals from institutions with various requirements within and across Canada. Overall, I applied for 9 REB approvals: AU REB, TESL ON REB, TESL Canada REB, REB from 1 Private International Institution in Ontario, Common Ontario Multi-site REB, 2 different institutions in Ontario internal REBs, 1 institution REB in Manitoba and 1 institution REB in British Columbia. Eventually, I was able to recruit 3 cases from Ontario: 1 case from a private international institution (Sam) and 2 cases teaching at the same post-secondary institution in Ontario (Dima and Noor). This process resulted in a non-linear approach and an overlap of the recruitment, data collection and analysis.

In the following section, I describe possible related factors behind the challenges I faced during the recruitment phase for this study, and the decisions I made to further proceed with my research and ensure its trustworthiness.

Low Response From ESOL Teachers and Reluctance From People in Charge

TESL ON and TESL Canada calls received expressions of interest from seven language teachers through the SurveyMonkey inclusion criteria questionnaire. However, several challenges arose. The first challenge was meeting the initial inclusion criteria for my research. Of the seven respondents, only two instructors met the minimum inclusion criteria: 1 to 2 years of pre-COVID experience and teaching CLB1-CLB5 synchronously. The second challenge was obtaining ethics approval from the two potential participants' institutions, which did not have an REB committee. Still, ethics approval was directly required from the program coordinator in charge. I was able to obtain approval for only one participant whom I recruited as the first case in this study: Sam. Despite the interest of the second potential participant, their coordinator opposed their participation in my research.

Adjusting the Wording and Language in the Recruiting Process

Upon reflecting on the reluctance to grant ethics approval to allow participation in my research, in consultation with my supervisors, I realized that the phrase “recorded observation” in phase 2 of the data collection process could be a threat to some of those who oversee the online English language teaching programs. This is a likely reason, especially in the context of many teachers with no prior expertise in planned online language teaching (Harsch et al., 2021) and the challenges language programs, among others, experienced due to COVID-19 and their forced engagement in emergency remote teaching (Hodges et al., 2020). Given teachers were forced to move to emergency remote teaching (ERT) during these challenging times, the term “recorded observation” could imply observing, judging, and evaluating their online practice. Therefore, I decided to change it to “recorded session” in a second call to participants and all the related documents and any other prepared communication with REB and anyone in charge of the English language teaching program. I also further emphasized that, as a researcher, I will not be present in class during the recorded session, I will only focus on the instructors’ use of ICs in the synchronous online environment, and that I will benefit from these instructors and their online practice and expertise.

Adjusting the Inclusion Criteria for the Study

Within the scope of this research, the inclusion criteria for case selection initially constituted of a minimum of two to three years of pre-Covid-19 pandemic teaching experience and/or training (degree) in teaching in synchronous environments; developed competencies for “facilitating learning” and “pedagogical strategies”, as per Ally (2019), recommendations for the competency profile of the digital and online teacher of 2030; awareness of concepts of ICs or scaffolding; and experience in sound pedagogical practices that mediate second language

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acquisition (see Appendix A). However, due to the challenges discussed above, another major decision was to modify the inclusion criteria to: 1) one to two years of teaching language online before and/or during the COVID-19 experience, and 2) expanding the definition of ‘expert’ to include obtaining professional development and/or certification in online language teaching during ERT. The adjusted inclusion criteria and recruitment plan helped receive expressions of interest from 49 more instructors through a TESL ON second call for participation. This careful decision was made based on observations given my involvements as a leader and distance educator expert in various professional associations.

These indicated that my inclusion criteria were very hard to meet in the language field. In other words, a pre-COVID teaching experience, having a credential in online teaching, and confidently self-identifying as a language expert in an online multimodal learning environment are not common. In addition, during my involvement in language training in the second year of COVID-19, I observed the shift in attitudes of language teachers from being intimidated by online teaching to embracing it and becoming more confident due to: 1) their hands-on learning during ERT, and 2) their involvement in professional development provided through their institutions and other associations to obtain course modules specifically about online language teaching and learning and/or certifications to refine their understanding and practice in the synchronous online modality.

Accordingly, more language teachers came to recognize the knowledge they gained from ERT teaching which resulted in better planning and readiness for online language teaching in 2021 onward (Dağgöl & Akçayoğlu, 2023). The nature of expertise and who is an expert in online language teaching have shifted from the start of the pandemic in early 2020 to the time I had to decide about the inclusion criteria for this research. As explained above, the changes I

made were necessary to proceed with this study. Moreover, the challenges encountered during the recruitment phase, including the lack of research in the synchronous environment in general and the shy involvement of the language field in the online multimodal learning environment, further validated my commitment to conduct this study and highlighted its significance. The delay in recruiting 3 cases simultaneously, in fact, enhanced the trustworthiness of this study; it better aligned with the multiple case study sequential approach to data collection and within-case analysis (Stake, 1995). Sam, as the first case in this study, provided experience in conducting the semi-structured and follow-up interviews as well as in-depth understanding of their context and various elements. The within-case analysis of the data of Sam such as coding, generating themes, reflexive notes and interpretations as well as writing the case report also served as a sample that was thoroughly conducted and approved by my supervisors. This helped me as a researcher to confidently proceed with the following cases (Dima and Noor), once they were recruited and data was collected. The overlap in data analysis for Sam and data collection for Dima and Noor shaped the way I approached the phenomenon under investigation and reinforced the holistic approach and uniqueness of each case using my reflexive research journal.

Adjusted Selection of Cases

For this study, I was able to meet the minimum requirement of three ESOL instructors teaching adult learners online due to the various challenges discussed above. The three instructors shared important similarities and a few key differences. They represented ESOL instructors teaching ESOL CLB1-CLB5 levels to international students in a multimodal learning environment at colleges in the same geographical area in Ontario, Canada. In addition, all instructors acquired competencies for online language teaching, whether through their involvement in pre-planned online teaching before the pandemic (Sam) or their participation in

professional development and earning certificates for teaching English online during ERT (Dima and Noor). Table 2 below presents the key description of each instructor.

Table 2

The Cases: ESOL Instructors in Online Synchronous Environment

Sam	Dima	Noor
A total of 4 years of online teaching experience: 2 years of pre-Covid-19 + 2 years of Covid-19 teaching experience	A total of 2 years of Covid-19 online teaching experience	A total of 2 years of Covid-19 online teaching experience
Teaching CLB1-CLB5 ESOL to international adult students in online synchronous environment at international private post-secondary institution in Canada	Teaching CLB1-CLB5 ESOL to new immigrants (adult students) in online synchronous environment at a Canadian post-secondary institution	Teaching CLB1-CLB5 ESOL to new immigrants (adult students) in online synchronous environment at a Canadian post-secondary institution
Holds an MA in Applied Linguistics	Holds a BA in Education and a TESL ON Certificate	Holds an MA in Applied Linguistics
Involved in Online Teaching Professional Development before and during Covid-19	Involved in Online Teaching Professional Development during Covid-19	Involved in Online Teaching Professional Development during Covid-19
	Earned a Certificate in Teaching English Online from Cambridge Assessment	Took Course Modules on Online Teaching and Learning as part of their MA in Applied Linguistic Degree
	Instructors' support through sharing tips, ideas, resources, and best practices.	Instructors' support through sharing tips, ideas, resources, and best practices
English is their L1	English is their L2	English is their L2

Overall, the three instructors had a minimum of two years of continuous online teaching when they were selected to participate in this study. Other than the pre-COVID versus during and after COVID online teaching experience, the major difference between the cases is their

backgrounds in learning English and the institutions to which they belong. For Sam, English is their first language, and they were teaching at an international private college in Ontario at the time of the study. Dima and Noor are speakers of other languages, and English is their L2; both were teaching at another post-secondary institution in Ontario. These two instructors have the credentials and experience for ESOL adult teachers; hence the instructional and pedagogical skills that serve the focus of this study.

Processes of the Study

Simultaneous Recruiting, Data Collection, and Analysis

This study did not follow a linear approach in conducting research: start with ethics approval, move to recruiting, then to data collection and analysis. In fact, data collection and analysis occurred concurrently (Merriam, 1998; Miles & Huberman, 1994; Saldana, 2011). At some point, the data collection phase overlapped with the analysis phase of another case. The recruiting phase for instructors started on February 23, 2022, and ended on November 30, 2022, due to the focus of Phase 2 on the instructor's actions in the synchronous environment and the complex ethics process from various institutions and across different provinces. Consequently, Sam was recruited, and data was collected and analysed while simultaneously recruiting for Dima. Data collection and analysis for Dima were underway while still recruiting for Noor. Nonetheless, for each instructor, the data collection procedure included three major components: semi-structured interviews, access to synchronous teaching sessions and follow-up interviews. As a result, it was important to prepare single-case reports and then engage in cross-case analysis (Stake, 2006). Each case is also unique from an ethical approval perspective, and I describe the sequence of the components of data collection as I describe each case.

Data Collection Procedure

Before proceeding with any data collection, each instructor signed the consent form to participate in the study voluntarily. As requested, they also sent a list of the first languages of their students for me to prepare the bilingual translations of the statement for non-participant students (see Appendix E). Each instructor distributed bilingual letters to their non-participant students. The letter explained in English and the students' L1 the purpose of the research and details about the recording of the synchronous session. It also ensured that they understand the options provided to gain their consent on their preferences of being present on the day of the recording, the protection of their identities, and any data related to them. Accordingly, I translated the letters into six languages other than English, which each instructor used, and their respective students signed before any data was collected.

Sam was the first recruited instructor and most efficient in terms of time, logistics, and responsiveness from the program coordinator. As the only participant for a considerable period during the recruiting phase, data collection followed the initial plan: Phase 1 involved a semi-structured interview; Phase 2, access to recording; and Phase 3, a follow-up interview. Noor belongs to the same institution as Dima; hence, ethics approval was in place, which facilitated data collection and enabled following the same initial sequence of the components of data collection as Sam.

However, Noor is unique in the sense that this instructor was interested in participating in the research from the first call for participants. Nonetheless, as they expressed it, due to their academic involvement in earning an MA in Applied Linguistics, they were initially reluctant to participate until the completion of their degree and they had gained more experience in teaching

online, to self-identify as having the expertise to fit for the research study. That is when they reached out to me to express their interest and readiness to take part in the study.

Ultimately, it would have been ideal for Sam and Dima to start with the semi-structured interview at the same time as Noor. The timing of the recruitment was towards the end of the semester; hence, to speed up the process and save the data collection for this case, it was more practical to proceed with setting up arrangements for the recording of one synchronous session before conducting the semi-structured interviews. Nonetheless, as explained in the research design, I collected the data from the semi-structured interview and then accessed the recorded session that was provided at an earlier time. Hence, I followed the initial plan for the data analysis for this research study and was, therefore, not influenced by the data in the recorded sessions when I was conducting the semi-structured interviews with Sam and Dima. Table 3 below illustrates the summary of events for each case showing the sequence and dates of the data collection components.

Table 3*Summary of Events for Each Case*

Sam	Dima	Noor
Signed Consent and provided a list of other languages of their students, April 14, 2022	Signed Consent and provided a list of other languages of their students, June 09, 2022	Signed Consent and provided a list of other languages of their students October 4, 2022
Provided Signed Bilingual Non-student participants Letters from their students April 21, 2022	Provided Signed Bilingual Non-student participants Letters from their students, June 13, 2022	Conducted Semi-structured interview, October 12, 2022
Shared Recorded Synchronous session April 22, 2022	Shared Recorded Synchronous session June 14, 2022	Provided Signed Bilingual Non-student participants Letters from their students, November 8, 2022
Conducted Semi-structured interview, May 5, 2022	Conducted Semi-structured interview, June 30, 2022	Shared Recorded Synchronous session, November 10, 2022
Conducted Follow-up interview June 14, 2022	Conducted Follow-up interview in two parts: Part I July 13th and Part II July 14, 2022	Conducted Follow-up interview November 12, 2022
Member Check for follow-up interview Synthesis June 25, 2022	Member Check for follow-up interview Synthesis, July 19, 2022	Member Check for follow-up interview Synthesis, December 17, 2022

The Interviews

For the semi-structured and follow-up interviews, I used the synchronous audio/video functionality of the Zoom platform.

Semi-structured Interviews. The semi-structured interviews captured the instructors' perceptions of the process of applying ICs synchronously to mediate SLA. The process involved their values, beliefs, attitudes, central to SLA and ICs. The semi-structured interviews then garnered their perceived values, aims, and processes of SLA, in addition to their perceptions of

what ICs are and how they should be used online. It also captured their perspectives regarding the influence of the task design on the orchestration of ICs. An interview guide (see Appendix F) was created as an instrumentation tool for the semi-structured interview questions and sent in advance to each instructor to allow time for deep reflection and thinking before the actual interviews. The interview guide also provided “a degree of structure on the participant-researcher conversation, in the form of key topics or questions” (McGuinness, 2006, p. 576).

Follow-up Interviews. From the data of the recorded sessions and the transcription, I extracted the instructors’ use of ICs in the oral form (synchronous interactions through audio) and their use of ICs in the chat (delayed synchronous written chat). These represent two sets of data that I analyzed to determine the pedagogical practices behind the use of ICs in the oral form as opposed to the written chat. The investigation included factors that influence the instructors’ choices of oral interactions over the written chat at the moments of using ICs and traced emerging patterns.

In the follow-up interview in another Zoom session, I discussed these specific instances of the environmental influence (of the oral synchronous and delayed synchronous chat) as well as other synchronous affordances involved in the instructors’ decisions to use ICs. I conducted a thematic analysis of the follow-up interviews and sent them to the instructors for member-checking for the authenticity and clarity of their intended messages and confirming the consensus reached during the discussions. Also, I used a journal where I took notes and reflections from the interviews and recorded sessions for each case. Once the follow-up interviews were completed, I stopped collecting data and focused on the in-depth and holistic within-case and cross-case analyses.

Access to Recorded Sessions of the Synchronous Online Teaching

While I initially intended this component of data collection to comprise up to two video recordings of synchronous sessions, I was able to receive access to only one recording per case due to time, logistics included in setting up the recordings, and institutional changes of the method of delivery of the offered classes. The video-recorded sessions informed me about how the instructors enacted ICs in their online classrooms and a description of the environmental influence (task design) on the instructors' use of ICs. I analyzed the recordings using Tharp and Gallimore's seven means of assistance and Goldenberg's ten elements of ICs as described in previous chapters.

Data Triangulation

Design and procedure are instrumental in investigating and providing different ways to present a phenomenon (Stake, 1998); the ESOL implementation of ICs synchronously mediates SLA and clarifies meaning. I triangulated the data with multiple resources (semi-structured interviews, recorded sessions, follow-up interviews, and a research journal). In addition, for triangulation purposes, I allowed for multiple perceptions such as excerpts from interviews, researchers' reflections, and a combination of both in the discussion in the follow-up interviews, giving voice and member-checking to participants in the analysis stage of the data.

While this study values the uniqueness of each case that contributes to the research on the use of ESOL instructors of ICs with novice adult learners in synchronous environments, the analysis investigates each case holistically (Hyett et al., 2014). As explained in Chapter 3, each case represented a separate focused inquiry that is studied holistically in its own context (Stake, 1998). The analysis investigated the various elements within each case and mapped their interdependencies while providing an understanding of the case as a system. According to

Merriam (1998), a thick description of data ensured richness and protected the authenticity of the instructors' orchestration of ICs and their perceptions of the role that the environment plays, in relation to linguistic and pedagogical effects, in influencing such implementation online. The assertions drawn from such an investigation provided a foundation and practical ways for online ESOL instructors to implement ICs and reflect the granularity of such applications. These practical applications and their granularity provided the transferability of findings to similar settings of teaching adult ESOL learners in a synchronous modality or their adaptability to their specific contexts. The reflexive approach to data analysis also aimed to ensure dependability and confirmability; the use of the research journal and field notes served as a venue for reflexivity as I critically reflected on my perceptions, biases, and assumptions on the phenomenon of study (ICs mediating SLA). They also proved useful in reflecting, checking, and confirming data in multiple formats and ways of analysis.

Data Analysis

Following a qualitative case study design, I first conducted a within-case analysis. Hence, I started by presenting a detailed description of each case and generating themes within the case. I then moved to a cross-case analysis that included thematic analysis across the cases and reported on the assertions for this study. According to Creswell and Poth (2018):

When multiple cases are chosen, a typical format is to provide first a detailed description of each case and themes within the case, called a within-case analysis, followed by a thematic analysis across the cases, called a cross-case analysis, as well as assertions or an interpretation of the meaning of the case (an instrumental case). (p. 100)

Within-case Analysis

For qualitative research, data analysis incorporates “organizing, accounting for and explaining the data; in short, making sense of data in terms of participants’ definitions of the situation, noting patterns, themes, categories, and regularities” (Cohen et al., 2007, p. 537). In this multiple case study, I employed different layers of analysis, including data transcription for interviews and recorded sessions, data coding, and thematic analysis for the interviews and analysis for the recorded sessions following Tharp and Gallimore’s, and Goldenberg’s IC frameworks. Data transcription underwent three steps: otter.ai generated interview transcriptions, manual review of transcriptions, and identity protection of participants (instructors) and non-participant (students), and validation through member-checking. I then coded interview transcriptions for each case. The extracts of ICs from the recorded session underwent another analysis using Tharp and Gallimore’s, and Goldenberg’s IC frameworks. I classified the extracts of ICs based on Tharp and Gallimore’s seven means of assistance and Goldenberg’s ten elements of ICs (see Appendix G). I also included a description of the IC extracts and an interpretation of the use of each in relation to the IC frameworks.

In the last step of this within-case analysis, reporting on the research results was an integral part. It involved reporting on the emerging themes and supporting them with participants’ illustrative quotes (McGuinness, 2006). Accordingly, I generated single-case reports that included a description and context of each case, results of qualitative thematic analysis of the interview transcripts, and an interpretation of the instructors’ actions (their use of ICs) in their synchronous classrooms.

Cross-case Analysis

According to Stake (2006), cross-case analysis consists of reading the reports of each individual case and then applying findings “from situated experience to the research questions” (p. 47). In this study, I compiled the single-case reports and then explored general commonalities and uniqueness across the cases in terms of why and how participants approach the use of ICs to mediate language learning. I also explored the factors influencing their decision-making for their use of the synchronous environment and how they shape their use of ICs to address the research questions.

While reporting on the case findings, I recorded similarities and differences across the cases in my research journal. I also recorded insights where cases intersect and leading factors. I followed an iterative process during which I alternated between reporting on the cases and using my research journal to record findings related to SLA, the use of ICs mapping the instructors’ actions in terms of means of assistance and IC elements. In addition, part of journaling in this process included reflections on how these findings are manifested in SLA theories and when they are reflecting the instructors’ beliefs and assumptions. It also included reflexivity on my own perceptions of why the instructors’ actions and their use of audio versus chat affordances when using ICs, and how these can relate to their beliefs and assumptions as revealed in the data of the semi-structured interviews. After the completion of the reporting on findings, I went back to reading the findings of each case and notes from my research journal. Then, I extracted common themes occurring from findings and notes from journal entries in relation to ICs for language mediation, factors shaping the instructors’ selection of the synchronous environment, and the types of ICs that emerged in the recorded sessions. Following this, I implemented a cross-case

analysis of the main themes based on the embedded units of analysis to address the research questions and generate the theme-based assertions.

Coding

For the coding of the interview data, I created a Word document that included a table. While going over the transcription and highlighted texts and notes, two major themes emerged that related directly to the research questions for Phase 1 with Sam.

As a second attempt at coding the same interview data for Sam, I adopted a hybrid approach to coding following two stages. Stage 1 involved a deductive approach for initial coding; this allowed me to familiarize myself with the data set. Then, I used an inductive approach to develop an initial set of codes. During the first stage, I created a code book (see Appendix I) and used it to proceed with Stage 2. Once the initial code set (first draft) had been established, I moved to Stage 2 to conduct line-by-line coding of the data, paying closer attention to the data and refining codes as well as updating the code definitions in the code book. I used my research journal to record my observations reflexively as I coded the data.

Deductive Coding

As I read through the data transcriptions and notes, I created three major priori codes: the beliefs and assumptions in relation to ICs and SLA that mediate language learning, elements of the synchronous environment that seem to shape the type of ICs used, and strategies for using ICs online. I created a table where I inserted all extracts and grouped them under separate columns. Using these priori codes, I assigned colors to them, which enabled a general understanding of the data. Codes were emerging, which were also classified into separate tabs and assigned color codes. Sometimes, I used the participant's wording to name the codes, and at other times, I used my own words to paraphrase the main emerging/recurrent idea of the code

based on my interpretation of the extracts as I saw relevant. While coding, I created a codebook that includes the definition of each code with examples from the transcript. I consulted with my supervisors to validate the first four pages of my attempts at deductive coding in the table, which helped me move forward with the inductive coding.

Inductive Coding

After the initial deductive coding, I conducted another more in-depth analysis of the transcripts, adopting an inductive approach using semantic units for coding. Such a unit could be a sentence or more that conveys a coherent meaning or even a whole paragraph to code the main intended “meaning”/idea in the text. I uploaded the transcript and the table into NVivo12. I created a file on NVivo12, which I named “initial coding,” and assigned codes inductively. I then conducted 2 more rounds of coding under separate files: NVivo12 coding 1 and coding2. Analyzing the uploaded transcription, I assigned codes and simultaneously checked the initial coding in the table. Then, I conducted a fourth coding using line-by-line coding and assigned new codes as they emerged.

Simultaneously, I updated the codebook with more subcodes and made changes to some of the code labels. At the end of the coding process for Sam’s semi-structured interview, I met with my supervisors to share and discuss the coding process and findings and validate my work. This process built a robust structure for coding the semi-structured interviews for the three cases: Sam, Dima, and Noor. In the following sections, I present an overview of and the context for each case.

Overview and Context for Cases

Case 1 Description: Sam

Sam is an ESOL instructor whose first language is English, with extensive foreign language teaching to adult learners in in-person and online modalities. As a holder of an MA in Applied Linguistics, Sam is experienced in teaching English and four other European foreign languages. Teaching English to newcomers at community centers in Canada and English to international students at Canadian institutions has enriched Sam's awareness of the various practices across institutions that provide English language teaching to newcomers and international students. Moreover, Sam has gained a deep understanding of adult learners who come from different cultural backgrounds and the challenges they face in learning another language, such as English, especially the burden of learning a new language and new content. It has also shaped their understanding of the values of dialogue about agency and mobility and motivated their research and classroom practice to apply such values in language teaching and learning.

In addition, Sam's expertise in applied linguistics underpinned their understanding of SLA theories and shaped their ESOL pedagogy. They also embraced TBLT approach in their online ESOL teaching, including the instance used for this study. Sam's online teaching experience in multimodal learning environments started in 2018. Hence, they represented an expert in online language teaching with four years of continuous online teaching before as well as during the start of the COVID-19 pandemic. Therefore, their online practice continued to adhere to pre-planned design and pedagogy for the online modality. Sam was promoted to a digital literacy associate for an Ontario government entity to oversee training for post-secondary educators a few months after participating in this study.

During the data collection phase of this study, Sam was teaching a reading/writing course to CLB5 ESOL adult learners. Their language class included a synchronous component during which Sam always used video-audio while most of their students had their cameras off and mostly resorted to the use of audio.

Cases 2 and 3 Description: Dima and Noor

Dima and Noor represent ESOL instructors for whom English is their L2 and who were teaching at the same post-secondary institution in Ontario, Canada. As previous ESOL learners themselves, they had experience in learning English and recognized the important role mastering English played in their personal and professional lives. Noor was aware of the ESOL learning experience and effective ways to learn English and deliberately adopted such practices in their classrooms. In addition, as immigrants to Canada, both these instructors highly valued helping immigrants who have newly arrived in Canada to adjust faster to the new Canadian context.

Dima emphasized their commitment to being part of the learning journey of their adult learners and helping remove the barrier of a new language (English) for them to thrive in their careers and enhance their social involvement within the community. Dima and Noor valued the social aspect and community building for learning English in their in-person teaching, with a special focus on human connections in the online classroom.

The extensive foreign language experiences of both Dima and Noor in the Canadian context enriched their expertise in teaching ESOL in the physical (in-person) modality. They represented instructors who have gained experience in teaching ESOL online due to the COVID-19 pandemic while teaching in the same post-secondary institution in Canada. Both talked about the learning curve associated with ERT. Their involvement in ERT at their institutions provided hands-on experience in the use of multimodal environment. As described in Table 2, both

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instructors were involved in professional development for ERT offered by their institution and practice-sharing opportunities where instructors cross-shared tips, ideas, and insights about best practices for online language teaching and learning.

Dima also earned a Certificate from Cambridge in Teaching English Online to help navigate their learning experience about teaching in this new modality. Noor referred to course modules in using technology in the classroom and online teaching and learning that they took in their MA in Applied Linguistics program. Therefore, throughout the years of their involvement in ERT, both instructors have gained experience in designing online learning and pedagogy. At the beginning of this study, they already had two years of continuous online language teaching and confidently expressed a level of expertise. As they gained such expertise through hands-on experience and formal learning, they expressed their shift in attitudes from frustration due to such a relatively new modality for them to appreciating and acknowledging the valuable learning opportunities that can be created online. Dima was promoted to course lead for the ESOL Courses online, at their institution, several months after participating in this study.

During the data collection phase of this study, Dima was teaching a listening/speaking course while Noor was teaching a reading/writing course to CLB2 ESOL adult learners. Both courses had a synchronous component where Dima and Noor always had their cameras on while most of their students had their cameras off and mostly used audio.

This multiple case study investigates the instructors' online classroom practice. It helps bridge online ESOL practice with SLA theories and IC frameworks to inform language pedagogy and the role of the affordances of the digital tools in the synchronous environment. It values tacit knowledge and utilizes research tools to help each instructor uncover the insights,

values, beliefs, and assumptions that shape their understanding and use of ICs in the synchronous environment. The following section situates tacit knowledge within each case.

Tacit Knowledge

The three instructors expressed their gratitude for the opportunity to take part in this research study as it allowed them to reflect on their experiences, beliefs, and assumptions and attempt to verbalize the so-called tacit knowledge. According to Gillham (2000), “Tacit knowledge (also called intuition) is where we sense or feel something, often very strongly but are hard put to explain” (p. 31). Sam and Dima were able to bring some aspects of their tacit knowledge to the surface by engaging in reflections stimulated by the interview guide that was shared with them prior to the semi-structured interview (Appendix F). Such knowledge related to the use of ICs in the online language setting and the influence of the environment and was revealed through the discussions during the semi-structured and follow-up interviews.

Both instructors expressed that this research has enabled such reflections about their practice and helped them recognize what they know as they “never thought about it before, but now [they] realize that this is what it is” and that they “thought that they just do it but thanks for helping [them] reflect and express what [they] do and know.” Noor, nonetheless, communicated strong feelings towards using ICs and the effective ways and strategies of asking questions but faced challenges in conveying their tacit knowledge explicitly in words. As the researcher who conducted the interviews for this study, I engaged in brainstorming and asked multiple follow-up questions to be able to identify some clear ideas from Noor on the questions under investigation in this study.

I deliberately let Sam, Dima and Noor reflect and provided them with space and time through pauses and silence when needed. I also asked follow-up questions and reiterated their

statements, attempts to verbalize and explain ideas, and allowed them to summarize the points they intended to recap. For each question, or sometimes a section of discussion, I also recapitulated what had been discussed. These strategies helped me receive further reinforcement or disconfirm what I heard or perceived.

Chapter 4 Summary

In this chapter, I contextualized this research, its challenges, and the decisions I made for the adjustments of the course of action to overcome ethical issues and participants recruitment. I then presented the process that I undertook in this study, the data collection, triangulation, and data analysis and coding. I concluded the chapter by providing an overview of the cases, their context and descriptions, and tacit knowledge.

In the upcoming three chapters (5, 6, and 7), I present the findings from each of the three cases (Sam, Dima, and Noor), and how they relate to and address the research questions. Then, in Chapter 8, I discuss these within-case findings, as well as present the cross-case findings and their accompanying discussions.

Chapter 5. Research Findings From Case 1 Sam

In this chapter, I present the within-case findings of the first case, Sam. I describe the findings as they relate to addressing the research questions, and key summaries for the purpose of transferability in similar contexts (Stake, 1995).

As mentioned in Chapter 3, to investigate my multiple case study, I have identified four embedded units of analysis within each case:

1. Attitudes and beliefs of ESOL instructors on ICs and how they relate to SLA.
2. Their beliefs on the process of applying ICs in synchronous environments (how they think ICs should be applied and how they think they are applying them in their online classrooms).
3. How the environment shapes/influences the use of ICs by the instructors.
4. How instructors applied ICs distilled from data of the recorded sessions (instructors' process/actions).

In the following sections, I report on the findings from the interviews and recorded session for Sam, as they relate to these units of analysis and addressing the research questions.

Sam: Findings From the Semi-structured Interview

My research questions focus on the beliefs and assumptions in relation to ICs and SLA, and the role of the environment, particularly the task design. The findings of the semi-structured interview for Sam revealed beliefs and assumptions on the context, nature, and processes of using ICs. The beliefs and assumptions relate to the recognition of contextual influential factors, the importance of socio- emotional affect, and classroom management and how they are shaping the use of ICs and language mediation in their synchronous classroom.

In the coming sections of this phase (semi-structured interview), I report on the beliefs and assumptions of Sam on the influential factors on the use of ICs, followed by their stance on socio-emotional affect for language learning online, and classroom management and the use of ICs.

Beliefs and Assumptions on Influential Factors on the Use of ICs

The Recognition of the Interrelatedness of Students' Backgrounds, Needs, and Challenges. Sam claims that their recognition of students' backgrounds, needs and challenges influence their classroom discussions. Such interrelatedness is apparent in the instructor's reflections on their use of ICs to mediate language learning during the semi structured interview. According to Sam, "[the]recognition of prior knowledge and the experience everybody has is a critical element". This instructor believes in the importance of recognizing learners' prior knowledge, reality and past to serve the use of meaningful topics for discussions to support language learning. For them, such topics are the foundation for discussions and help alleviate the burden of expressing content in another language. As a result, the learners' cognitive and linguistic attention is directed towards language learning whereby the instructor uses instructional conversations to bring in the already acquired content and processes of learning to the surface. In their support of learning the target language, language mediation occurs when the instructor uses ICs to build on the already existent content and help students express it in English and uncover the linguistic as well as the cultural differences in their L1 and English:

If my goal is to just support language learning, I would want to draw on this kind of experiential learning model and validate what process of learning has happened in the past for people and see how that might be translated as they learn a new language (Sam).

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According to Sam, language learning incorporates multiple syntactic and semantic possibilities in the sense that there is more than one correct or possible answer. Hence, “hybridity and third space” (Sam) are influential factors in shaping the type of ICs used for language mediation. The purpose of using ICs is to orchestrate this multifaceted language learning through the creation of “a third space comment” (Sam) where instructor and students co-construct oral and written language output : “that's also why like hybridity, and a third space comment is something that I want to encourage because in the language learning part, there might be something really specific as only one correct answer, there might be two possible grammatically correct structures that we could make” (Sam). For example, conjunctions “are participatory” (Sam) and play an important role in language learning as they allow for a variety of meaning and structures which requires various actions and decisions. Therefore, this instructor relies on employing conjunctions to highlight such variety and assist learners through ICs to build an understanding of these various conjunction, “challenge learners to feel more agency with English” and “build their capacity” (Sam). In their use of ICs, this instructor intentionally “elicit[s] interlanguage than precision because that gives something to base pedagogical commentary or instructional conversation” (Sam). Whether for oral or written language production, conjunctions are an instrumental use of ICs “as a link that can help learners scaffold what is [the] best joining part” (Sam) within ZPD (Vygotsky,1978). Within these discussions and dialogues with learners in using conjunctions “moving to the place where you want them [the students] to finish the sentence is as that kind of Zone of Proximal Development point” (Sam).

Socio- emotional Affect for Language Learning Online

Sam recognizes the characteristics of the online classroom and their related challenges such the “disembodiment of the online classroom” and its “abstract” aspects. Hence, Sam

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believes in the selection of topics that are meaningful to the students to help narrow such physical disembodiment. For instance, their use of ICs is embedded in topics related to the students' experiences and realities and plays a major role in shaping the socio- emotional affect for language learning. The socio- emotional affect theme has a dominant presence in this instructor's reflections and discussions regarding their use of ICs in the online classroom. Sam claims that their interactions with students as they share their experiences helps create a social comfort in the online classroom:

I think, recognizing that those experiences are unique and valuable to share in the group, I've really noticed over time, that that builds comfort in a group of people who may not know each other and for maybe feeling differently about participating in an online class. And then I would say that as a stage one approach to build comfort (Sam).

Sam believes in the importance of using humour to build comfort and facilitate language learning online using conjunctions. In addition to language support through ICs to use conjunctions for language production, this instructor intentionally employs conjunction for the possible humorous opportunities it brings in the classroom. In fact, Sam sees value in the open-ended characteristics of the conjunction as it allows for bringing humour into the online classroom: such "an unplanned result creates a different kind of meaning. It can create humour. And that element of surprise or unplanned outcome brings a sense of humour, you know, it's a place to have some laughs in the online class" (Sam). This instructor intentionally asks their students for extensions of sentences using conjunctions that could result in a humorous outcome. Within these humorous attempts, Sam integrates ICs to reach the desired target and encourage students for their attempts and contributions, hence build their confidence. In addition, this

instructor believes that within such socio-emotional target, they create a space to use ICs and assist language learning and development: “I think motivating that affect in class just gives us more material to work with in terms of the utterances of the students and how we want to respond to their content or their structure”. In addition, while assisting their students, Sam “tries to make them comfortable brainstorming”. They also intentionally integrate cultural differences in the content and its discussions to socially identify with their students: “that's the way to build the kind of allegiance with the students that are coming here and experiencing such a combination of difference” (Sam).

As a preparation for language production tasks, especially writing, this instructor relies on a Venn Diagram to reduce anxiety that is related to ESOL writing for some learners. Sam acknowledges that some adult ESOL learners are reluctant to write, and they use the diagram and its visualization approach to lead students to believe that they are not writing but drawing:

I really like the idea of using the diagrams as a way to say, I'm asking you to write, and you don't like writing, and I'm saying this is drawing. We're just drawing we're filling out a diagram. All right, if I'm asking you to write something and you think that's annoying, that's okay. We're not writing we're making a diagram. And so that's my trick for reluctant writers (Sam).

Beliefs and Assumptions About Classroom Management and the Use of ICs

In the online synchronous environment, Sam believes that navigating and regulating classroom expectations and engagement shape the way they assist their students and mediate their language learning. Sam sets two stages for participation: a predictable “familiar” participation and unpredictable “shuffled round” of participation for various purposes. Their first stage of expected participation comes through “a very consistent turn taking” through the list of

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the students appearing on the screen. It sets expectations for “useful participation” from everyone not necessarily in the form of providing a correct answer but most importantly, supporting each other’s points, agreeing, disagreeing, and sharing their experiences. Sam expects to hear from every student and has communicated that they use this strategy to make their use of ICs specific and “grounded that in the experience of the learner... and that builds comfort in a group of people who may not know each other and for may be feeling differently about participating in an online class” (case A). The second stage includes rounds of “shuffled turn- taking” and “jump around” but “still hear from everybody” specifically for activities and tasks with “lower-level challenge” that are not related to sharing meaningful experiences but “are grammar-based tasks”. Another reason for such an unexpected approach to participation is to alleviate the challenge of being unable to see students behind the screens, especially those with their cameras off, in the synchronous virtual classroom. It is to ensure that everyone is following and engaged.

The Role of the Environment: Task Related Matters and the Use of ICs

Sub-question 2 addresses elements of the synchronous environment such as the task design and the way they shape the use of ICs. The semi-structure interview data for Sam shows that task design and preparation play a role in the classroom management approach and the way ICs are used to mediate language learning. Sam designs their task- based ESOL online classroom to include common tasks such as “target vocabulary, or target verb tense, or those type of gaps fill tasks that would come on exercise sheets”. For such common task types, this instructor follows a randomized shuffle participation for the reasons mentioned above. Then, they move to building on those tasks in the consistent predictable turn taking. Sam pedagogically builds on task, mainly through conjunctions and/or Triple Venn diagrams. For them, such task building is very prominent and influential in creating the opportunities to use ICs and shaping the types of

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ICs to mediate language learning. Within these types of task extensions, multiple exchanges between Sam and the students occur to negotiate meaning, come up with possibilities, make decisions, and “really get into some of the nuances about decisions made for composition” (Sam).

Therefore, nuances are contingent to the topic selection in the task design and lesson preparation stage. Sam deliberately selects topics that allow for “hybridity and third space” using a Venn Diagram “as a central anchor point” that reflects three main concepts: border, enclosure, and extraction through overlapping topics as they provide “responses [that] are really wide ranging” and that “brings a lot of surprise, interesting commentary from the group and the way that a group of learners might interpret them” (Sam).

Furthermore, task design through topic selection enhances and diversifies the contexts of the discussions and shapes the way this instructor mediates language learning. For example, Sam selects topics that are “a bit abstracted” and include the concepts of border, enclosure, and extraction to create meaningful discussions that draw from personal experiences, history and its impact on language and its use, cross-cultural reflections, various interpretations, and meta-discussions and result in “really useful commentary that we can build from” (Sam) as shown in the example below:

For the idea of just being an international student, or the geopolitical circumstances that impact somebody’s home country, talking about borders and changes in borders, that’s really important to me. We can run that metaphor, all the way into how the structure of English is influenced by imperialism or, like represents that compared to verb- based languages, or languages that aren’t as strictly going from left to right, with the subject determining meaning in this linear way (Sam).

In addition to topic selection, the diagram visualisation approach to grammar and writing related matters is a common task preparation and practice for Sam, regardless of the level of their adult ESOL learners. It also predetermines the way they assist their students. As they put it:

I do that for every class for every group, like it's foundational to me in terms of preparation, because no matter what the level, if it's brand-new information, that's great. I'm giving that orientation and if it's catch up, if it's familiar already to the learners, then it's getting them on the same page about my method and a way that I'm going to be asking them to produce language (Sam).

Another common task related practice that influences the use of ICs is task building through conjunction as they are “more participatory, where we need to jump in and finish the sentence and add on a second point, and explain the reason, or the result”. In this respect, Sam states the following:

I see conjunctions as a sentence level threshold and a great extension point to build on a simple grammar gap fill or vocabulary gap fill, and then have a conversation about if we were to build on this sentence with a subordinating conjunction. If we were to build on this sentence with a coordinating conjunction, what would our choice of conjunction do to the meaning. And if they understand correctly the application of that target in terms of correct conjunction use and again, a kind of debrief; if you say so, it goes in this way. It's a planned result.

Sam: Findings From the Follow-up Interview

The follow-up interview addresses sub-question 2 and the role of the synchronous affordances, in relation to linguistic and pedagogical effects, in shaping the type of ICs in the ESOL classroom. Sam data reveals various factors that influence the types of ICs used in the oral

and/or written forms in the synchronous environment. Hence, they influence their decision on the use of the synchronous affordances to assist their adult ESOL learners online. These factors include Sam's perceptions about SLA (visualisation of language learning, metacognition complexity, integrated approach to grammar, and interlanguage and L2 writing), elements of the environment that are related to task design (the nature of task and its preparation, and types of tasks) and management (accommodating students emotional affect and regulating tasks online). These factors influence the use of ICs and choices of synchronous affordances (audio/video, chat, screenshare and interactive whiteboard) to mediate language learning.

The Role of the Environment: Purposeful Selection of Synchronous Affordances

Sam adopts an “instrumental multimedia approach” to which affordance to use in their ESOL synchronous classroom through screenshare, use of audio, and chat as well as a simultaneous audio, chat and/or screenshare, each for different purposes. They believe that the use of “a multimedia approach” and diagrams goes beyond reducing writing related anxiety. For example, through screenshare, diagrams facilitate the visualisation of language learning and the relationship between structure and meaning which lays the ground for language production using the chat option. Sam explains:

Having the sentence diagram examples with those conjunctions showing a really fundamentally different connection, one, attaching another independent clause from the subject, and the subordinate conjunction, modifying the verb. That is really obvious when the diagrams are presented visually. So, I try to make sure I share my screen and go through those visual definitions that show the structural difference, and

then ask for feedback in the chat as an extension using a conjunction of their choice.

And, yeah, like that kind of multimedia approach (Sam).

This instructor also expresses the complexity of metacognition and their role to explain and assist their students thinking through a “spiral approach” (Sam) where they go back and forth between instructing, explaining, asking questions, and discussing what the conversations bring into the moment. Hence, for them the use of audio is the most suitable, effective, and efficient affordance to use while assisting their student’s thinking and modeling metacognitive processes for language learning.

In addition, Sam adopts and integrated grammar approach within the various skills they teach (reading and writing in this research study). The use of ICs to explain the grammatical matters that arise within the task requires mainly audio, screenshare, use of arrows and mouse movements. In their discussion about the reasons behind such purposeful selection of affordances, Sam emphasises their “instrumental approach” to visualize learning as well as “create movement in such abstracted online classroom”. Another purposeful and instrumental use of the synchronous affordance is to ask students to use the chat for writing related matters as Sam believes that interlanguage is revealed in L2 writing and “brought to the surface in the chat” more than in the audio channel of communication. To assist their learners in the L2 writing process, they adopt a simultaneous use of audio to explain, ask for clarification and reiterate via audio while “co-authoring” with the learner via chat such as working on “word order, replacing a vocab, suggesting an alternative, adding an article” (Sam). This instructor, utilizes both the private and whole group chat, based on the students’ preferences but always shares the mutually agreed upon version of the students’ writing that occurred in the private chat with the whole class

chat. For Sam, students who choose to use the private chat are “protective of their mistakes”. Sam thus accommodates the students’ preference for using the private chat as it saves them from losing face by keeping their mistakes invisible to other learners. In doing so, Sam intentionally caters to the students’ emotional affect which, in their opinion, facilitates language learning.

Moreover, Sam believes that oral and written discourses or “registers” have different purposes, hence such difference requires the use of the affordances that convey the purpose. As this instructor puts it:

Like the audio, I would want it to be live and social and the chat, I would like it to be, formal and referent. And those distinctions can just be implied that I feel it works for me in terms of trying to guide two registers in the class (Sam).

The role of the Environment: Task Design and Management

The nature of the tasks and how they shape the type of ICs and environment that Sam uses are apparent in the follow-up interview data. For example, this instructor uses audio to convey the “spiral method” in asking questions and discussing the reading topics with learners and linking it with the five-paragraph essay writing with a “larger target of reaching a higher level of editing”. As such, this instructor resorts to using audio and screenshare to convey it.

“Embedding the reading task within a larger writing task” (Sam) is also another factor that influences the use of ICs, in the oral form via audio, while assisting their students and walking them through the reading text and the complex processes related to it. They use audio to walk students through the reading text and the explanation of meaning and how to make connections between the reading parts. They also use audio to link the reading text to the writing task coming up next. Also, Sam asks students to use the chat to “correspond to a productive task” while they (Sam) use ICs in the written form (chat) combined with the use of audio to assist their

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students. For example, Sam uses the chat to provide instruction and work on an example-answer question with evidence from the text as asked by the questions and share an answer as an example while simultaneously using audio to confirm, ask for clarification, and reiterate.

The follow up interview data reveals that Sam uses different affordances dependent on the nature and type of task, purpose of the task and the questions asked for the task. “The conversational nature of the task requires the use of audio” (Sam). For speaking/listening tasks, this instructor uses audio to assist their learners. For writing tasks, they use audio simultaneously with chat (and/or screenshare, whiteboard). In orchestrating the assistance of students in the different types of tasks, Sam differentiates between simple questions and complex questions and the affordance that serves their purpose. For example, for simple questions, Sam uses the whole group chat and expects their learners to respond in the whole group chat. However, for complex questions, they resort to audio and open the floor for students to use audio to respond. They also differentiate and regulate the use of private and whole group chat depending on the type of task and activity being conducted. For instance, the instructor resorts to “chat mostly for matching exercises to allow time for students to think independently and avoid a fast response while the rest are still trying to figure it out” (Sam). The general chat is mostly used for productive writing to benefit all students; “the chat is mostly used and encouraged to be used so that the whole class could see everyone’s answer” (Sam) and the adjusted answer from the instructor after providing feedback. For the purpose of using private chat, this instructor remarks:

I try to get out of the private channel as much as possible. I would say that like I mentioned this before, I don’t make requests for people to post in the private chat, unless it’s a set of matching exercises, where some students might do it in one minute and another student might do it in five minutes and I don’t want to all the like matched

letters or numbers to be shared. But if it's a productive writing task, I don't ask for it to be posted in the chat privately. But that's how it happens because the students are protecting their attempts. So that's why I am trying to bring it into the public chat, both for their confidence to affirm it, and to kind of keep that as our like, good copy area. Yeah (Sam).

While managing task execution in the online classroom, this instructor uses other affordances such as polls, virtual interface reactions, and navigating external resources.

Classroom Management and Expectations

In addressing sub-research question², factors related to classroom management and expectations are also apparent in the data of the follow-up interview. For reading tasks, Sam emphasises what they name “the pre-established habit of wandering around the class to ensure every student takes turn in reading and participating” to explain the use of the audio in their synchronous online classroom. They also target “a presence of involvement” (Sam) in their navigation of the use of audio or chat as channels of communication and means for participations for their students. In addition, for “social and clarifying questions” (Sam), they prefer to use audio and encourage their students to do the same. As for the chat option, this instructor uses a classroom management strategy to build expectation and readiness to participate at any time during their synchronous class. Sam discloses:

I want to feel like there's this high expectation of participation, there's a way that I can respect if your camera is off, that you can still participate. Because I'm going to put a direct question to you at some moment, and I'm not looking for you to indicate that you're ready. I'm also going to ask you to type in the chat, which is like, a bit more than just agreeing or, like, saying that you understand. Like, the idea of a productive

text task could just come out of anywhere. I don't know I would go back to this, again, is wandering and wandering, and just inviting that type of open thinking about what we're doing.

Another classroom strategy for Sam is to selectively use the audio for expected participation and the chat to regulate unexpected participation or “cross-talking” that may occur in productive writing via audio. This instructor explains: “I use chat for action and keep productive writing in an organized way and avoid cross-talking, if I use audio instead”. In discussing classroom management as a major factor for which affordance to use in the synchronous environment, Sam talks about “a triad of communication” during which they simultaneously use audio while alternating between using private and whole group channels as “a social function and maintaining structure, habit, agreement for the writing related tasks” (Sam) for several assistance purposes:

- Negotiation and adjustment of received message; writing they received via private chat that requires editing, cowriting, and feedback.
- Asking permission and sharing the improved message and sharing it with the whole class “to give attribution and as an act of building confidence to the students who sent it in private and show their work is of value.”
- Attempting to minimize “the alienation” in the virtual learning environment by conveying a social function connecting the three channels of communications.

Sam: Findings From the Recorded Synchronous Session Using IC Frameworks

The findings of the recorded synchronous session, intend to answer sub-question# 2. Data mapping and analysis are based on mapping using Tharp and Gallimore's 7 means of assistance and Goldenberg's 10 elements of ICs. (see Appendix G)

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The recording of the synchronous session includes episodes of discussions revolving around a text that the students are reading, with the assistance of Sam. The purpose of the reading task is to ultimately reconstruct and reproduce missing parts of the reading text in the form of students' constructed sentences. At the beginning of the reading task, as each student reads one paragraph at a time, this instructor's assistance through ICs, provides a general overview of the planned task to understand each paragraph. Hence, it reflects Tharp and Gallimore's (1988) means of **assistance #7 'task structuring'**: "chunking, segregating, sequencing, or otherwise structuring a task into or from components. This modification assists by better fitting the task itself into the zone of proximal development" p4). The data of the recording shows that Sam uses Goldenberg's (1991) **IC element #1 'thematic focus'** where "the teacher selects a theme or idea to serve as a starting point to focus the discussion and has a general plan on how the theme will unfold, including how to "chunk" the text to permit optimal exploration of the theme" (p. 8). They also use **IC element #2 'activation of background knowledge and relevant schemata'** where Sam "either "hooks into" or provides students with pertinent background knowledge and relevant schemata necessary for understanding a text. Background knowledge and schemata are then woven into the discussion that follows". As such, they are reflected in the extract below:

I wanted to begin by introducing our topic from our week's theme of ads. We're going to focus now specifically on ads to kids. And I'm going to share a couple of documents in the chat. And these will be what we'll start with reading over together. And from there, we'll add to the sentences, we'll make some answers, but bring some details from the text into our answers like we were just practicing. And we'll also look at some different style ads, we could call them aunty ads, and choose some of those to

discuss. So those are two activities coming up next. And here's the document for the reading (Sam). **(IC element #1 'thematic focus')**

Sam's assistance continues to use **means# 6 'explaining'** where they "provide explanatory and belief structure. This assists learners in organizing and justifying new learning and perceptions" (Tharp & Gallimore 1988, p. 4). As a result, **IC element #3 Direct teaching emerge**, when "the teacher provides direct teaching of a skill or concept" and **IC element#5 'promotion of basics for statements or positions'** where the teacher promotes students' use of text, pictures, and reasoning to support an argument or position. Without overwhelming students, the teacher probes for the bases of students' statements: "How do you know?" "What makes you think that?". "Show us where it says____ ." as reflected in the extracts below:

Just to keep looking at these paragraphs as we have been, we noticed it's starting with a question. Getting into this style of a statement of fact about child development. What is true what is not true, then this opinion part at the end, it's no wonder that children and teens are the prime targets. So, this is something where we're going to look a little more at this happening. Why does advertising get focused to young people? And we could say this is the main topic that gets expressed in the last sentence of the first paragraph, including how to "chunk" the text to permit optimal exploration of the theme (Sam). (**IC element #2 'activation of background knowledge and relevant schemata'**)

Okay, thanks. And here we can see like we were talking about this yesterday, a bug or rats or cockroaches. We could call them pests and pestering as a verb. It's this action to bother or ask again and again. So, we might notice some of the products that we really

remember are the ones we asked for a lot from our parents (Sam). **(IC element #3‘direct teaching’)**

Now, what we can notice is we've now shifted our topic, right? We were first talking about ads. And, then in our second paragraph here, we're talking about the kids. And now we're talking about the companies. So, I think this is another way we can notice the paragraphs organised by subject. And that subject is the first thing that's mentioned. And as we edit our own essays, this might be a way for you to really know that your changes between paragraphs are clear that the next next subject leads it off (Sam). **(IC element #3‘direct teaching’)**

Okay, thanks. And so, I think we could even determine here that we started talking about parents up at the end of number two, right, they're saying most parents don't realize their kids are pestering them because of the ads. They're using that previous subject as like a link here. So in the paragraph, you can just read like up what would you say is the main topic? Is it parents? Why? (Sam). **(IC element#5 ‘promotion of basics for statements or positions’)**

The above means of assistance and elements of instructional conversations have been consistently used to guide students as they move from reading one paragraph to another for reading comprehension, coherence, and cohesiveness within and across the paragraphs.

In the following phase of the task, students are asked to reconstruct missing sentences in some of the paragraphs that require clarification of or elaboration on the meaning and stronger cohesiveness. In this phase of the task and its target, more IC elements emerged during which multiple exchanges between Sam and students occurred. The mapping and analysis of these extracts or episodes reveal a pattern in the way Sam assists their adult learners of English in

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performing the reconstruction of parts of the text within the reading task. Within each conversational episode, as illustrated in the example below, this instructor starts by using **means#4 'directing'** “requesting specific action. Directing assists by specifying the correct response, providing clarity and information, and promoting decision-making”. Followed, **means#5 'questioning'** is used to “produce a mental operation that the learner cannot or would not produce alone. This interaction assists further by giving the assistor information about the learner’s developing understanding” and **means#6 'explaining'** that was previously used in the first episodes of the reading task.

Aligned with the means of assistance (directing, questioning, and explaining), other IC elements emerged. For example, while directing, **IC element# 7 'responsiveness to students' contribution'** emerged: “while having an initial plan and maintaining the focus and coherence of the discussion, the teacher is also responsive to students’ statements and the opportunities they provide”. **IC element #3 'direct teaching'** also re-appeared. Then, Sam builds on the conversation adding other elements such as **IC element#6 'few known answer questions' where** “much of the discussion centers on questions and answers for which there might be more than one correct answer”:

I think this is the connection that they have right now but it's kind of why we're trying to edit this paragraph like they're saying marketers are blamed by the health experts. The marketing is for food specifically is 50% of what the kids see. These ads don't feature healthy food, so but maybe listening to a bit of what L said or your own opinion, how could we structure this last sentence here about if something there could be or would be it's getting into this possible future of a change? (Sam) (**IC element#6 'few known answer questions'**)

Sam adds other elements such as **IC element #5 ‘promotion of bases for statements’**: the teacher promotes students’ use of text, pictures, and reasoning to support an argument or position. Without overwhelming students, the teacher probes for the bases of students’ statements: "How do you know?" "What makes you think that?". "Show us where it says____ ." while weaving back into the same cycle to assist metacognitive and linguistic skills through eliciting more complex language/ responsiveness: “I’m just gonna put what I heard you and did you say families could be connected to good health for their children? and when you say they, is it the children? or the marketers? And why?” (Sam).

This instructor’s assistance and use of instructional conversation is iterative, interactional and “spiral” (Sam) and serves the creation of a ZPD where students and Sam negotiate meaning and co-construct/co-author written sentences to complete the reading text. As the task performance continues, this instructor proceeds using the same means of assistance (directing, questioning, and explaining) adding **means# 2 ‘feeding back’**: “providing information on performance as it compares to a standard. This allows the learners to compare their performance to the standard and thus allows self-correction”. Then, elements of ICs such as **element #7 ‘responsiveness to students’ contribution’**: “while having an initial plan and maintaining the focus and coherence of the discussion, the teacher is also responsive to students’ statements and the opportunities they provide” are embedded within the cycle of ICs as explained above. The following extracts reflect how IC elements are intertwined, yet follow the introduced pattern:

Okay, that’s interesting because yeah, like what I think we can try to say more about here is these different topics through listing like one sentence is health experts then we have food marketing, and then we have the topic of that marketing. But I think there’s

some connections between these things that your point L could build on in this next paragraph...Yes, it could be healthy products but does the message as advertising could it be like not neutral?... Right, I think that's kind of what they're saying is that like any message targeted at kids could become overwhelming. Can we hear from somebody else like up what do you think? what could be a good conclusion sentence to this list of health issues Food Marketing junk food? (Sam) **(IC element# 7 'responsiveness to students' contribution')**

What could be a way we finish this paragraph where we're talking about health again, because we started with health like and we're talking about parents and health and their children together this is got some attention to it, write it to people have strong emotions about their children's health. And at the end of this paragraph, we were not talking about it anymore. How could I link back to this first topic sentence what's something I could say? It could be even like L (initial of a student's name that contributed to the discussion and provided an answer) was saying if the company has changed something, what if it was an IF sentence? **(IC element #7 'responsiveness to students' contributions)**

What is the slogan of Pokemon? I guess it would be different in Japanese. In the slogan that we hear in English a lot with Pokemon is. Gotta catch them all. Have you heard this before? **(IC element #7 'responsiveness to students' contribution)**

It is crucial to note that while assisting their students, Sam fosters an engaging learning experience using **IC element #9 'a challenging but non-threatening atmosphere'** where "the teacher creates a "Zone of Proximal Development" ... where a challenging atmosphere is balanced by a positive affective climate. The teacher is more collaborator than evaluator and

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creates an atmosphere that challenges students and allows them to negotiate and construct the meaning of the text” (Goldenberg, 1991, p. 8). This instructor collaborates with the students while negotiating meaning orally and using arrows, underlining, and typing on the shared document. Sam uses cursor to show parts of the text, underline and put notes supporting the reasoning and statements students provided using **IC element #5 ‘promotion of bases for statements’**: “the teacher promotes students’ use of text, pictures, and reasoning to support an argument or position. Without overwhelming students, the teacher probes for the bases of students’ statements”. In addition, Sam uses **IC element#4 ‘promotion of more complex language’ where they** elicit more extended student contributions by using a variety of elicitation techniques, for example, invitations to expand (“Tell me more about ____”), questions (“What do you mean by ____?”), restatements (“In other words, ____”), and pauses.” Simultaneously, they resort back to responsiveness to students’ contribution, direct teaching and questioning as reflected in the extract below:

So here I’m just gonna do something where we call this an article, and we say in paragraph three, the article notes so I can see notes like mentions, or states, we might put those actions sometimes within our author, but this doesn’t really have an author here. We’re just going to say the article notes. (**IC element#3 ‘direct teaching’**)

There’s something here you're saying you can you say so it would be an efficient strategy? Can I change this? Maybe too, so they could share? Because it sounds like you’re focused on this transfer from the psychologists to the marketers, right? Like, or the, from the psychologist to the companies? (**IC element #7 ‘responsiveness to students’ contribution**)

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In addition, this instructor's use of instructional conversations occurs within a collaborative atmosphere where students and Sam re-construct parts of the text to show semantic understanding, relational aspects/parts of the text and create a written piece, all with the help of the instructor. They use **IC element#8 'connected discourse'**: "the discussion is characterized by multiple, interactive, connected turns; succeeding utterances build upon and extend previous ones. As the conversation continues, Sam is still on target of assisting students' thinking, "guiding their construction of thought to construct the targeted sentence" and participation. They apply **IC# 10 'general participation including self-turn'** allowing for general turn taking and participation while also using predictable as well as unpredictable participation as illustrated below:

Now, I'm going to put a sentence in the chat from what I heard. And I think it's close to what you said. Here we go. What do you think K [student initial]? Is that what you meant?

Okay, thanks. What I'm going to do is make some small changes to what you sent me and then send it to the group if that's okay. And I think when you say it you mean the question why right? For number three, why would they hire it? Yeah, okay I'm just going to change that today are hired. Okay, in response to that question about child psychologists.

We might even say...I'm just going to do one more small edit to D [student initial] here, I had to do a couple of changes to my first sentence too just we might find we get a good flow and then it can also chop down into two smaller sentences. So, I'm taking what D [student initial] shared about paragraph two here, splitting it into two

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sentences. And I think it keeps the discussion going. And I know you're bringing in we know kids don't have money as like a we statement, but I think that's fine because this is also a little bit informal in the writing style.

Hence, Sam's assistance, helps construct a ZPD where students cognitive, metacognitive as well as linguistic learning moved from understanding parts of the text to rewriting sentences as a reconstruction of the missing parts of the text. This instructor closes the discussion episode and assistance through **IC element #3 'direct teaching'** to explicitly provide answers they were eliciting from the students. In addition, they use the explanation of the previous paragraph as a means of modeling for the coming paragraph "offering behaviour for imitation. Modeling assists by giving the learner information and a remembered image that can serve as a performance standard" (Tharp & Gallimore, 1988, p. 4). Such knowledge works as an activation of background and schemata for the next paragraph; it serves as an example for the following required re-construction of parts of the text in the upcoming paragraphs and as a wrap up of that section of an ideal answer for comprehension and relational text and structure (linguistic written discourse construction):

Do you see how paragraph four is kind of missing that conclusion part? Right, we want to, like the previous paragraph has an example. When we're looking at the end of this paragraph. It's just a list saying they feature junk food. But we want to add what the meaning of that is. And I think looking at a change in policy, could be a good way to see the meaning of an existing policy.

The same cycle of assistance through an iterative and consistent pattern of using IC elements occurs throughout the episodes as the students proceed with the reconstruction of missing sentences from the text:

And I just want to kind of like notice that this is kind of a hybrid paragraph. It's got a link from the previous topic of parents. It's got the health experts that are mentioned and some details about food. Now. If this sentence, I'd like I would open this up to everybody. But like, if we could add one sentence to paragraph four. How can we finish it? Because it jumps into another question right away. Right, it jumps into is advertising to children ethical. But I think we want to say something a little more on this health topic. With Topic number four with paragraph four here. What could we say as a conclusion sentence example?

Key Summary for Sam

To sum up, in addressing the main research question, findings for Sam reveal beliefs and assumptions related to the crucial role of a purposeful selection of topics that are meaningful to adult novice ESOL learners' experiences. This selection also recognizes the learners' prior knowledge, reality and past to serve the use of meaningful topics for discussions that support language learning. With IC, Sam builds on the already existing content and helps students express it in English and uncover the linguistic as well as the cultural differences in their L1 in relation to their targeted learning in ESOL. Topic selection is influenced by task design and lesson preparation. Discussions of topics are facilitated through the use of ICs which is in turn dependent on the type of task itself. In addition, Sam data reveals stable and repetitive patterns of using IC elements and means of assistance to serve the purpose of the reading task being executed during the synchronous session. The discussions of excerpts of the recorded session show a purposeful selection of the synchronous affordances mainly chat to serve the various needs dictated by the oral and written registers as well as respond to the socio-emotional affect of learners and navigate classroom management in the online modality.

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In this chapter, to address my research questions, I reported on the findings from the first case Sam for the three phases of this study: findings of the semi-structured and follow-up interviews and the findings of the recorded synchronous session. Similarly, in the following chapters, I report on the findings of the second case Dima (Chapter 6), followed by the findings of the third case Noor (Chapter 7).

Chapter 6. Research Findings From Case 2 Dima

Dima: Findings From the Semi-Structured Interview

In this chapter, I present the within case findings of the second case, Dima. Addressing Sub-question 1, the semi-structure interview data reveals Dima's beliefs and assumptions about influential factors that shape their use of ICs to mediate language learning in the synchronous online environment. Other themes outlined in this chapter include beliefs about SLA and language learning and strategies for using ICs.

Beliefs and Assumptions on Influential Factors Shaping ICs and Language Mediation

Dima's data reveals that their background plays a prominent role in their use of ICs to mediate language learning. Factors that influence their use of ICs include their background (being an immigrant, their professional experience and teaching philosophy), the importance of their sense of belonging, and the essential role of students' engagement, as well as community building through personalized experiences as required by the online environment.

Instructor's Background and its Influence on Their Classroom Practice. As an immigrant in Canada, Dima comes from a background that helps them recognize the important role learning English plays in students' lives. Hence, they understand the language challenge for their students and are passionate and dedicated to supporting them in their language learning journey. In addition, their professional experience in teaching adult ESOL learners shapes their teaching philosophy; this instructor recognizes the essential role of students' engagement in fostering their sense of belonging in the online language classroom. One of the pillars of their support is to use ICs, especially asking questions to mediate language learning. For them, asking questions creates opportunities for exchanges and language practice that the students will need outside of the classroom to function in the real world.

Beliefs and Assumptions about SLA/Language Learning Online: Building Rapport and a Community of Learners for Socio-emotional Effect. Dima expresses their strong belief in community building in the online synchronous environment. According to them, among the main challenges in the online environment are the lack of physical presence and students' interest in speaking. To overcome such challenges, they believe in "setting the tone" in the first sessions, where the instructor shares personal experiences and uses ICs to allow discussions during which students also share their experiences. Sharing becomes easier throughout the course, within such a community of learners, and through personalized guided discussions that are facilitated by the instructor's use of ICs.

According to Dima, community building in the online environment is contingent on building a rapport with students and constant guidance through ICs. For them, building a rapport has positive emotional effects and is crucial for second language learning. It makes students "open up", "feel relaxed", and "feel comfortable", which results in more language production; it engages students and builds their confidence to participate and answer questions, hence producing and using the target language. As Dima states:

It's very important to build rapport from the beginning. And to help the students open up to tell them it's okay to speak, it's okay to make mistakes, everyone makes mistakes. Even myself, sometimes, if I make a mistake, I tell them and show them how I fix it... And it's okay. So, I hear this a lot from my students, they tell me in your classes, we feel relaxed. It is very important for students who are learning a second language to feel relaxed in the classroom, because if they are not comfortable, they will not speak, they will not produce the language.

Dima further states that:

When you ask questions, they will feel comfortable answering you; they will go, there are no boundaries, you know. Because they are shy. They don't want to use the language, and they are afraid to make mistakes. So, when they see that everyone is participating, the ice is broken already, and they feel more comfortable speaking.

In addition, Dima emphasizes that using ICs plays a major role in language learning. The instructor's use of ICs, asking questions, eliciting answers, and urging students to speak up make them feel they are part of the learning process. Moreover, the guided and assisted conversations that occur when the instructor uses ICs gradually build students' confidence and result in language retention. For the effectiveness of using ICs, Dima claims:

Oh, it's all done through questions. If you noticed in the recording, I ask a lot of questions. By eliciting from them the answers, it will stick to their mind, the idea will stick, and they will feel confident because they gave you the answer. They are part of the learning process. They are very engaged. So, they feel responsible about the whole thing. It's like, we're cooperating together. I'm not just lecturing, and they're listening. They are part of the learning process.

And I think I am slowly building a lot of confidence into the students; they feel that yes, "we know" because they're answering questions that they are giving right answers, they feel that "we know" they feel more confident. And they will remember, even if I ask them at the end of the semester about something we talked about in the first class, they will still remember.

Beliefs and Assumption on Tasks and Their Influence on the Strategies for Using

ICs. In addressing Sub-question 2, which investigated elements of the synchronous environment that shape the types of ICs that the instructor uses, Dima's data revealed that task preparation and its execution influence their strategies for using ICs. Dima highlights that preparing the task includes preparing the main sets of questions that they will ask during the various phases of their lesson to bring to the surface what students know and build on it throughout the lesson. For Dima, questions include mainly instruction-checking questions (ICQs) and concept-checking questions (CCQs) for linguistic and cognitive assistance to "reach the target language". According to them, the effectiveness of task preparation and the pre-setting of questions to ask are contingent on knowing students' levels and needs:

It takes a lot of thought to prepare your CCQs or like ICQs, and everything depends on your class level. You have to know the level. You have to know what they know already. And you have to understand the needs of your students. You know how to ask the questions, what works best for them. So, this comes during the first week; we try to get to know them better. And then it just goes with the flow, you know, you just get to know them, and the magic happens (Dima).

In addition to the importance of task preparation, Dima believes that the immediacy of pedagogical decision-making is also crucial in the process of asking these questions (using ICs). The instructor needs to adjust the type and form of ICs for more effective assistance as the need arises in the learning process. Dima also thinks that using ICs (mainly asking questions) is a skill that instructors learn by practice, as they explain it:

I have some questions that would be prepared before when I planned my lesson, like with the real questions that focus on the main ones, and then as I ask, other questions will rise, you know. If I feel that this question wasn't very effective, then I try to change it in another way. I rephrase it, or I reuse it. You know, I ask another one, just to make sure that the point that I want to reach is reached. Yeah. And with practice, it just starts coming out naturally, you know.

During the execution of the task and the instructor's assistance to students' learning, immediacy requires employing a variety of strategies depending on the students' knowledge and output. Adjusting the strategies includes changing the types of questions and using other IC strategies such as using realia, further explaining, and coming up with examples: "it's all about catching some teaching moments here and there throughout what you have planned already so you don't have to stick to the plan" (Dima). According to this instructor, part of the influence of the task on using ICs to assist students' learning includes challenging them by changing, as needed, the whole activity that the instructor had planned:

Sometimes, it turns out that they already know the target language, and you get surprised that they already know it. So, you have to shift to something else immediately, you know. You have planned for this, and then you have to change the whole activity; you have to change it in a minute. I try to find something else to challenge them with right away. (Dima)

Beliefs and Assumptions on Language Pedagogy Online and Synchronous

Affordances. One of the major findings from Dima includes beliefs on language pedagogy online and the effectiveness of audio/video affordances to serve these beliefs. In their speaking, listening, and grammar language classroom, Dima believes in the effectiveness of the instructor's

talk using ICs to push students to speak the target language. Using ICs is part of the cognitive and linguistic preparation for the target language; it “prepares them [students] to what’s coming ahead”, “digest the new information”, and “practice speaking at the same time”. It is also a strategy for the instructor to assess their students' prior knowledge and understanding in an on-going manner. As this instructor puts it: “It helps me know that they know what we're doing, they understand what we're doing. These conversations allow for language extraction and guiding the students through questions until you reach the target language”. Hence, it shapes the way this instructor assists their students’ thinking and language learning to further produce the target language through ICs in the form of CCQs and ICQs.

Dima uses ICs to craft conversations during which the target language is used as input. They also create opportunities for speaking that result in language output from students. In return, this instructor responds to guide students in modifying such output as needed via ICs (ICQS and CCQs). Additionally, Dima’s semi-structured interview data reveals several beliefs regarding using ICs and the way it serves effective pedagogical purposes such as: 1) “using ICs really helps to facilitate, let’s say, the communication part of language learning”, 2) “engaging in language learning through the use of ICs is more meaningful for students”, and 3) using ICs, helps with language retention. For the latter Dima further explains:

If I just I gave them a sentence and told them this is the verb; it's in the past.

This is how we use the past. Do you think they will remember when they come next time? They will not. By eliciting from them the answers, it will stick to their mind; the idea will stick.

The main purpose of language learning, for Dima, is to be able to function in real-world situations. Their pedagogical practice is therefore inspired by and tailored to reaching such a

goal. Accordingly, this instructor believes that by using ICs in their classroom, they craft real-world situations. They assist their students to engage in discussions for various real-world functional uses of language and guide their thinking for more contributions to the discussion. Hence, through such guided exchanges with the instructor, students can speak the way they would speak and function in the real world. Dima elucidates:

Using instructional conversations is more like a real-world task because the purpose of their language learning is to use it outside of the classroom. So, using instructional conversations, I feel, let's say you put more real-world situations for the students to practice the language better instead of using other ways. By using ICs, you encourage them to participate and use language. If one of the students disagrees with a point, he or she keeps just talking, challenging you with more and more questions, and you convince them with a point. So, this is really a practice for them to know how to do this kind of conversation outside the classroom, for example, with their manager, with a colleague at work, or with other people outside. They need to know how to discuss, how to explain their opinion, how to reach a point that they would like to reach for someone.

Aligned with their belief in using ICs for more opportunities for speaking in the listening/speaking English classroom, Dima claims that using ICs in the oral form is more effective than using chat, especially for low and intermediate-level students. As Dima expresses it:

So, I feel with at least at least with the students from foundations to intermediate level, using oral instructions are more effective than then written

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ones because, first of all, not everyone can read fast. They will not follow up with reading in the chat. They might be slow; they might miss it. But listening to it, I feel it's more effective with this level. So, I feel like as if I'm using words, and the discussion is there the whole time.

Similarly, Dima believes that giving instructions using ICs in the oral synchronous form via audio is also more effective than using ICs in the chat, as they explain it:

I rarely use the chat because I feel like it is not easy to follow up, and whatever I wrote is lost somewhere in the chat. So, I don't feel it's effective for me to give instructions up through the chat. I use oral more.

In addition, due to “the lack of the physical presence” in the online classroom, Dima believes in the effectiveness of ICs using audio over chat to create a “personal touch”, “genuine conversations”, and “save time”, as illuminated in the excerpt below:

Online, if there's no face-to-face interaction, there's no eye contact, and if they are only using writing through chat, I feel like you lose the personal touch in your class and there will be some distance... we're using oral for discussions because, I feel it's more genuine, it's more personal, students feel more comfortable. Also, to save time, it's faster, because you only have two hours with them synchronously. If I would wait just for them to type in the chat, this will waste a lot of class time as well.

Dima: Findings From the Follow-up Interview

The follow-up interview investigates the role of the synchronous affordances in shaping the type of ICs in the ESOL classroom. Dima's data reveals various linguistic and pedagogical

factors that influence the types of ICs used in the oral and written forms in the synchronous environment.

The Role of the Environment: Beliefs on SLA and Language Pedagogy Shaping ICs via Audio

In addressing factors behind the use of ICs in the oral form via audio versus in the written form in the chat and the influence of the environment in shaping the type of ICs, the follow-up interview data reveals an emphasis on various beliefs on SLA and language pedagogy. For instance, Dima emphasizes the importance of providing clear instruction for various purposes and its effectiveness via audio. This instructor explains that they use ICs to give clear instruction and make students aware of expectations, schedules, and plans, and most importantly, for students to “feel [they are] part of the learning process”.

Additionally, when using IC elements that are instructional, Dima uses multiple ways of saying the same message, reiterating and simplifying ideas to cater to the various levels of students, and ensuring lower-level students understand what is expected and the task to do. While using ICs that are conversational, Dima also uses a lot of repetition and reformulation, simplifying the language used while assisting their students to cater to the different levels in their classroom. Another purpose is to respond to the affective domain (socio-emotional aspects) for low-level students and ensure that they “are not left out”, especially those who are too shy to acknowledge their confusion or ask for help. In this regard, this instructor explains:

Students appreciate repetition, reformulation, and reiteration as some are shy and by repetition and rephrasing, repeating, showing an example, doing something together, no student is left out. In language learning, they are shy to speak; they are afraid to make mistakes. And I don't see them, so I make sure everyone got it.

As reflected in their actions using ICs in the recordings of the synchronous session and discussions of the extracts during which they employ ICs, Dima resorts to using audio as it serves the pedagogical purposes presented above. Hence, this instructor's belief in language pedagogy is one of the main factors that influence their selection of environmental affordances and shape their use of ICs. Moreover, Dima believes that other affordances, supported by audio, such as screen sharing for PPTs, are effective for other language learning purposes, such as "taking notes, visualization of numbers, and reinforcing spelling".

As such, another factor that reflects this instructor's beliefs and assumptions about second language learning and pedagogy is the purposeful use of the audio affordance of the synchronous environment to serve their intentional "lead in" approach using ICs. Dima confirms that everything they say via audio is intentional and purposeful and is part of their beliefs and assumptions about second language learning that conversations are co-constructed in a way that each part "leads to what's coming next".

In the follow-up interview discussion, it is apparent from the data that another factor that Dima believes in is the importance of real-life language exposure as well as students' engagement, shaping the instructor's use of ICs and the audio affordance in the synchronous environment. In reflecting on and discussing the excerpts from the recorded session, Dima illustrates their purposeful use of ICs via audio and its effectiveness in assisting students in co-constructing "real-life language exposure" as follows:

- taking part in the conversation to enrich it via commenting, expanding on the proposed idea;
- using a natural and informal flow of conversation;
- using humor and sharing personalized experiences and examples stimulating natural real-

world situations with the students;

- treating students in a friendly manner.

These are reflected in this instructor's use of ICs to assist their student's language and ideas. As Dima states:

I'm trying to make the conversation more informal, relaxed, spaced out, making real-life experience like talking to a neighbor's sister—use language in the real world, the objective of the class... Because we are teaching language lecturing doesn't work. You want them to feel engaged; you don't want them to be bored.

The Role of the Environment: Type and Design of Tasks

Dima expresses that the nature of the course (speaking/listening) shapes the design and type of tasks to be used. It also requires the use of audio to serve the objectives of the course. In other words, the course targets speaking and listening skills. Hence, this instructor designs the listening and speaking tasks, which are best served, according to them, via audio in the synchronous environment. Dima purposefully uses audio for these tasks to create the context where students listen to the instructor while talking, for more language exposure as well as for enhancing their listening skills. In addition, using audio for this type of course is effective for the opening of the speaking task, as it plays the role of an icebreaker for discussions during which moments for instructional conversations occur. For Dima, it is easier and more efficient to do housekeeping and relate to what was covered in the previous class orally via audio. They emphasize that it “also goes beyond that” as they purposefully use audio not only for housekeeping, as an icebreaker, and preparing students for each class, but also to intentionally create listening and speaking opportunities.

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Through task design, “everything is connected together” (Dima). Therefore, this instructor prefers audio over chat to relate to the previous class as a quick oral review in a way that leads to the target task and elicits a prediction of what is coming next in the lesson. Dima thinks that using audio is more efficient and effective to be able to convey such a complex process. They seize the opportunity via their task planning as well as their instantaneous use of ICs to execute and facilitate the task via audio. They think that orally, they can reinforce a previous class's targeted grammar and content at an earlier stage of the current class, introduce a new concept/language (grammar, pronunciation, unfamiliar vocabulary), and build upon it to move forward and prepare students for the upcoming interrelated targeted language. Because of such complexity and interrelatedness of tasks and language in use, this instructor resorts to audio as it allows for more in-depth and detailed input and assistance, and results in language production from the students and a modified output with the help of the instructor and their use of ICs.

Additionally, Dima confirms that both their task design and beliefs and assumptions on how the task should be instructed and its related pedagogical application to assist students' language learning and development mandate the use of audio. As they explain it, Dima merges upcoming class tasks with the current targeted task, going forward and backward in an attempt to prepare for what's coming next by relating it to the current task. They also revisit previous class content, relating it to the current content as they design their interconnectedness and facilitate it via audio:

Audio for me allows for more in-depth opportunities for me to assist looking at details. In my mind, the coming classes are about sequence, so I'm preparing students for that, to notice the sequence. So, when I am designing the task and

when I am in class, I merge today's class about the past and try to make them notice and be aware of the concept sequence. Later that week when we use the sequence, I might take the text of the same audio for the sequence and connect and use something not totally new; the text is familiar, so then we will focus on the sequence – it helps them cognitively to be ready for the next lesson, as you are looking at the language not to understand the text.

Furthermore, according to Dima, task design also influences the way they give instruction to their novice adult learners via audio to reach their goal of encouraging language production, as they explain it:

The level of the students requires a lot of explanation. Also, the pre-listening itself requires some background information so the instruction leads to know what to focus on while they are listening and contextualize for them the content before listening, for them to may be contribute at some point with one of the things I provided.

Listening and speaking task design integrates grammar and sentence-writing activities. While assisting their students with writing production, Dima resorts to a simultaneous use of chat and audio. Hence, they use ICs in the oral synchronous form to serve various purposes, such as “explaining when needed, asking guiding questions and using form noticing techniques”, while they use ICs in the delayed synchronous written form for giving feedback and sentence correction. “I use chat for such activities because I want them to write and see how they change the verbs, for example” (Dima).

The Role of the Environment: Advantages of Synchronous Affordances and Their Influence on the Use of ICs

In the follow-up interview data, Dima comments that synchronous affordances provide opportunities for “more flexibility and teacher agency” that are particularly effective in using a variety of ICs and a unique way of giving feedback. Opportunities, as such, are only possible in the synchronous multimodal environment and shape the instructor’s assistance and strategies for using ICs. Dima also explains how effective it is for them to use the multiple synchronous affordances simultaneously for language learning, by, for example, having multiple screens, using audio for different purposes, observing students working, and taking examples from chats and putting them on the PPT and providing feedback through screen share and its interactive tools. This is otherwise impossible in the in-person classroom.

In their recorded session, Dima exemplified using notetaking documenting students’ errors on a separate screen while conversing with students. This allows them, in their opinion, to catch pronunciation errors and address them later or to make a list of targeted language being addressed, without making students notice it. Accordingly, they avoid interrupting and hindering the student’s flow of thinking and their language production. Then, Dima uses those notes as modified examples to benefit the whole class as a modeling strategy. Highlighting the effectiveness of the synchronous affordances in providing more flexibility and teacher agency, Dima explains how it shapes, in general, their strategies for using ICS:

Online, I have more to give than in person. In person, it is more predicted and controlled. Online, there are more opportunities, more freedom to adapt and change during class. Online, there is more of this luxury to change, to adjust on- the-go synchronously during class and after[while] referring to the

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recording a chance to look back and make changes and improve teaching and assistance through ICs.

According to this instructor, their assistance in the online synchronous environment via audio is “better performed and more effective” as it allows for more student engagement due to less formality and a sense of community among students and with the instructor. Dima explains how informality allows for a stronger sense of community, thereby creating opportunities for this instructor to use ICs and for students to be more engaged:

Via audio online, we built this connection to feel more comfortable asking questions. Building a nice rapport using audio is nice to keep communication between teacher and students. Especially with virtual learning, we need the human touch. Students told me that they felt [online] that they are not in the classroom, that we are friends, and they feel engaged.

The Role of the Environment: ICs for Classroom Management

For Dima, one of the major factors that also shape the use of ICs in the synchronous environment relates to classroom management. They explain that they find that the synchronous classroom requires a lot of management strategies. Therefore, they purposefully use synchronous affordances for classroom management to build structure, regulate students’ participation and ensure students’ engagement behind the screens (as their cameras are off and the instructor cannot see them). They also use synchronous affordances to orchestrate the modality through which they use ICs to mediate their learning: “Other than audio, sometimes I use the chat, sometimes I use the poll and other ways to take answers from them, or explain a word using instantaneous Google search, or share my screen for a picture and so on” (Dima).

They also emphasize that their expectations for participation for classroom management purposes are agreed upon from the first day of class. For that, they use mainly audio for an unpredictable cold calling from the list of attendees to ensure everyone is following or open the microphone for the whole class, giving the students the opportunity to and encouraging them to voluntarily participate. They also use audio to address a particular comment or question from a student whom they captured and recognized their voice when they participate without raising their hand (virtually), or to give direct instruction to a particular student as needed. They also “use the chat to include those who are shy and prefer to write in the chat instead of using their microphone while orally addressing their responses via audio using their examples” (Dima).

Dima: Findings From the Recorded Synchronous Session Using IC Frameworks

In the recording of the synchronous session, the focus was on integrated grammar for simple past and sequencing within a listening task. The task includes phases for speaking, listening and discussion, and explicit grammar practice for written language production. Each phase is characterized by multiple exchanges between the instructor and students Dima facilitates the execution of each phase using various means of assistance and IC elements. For example, they use Tharp and Gallimore's (1988) **means #7 ‘task structuring’**, defined as: “chunking, segregating, sequencing, or otherwise structuring a task into or from components. This modification assists by better fitting the task itself into the Zone of Proximal Development” (p. 4). It emerges as the instructor introduces the plan for the session, including the task objective, the phases, and their focus.

The instructor introduces the theme and the purpose of the listening (grammar integrated targeting the use of simple past and the concept of sequencing) by using Goldenberg's (1991) **IC element #1, thematic focus**, defined as:

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The teacher selects a theme or idea to serve as a starting point to focus the discussion and has a general plan on how the theme will unfold, including how to "chunk" the text to permit optimal exploration of the theme (p. 8)

Similarly, in their speaking/listening/grammar lesson, Dima initiates a conversation about the weekend to support the target of the lesson and as a preparation for the next listening phase that includes past events. They used the **means of assistance #5, 'questioning'**:

So, let's think about the weekend. Okay, remember, we're talking about the simple past. How did you spend your weekend? What did you do? Did you go somewhere? Did you do something at home? Did you visit anyone? Did you see any friends?

The session starts with the speaking phase, where this instructor starts a conversation with their students via audio using Goldenberg's (1991) **IC element #2, 'activation and use of background and relevant schemata'**: "The teacher either "hooks into" or provides students with pertinent background knowledge and relevant schemata necessary for understanding a text. Background knowledge and schemata are then woven into the discussion that follows".

Dima engages the students in a personal conversation about their weekend to activate their background knowledge and immerse them cognitively in the context of past events. They guide their students cognitively and linguistically with ICs. For reporting on past events, the participant follows an unpredicted participation approach using **IC element #10, 'general participations, including self-selected turns'**, during which "the teacher encourages general participation among students. The teacher does not hold an exclusive right to determine who talks, and students are encouraged to volunteer or otherwise influence the selection of speaking

turns”. In this process, Dima uses audio to hear from their students about their weekend as an opening of that day’s general task targeting past events and sequencing.

In using ICs, it is apparent in the data within the various parts of the speaking task that Dima follows a pattern that includes and alternates between **means #5, ‘questioning’, IC element #7** ‘responsiveness to students’ contributions **and IC #4, ‘promotion of more complex language’**. Within this structure, the instructor thereby facilitates the flow of the conversation and the process of language mediation. According to Tharp and Gallimore’s (1988) means of **assistance #5 ‘questioning’** is “producing a mental operation that the learner cannot or would not produce alone. This interaction assists further by giving the instructor information about the learner's developing understanding” (p. 4). As reflected in Dima’s data, questioning as a means of assistance serves this instructor’s use of Goldenberg's (1991) **IC element #7, responsiveness to students' contributions**: “while having an initial plan and maintaining the focus and coherence of the discussion, the teacher is also responsive to students’ statements and the opportunities they provide” (p. 4).

The above is also supported by the instructor’s use of **IC element #4, ‘promotion of more complex language’**, and woven through **IC element #8, ‘connected discourse’**: “the discussion is characterized by multiple, interactive, connected turns; succeeding utterances build upon and extend previous ones”. Via audio and within a connected discourse, Dima starts with a question, listens to the student’s response, and asks another question to guide the student’s thinking and elicit further language production by rephrasing the student’s idea in full sentences, as shown in the following selection: “Nice. She came back from Yemen; she brought a few gifts for all of you” (Dima).

This instructor also engages with the students by building on the conversation and adding an idea to the conversation or comments showing interest in the conversation: “Did she bring Yameni Coffee? I know it's delicious” (Dima). The apparent pattern for students’ responsiveness promotes more complex language through asking questions for more details and eliciting more spoken language, such as “like what?” It also guides the student's thinking and targets the use of the past within these questions, as in: “Did you swim? Was there anyone swimming involved...Good. What did you prepare for the picnic?... Was it a long drive?”

Furthermore, Dima takes part in the conversation via **IC element #4, ‘promotion of more complex language’, and IC element #7, ‘responsiveness to students’ contributions.** They introduce or connect a new idea to what has been said to build on the conversation, ask questions, and comment on ideas in a friendly, personalized manner, as noted in the following extract:

What’s the name of the park? Maybe we can go there...Of course, she will appreciate it, and once you think of moving to another house, she’s going to help you... Alright! You are down in Windsor. It's very far from us!... We’re lucky to have each other. Yes, for sure.

They also help clarify the meaning of a student’s contribution by rephrasing their output: “Okay, you drove for one hour”. Another way of being responsive, Dima shares personal experiences that are relevant to the context: “When we moved to our new house that we bought in 2015, my husband and two other friends moved everything, even our furniture. They rent a big U Haul truck and helped us move everything”.

In using **IC element #7 ‘responsiveness to student's contribution’**, a pattern of various forms and purposes of assistance emerges. It is apparent in the data that Dima uses **IC element**

#7 in targeting assistance for language items (accuracy), such as rephrasing the student's output to provide a correct structure and suggest a correct word choice, "you went grocery shopping" and correct form of lexical items, "oh geese and swans", "oh it's near. It's close". They also provide the correct (preposition) form, "Oh, at the top of the hill", or the correct verb tense, "Okay, you sat by a river". Dima also uses repetition of their modification of answers for those who did not notice the corrected version, "ya, baby geese".

As part of **means #7 'task structuring'**, Dima moves to the next phase of the lesson, introducing a listening task that integrates the target grammar (use of past and sequencing of events). Following a similar start of the previous phase, they resort to using **IC element #1 (thematic focus)**, and **IC element #2 (activation and use of background and relevant schemata)**. They orally recap the previous speaking phase and link it to the coming one. As a preparation for the listening task and its integrated grammar, Dima goes over a list of all the verbs the students used in their speaking tasks and asks questions eliciting the tense of the verbs in the list from the students. They gradually walk students through the changes of verb form, from base form to the simple past form, by **means #5 (questioning)**. Then, they use **means #6 (explaining)** to "provide explanatory and belief structure. This assists learners in organizing and justifying new learning and perceptions". These means are simultaneously supported by the use of **IC element #3 (direct teaching)**: "when necessary, the teacher provides direct teaching of a skill or concept" as well as **means of assistance #4 (directing)**. The example below shows how task structuring includes various forms of ICs elements:

So, as you know, in the present, sometimes we add, "s". If we're talking about the third person in the future, what do we do in the future for the verb? What do we add? ... yes, in the past, we usually add "d" or "ed", or sometimes the

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verb changes. The whole verb form changes. It becomes a different form... So. We're going to look at these rules today and so some examples. First, let's do a listening activity. We're going to listen to a story that happened in the past, a past story.

In addition to using **means #5 (questioning)** and **IC element #7(task structuring)**, other IC elements and means of assistance emerge **such as IC element #5 (promotion of bases for statements), means #2 (feeding back), and means #4 (directing)**. Then, back to the previous pattern of using **IC #4 (promotion of more complex language), and IC element #7 (responsiveness to students' contributions)**.

During the phases of the listening task and its integrated grammar focus, Dima tries to activate students' background knowledge and relevant schemata to understand past events within its temporal/spatial context. They do that by asking questions, eliciting more answers, responding to students' contributions, building on them, and directing students to promote decision-making. Dima uses a recurrent cycle of assistance where **means #6 (explaining)** occurs within **IC element #3 (direct teaching)**, then followed by **means #4 (directing)**, and **means#5 (questioning)**, weaving together **IC #4 (promotion of more complex language)**, and **IC element #5 (promotion of bases for statements)**:

Yes. Lot of things happened. So, if you think about a title for this story, what would you choose? A bad day at work or Happy day at work? ...Was there any happy ending? What makes you think that it was a happy ending?

Subsequently, they recap the major contributions of students to cognitively help them recognize the relational aspects of semantic meanings in terms of cause/effect. They also explain

discourse markers that point out such semantic relations to explain the sequence of events, such as in:

I just want you to think about these time markers that we use when we talk about time, to tell us that this is the past tense. How do we know?... So, if we look at this this sentence, why did we use here Ava was sick?

Moreover, within the listening task phases, as expressed by Case B participant, they “seize teachable moments” (Dima) based on students’ contributions like explaining lexical items that seem to impede their understanding of the message or providing a definition of the word using external resources (Google search for a picture). At one stage of the process, this instructor turns the listening task into reading with a focus on identifying past events as their continuous task structuring in a challenging but non-threatening atmosphere (**IC element # 9**). Dima alternates back and forth between **IC element #7(responsiveness to students' contributions)**, **IC element #3 (direct teaching)**, and **means #6(explaining)** and, at times, supporting it by **IC element #6 (a few "known- answer" questions)**.

All in all, from the recording of the synchronous session data, a pattern of using ICs is apparent in all the phases of the lesson and across the various activities. Each phase starts with **IC element #7 (task structuring)**, **IC element #1 (thematic focus)**, and **IC element #2 (activation and use of background and relevant schemata)**, and then builds up on the previous phase and feeds into the upcoming one. Within the listening task and in its integrated grammar phases, the instructor uses mainly **means #4 (directing)**, **means #5 (questioning)**, **IC element #5 (promotion of bases for statements)** for gradual co-construction of meaning and language in use. In this process, **means #2 (feeding back)**, and **means #4 (directing)** during

practice, occur as well as eliciting/promoting more complex language and/or basis for statements and reasoning.

Woven into the discussion, **means #6 (explaining)**, is at times supported by **IC element #6 (few "known-answer questions")**, and recurrent use of **IC element #7 (responsiveness to students' contributions)**. Unplanned moments of direct teaching for lexical and pronunciation assistance also emerge. **IC element #3 (direct teaching)** is also woven into the discussions for each phase and supported by directing to promote decision-making, eliciting bases for statements and more complex language. This happens by using responsiveness to students' contributions via asking questions and contributing with ideas and comments to build on students' responses as well as feeding back as the conversations and meaning co-construction of the sequence of past events continues:

Again, they finished. The exercise is done. After that, they were hungry...The wind was very strong last week. If you want to imagine the scenario and the time when the sentences were said, when the events happened, is it still the first day?...No, probably in the afternoon. So, this means that the first day is done. The storm happened and it's finished and now we're talking about what happened after, after the storm. Of course, other events happened in between. We can trace the sequence of events; we can know what happened first and you can relate. You can connect the events together. That's a very important skill in listening.

Key Summary for Dima

To sum up, in addressing the main research question, findings from Dima reveal strong beliefs in community building in the online synchronous environment. For them, building a

rapport through guidance using ICs in the oral form is key for a positive socio-emotional effect on students' engagement. Hence, for Dima, using ICs mediates the socio-emotional aspect of learning, which paves the way for cognitive and language development.

In addition, this instructor believes that task design plays a crucial role in preparing the types of ICs, such as instruction checking questions (ICQs), concept checking questions (CCQs), and being open and ready to make changes to challenge students through the immediacy of decision-making and orchestration of the various types of ICs. In the process of orchestration, a clear pattern emerged in the various phases of task execution (listening/speaking/grammar). While steady, the pattern of using ICs reflects a "lead-in" approach that is rather cyclical than linear within multiple exchanges between the instructor and students. As an ultimate goal for Dima, such exchanges craft conversations that are guided intentionally through this instructor's use of ICs in conversations that occur in the real world. A purposeful selection of the synchronous environment serves well the multiple discussions and mediates cognitive and language development. It also provides more flexibility and teacher agency and shapes their use of ICs and assistance. Dima believes that using audio is more efficient and effective for language development in a synchronous environment. Other affordances, such as chat, screen sharing, and browsing the web, serve other purposes as classroom management strategies to build structure, regulate students' participation, and ensure students' engagement behind the screens. They also provide unique affordances for giving feedback.

In this chapter, to address the research questions, I reported on the findings from the second case, Dima for the three phases of this study. Similarly, in the following chapter, I report on the findings from the third case, Noor.

Chapter 7. Research Findings From Case 3 Noor

This chapter reports on the findings of the third case, Noor. As with the previous cases, findings are drawn from the semi-structured and follow-up interviews as well as the findings of the recorded synchronous session following Tharp and Gallimore (1988) and Goldenberg's (1991) ICs frameworks. In reporting on the findings, some of the quotes are double-coded as they cross over different aspects that I highlight for this case.

Noor: Findings From the Semi- Structured Interview

Similar to Dima, addressing sub-questions 1, data from Noor reveals their beliefs and assumptions on factors that influence pedagogy and their use of ICs to mediate language learning in the synchronous environment, and beliefs and assumptions related to SLA and language learning online.

Beliefs and Assumptions on Influential Factors Shaping Pedagogy and Language Mediation

Noor's data reveals that their professional background has shaped their classroom practice and the way they assist their ESOL learners. Such factors relate to their experience as an ESOL practitioner, and the theoretical knowledge acquired while pursuing their MA in Applied Linguistics. These in turn shape their beliefs on effective language pedagogy and learning.

Instructors' Background and its Influence on Their Classroom Practice. Reflecting on their ESOL classroom practice including in the online modality, Noor highlights that it was initially shaped through trial and error and reflections on their teaching: "I would say, there are things that I used to do just because when I reflect on my lessons, I see that they work better". They also acknowledge that their classroom trials helped them define what seems to be effective pedagogy and language learning as they explain:

I had a couple of students who tell me like Noor, please correct me on the spot, like, interrupt me, and correct me on the spot. And I refused because from my experience, towards the beginning, I did what they wanted; I interrupted and corrected them on the spot as they asked for. But then I noticed that the drawback of this thing is that they started losing their self-confidence! And they started feeling that they are not good at learning, or they are slow learners. I was like no, the cons are more than the pros, to be honest (Noor).

As they pursued an MA in Applied Linguistic, this instructor realized that what they considered effective for language mediation and development deemed to be grounded in theoretical frameworks and research. Hence, it confirmed their personal trials in their classroom as well as their reflections on their practice: “after I started doing my Masters, I noticed and I got to know that this actually had theoretical scientific research, background” (Noor). Similarly, their use of ICs was shaped by their personal strategies in the classroom as well the knowledge they acquired during their MA program. Noor states:

In terms of instructional conversations, I cannot really think of something. But the thing that I can remember for sure is that there are some practices that I developed just because I noticed that they work better. But then, when I started my masters, I got to know that they have some theory behind them. It’s not just my practice, it’s not just what I noticed. Like, it works. I didn’t know that.

Beliefs and Assumption on SLA and Language Pedagogy Online

Data reveals Noor’s beliefs and assumptions on SLA and language learning online and how they affect the use of ICs to assist language mediation and students’ engagement. A step-by-step approach for emotional affect, students’ engagement, and language development is apparent

in the semi-structured interview data. For Noor, the use of questioning as a main strategy for using ICs has also been prominent and is key for language mediation for cognitive and linguistic development.

Emotional Affect and the Use of ICs. Noor emphasizes the importance of being aware of and taking into consideration the emotional affect for ESOL adult learners. As an immigrant to Canada, this instructor recognizes how “sensitive ESOL adults are in learning English” as it is key for their settlement and career pathway in the country. They recognize that “they are emotionally fragile because they come with this wealth of education, experience, skills, expertise and they feel that everything is just gone because they cannot express themselves, so I care a lot about that aspect.” (Noor). Therefore, according to this instructor, it is crucial to “be careful when teaching beginner adult learners because many of them get hurt easily, like emotionally” (Noor). These beliefs shape Noor’s pedagogical practices including how to assist their learners and use ICs to mediate language learning; they adopt a step-by-step approach engaging students by using “a lot of questions” (Noor) and simplifying their language for language retention.

Questions for Students’ Engagement Online. Noor believes that, in the online environment, asking questions is “the only way to know if students are confused about something and need help”. They also believe that asking questions mainly keeps students engaged: “I’d like to keep them engaged as well because I don’t want to lose them. So, when I keep asking questions, they know that I will always ask questions. So, they will hopefully keep paying attention” (Noor). In addition, this instructor states that they use a lot of formative assessment as part of their questioning strategy to “first assess how much students understand...And sometimes it is to kind of have an idea of what they already know, because this will help to not repeat unnecessarily things” (Noor).

Questions for Language Development. A step-by-step approach through questions aims at building metacognitive skills for learners to be able to self-assess their language production.

As explained by this instructor:

It is to build a normalized practice that is related to their L1 for example, to acquire or develop a new system to develop a new norm... So, when I keep asking them questions, instead of just, without thinking they keep saying this tree tall, for example, this tree tall. This becomes like a constant reminder. Where's the verb? Where is the verb? Where's the verb? So, they start breaking this habit of forgetting the be verb for example. So, it helps them change the things they are used to. It's a constant reminder about what we do in class. It helps them in a way, learn how to check their own blockchain, as I mentioned before, because I believe this helps them produce the language independently, because if I keep correcting them, without asking them these questions; this is the way you said, you should say, this is the way to say that, this is the way you should write this way, I'm not helping them develop the independence to produce language.

This instructor also believes that using ICs by asking questions, not only builds a new cognitive norm to use the target language, but also helps “breakdown what is normalized or fossilized from their previous use of the language” and train learners to use the acquired metacognitive skills to “independently” self-correct their language production and retain the new language norm. Noor explains how asking questions helps with language retention and developing metacognitive skills as follows:

When I elicit something rather than I would say spoon feeding it to them, it helps stick better to their brains they do not forget it as easily. And it develops the skill of them

checking their own work. Whether it is oral production or written production, so it helps them think about how they check their work as well. For example, many people especially Arabic speakers because most of my classes are Arabs. So, for example, they tend to forget the verb “to Be” okay, because it does not exist the first language, okay. So, when I keep asking them questions, instead of just without thinking they keep saying this tree tall, for example, asking questions becomes like a constant reminder: where’s the verb? Where is the verb? Where’s the verb? So, they start breaking this habit of forgetting the be verb for example. So, it helps them change the things they are used to.

In addition, Noor believes that for low level ESOL learners, “grading the instructor’s language is critical to language development”. In other words, ESOL instructors need to simplify the language they use in their classroom with their beginner learners for effective instruction and mediation of language learning. Ways of “grading the instructor’s language” (Noor) include using simple sentence structure and avoiding “technical terminology” (Noor). This instructor elaborates on grading their language as follows: “I simplify the language that I use a lot, with low level students. And I usually say for foundations, I usually say subject verb and a complete meaning. I try to avoid a bit these technical words” (Noor).

Beliefs and Assumption on Tasks and their Influence on the Strategies for Using ICs

In addressing Sub Q2, data from Noor reveals that the goal of the activity mainly directs this instructor towards which ICs strategy to use. Generally, Noor resorts to asking questions. For example, for a speaking activity, the instructor uses “a lot of questions to help students come up with ideas and more details and sentences” (Noor). They also note that they use a lot of “implicit feedback” through a continuous use of questions and engaging students in more

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language production. This instructor “resort to explicit feedback only when students repeatedly make the same mistake, and they cannot catch that it is actually something that can be corrected”. For group work in a writing activity, this instructor listens to the discussions then intervenes by engaging students in a conversation that is guided through questions to help them make decisions as shown in the example below:

For example, if I see that many of them miss the periods at the end of sentences, I try to guide them through that. For example, let’s see how many complete finished sentences you have, and I go bit by bit like, is this a complete sentence? So how do you think you should end it? did you use a word to connect the two sentences? No, then you cannot put a comma, for example.

Noor also emphasizes that regardless of the type of activity, their use of questions is contingent on students’ contributions (answers and statements) and the type of questions the students ask. In turn, this reveals learning gaps and influences Noor’s immediate alteration of the designed activity.

Beliefs and Assumptions on the Online Synchronous Environment and the Use of ICs

Data reveals Noor’s beliefs on the use of video and audio for a more effective assistance of students’ learning. Hence, these synchronous affordances shape the types of ICs they use for better engagement in learning. Noor recognizes the challenges of the online synchronous classroom and how they shape which type of ICs to use online. For them, being unable to see students behind the screen results in receiving limited feedback and is a main obstacle for engaging ESOL learners online. They believe that using audio to ask questions supported by video to convey non-verbal cues are effective ways to overcome such a challenge:

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My biggest concern has become, how can I keep them engaged. Especially that in online classes, it's not mandatory for them to turn their cameras on. Like, 99% of the time is just my camera that is on, I cannot even see the students I'm teaching. I keep explaining to them and tell them, when we teach in person, I can get physical cues, I can see from their body language that they're confused. when I see one of them looking at their friends, like many times, I see that they are trying to get some information that they are missing. So, I voluntarily without anyone asking me, I repeat stuff, or I explained stuff in a different way. But I told them like with online learning, and with your cameras off, the only way for me to know that you have a question is when you ask a question. This is the only way I can know that you're confused about something (Noor).

In addition, this instructor acknowledges that their personal visual learning preference also influences their stance on the effectiveness of using video to engage language learners online and why they mostly use these affordances, as they explain it:

Imagine [having the video/camera on], it's the same difference, between watching TV and listening to the radio. Yeah, of course, you're more engaged with the TV, this is, at least personally, because I am a typical visual learner. So, the visual element means a lot to me, and I believe, it makes a great difference to many of the students as well.

For Noor, using video allows for the use of gestures which are particularly crucial for low level language learners. As they were using gestures through their video camera to show me how they use ICs to assist beginners, this instructor explains:

So having the video on helps them again, stay engaged with you. And it enables me to use gestures. Like, versus when my camera is off, they cannot see me. Especially with

beginner learners, gestures can make a great difference. So having my video on, if I cannot see them, but they can still see my gesture, so it helps. And simultaneously ask questions while using gestures, like do you think it does this? Or, you know, it goes here or there? Is it good or bad? Like, yeah, I use that a lot. So yes, using video makes a great difference.

Moreover, Noor elucidates that the use of audio/video seems to be most effective to convey their step-by step strategy to assist students by asking questions to implicitly make students notice their erroneous use of language. Through audio, they can exchange questions and answers related to their language production. In case the students still are unable to notice, they provide two options to choose from and goes back to asking questions for students to provide reasons for the decisions they made. As Noor explains:

Through audio, I feel I can assist better. I have more options. So, if someone says, he go to school every day, and I keep asking questions, they still do not get why he go to School is wrong or what is the correct form of the verb? So, then I say, should we say he go, or he goes. So, the student would say oh yeah, he goes, and I ask why? But then like, why?

Noor states that compared to the use of audio, their use of the chat affordance is limited as they only use the latter “to give everyone a chance to contribute and wait to observe their mistakes, or if a student asks for a spelling of a word” otherwise, they make using chat optional for those students who choose to do so. They explain that instead of using the chat for writing activities, they resort to the use of the whiteboard “for the visual part” as part of their belief of the role visuals play in better assisting their students’ language development.

Noor: Findings From the Follow-up Interview

The follow-up interview investigated the role of the synchronous environment in shaping the types of ICs used in the ESOL classroom. Noor's data revealed various linguistic and pedagogical factors behind their use of ICs in the oral form via audio/video via audio and screen share, and in the written forms via chat and whiteboard.

The follow-up discussion of the ICs extracts, with Noor, uncovered factors that influence the type of ICs they use online. These include Noor's beliefs and assumptions about learning in the synchronous environment (disconnect and lack of learner agency online), factors related to classroom management, and task design and its influence on pedagogical decision-making.

The Role of the Environment: Beliefs and Assumptions About Learning in a Synchronous Environment

Noor discusses their beliefs and assumptions about language learning in a synchronous environment. They express their feeling of "disconnect" online. They also highlight the lack of agency for ESOL language learners. For these reasons, they believe that using audio/video helps alleviate these challenges by creating "a more natural way of communication". This is apparent in the recorded session as this instructor mostly relies on audio/video in assisting their students' language development. In the follow-up interview discussion, Noor confirms their preference for using audio/video in the synchronous environment and relate it to their belief in the feeling of disconnect online and its impact on learning: "In my opinion, one of the biggest problems with online learning is feeling disconnected. Because of this detachment we need to use this more natural way of communicating using audio/video, to construct genuine communication" (Noor). They emphasize the importance of "genuine communication" in the online synchronous environment. For them, "especially, in a synchronous setting, we communicate by talking to

each other. So, this is what I meant by genuine communication because people usually communicate by speaking with one another talking to one another. And, in some circumstances, we write.”

In addition, Noor notes the lack of learner agency for their low level ESOL adults, especially in the asynchronous setting that influences their choice of relying mostly on audio/video (supported by screenshare) in the synchronous session. Students are challenged by technology such as navigating and finding information on the LMS. They are also challenged by language due to their low level of proficiency. Therefore, they still treat synchronous sessions as the main source of information and guidance for their learning experience. Noor responds to such lack of learner agency in the online language classroom by offering a space at the beginning of each synchronous class to orally introduce assignments, offer clarifications, and reminders. As this instructor mentions: “many of them tend to forget to check the calendar so they miss coming assignments or tests, so I remind them in class as well” and “some of them do not even know what calendar means” (Noor).

Furthermore, Noor recognizes language- and technology- related barriers such as challenges students face in typing in the target language (English). For that reason, this instructor often resorts to audio instead of the chat, as it is faster and more convenient for students:

Speaking of the chat option, I do not like using it a lot at this level, because many students struggle with technology, so they are not very good at typing. Okay, so I use the chat option only when I feel that it is really useful (Noor).

This instructor recognizes the students’ appreciation of the space and time for reminders about class requirements and believes in helping them by keeping this consistent structure and space at the beginning of each class. Students seem to appreciate and benefit from this space to

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ask questions, request clarifications and understanding of class requirements (what's coming next, assignment dates and content). Such belief shapes this instructor's use of ICs for classroom management; they ask questions to ensure the information is clear, students understand what is required and do not need more help. Noor also uses a lot of repetition of the same information related to class requirements.

The Role of the Environment: Beliefs about SLA and Language Pedagogy Shaping ICs in the Oral Form

According to Noor, in their reading/writing ESOL class, building metacognitive strategies is critical for language development. According to them, one of their main roles is to facilitate the process of metacognition for students using ICs in the oral form. Noor claims that the purposeful use of audio affordance serves well the use of oral ICs to successfully guide students' language development. Accordingly, the instructor uses consistent metacognitive strategies to help build the students' process of thinking and decision-making in the target language. As shown in the data of the recorded session, and as articulated by Noor in the follow-up interview discussion, this instructor adopts a clearly defined process of implementing ICs that is facilitated by using audio. They start with a question about forms, orally assist students to eliminate irrelevant options based on available form and structure, then move to meaning negotiation and language in use. Following this, they give examples that further illustrate how that meaning is reflected in the sentence being discussed, while integrating grammatical aspects such as punctuation at the end.

The Role of the Environment: Beliefs in Effectiveness of Audio for Various IC strategies

Noor discusses their beliefs in the effectiveness of audio for various purposes and the way it shapes the use of ICs to assisting language development. This instructor communicates

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that part of their use of ICs via audio is for repetition, communicating the purpose of learning, and providing a rationale for correct answers.

For them, repeating information orally serves different purposes and seems effective. For example, they emphasize how they orally and repeatedly encourage students to ask questions and seek help throughout the session to ensure that they reach out for help:

I always tell them help me help you, by telling me that you need help. So, I always start by asking them, if they have any questions, because if I just say it once, and then just keep quiet about it, they might still, feel shy, but if I keep repeating throughout the session as well, hopefully, they would start actually asking me questions if they have any.

They also repeat information to “make sure that everyone is on the same page. If they haven't heard it the first time, they definitely heard it the fifth time” (Noor).

In addition, Noor believes it is important for students to know the purpose of learning. They think that using audio assists students' learning by explicitly communicating to them the learning objectives and what they are addressing in class. Audio serves such purpose and allows for more constructive conversations to include students in the learning process and meaning construction to connect their knowledge of language forms to communicative usages:

It simply has to make sense to them because if it doesn't make sense, they will not be interested in learning it in the first place but if they know that what we are doing has a purpose, it is useful in a way and actually tell them how they can use it (Noor).

Another factor that influences the use of ICs in the oral form via audio is the instructor's belief in “engaging students in discussion about ‘why’ and ‘how’ an answer they provided in the

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chat is correct” to be able to use it communicatively later, as opposed to merely approving correct answers via chat and moving on with the lesson. Noor states:

It is equally important for students to understand why this is the correct answer. So, you can use this information in any sentence you make and can carry this information forward, not just learn this sentence as a chunk of language.

Noor believes that factors related to learners’ needs shape the types of ICs they use via audio. For them, through audio it is possible to address potential challenges the instructor realized that ESOL learners face based on their teaching experience. For example, they orally provide synonyms of words that the students are unfamiliar with to build their vocabulary, deliberately add information and provide feedback as part of expected challenges students may face:

Every time I do this activity, I see that some students think of everything as adding information... So, this is something I noticed, from my experience as a teacher this is why I deliberately now bring it up... I just started adding it as a part of my feedback whether or not one student talks about it or not (Noor).

In addition, another type of ICs that this instructor uses via audio is asking questions to “dig deeper than in what is being practiced in class and see the whole picture” (Noor) within the exchanges of conversations that occur while assisting learning through implementing an activity. Noor also uses ICs in the form of questions to orally clarify confusing concepts, to walk students towards the target language through engaging them in discussions. They build on the conversations by providing examples and follow up with another round of questions. As this instructor states:

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I feel that using questions is especially and particularly important, when confused, confusing concepts. By asking questions, I tried to bit-by-bit get them to where I want them to be.

Noor also stresses the socio-emotional affect and its role in building students' confidence through oral conversations to get to know them, "break the ice and make them comfortable in learning". For Noor, through audio they can also explain to students why they need to ask for help. This instructor orally emphasizes and explains to students how people have different learning preferences and leads them to believe that such difference in learning requires them to ask for help when needed, so that the instructor can use another way to explain and assist them in their learning that would better suit their learning. Noor builds their students' confidence by leading them to believe that there is always a different way of explaining and conveying meaning, and that language issues do not reflect limited cognitive abilities. This instructor therefore urges students to ask questions when they do not understand something during synchronous class:

I always explain that different people learn in different ways and if they don't understand something, it doesn't mean at all that there is a problem with why and how, they understand things. It's playing on the affective aspect, making them know that if they ask questions, it means they are eager to learn. It doesn't mean they are stupid.

The Role of the Environment: ICs for Classroom Management via Multimodal Affordances

The follow-up interview data also unveiled classroom management factors that influence the type of ICs Noor uses and their selection of the multimodal synchronous affordances such as audio, polls, chat and screenshare.

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Noor uses ICs via audio for classroom management and housekeeping purposes. This instructor had put a structure in place that they follow at the beginning of each class, and this is done via audio. They start with questions for any help needed, then provide reminders about class requirements and assignments: “we do this every class, so the students are already accustomed to it” (Noor). They allow for any questions from students and provide clarification, contextualize content modules and assignments of the current class with previous and incoming classes. As Noor claims, “it is faster, easier and more effective to go over class requirements and reminders via audio than in writing or screenshare” and further explains:

I actually struggle to make them go and actually check the materials I post, because they prefer being in class and do whatever, whatever activities we do in class... we meet two hours synchronously, and then the third hour should be asynchronous. So, I post some materials, some activities, some worksheets, whatever it is for them on the LMS. I asked them to work on them but many of them do not go there. They are very active in synchronous class, but they do not check the asynchronous requirements.

Noor also uses audio for classroom management for expected and unexpected participation by calling names randomly or going through the list of attendees. They utilize ICs via audio in the form of questions as well as statements “to connect with students and have a feel of what is happening on the other side of the virtual screen”. They explain:

I always ask them, what do you see, to make sure that they are looking at the correct place. When is the due date? What is written there because I cannot see their screens, I cannot see what they are looking at. So just to make sure that they are looking at the correct place and the correct thing, the correct piece of information.

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Noor uses polls, another affordance of the multimodal synchronous environment, for classroom management. As the students do not have their cameras on, it is hard for the instructor to know if they are following behind their screens or not. Therefore, case C instructor uses polls to force students to be alert and follow in class:

I use polls and tell them: if you're back, click Yes or if you have done the activity, if you have finished, for example, answering the questions, click Yes. So, this way, people who are actually listening to me will respond.

Also, this instructor uses polls while working on an activity to ensure everyone is participating, to avoid dominant students providing answers (via audio or chat) before those who need more time to think and respond, and to cater to shy students who do not prefer to use the audio or chat options to participate:

If we are doing an activity, for example, then the purpose of using polls would be different because then it would be to allow everyone to participate, because I know some students are shy. And on the other hand, there are students that are dominant.

The instructor uses chat “only in certain circumstances, for specific purposes” (Noor). They generally use it for classroom management such as to regulate participation, cater for different learning styles and check students’ understanding through a quick formative assessment. For example, when working on an individual work, Noor asks the students to type the word “me”, if they want to share their answers with the whole class later via audio. This instructor explains that the purpose is “to regulate participation, give shy students who did not participate in the oral discussion an opportunity to participate and avoid putting them on the spot by calling their names randomly” (Noor). The instructor then shortlists names from those who

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typed the word “me” expressing their willingness to participate (eliminating those who already participated and apologizing for them) and selects names from the shortlist:

If it is an individual activity, this is a classroom management thing here just to give an opportunity for everyone to participate. I tell them, if you want to give me an answer, type me in the chat box, and then I will choose, from the people who want to give answers. I don't want to just randomly choose someone, and they end up not feeling comfortable so I kind of shortlist the people. Students who are more on the shy side and not giving any answers, I want them to participate as well (Noor).

In addition, to accommodate various learning preferences, Noor asks students to write answers in the chat to encourage them to participate and cater for those who are more confident in expressing their ideas in writing than speaking:

I ask them to write the answer in the chat because speaking is sometimes more stressful for some students even though typing can be more demanding in terms of effort, but they feel more comfortable typing than speaking because they are not very confident at all.

Depending on the purpose of the target to be achieved in learning, Noor asks students to type their answers in the chat to assist students in punctuation, and also show them that there is more than one possible answer:

I wanted them to type the answer in the chat box because there is a punctuation element as well. So, I want to work on the punctuation. And secondly because I want them to see that sometimes more than one answer is correct.

Noor emphasizes that the use of chat is mostly followed by an oral discussion via audio. They explain that every time the students provide answers in the chat after working on an

activity individually, the instructor opens the discussion via audio to go beyond what the chat affords for learning (providing the correct answer) and orally engages with the students in a discussion using ICs to assist in reaching why and how the answer is correct:

So, after the chat, the discussion is for something else, okay. Because now we already know the answer, right? But I always tell them, it's not enough to know the correct answer. It is equally important to understand why this is the correct answer so you can use this information in any sentence you make.

The Role of the Environment: Task Design and its Influence on ICs Synchronously

According to Noor, task design includes “chunking, building on and connecting everything together”. This influences the sequence of the activities and shapes the instructor’s use of oral ICs via audio. In preparation for the focus of their reading/writing class, this instructor uses ICs to “set the table” and introduce its target. Via audio, Noor states the focus of the lesson, what will be related and why it is related using ICs to convey it; they contextualize the target of learning by “chunking the task” and pedagogically move closer to the focus via ICs. Chunking includes engaging students in conversations about the types of paragraphs in English. By asking guiding questions, Noor invites students to engage cognitively in comparing the meanings of the various types of paragraphs. Accordingly, this instructor uses examples in explaining the differences and assist the students’ mental processes. As they plan it in their design for the task, Noor emphasizes their belief in using audio to maintain “a natural flow of conversations” as well as “connecting things together”:

I hate lecturing...I always start and then I build up, I don't like to vomit out all the information. I always try to connect things together, like when I ask them about the descriptive paragraph. This is something I like to do, and I want to do from time to

time because again, when they feel that things are connected, that will make the flow smoother and natural.

For Noor, task design includes preparing in advance for expected challenges adult learners may face as they have seen it over the years of teaching ESOL. These include language-related as well as technical challenges. The instructor includes these expected challenges in the learning outcome and prepares material to do in class and uses audio/video and screenshare to provide feedback. This also includes selection of topics that are relevant to students' background to overcome content challenges and build their confidence in the target language by focusing on assisting their language development. To explain how their design through topic selection plays an important role in shaping their use of ICs for a positive affective influence on language learning, Noor states:

I land these topics based on the students' education and backgrounds.

I do care a lot about the affective aspect a lot. Sometimes I ask questions not because I want to elicit something but because I want them to see that they know the answer, and then they will feel more confident and comfortable learning the language.

In this way, task design shapes how Noor assists their students and the types of ICs they use to reach their learning objectives. It also influences the instructor's decision to use audio (supported by screenshare) to facilitate their execution of the task and guide students throughout the processes of language learning. The instructor uses various ways of assisting their students' language development based on the complexity of the language and activity, mainly via audio. For simple sentences, the instructor uses audio to confirm the correct answer and briefly provide a rationale behind it; they orally address 'why' and 'how' it is correct in context. For complex

sentences, the instructor asks questions to gradually engage students in understanding and cognitively walk them to reach the correct answer:

So, for the sentences that are a bit easier, I know that they wouldn't be very confusing, I start by giving the answer and then I briefly explain why this is the correct answer. But if I feel that the sentence is a bit confusing, okay, I start asking questions to help them get to the answer. So, this is how I go about it.

Nour: Findings From the Recorded Synchronous Session Using IC Frameworks

Similar to the first (Sam) and second case (Dima), the analysis of the recorded synchronous session, for this case (Noor), addresses sub-question# 2: What aspects of ICs are emerging in the synchronous oral and text-based interactions of the ESOL instructors with their learners? Data mapping and analysis are based on Tharp and Gallimore's seven means of assistance and Goldenberg's ten elements of ICs (see Appendix G).

For Noor, the recording of the synchronous session includes episodes of discussions revolving around a grammar task that targets the use of transition words within various types of reading paragraphs.

This instructor starts the session by assisting students with technology and navigating the course learning management system. The instructor shares their screen to demonstrate to students where to find the calendar and shows them dates and assignments for their asynchronous work for the week. They used Tharp and Gallimore's (1988) **means#4 'directing: requesting specific action'**. Directing assists by specifying the correct response, providing clarity and information, and promoting decision-making" (p. 4) to orally elaborate and repeat information, ask guiding questions about where to find the information and what is needed for.

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They also orally check students' understanding to ensure clarity of expectations, upcoming assignments and tests for students who are present and those who joined the session a bit late. In this starting phase, Noor also uses Goldenberg's (1991) **IC element #3 'direct teaching'**: "when necessary, the teacher provides direct teaching of a skill or concept" (p. 8) and Tharp and Gallimore's (1988) **means#6 'explaining'**: "providing explanatory and belief structure. This assists learners in organizing and justifying new learning and perceptions" (p. 4) to highlight the rationale behind the assignments and how they are related to their current and upcoming classes. They also directly remind of learning strategies for working on assignments, explain the importance of achieving an understanding of the reasons behind correct answers while working on their homework asynchronously.

Noor moves then to the targeted lesson. They start by mentioning the focus of the task (transition words) and its relation to the different kinds of writing. They therefore used **IC element #1 'thematic focus'** as "the teacher selects a theme or idea to serve as a starting point to focus the discussion and has a general plan on how the theme will unfold, including how to "chunk" the text to permit optimal exploration of the theme". Simultaneously, Noor supports their use of IC element#1 by utilizing **IC element #2 'activation and use of background and relevant schemata'**: "the teacher either "hooks into" or provides students with pertinent background knowledge and relevant schemata necessary for understanding a text. Background knowledge and schemata are then woven into the discussion that follows". This instructor explicitly communicates to students the rationale behind understanding the types of writing. They situate their explanation within the grammar task (using transition words) to clarify the various meanings a written text may convey:

So today we will talk about transition words. But before we talk about transition words, I want to start by talking about the different kinds of writing that we do.

Because understanding that will help you understand what kind of words to use, when we understand the kind of writing we will know how to start our paragraph, how to end our paragraph, what kind of ideas we need, what words we need, and how to move from one idea to the other, which is the transition words. So, understanding the kind of writing that we do is super important. It is very, very, very important (Noor).

In the process of activating prior knowledge and preparing for the current focus, Noor employs various means of assistance and IC elements to convey them; they contextualize learning through task pedagogical chunking to get closer to focus. They therefore use **means of assistance#7 ‘task structuring’**: “chunking, segregating, sequencing, or otherwise structuring a task into or from components. This modification assists by better fitting the task itself into the Zone of Proximal Development”. To achieve this, Noor engages students in a discussion to remind them of the various types of paragraphs they covered in previous classes. The instructor also uses **means#5 ‘questioning’**: “producing a mental operation that the learner cannot or would not produce alone. This interaction assists further by giving the assistor information about the learner’s developing understanding”; they invite students to mentally compare descriptive and telling a story as two different types of paragraphs. Within multiple exchanges with their students, Noor alternates between **means#6 (explaining)**, **means#4 (directing)** and **means#5 (questioning)** supported by **IC element #7 ‘responsiveness to students’ contribution’**: “while having an initial plan and maintaining the focus and coherence of the discussion, the teacher is also responsive to students’ statements and the opportunities they provide”. As they respond to their students’ input, this instructor also seizes teachable moments by employing **IC element #3**

(directing teaching). The excerpt below illustrates such a pattern of using means of assistance and IC elements to activate students' prior knowledge and guide their thinking towards connecting the types of writing and building upon the contextualization of the upcoming task about the use of transition words:

So, let's see what kinds of writing that we can do. Do you remember the kind of paragraph we wrote in Module A? Does anyone remember what kind of paragraph it was? ... yes, you got a word close to it S [student initial]. It got the word describe so what kind of paragraph is it? ... yes, it is. It is a descriptive paragraph. a descriptive paragraph is a paragraph where you just give descriptive information about something. Right? Remember when I tell you a story. Okay. Is it the same as the descriptive paragraph?... No, exactly it is not the same. Thank you, M, [student initial] and thank you S, [student initial]. What do I tell you?... Thank you, K, [student initial]. I tell you a series of stuff that happened a series of events, right? So, it is completely different... See there are different types of writing, okay and each type of writing requires different kinds of information and there is a different structure. This is why when you try to write something, it is important to understand what kind of writing it is (Noor).

In the second phase of the recorded synchronous session, this instructor moves from activation of knowledge and contextualization to working on the assigned activity. After allowing sometime for students to work individually on the activity, Noor starts by eliciting correct answers from students. Findings of the multiple extracts during which the process of eliciting correct answers occurred, reveals a clear and consistent pattern of the use of ICs. This instructor starts with **means#4 (directing)**, followed by **means#5 (questioning)**. Within the series of questions and students' replies, the instructor weaves **IC element #5 'promotion of**

bases for statements’: “the teacher promotes students’ use of text, pictures, and reasoning to support an argument or position. Without overwhelming students, the teacher probes for the bases of students’ statements: "How do you know?" "What makes you think that?". "Show us where it says ___ ." Noor thereby guides students’ thinking and urges them to engage in providing a rationale for what they claim to be the correct answer of the type of paragraph. By using **IC element#8 ‘connected discourse’** within which “the discussion is characterized by multiple, interactive, connected turns; succeeding utterances build upon and extend previous ones”, this instructor maintains a connected discourse and structured conversations. During these conversations, the instructor orally guides students’ thinking through questioning to eliminate the answers that do not fit with the meaning of the tackled example of a paragraph. They rephrase ideas using different words to ensure clarity of meaning and grade the language according to the level of students and their pace of learning. Through use of **IC element #7 (responsiveness to students’ contributions)** and **IC element #5 (promotion of bases for statements)**, Noor gradually guides students to the targeted correct meaning/answer. The instructor’s elimination strategy through the various means of assistance and IC elements intends to “build a metacognitive process that engages students in decision-making about the correct answer” (Noor).

Within such conversations and negotiation of the meaning of the various types of paragraphs, **IC element #9** emerges:

A challenging but non-threatening atmosphere: the teacher creates a "Zone of Proximal Development" ... where a challenging atmosphere is balanced by a positive affective climate. The teacher is more collaborator than evaluator and creates an

atmosphere that challenges students and allows them to negotiate and construct the meaning of the text (Goldenberg, 1991, p. 8)

Accordingly, Noor allows students to volunteer and engage in the conversations using Goldenberg's **IC#10 'General Participation including self-turn'**— “the teacher encourages general participation among students. The teacher does not hold exclusive right to determine who talks, and students are encouraged to volunteer or otherwise influence the selection of speaking turns” (p. 8). The pattern of ICs clearly reflects **using means of assistance #5 (promotion of basis for statements)** for negotiation of meaning leading to the elimination of wrong meaning to gradually reach the correct answer. It embeds the use of **IC#7 (responsiveness to students' contribution)** to be reactive to a confusion and seize “teachable moments” (Noor) to clarify and give examples by using **IC element #3 (direct teaching)** such as in:

Actually, this is something very confusing because many people think that okay, when I write about something of adding information, I'm telling you information, right. But the kind of adding information here is not the information on how to fix a sink. Right. Adding information means like when you tell me more about something, like any topic that I do not know about, and you are telling me more about it. For example, tell me about your favourite hobby. What is your favourite hobby? Tell me more about it. This would be adding information.

This instructor also supports their use of **IC elements# 7 (responsiveness to students' contributions)** with **means# 1 (modeling)**, **means#2 (feeding back)**, **means#4 (directing)** and **means#5 (questioning)** as shown in the excerpts below:

Exactly, exactly. S[student initial]! That's a great explanation. Thank you so much. When you just add information, it doesn't matter how you start and how you finish

where you start and where you finish. It doesn't make a difference. Okay, but with a sequence No, there should be a specific order. The order makes a difference.

So, for example, can I ask you to describe this cup to me? ...Okay. You can talk about how big it is. Right? You can talk about the drawings. the colour the material it is made of, right. But is there any order that you need to talk like, do you have to talk about the size first, and then the colour and then the material? And then the design? Is there a specific order?

...perfect. Exactly H [student initial] thank you so much. Like you said, here, I have to go step by step. For example, I cannot mix I, cannot start with step four and then tell you step number one and then go to Step 10; the steps must be in order.

IC element #5 (promotion of basis for statements) is also woven into the series of exchanges between the instructor and the students in their negotiation of meaning to reach answers that the instructor requests: “explain why. Not in general, not just telling me information. There is a specific thing I want you to talk about which is why” (Noor). At the end of this phase of the lesson about meaning negotiation to reach correct answers about types of paragraphs, Noor recaps and summarises the various meanings covered and repeats the rationale behind each type before moving to the next phase of the lesson (transition words). The closing parts are supported by **means#1 (modeling)** the steps to reach a decision about the right meaning of the type of paragraphs. They gradually move to the next phase targeting transition words using **IC element #2 (activation and use of background and relevant schemata)**.

This instructor explicitly then moves the next activity targeting the use of transition words. In this phase, they also follow the same strategy of eliminating wrong answers facilitated by a similar pattern of assistance and using ICs: **IC element# 7 (responsiveness to students' contributions)**, guiding them by **means#4 (directing)** and **means#1 (modeling)** to build a mental operation for students to follow. They also weave into the conversations **means#6 (explaining)**, **IC element#3 (direct teaching)**, and facilitate them by **means# 5 (questioning)**, **IC element#5 (promotion of bases for statements)** and **means#2 (feeding back)**. The whole process is facilitated within a connected discourse (**IC element#8**) and occurs in a challenging and non-threatening atmosphere (**IC element#9**). The examples below illustrate parts of the recurrent pattern:

I know in other languages the word compare means talk only about the things that are different. Okay, in English, it's not like that in English. When we say compare, you talk about similarities and differences both. (**means#6 explaining, IC element#3 direct teaching**)

Yes, this is another word justification. It can be used here as well. Because when I talk about the reason I can talk about the effect as well...Yeah. Right. So, these can all fall under reasoning. (**IC element# 7 responsiveness to students' contribution, means#2 feeding back and means#4 directing**)

what I would like to ask you for people who chose number two, would you please tell me why you liked number two? For more? Anyone who likes number two? Could you please tell me why you choose number two? Why? (**IC element# 7 responsiveness to**

students' contributions and means# 5 questioning and IC element #5 promotion of bases for statements)

So, see I pause a little bit, a bit after the 2000 cars. However, I cannot do the same here. Can I pause? Does it sound normal? While there was a trend of buying red cars? Does it sound normal? If I pause a little bit right after the word cars?...why? Okay, let's put it another way. Tell me which one sounds more acceptable. **(IC element# 7 responsiveness to students' contributions; means#1 modeling; means# 5 questioning; IC element #5 promotion of bases for statements; means#4 directing)**

Key Summary for Noor

In summary, in addressing the main research question, findings for the third case, Noor reveals that the instructor's use of ICs is influenced mainly by trial and error in their in-person and online language classrooms that were later on validated during their learning journey while pursuing an MA in Applied Linguistics. In using ICs, Noor not only believes in but also enacts a step-by- step approach. They respond to students' emotional affect by leading them to believe in the need to ask questions. Moreover, via their gradual approach using ICs, Noor engages students in learning by asking them questions that they know their answers to just to build their confidence, and other types of questions to mediate their cognitive and linguistic development. In the process of orchestrating ICs, this instructor enacts a clear pattern characterized by the elimination of wrong answers, guided through various types of questions that reflect multiple use of IC elements mainly: **responsiveness to students' contributions, direct teaching, explaining,** with a focus on **providing a basis for statements**. The pattern targets modeling metacognitive skills for students to eventually internalize them and be able to self-assess their language production more independently.

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Noor purposefully uses audio and video to assist their students, manage their virtual classroom, and ensure their engagement in language learning. For them, audio/video affordances help overcome “the feeling of disconnect online”. They are effective in creating “a more natural way of communicating” and help “construct genuine communication”. These therefore shape the types of ICs this instructor uses synchronously. Supported by other affordances such as the use of chat, screenshare, and polls, audio helps the instructor communicate the purpose of learning, address potential challenges on the go, regulate participation, as well as mediate language development.

In this chapter, I presented findings of the three phases for Noor: semi-structured and follow up interviews as well as findings of the recorded sessions following Tharp and Gallimore’s (1988) means of assistance and Goldenberg’s (1991) IC elements. In the following chapter, I introduce the cross-case analysis and discuss cross-case findings of the three cases: Sam, Dima, and Noor.

Chapter 8. Cross-Case Analysis and Interpretations

According to Creswell and Poth (2018), “When multiple cases are chosen, a typical format is to provide first a detailed description of each case and themes within the case, called a within-case analysis, followed by a thematic analysis across the cases, called a cross-case analysis, as well as assertions or an interpretation of the meaning of the case (an instrumental case)” (p. 100). In the previous chapters, I addressed the within-case analysis in the three single-case reports of findings. In this chapter, I tackle the cross-case analysis to address the thematic analysis of the use of ICs for language mediation, the role of the environment, and its influence on the types of ICs used synchronously. As such, I provide a synthesis of the multiple within-case findings as well as my broader interpretations to develop cross-case assertions. This chapter begins with an overview of the cross-case analysis process. A discussion of the generated theme-based cross-case assertions follows a synthesis of key overarching thematic findings across the cases.

Overview of the Cross-Case Analysis Process

According to Stake (2006), “the main activity for cross-case analysis is reading the case reports and applying their findings of situated experience to the research questions” (p. 47). In this study, I conduct a cross-case analysis that is “dialectic...wherein attention to the local situations and attention to the program or phenomenon as a whole contend with each other for emphasis” (Stake, 2006, p. 46). Accordingly, I compiled the within-single-case reports and explored the general themes across the three cases. Then, I abstracted commonalities that holistically (Hyett et al., 2014) address the beliefs on using ICs to mediate language learning, the factors influencing decision-making on the use of the synchronous affordances, and how they shape the types of ICs.

Additionally, I abstracted differences that reflect the uniqueness and add richness (Creswell, 2003) to findings from within and across the cases. In this process, based on the four units of analysis for this multiple case study, I deliberately synthesized the cross-case findings that were emphatically reflected in all the phases of each within-case analysis, merging their similarities and highlighting their distinctions for their utility and relevance to address the research questions in this study. Consequently, I developed the cross-case themes based on the identified units of analysis for this study. Then, I generated the theme-based cross-case assertions (Table 2) and further discussed them. The findings and interpretations of this cross-case analysis were sent to participants for member checking.

Cross-Case Analysis

Overall Thematic Findings Across the Cases

As mentioned in Chapter 3, this multiple case study is framed by four embedded units of analysis within each Case.

In the following sections, I present the identified cross-case analysis findings based on the units of analysis 1-3 and proceed with the generated theme-based assertions, followed by a discussion. A cross-case analysis addressing unit of analysis 4 and the implementation of ICs in the recorded synchronous sessions are presented and discussed separately in its designated section. Such discussion follows the IC frameworks: Tharp and Gallimore's (1988) means of assistance and Goldenberg's (1991) 10 elements of ICs, in relation to SLA and second language learning.

Cross-Case Overarching Findings

The three phases across this multiple case study reveal that in assisting their students' language development, the three instructors (Sam, Dima, and Noor) cater to their socio-

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emotional, metacognitive, and linguistic needs. This assistance is driven by their personal, academic, and professional backgrounds. It is also reflected in their beliefs and assumptions about SLA/language learning, pedagogy, and use of ICs to mediate the socio-emotional aspect of learning, which paves the way to cognitive and language development in the online synchronous classroom. It illustrates the high value these instructors place on crafting engaging learning experiences for their students online through a process of assisting and mediating language development that is interconnected and dynamic.

Accordingly, these instructors adopt a purposeful selection of the synchronous environment affordances with a reliance on the audio affordances to use ICs in the oral form to respond to the complexity of such an interconnected and interdependent process of using ICs for language development. In addition, they select other synchronous affordances (chat, screen share, whiteboard, emojis, polls, and web browsing) to serve the various types and purposes of tasks and shape the types of ICs in their oral and written forms as well as regulate classroom management for participation and engagement.

Cross-Case Theme Based Findings

Beyond the overarching findings described above, a cross-case analysis of the three cases, based on/addressing the embedded units of analysis for this study, helped provide a deeper understanding of this multiple case study on the use of ICs in the synchronous environment for adult ESOL learners. It also presented richer insights across the cases and helped generate theme-based assertions. As a result of this thematic cross-case analysis, four key findings emerged, along with the most emergent commonalities and uniqueness for each case that further illustrate them. These are the most useful and relevant for addressing the main research question

on the orchestration of ICs in the synchronous ESOL adult classroom to mediate language development.

Table 4

Findings of Thematic Cross-Case Analysis

Units of Analysis & Associated Research Question	Thematic Cross-Case Analysis Finding		
	Sam	Dima	Noor
Unit of Analysis 1: Attitudes and beliefs of ESOL instructors on ICs and how they relate to SLA.	Use of oral ICs for a descriptive visualization of learning to reduce anxiety.	Use of oral ICs to “build a rapport” and “a community of learners online”.	Use of oral ICs to build learners’ confidence by leading them to believe in various types of learnings, the need for various types of assistance and asking questions for help
Sub Q1: In what ways does the instructors’ assistance through ICs, in the form of synchronous interactions, mediate the process of English language learning?	Selection of topics that relate to learners’ prior knowledge and culture to alleviate content barrier and focus on language learning and build confidence.	Use of oral ICs for personalization of learning through sharing personal experiences and engaging in real-world language use/production	Use of ICs is pivotal for building metacognitive skills for language learning
A prominent perception of the role of ICs to mediate the affective domain for language development	Integration of culture for building a “community of learners online” for learners to “feel comfortable” and increase their engagement. Use of ICs is pivotal for building metacognitive	Use of ICs is pivotal for building metacognitive skills for language learning	

skills for language learning

<p>Unit of Analysis 2: Instructors’ beliefs on the process of applying ICs in synchronous environments (how they think ICs should be applied/ how they think they are applying them in their online classrooms).</p> <p>Sub Q1: In what ways does the instructors’ assistance through ICs, in the form of synchronous interactions, mediate the process of English language learning?</p>	<p>Language learning is “complex” which requires a “spiral method” for using ICs.</p> <p>Using ICs for “task building” and integration of skills (reading/writing)</p> <p>Use oral ICs for extended explanations and modeling of the metacognitive strategies in tackling the reading text as a preparation for the writing task</p>	<p>Language learning is interconnected and requires “back and forth” and “connecting everything together”.</p> <p>Using oral ICs to connect prior knowledge with current for a preparation of target knowledge and weaving and orchestrating conversations by “modeling real-world communications”.</p> <p>The need for immediacy of pedagogical decision- making in using ICs to respond to the dynamic context of mediation for language development/ learning.</p>	<p>Language learning is interconnected and requires a “step-by step approach”.</p> <p>Using oral ICs to “relate all aspects of learning” by chunking, modeling steps (metacognitive via asking questions)—for a more independent “self-assessment and language production”.</p> <p>The need for immediacy of pedagogical decision-making in using ICs to respond to the dynamic context of mediation for metacognition and language development.</p>
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Unit of analysis 3: How the environment shapes/influences the use of ICs by the instructors.

Sub Q2: What other elements of

<p>the synchronous environment, in relation to linguistic and pedagogical effects, seem to shape the types of ICs that the instructors use?</p>	<p>Recognition of their background in post-colonial curriculum selection of topics, and teaching experience to ESOL learners & their role in valuing culture convergence for community building and learner engagement.</p>	<p>Recognition of their experiences as a former ESOL learner, being an immigrant in Canada, and teaching experience to ESOL learners & their role in valuing building a rapport and personalization of learning for real-world language learning for ESOL learners.</p>	<p>Recognition of their experiences as a former ESOL learner (their way of learning and the way they were taught), being an immigrant in Canada, and their teaching experience to ESOL learners & their role in valuing breaking L1 metacognitive habits and building target language metacognitive habits for a more independent language production.</p>
<p>Participants’ personal, academic, and professional backgrounds shape their beliefs and assumptions about language learning and their use of ICs.</p>	<p>Purposeful selection of synchronous affordances (audio, chat, external resources/web-based browsing) for written and oral ICs for language mediation.</p>	<p>Purposeful selection of synchronous affordances (audio/video, chat, web-based browsing) for written and oral ICs for language mediation.</p>	<p>Purposeful selection of synchronous affordances (audio) for oral ICs for “genuine conversations” and integration of skills(reading/writing/punctuation/grammar) and expected and unexpected challenges</p>
<p>Affordances of the digital multimodal tools for language mediation and classroom management.</p>	<p>“Instrumental” use of technology & “multimedia approach to cater to the written discourse (via chat) and oral/spoken</p>	<p>Multimodal synchronous affordances for more flexibility and teacher agency, hence effective use of ICs (mainly oral) for language mediation</p>	<p>Purposeful selection of synchronous affordances (audio/video, chat, polls, screenshare, LMS browsing) for classroom management</p> <p>Task design includes preparing in advance for expected challenges adult learners may face as they have seen it over the years of teaching ESOL.</p>

<p>Task design shapes the way the three participants/instructors assist their students and the types of ICs they use to reach their learning objectives.</p>	<p>discourse (via audio)</p> <p>Purposeful selection of synchronous affordances (audio, chat, emojis, screenshare) for classroom management</p>	<p>synchronous affordances (audio, chat, polls, screenshare) for classroom management</p>	<p>Task design includes “chunking, building on and connecting everything together” and providing feedback. It influences the sequence of the activities and shapes the instructor’s use of oral ICs via audio. case C participant emphasizes their belief in using audio to maintain “a natural flow of conversations” as well as “connecting things together”.</p>	
	<p>Task design play a role in the classroom management approach and the way ICs are used to mediate language learning</p>	<p>Task design and deliberate planning to create the context where students listen to the instructor while talking, for more language exposure as well as for enhancing their listening skills which is best served via audio.</p>	<p>Task design includes topic selection to alleviate content barrier and focus on language learning.</p>	<p>Task adjustment and/or change shape the types of ICs used to respond to those needs.</p>
	<p>Task building is very prominent and influential in creating the opportunities to use ICs.</p>	<p>Task design includes planning for predetermined use of ICs (ICQs and CCQs) as well as instantaneous ICs for more listening and speaking opportunities.</p>		
	<p>Task type (common task types that are structural in nature such as vocab/grammar/gap filling then move to task building that are more conversational) predetermines the</p>	<p>Complexity and interrelatedness of tasks and language in use requires use of audio for language mediation.</p>		

way they assist their students.	Task adjustment and/or change as needs arise shape the types of ICs used to respond to those needs.
Task design includes topic selection to alleviate content barrier and focus on language learning.	
Task building is contingent to the topic selection which is used to create the context and diversify nuances of discussions.	
Language mediation is best facilitated via use of oral ICs to serve such conversational purpose.	

Note: Table 4 presents all the findings; it also includes the units of analysis 1-3 they addressed and the sub-research questions they are associated with.

Discussion of the Cross-Case Findings

Unit 1: Attitudes and Beliefs of ESOL Instructors on ICs and how They Relate to SLA. In addressing the first embedded unit of analysis (attitudes and beliefs of ESOL instructors on ICs and how they relate to SLA), the results of the cross-case analysis revealed that Sam, Dima, and Noor strongly recognize the socio-emotional effect and affective domain on ESOL learning. While these three instructors adopt various strategies for using ICs, they all share the same motive: mediating the socio-emotional effect for their learners, especially in the synchronous environment.

The three instructors reveal challenging characteristics of the synchronous environment. Sam recognizes the “disembodiment of the online classroom” and its “abstract” aspects. For Dima, the online classroom “lacks the personal touch,” and for Noor, it creates “a feeling of disconnect.” According to Belt and Lowenthal (2023) “intentional yet flexible facilitation strategies during synchronous sessions may assist instructors in developing the teacher-student relationship further by reducing feelings of isolation common among online learners” (p. 495). In this study, the three instructors intentionally employ ICs to foster a positive socio-emotional affect and effective language learning experiences in the synchronous online environment (Belt & Lowenthal, 2023; Martin et al., 2021). These instructors believe in the personalization of learning and “feeling comfortable” (Sam, Dima, and Noor) to build a community in their synchronous online language classroom. Sam uses ICs orally for descriptive visualization of linguistic structures (using conjunctions) to bring humorous moments while explaining language structures using embodiment. They use the Venn Diagram for the visualization of learning to reduce anxiety related to ESOL writing for some of the learners. This instructor also believes in the selection of topics that are meaningful to the students as well as the integration of cultural

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hints to help narrow such physical disembodiment and build a rapport with their students, hence a community of learners online. Dima uses oral ICs for community building to “break the ice” and “build a rapport” with their students and “a community of learners online”. They therefore “personalize” learning via constantly sharing their personal experiences with their students. Similarly, Noor relies on ICs in the oral form to “break the ice” and lead students to believe in asking for help. This instructor orally emphasizes and shares how people learn differently, including their own learning preference, and constantly urge the students to ask for help.

Another cross-case finding in relation to the socio-emotional effect of using ICs is to build students’ confidence. The three instructors believe that when students participate in class, it helps them recognize their own contributions and abilities, hence building their confidence (Krashen, 1988). Accordingly, Sam relies on common topics to overcome the content barrier for their students and help them focus on expressing the content in the target language. Dima and Noor strongly believe in using ICs to ask questions, repeat and reiterate them, and elicit answers. They both use ICs to occasionally ask questions which their answers are easy and familiar to the students. They purposefully do so to build students' confidence, to “make them feel that they know” and that “they are part of the learning process.” Dima and Noor believe that the more students provide correct answers or produce language that they are not able to produce otherwise without the expert’s (instructor) guidance, the more confident they become. Hence, the more students participate and engage in learning, especially in the online classroom. Dima and Noor believe that the use of ICs facilitates such pedagogical considerations (asking questions and eliciting answers that students know just to show them that they know) which helps with language retention.

The cross-case analysis also reveals that while the three participants' beliefs in the use of ICs (from the interviews) and actions (in the recorded sessions) project different focuses, they share common beliefs regarding SLA and the role of ICs for metacognitive and language mediation. Sam believes in using ICs to constructively mediate complex metacognitive processes by fostering conversations that are meaningful to students. Within these conversations, they rely on students' background knowledge and the integration of cross-linguistic and cross-cultural aspects in relation to their L1s and the target language. Dima values the role of ICs in modeling and engaging students in real-world conversations to mediate metacognitive and language development. Therefore, their use of ICs helps students produce language that will help them function in the real world. For Noor, ICs are crucial to build metacognitive strategies for more independent language self-evaluation and production.

Unit1: How Instructors Use ICs in Their Synchronous ESOL Classroom. Sam, Dima, and Noor emphasize the cyclic aspect of using ICs for language mediation and supporting language development. However, these instructors have different stances regarding the role of the environment and its influence on language mediation synchronously. Sam believes that interlanguage is more likely to emerge on the surface in the written discourse (while using chat for assistance) by seizing opportunities for modeling, modifying, and eliciting more language production via ICs in their various manifestations. Dima and Noor believe such opportunities for cognitive and language assistance are crafted in oral discussions. Being able to see and hear students in the real-time synchronous environment creates an authentic atmosphere and helps build a sense of community (Hrastinski, 2008; Olson & McCracken, 2015). For this reason, Dima and Noor rely mostly on the audio/video affordance of the synchronous environment to create the “personal touch,” “genuine conversations,” in the synchronous ESOL classroom.

Moreover, for Dima and Noor using oral ICs via audio helps exchanges to occur between instructor and learners and interlanguage to come to the surface. For Dima, audio also helps the instructor to seize opportunities to expand on the conversations in a real-world way and further assist students in thinking and speaking in these situations using the appropriate linguistic and pragmatic pattern. While Noor also relies mostly on audio, for them, using ICs particularly facilitates building learners' metacognitive habits (Tharp & Gallimore, 1988) in the target language, which in turn will mediate language development and more independent language production. Such beliefs have emerged and are reflected in each of these instructors' actions in selecting the synchronous affordance and using ICs in their oral and written forms.

One of the prominent themes across the cases is the fact that these instructors cannot see their students behind the screen and how to regulate their participation to ensure they are following and engage them in learning via the use of the various affordances of the multimodal environment. Accordingly, the data also reveal Sam, Dima, and Noor's selection of other synchronous affordances, such as polls, screen share, emojis, platform interface, and external resources and links shared in the chat and facilitated by oral ICs. These are particularly used for classroom management purposes in the online synchronous classroom. Accordingly, the three instructors highlight the role of the environment in shaping the use of ICs for classroom management. Their purposeful use of these synchronous affordances for classroom management reflects the challenge of navigating the online classroom to avoid over-talking, putting a structure in place, setting expectations and readiness to participate, and ensuring students are following behind the screen. As mentioned in Chapter 4, while Sam, Dima and Noor always use the video affordance, their students rarely use it. With cameras off from their students' side, these instructors cannot tell if students need help; therefore, they resort to the use of ICs to check

understanding via questioning and confirmation. Sam, Dima and Noor attempt to diversify the ways they engage their students online via multiple uses of synchronous affordances. For instance, these instructors substitute the lack of video/camera from the students' side by using non-verbal cues via embodiment supported with more audio and ICs for interaction and assistance.

Unit 2: Instructors' Beliefs on the Process of Applying ICs in the Synchronous Environment. In addressing the second unit of analysis, the instructors' beliefs in the process of applying ICs in the synchronous environment, it is apparent across the cases that such a process is not linear but rather dynamic and interconnected. Sam calls it the "spiral method" that projects the acts of going back and forth and reflects the "complexity" of the process of using ICs to assist language learning. As such, the spiral method, for them, justifies the reliance on audio mostly to use ICs orally for "efficacy and efficiency". Dima refers to the process of using ICs as "connecting everything together" to relate prior knowledge to the current as a preparation for the target knowledge which results in an interconnectedness of all aspects of language learning. This instructor also believes that the complexity of orchestrating ICs to connect everything together mandates the use of audio, as it saves time and allows the instructor to effectively orchestrate instruction and assistance for language mediation. For Noor, the process of using ICs requires "a step-by-step approach" that is contingent on students' needs and responses. For them, the step-by-step approach is not linear but rather iterative and interconnected. Like the other instructors, Noor also expresses that it includes going back and forth while relating prior knowledge to the target knowledge. For them, it integrates aspects of language learning, which the instructor found challenging to ESOL beginner learners over the years of their teaching.

Unit 3: Influence of the Environment on the Use of ICs: Three Main Influential Factors. This unit of analysis explores the synchronous environment and factors that influence the instructors' decision to use IC in oral or written forms. It is apparent in the data across the three cases that such factors relate to instructors' backgrounds, technology and its affordances, and task design.

Instructors' Background. Sam, Dima, and Noor's personal, academic, and professional backgrounds shape their beliefs and assumptions about language learning and their use of ICs. In turn, these instructors' beliefs frame their tacit knowledge that is shaped by their backgrounds and fostered through their professional and academic experiences. Their beliefs are part of the synchronous environment that shapes their use of ICs, whether in oral or written forms, via the use of audio and chat affordances for various pedagogical purposes.

Due to the academic and professional background of Sam, the selection of topics and integration of cultural components play a crucial role in shaping the types of ICs they use for language mediation. Based on their experience as an immigrant to Canada, Dima highly values community building for the personalization of learning, hence a more real-world language use and opportunities for using ICs to guide and model real-world language production. Noor's prior personal experience as a former ESOL learner influences their use of ICs to break L1 habits and build newly acquired metacognitive skills for more independent language production in the target language.

Digital Technology Affordances. Noor believes that learning is interconnected which requires paying attention to all aspect of language in the classroom. These include grammar, vocabulary, and syntax regardless of the target of the task; therefore, they heavily rely on audio as it allows them to use ICs for predetermined challenges that they anticipate in their classroom

due to their experience with ESOL adult learners. Audio also allows them to deliberately add information and provide feedback on expected and unexpected challenges that the students may face. Moreover, as per Noor, using audio mediates the process of interconnecting the various aspects of language learning. As they express it, through oral ICs, they can “dig deeper” and “situate their target learning within the big picture and within these exchanges of conversations and negotiation of meaning while working on an activity (with the whole class).”

Sam and Dima address the role of the multimodal environment in facilitating the use of ICs. Sam talks about an “instrumental” use of technology and a “multimedia approach,” while Dima emphasizes how the variety of the synchronous affordances and the simultaneous use of audio, chat, screen share, and having two screens provide more flexibility and teacher agency. This instructor therefore believes that such instrumental use of multimedia and various affordances is effective for language mediation and development. They also allow for the benefit of various ICs in the oral and written forms via different modalities.

Task Design. The cross-case analysis revealed that task design is one of the main factors within the synchronous environment that shapes the instructors’ use of ICs. Task design in this study refers to lesson planning and its related activities and execution. Task execution refers to the performance of a task and activities within the tasks. Sam and Dima claim that they embrace TBLT (Nunan, 2004) in their reading/writing and speaking/listening ESOL online classes, respectively, while Noor claims that their ESOL reading/writing class “does not necessarily follow TBLT but rather “lesson planning for student-centred learning with a grammar integrated approach.”

Nonetheless, as revealed in the actions of these instructors in the recording of their synchronous session, their use of ICs reflects task-based instruction that is inspired by the need

to Focus-on-Form on task execution without compromising the naturalness of communication (Long & Robinson, 1998; Skehan, 2003). Within the task performance and facilitation, these instructors use ICs to mediate the communicative focus and interactions between them and their learners. According to Sam, Dima and Noor, task design shapes how they assist their students and the types and forms of ICs (oral/written) they use synchronously to reach their planned learning objectives. For them, the complexity and interconnectedness of language learning mandate “task chunking” (Dima and Noor) and “task building” (Sam, Dima, and Noor).

Task chunking and building are influential in creating opportunities to use ICs. While the three instructors agree on the influence of task design on their use of ICs, they have different views on what task design includes due to the nature of the skills targeted in their language classes represented in this study. For Sam and Noor, task design includes topic selection to alleviate content barriers and focus on language learning. Sam uses topic selection to create context, gradually build the task, and diversify the nuances of discussions. Therefore, for them, audio best serves such conversational purposes and results in a need to use ICs in the oral form. In addition, task design plays a role in the classroom management approach of Sam and the way they use ICs to mediate language learning.

For Noor, task design includes preparing for expected challenges adult learners may face as they have seen it over the years of their ESOL teaching. For Dima, task design consists of a pre-set of ICQs and CCQs; the effectiveness of task preparation and the pre-set of questions are contingent on knowing students’ levels and needs. Dima and Noor believe that the effectiveness of task execution is contingent on students’ contribution and identification of gaps within the exchanges between them and their students while using ICs. They both emphasize the role of

immediacy and flexibility to alter or completely change the planned task based on students' contributions and what the use of ICs reveals as they assist their learners.

Additionally, for Dima and Noor, such an adjustment and change of the designed task, as the need arises, shape the types of ICs used to respond to those needs. On the other hand, Sam has a more structural approach to task design and execution. For them, the task type predetermines how they assist their students, hence what and when they use ICs. Sam resorts to using ICs in their written form via chat for common structural task types, such as vocabulary, grammar, and gap filling, then moves to task building that is more conversational by using ICs in the oral forms via audio. In the next section, I present and discuss the assertions generated from the findings of the cross-case analysis.

Cross-Case Assertions

Three assertions emerged from the synthesis of the cross-case analysis of within-case findings. These assertions are essential to help understand how ESOL instructors of adult learners orchestrate using ICs in the synchronous online environment. In the list below, I outline the concepts or central ideas of the three cross-case assertions; Table 5 describes the assertions and references to cross-case findings and research questions. Following, I discuss them.

The followings are the cross-case assertions:

- Oral ICs for the affective domain.
- Ecology of the synchronous online environment: a dynamic and interconnected process for language learning.
- Instructors' backgrounds and perceptions drive synchronous online pedagogy.

Table 5

Generated Theme-Based Cross-Case Assertions

Assertion Description and Reference to Finding and Research Question

Assertion 1: Oral ICs for the affective domain: The use of oral ICs is pivotal for the affective domain in mediating metacognitive and linguistic development, especially in the synchronous online environment. (Findings of Unit of Analysis 1, Sam, Dima, Noor; Sub Research Question 1)

Assertion 2: Ecology of the synchronous online environment: A dynamic and interconnected process for language learning: The process of using ICs for language learning is dynamic and interconnected (Sam, Dima, Noor) as well as procedural (Noor) (Findings of Unit of Analysis 2; Sub Research Question 2)

Driven by a holistic approach that is interconnected and interdependent, the ecology of the synchronous environment encompasses 1) task design and its dynamic implementation, 2) purposeful use of affordances of multimodal digital tools, 3) use of ICs for classroom management (regulating participation and engagement), and 4) use of ICs for mediation of language development/learning. (Findings of Unit of Analysis 3, Sam, Dima, Noor; Main Research Question).

Assertion 3: Instructors' backgrounds and perceptions drive synchronous online pedagogy: The main factors shaping the use of ICs for language development include the instructor's experience (personal, academic, and professional), technology and its affordance, and task design and implementation. The instructors' background influences their beliefs and assumptions on online language pedagogy, technology selection, task planning, and instruction. (Findings of Unit of Analysis 3, Sam, Dima, Noor; Sub Research Question 2)

- Participants' personal, academic, and professional backgrounds shape their beliefs and assumptions about language learning and their use of ICs.
 - The role of multimodal affordances of the digital tools for language mediation and classroom management in the synchronous environment.
 - Task design shapes how the three instructors assist their students and the types of ICs they use to reach their learning objectives.
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Discussion of the Cross-Case Assertions

Assertion 1: Oral ICs for Affective Domain

The use of oral ICs is pivotal for the affective domain in mediating metacognitive and linguistic development, especially in the synchronous online environment. Data from the three cases primarily support this assertion. For Sam, Dima and Noor, the use of ICs for the socio-emotional affect is influential for metacognitive skills. These are, in turn, crucial for language learning/development.

Researchers generally define metacognition as thinking about one's own thinking. Flavell (1979) suggested three domains for metacognition, namely *metacognitive knowledge*, *metacognitive experiences*, and *metacognitive strategies*. According to Flavell, metacognitive strategies are the deliberate use of strategies to control one's own cognition. Moreover, metacognition goes beyond the cognitive variables and includes affective variables (Flavell, 1987). In the context of language learning and teaching, the findings of this multiple case study prominently reflect the crucial role of using ICs in assisting and mediating metacognitive experiences such as the cognitive and affective (emotional) experiences for language learning/development. This is particularly relevant in the online synchronous environment where students and teachers "feel detached" (Sam, Dima, and Noor). In this process, these instructors assist learners' metacognition to raise "awareness of and reflections about [their] knowledge, experiences, emotions and learning" (Haukas, 2018, p. 13).

Social interaction is paramount for cognitive development and learning within ZPD (Vygotsky, 1978). In this multiple case study, Sam, Dima and Noor address social interaction using ICs for metacognition. Therefore, these instructors use ICs, mainly in the oral form, to mediate such development. Their reliance on audio affordances primarily relates to creating

social interaction using ICs for “genuine communication” (Dima and Noor) and for a “social and live” atmosphere in the synchronous environment (Sam). Such a social aspect for these instructors is reflected in their focus on building a community of learners through topic selection and culture integration (Sam), building a rapport with their learners, and personalizing learning through sharing personal experiences (Dima). Furthermore, it is also reflected in how they lead students to believe they are capable of learning the target language, hence the need to ask for help due to differences in learning preferences (Noor) and the use of humor (Sam and Dima).

In addressing metacognition for language learning, the affective (emotional) domain is just as important as the cognitive domain, and both are interconnected (Brown, 2007). According to Brown (2007), “the affective domain includes many factors: empathy, self-esteem, extroversion, inhibition, imitation, anxiety, attitudes...when we consider the pervasive nature of language, any affective factor can conceivably be relevant to second language learning” (p. 68). The social and emotional domains of metacognition are intertwined and hard to separate (Flavell, 1987), and so are the cognitive, affective, and physical domains for successful language learning (Brown, 2007). The interrelationship between these domains may vary depending on the individual learner and their specific needs and goals. It also depends on the teacher's ability to foster such inter-relational aspects and mould optimal language learning experiences (Brown, 2007). The findings of this multiple case study address these domains where the physical reflects the synchronous environment for language learning. The results further take Brown and Favell's identification of the domains and help narrow the gap by providing practical implications and insights on how these domains intertwine and how important it is to navigate the socio-emotional aspect of learning in the synchronous online ESOL classroom for adult learners.

Sam, Dima, and Noor believe that the affective domain is crucial; hence, it requires prominent attention to assist their adult ESOL learners through oral ICs to “break the ice,” “make them feel comfortable,” “reduce anxiety,” and “build their confidence” to mediate language development. Hence, these instructors orchestrate ICs, serving the affective domain by purposefully utilizing the synchronous environment affordances with more emphasis on audio to address the socio-emotional aspect of language learning. Furthermore, they use ICs in ways that not only raise awareness but also explicitly address cognition by explaining and modeling metacognitive strategies for language mediation and development within their designed tasks (reading/writing, listening/speaking, and their related integrated skills, such as grammar, vocabulary, and punctuation).

Aligned with the constructivist learning approach, the three instructors in this study use ICs to mediate learners’ cognition through reframing: “abandoning familiar interpretations and ways of behaving and developing new knowledge, while new ways of seeing, new frames of reference are to be acquired, which one then sees as a reference point, a framework of evaluation for oneself” (Monoriné, 2009, p. 53). This social constructivist environment “helps to meet learners’ needs and develop learner autonomy, often in a cooperative way” (Szabó & Csépes, 2023, p. 408). Cooperation occurs when these instructors engage in using ICs mainly in their oral form to guide, reiterate, reinforce, provide corrective feedback, and model language in use in the target language. In this process, these three instructors use ICs to build metacognitive processes and move learners from the *interpsychological* (via the instructors’ use of ICs) to the *intrapsychological* process for learners and “become an internalized function within the individual system,” as reflected in Vygotsky’s words, “changes its structure and functions” (Vygotsky, 1981, p. 163).

These instructors' ultimate goal is for such newly acquired metacognitive processes to develop an individual's mental system for "a more independent language assessment and production" (Noor); hence, they move learners within ZPD from being dependent to becoming more independent learners through the instructors' assistance using ICs. For instance, Noor attempts to build metacognitive strategies, including "general skills through which learners manage, direct, regulate, guide their learning, i.e., planning, monitoring and evaluating" (Wenden, 1998, p. 519) their own language development. Similarly, Sam believes in modeling metacognitive skills relating the reading task to the writing task, while Dima believes in modeling metacognitive skills for real-world language use as well as an explicit awareness of metacognitive skills for grammar-related matters through direct instruction and oral use of ICs via audio.

In addition, the value of integrating adult learners into the new culture through building a community and the role-learning English plays for adult ESOL learners in Canada have been influential factors in the pedagogical decisions of the instructors in this study and the way they perceive online learning. According to them, building a rapport with learners (Dima) and a community of learners (Sam and Dima) and connecting through genuine oral conversations (Noor) are essential to facilitate the affective domain for effective language learning online (Sam, Dima, and Noor).

Synchronous multimodal learning creates a sense of community for learners, which in turn decreases isolation (Hrastinski, 2008; Trespalacios & Uribe-Florez, 2020) and impacts affective learning, cognition, and motivation due to instructor immediacy and presence (Baker, 2010). In this multiple case study, the three instructors claim (in the interviews) and enact (in their synchronous recorded ESOL sessions) that the synchronous environment is efficient in

building a sense of community. They also share a consensus that such a factor shapes the quality of assistance they, as ESOL instructors, provide for their adult learners. Once that sense of community is built through the synchronous environment, the formality lessens for them, which results in better instructor assistance and more student engagement (Sam, Dima, and Noor).

Accordingly, these instructors justify their heavy reliance on audio to use ICs in their online ESOL classrooms (reading/writing and speaking/listening); audio contributes to building a sense of community online, which allows for the use of ICs as a mediation tool (Lantolf, 2009), and fostering instantaneous, natural, real-world communication. Taking into consideration Krashen's (1988) affective filter hypothesis for language learning, teachers' use of strategies for affective factors is crucial to lowering anxiety and uplifting students' self-confidence and motivation; this is particularly relevant to adult ESOL learners and their speaking skills (Ranjbar et al., 2016). According to the three instructors in this study, real-world communication, combined with ICs for affective factors via audio, fosters students' affective domain, such as feeling comfortable, building rapport, and not being shy about communicating. This also allows the instructors to use ICs for them and their students to ask questions and exchange ideas, jokes, cultural artifacts, and personal experiences.

Assertion 2: Ecology of the Synchronous Online Environment: A Dynamic and

Interconnected Process for Language Learning

A Dynamic and Interconnected Process. Hiver and Whitehead (2018) asserted that “teaching is multidimensional and nuanced” (p. 257), requiring instruction that is flexible and adaptive to learners' needs and context that is inspired by “doing the right thing in the right way and at the right time in response to problems posed by particular people in particular places on particular occasions” (Duffy et al. 2009, p. 245). Assertion 2 of this multiple case study supports

the literature on the complexity of teaching, the need for intentional yet flexible facilitation and immediacy of decision-making that the synchronous affordances provide (Belt & Lowenthal, 2023; Gacs et al., 2020), as well as pedagogical responses contingent on learners' context and needs. In addition, Assertion 2 highlights the non-linear but somewhat cyclical and interconnected aspect of language learning that requires “a spiral method” (Sam) and “back and forth” (Dima and Noor), as well as the critical role of using ICs to mitigate, facilitate, and mediate language learning and development. Such interconnectedness and interdependency go beyond the didactic approach to include a more integrated approach to language learning (Van Lier's, 2000). This ecological interactive approach is particularly paramount in the synchronous environment where the purposeful selection and use of digital tools optimize their affordances for language learning.

According to Wells (1994, as cited in Hoven & Palalas, 2011, p. 5) “ecological constructivism provides a lens through which to view holistically the systems of language (Halliday, 1993; Wells, 1994), the processes of language learning, the systems of interaction among different participants or interactors, and a research approach to exploring the mutual exchanges within these emergent systems”. Sam, Dima and Noor’ stance on the interconnectedness and interdependency of language learning aligns with this ecological perspective that recognizes the holistic, contextual, dynamic, and interconnected relationships of all the elements within the ecology of the learning environment (Swanson & Levine, 2020). During all the phases of this study, Sam, Dima and Noor emphasize, remind, and reiterate their perceptions as well as enact a pedagogy, ensuring that all aspects of interaction occurring within the environment reflect the ecology of learning, its complexity, and interconnectedness.

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Following the tenets of SCT and SLA, these include their pedagogical use of ICs to assist their learners and mediate language development, hence, moving their learners within ZPD.

In addition, through the lens of ecological constructivist learning, interaction goes beyond instructor/student to include their interaction with the environment. In this study, such an interaction is reflected in Sam, Dima, and Noor's mediation of synchronous affordances of learning via their selective use of audio or simultaneous use of audio and other digital tools (chat, screen share, cursor movement, annotations, external resources, and visuals). These instructors' purposeful and "instrumental use of multimedia" (Sam) allows "access for learning and knowledge" (Hoven & Palalas, 2011, p. 707). From an ecological perspective on language learning online, the digital interaction occurring in the synchronous environment and its affordances influence Sam, Dima and Noor's use of ICs in the oral and written forms. Therefore, they also shape the social interactions these instructors orchestrate using ICs as a tool for language mediation. Furthermore, the use of ICs reflects an ecological approach to language pedagogy as part of using ICs is to provide "contingent, flexible, dynamic, adaptive, localized feedback to learners" (Lafford, 2009, p. 685).

In this multiple case study, the preparation and execution of the task are also part of the ecology of language learning in the synchronous environment and play an influential role in the type and form of ICs used as well as the digital tools and affordances. The instrumental use of technology and its affordances, the pedagogical iterative and cyclical use of ICs, and the task are all connected for an effective language learning experience in the synchronous environment. It reflects these instructors' beliefs and emphasis on the interconnected aspect of language learning. For example, these instructors believe in the integration of reading and writing skills (Sam and Noor) and speaking and listening (Dima). Such beliefs are reflected in their use of ICs in the oral

form (via audio) to provide extended explanations and model metacognitive steps to reach an understanding and connection between structure and conveyed meaning.

Sam, Dima, and Noor's use of oral ICs projects methodological approaches to metacognition (Haukas et al., 2018), providing insights that can contribute to the process of language learning and teaching in the online synchronous environment. The methodological approaches reflect each instructor's beliefs on how each task they design should be instructed and executed, as well as which digital technology and its affordances should be used in the synchronous environment to serve the task in place. In other words, the type of task influences the medium of communication within the synchronous environment. The three instructors believe that "everything is connected together". Therefore, using ICs in the oral form via audio seems the most efficient and effective medium to assist language development online. Such belief mandates the use of audio or a simultaneous use of audio and chat while assisting their learners in grammar-related or writing tasks. For example, in these types of tasks, while their learners communicate mostly via chat, Sam, Dima and Noor use ICs orally to instruct, clarify, check understanding, reiterate, explain, and co-edit and model correct usages of language in the chat.

Whether using chat or not, these instructors deliberately use audio to serve the complexity and interrelatedness of previously performed tasks (and their targeted language learning) to the task being performed. Using audio allows them to conduct the complexity of connecting prior knowledge with current knowledge in a way that prepares for the target knowledge and facilitates the cyclical aspect of language learning. This also requires a non-linear approach to using ICs and targets connecting all aspects of learning (planned and unplanned). It

relates the previous class to the target class as a quick oral review in a way that leads to the target task and elicits a prediction of what is coming next in the lesson.

Moreover, using ICs merges upcoming class tasks with the tasks under execution. Within the “spiral,” “step by step,” and “back and forth” process of using ICs (Sam, Noor, and Dima, respectively), these instructors embrace an interconnected approach to language learning. As Sam explicitly states it, using ICs assists learners to move within ZPD where particularities of language learning belong to an overall “flow” and where all aspects of language are connected:

Moving to the place where you want them to finish the sentence is as that kind of Zone of Proximal Development point where I'm not looking for a singular item, I'm not looking for a multiple choice. I'm not looking for one vocabulary form or one conjugation. But there's a flow that we're trying to establish (Sam).

Employability of Synchronous Affordances. Technological tools “operate within, and gain their meaning from, broader systems of education” (Mishra et al., 2023, p. 246). In other words, they belong to an ecosystem and are part of an interconnected whole. Similarly, an ecological approach to language learning encompasses an understanding of the whole as a complex dynamic system (Swanson & Levine, 2020). Within the synchronous environment, such ecological dynamic approach is foundational to the interconnected nature of language learning. Assertion 3 of this multiple case study draws on the use of affordances of digital tools for authentic language use (Palalas, 2015). In this study, the role of multimodal digital tools is focal to orchestrate ICs, weave “genuine conversations” (Dima and Noor) within which negotiation of meaning and co-construction of knowledge occur to serve “live and social [via audio] ... and formal and referent [via chat] registers” (Sam).

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The instructors' purposeful "multimedia approach" (Sam) and "various technology" (Dima) activate affordances within the synchronous multimodal environment. These affordances facilitate the interconnected ecology of language learning online and the particularities of the targeted skills within the designed tasks. The instructor's orchestration of ICs mediates affordances. These affordances are mirrored in the purposeful pedagogical selection of technology (digital tools) in the synchronous virtual space (audio/video, chat, screen share, polls, emojis, LMS, and web browsing). Such interdependency of pedagogy and the use of multimodal technology drive language mediation and development. While they do not refer to it with its proper terminology, the three instructors in this study hint to and enact an ecological constructivist approach to language learning in the synchronous environment; they frequently emphasize the interconnectedness of tasks, digital technology and its affordances, as well as the use of ICs (pedagogy) in mediating language learning and molding effective and engaging learning experiences for their adult ESOL learners.

The type of task and its purpose guide the selection of the technology and its affordances: audio for complex tasks and chat for simple tasks (Sam). Moreover, depending on the type of task being conducted, chat can be used for regulating participation and grammar integration in writing (Sam, Dima, and Noor) and differentiating between when and what to use the private and whole group chat for "co-editing" and accommodating the affective domain (Sam). The effectiveness of task design is contingent on the students' level (Dima and Noor), and the effectiveness of task execution is dependent on the students' contributions. These elements lead to the instructor's identification of gaps within the exchanges that occur between them and their students while using ICs (Sam, Dima, and Noor). The alteration of the designed task (Dima and Noor) is dependent on the instructors' immediacy of pedagogical decision-making and their

capability to seize “teachable moments” (Sam, Dima, and Noor). The alteration occurs as a response to what those exchanges reveal.

Additionally, classroom management is part of the dynamic and interconnected process of language learning. The role of the online teacher and their use of digital technology for classroom management is central in the process and influence learning outcomes (Ghufron & Mardiana, 2023). In the online synchronous classroom, in addition to “interactional skills competence”, language teachers require “classroom management competence... to effectively utilise interaction online in real time... as a tool for mediating and assisting language learning” (Moorehouse et al., 2023, p. 114). In this study, both interactional and classroom management competences are reflected in Sam, Dima and Noor’s use of ICs and are dependent on their purposeful selection of the digital tools (emojis, screen share, LMS browsing, web browsing, polls, and chats supported by a simultaneous use of audio). Therefore, for these instructors, classroom management is paramount for task execution and learners’ engagement and regulated via the selected digital technology. All these elements of the synchronous environment are simultaneously facilitated by these instructors’ use of ICs: pre-set of questions ICQs and CCQs for Dima, and immediate ICs contingent on students’ contributions for Sam, Dima, and Noor.

Assertion 3: Instructors’ Backgrounds and Perceptions Drive the Synchronous Online

Pedagogy

Instructors’ Background. Sam, Dima, and Noor recognize the influence of their backgrounds on their beliefs and assumptions about language learning, design, and practice, thus shaping the types and ways they use ICs to assist adult ESOL learners online.

The background of Sam is different from that of Dima and Noor; Sam, who holds an MA in Applied Linguistics and an undergraduate degree in post-colonial curriculum studies, highly

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values history, and is culturally aware of the needs of international students, including ESOL students in Canada. This instructor is passionate about access to education and justice for marginalized learners. This aspect of their background is evident in their emphasis on the selection of topics that are “a bit abstracted” to create meaningful discussions and recognition, and value geopolitical factors and their influence on language use. They use ICs to foster discussions that are based on such selected topics, which is reflected in the design of their reading task and its execution. These discussions revolve around the three main concepts of “border, enclosure and extraction” that are heavily present in Sam’s data and used to uncover L1 culture and address the culture of the target language, including history and its influence on the language structure. Therefore, Sam’s use of ICs plays an important role in facilitating these discussions to assist their students’ language learning.

Dima and Noor share relatively the same background; both instructors were ESOL learners themselves. They share the same L1 and work at the same institution. It is apparent in the data of this study that the ESOL profiles of these instructors, their background as immigrants, and their cultural experiences facilitate an understanding of the need for language for settlement (Dima and Noor). Moreover, their passion for helping their students overcome challenges (they previously experienced) shapes their beliefs and assumptions about using ICs and their actions in their online classrooms. Dima and Noor are also community oriented as they both come from a culture that values “the group”. Hence, group and community orientations reflect and justify the prominent theme of community building and their emphasis on building rapport in their online ESOL classrooms.

The instructors’ backgrounds shape their perceptions of online pedagogy and the use of ICs to assist language development. The need for English to adjust to the culture and function in

the target language and culture is a motivation and a goal these three instructors had in mind while planning and teaching online. As a former ESOL learner and immigrant in Canada, Dima recognizes the need for and importance of language in the real-world context. This influenced their focus on authentic tasks and functional language outside of the classroom, as well as the role of using oral ICs to build rapport with their learners for personalized learning experiences online. Noor mentions in the data: “I teach the way I want to be taught,” and “there are some practices that I developed just because I noticed that they work better. But then, when I started my masters, I got to know that they have some theory behind them”. Therefore, Noor’s former experience in learning ESOL and their preferred way of pedagogy as well as their gained experience from their classroom practice shape their own teaching/pedagogy. These are reflected in their emphasis on using oral ICs for building *mental operations* (Tharp & Gallimore, 1988) and metacognitive strategies. They also reflect their strong belief in how such strategies foster a more independent language production.

Sam’s background in the post-colonial curriculum guides their engagement in selective topics about “border, enclosure, and extraction.” These topics help recall background knowledge, overcome the barrier of content, and facilitate their use of ICs through the integration of L1 culture and target culture. They purposefully use these concepts in using oral ICs to weave discussions as an act of cultural convergence to connect with their learners and build a community online. Also, the selection of topics regarding the three concepts of “border, enclosure, and extraction” influences their use of ICs and their emphasis on the multiple possibilities of communicating a message and openness to more than one possible answer.

The Role of Multimodal Affordances for Language Development. Computer-assisted language learning (CALL) research proves that “videoconferencing contributes directly to

improving L2 speech” (Blake, 2016, p. 129). The findings of this multiple case study support the effectiveness of synchronous affordances in “scaffold[ing] learners in their development of second language productive skills” (Payne, 2020, p. 243), such as writing skills for Sam and Noor and speaking for Dima. These three instructors agree on the usefulness and effectiveness of audio/video mainly in using ICs to assist the language development of their adult ESOL learners.

Moreover, the findings show that these instructors believe that synchronous affordances of the audio technology go beyond assisting productive skills such as writing and speaking but also receptive skills such as reading (for Sam and Noor) and listening (for Dima). Dima emphasizes how they intentionally use ICs in the oral form (synchronous communication) to model language in use (spoken language in real-world situations), hence creating learning opportunities when they (the instructor) talk while exposing learners to listening as a skill for language learning. Sam and Noor also believe that synchronous affordances, mainly oral communication via audio, play an important role in using ICs to assist their learners’ reading skills as they direct, explain, negotiate, elicit, and model decision-making and metacognitive strategies. They believe that such an assistance helps reach an understanding of the reading text and gives insight into language construction and meaning making.

According to Payne and Whitney (2002), oral L2 conversation via audio and written communication via chat only differ in the use of the “musculature to produce overt speech” (p. 14). Sam, Dima and Noor, in this study, recognize various purposes for the synchronous affordances, mainly audio and chat; they differentiate between the purpose of using chat and audio as well as their roles in learning. These instructors treat synchronous oral conversations via audio and delayed synchronous communication (Hoven, 2006) via chat as two different channels that they (instructors) use for different pedagogical and classroom management-related purposes.

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In fact, for Sam, audio and chat are two different channels to convey different types of “registers”; oral synchronous communication via audio is “live and social” while delayed synchronous communication via chat is “formal and referent.”

Dima and Noor also differentiate between these two channels and types of communications. For them, audio is more efficient for instructors to assist and converse with learners for “genuine communication.” They also believe that chat is used for specific targeted language functions related to written communication or lexical and grammatical matters. In addition, according to Sam, Dima and Noor, learners engage in different cognitive mechanisms within the delayed synchronous communication via chat. This latter allows for more time for their adult ESOL learners to think and provides them with a visual representation of language structure that assists their cognition and language development (for structure and grammar in particular). These instructors also (most of the time) simultaneously use audio while they are communicating or assisting their students in the chat, as audio allows for the instructor's immediate and more elaborate assistance in various forms (confirmation, eliciting, explaining, illustrating, and negotiating), whereas these could be “lost in chat” (Dima and Noor).

In addition, these instructors highlight that using delayed synchronous communication is mainly effective for classroom management, such as checking learners' presence behind the screen and their engagement with the task in place and providing a solution to regulate fast achievers. They also believe that using ICs in the written form allows for direct instruction or explanations and is more effective while simultaneously assisted with the synchronous oral ICs via audio, where they can type and orally support their input and their learners for a more effective modified output (Swain, 2000). It is important to note that Sam, Dima, and Noor also emphasize the effectiveness of using chat for the delayed synchronous communication for the

affective domain, as it accommodates shy learners and regulates fast achievers to give time for those who need to think. Using chat results in a positive impact on their understanding and language performance, in their opinion.

Uniquely in this study, Sam also considers the use of private chat as a safe virtual space that allows to “save face for shy learners by not disclosing their mistakes”. It also provides an opportunity for “co-writing” between the learner and instructor before sharing an improved version of their written communication in the public chat. In their opinion, such a mechanism boosts learners’ confidence and encourages continuous participation without worrying about making mistakes in front of peers, in the whole group shared virtual space (for chat).

The Role of Task. Despite the variances in definitions, most scholars emphasize that tasks are activities that are directed toward the achievement of a certain objective and that language use is necessary to execute the tasks and achieve the goals (Van den Branden, 2006). Tasks expose students to the target language and promote comprehension and production (Long & Crookes, 1992). As mentioned earlier in this cross-analysis section, Sam and Dima claim that they embrace a TBLT approach in their online ESOL classrooms (reading/writing and speaking/listening, respectively), while Noor says that they do not consider their ESOL (reading/writing) course as designed for task-based learning. The data of this study reveal that these three instructors embrace pedagogical tasks where various activities with set requirements are designed to improve learning (Bygate, 1999), reading/writing and listening/speaking being performed at the time of the recording of the synchronous sessions. In the adult EFL/ESOL context, pedagogical tasks are deemed effective in “enhancing language learning awareness strategies and facilitating second language acquisition” (Seyyedi et al., 2023, p. 19). Furthermore, Sam, Dima and Noor show an interactionist approach to tasks (Long, 1988), where

Focus-on-Form is given attention, as well as the cognitive approach, where mental operations come into play during task performance (Robinson, 2001; Skehan, 1998). These instructors' use of ICs to assist SLA and language development within the execution of the task mirrors their views on the importance of both communication and language in use for real-world functions (Dima), culture integration and discussion and integration of topics to which learners can relate (Sam). Nonetheless, as Skehan (2003) states “(a) interaction, in itself, is not enough, and (b) insinuation of a focus on form into interactions is vital” (p. 2) during task performance. Within the exchanges of ICs during task performance, the three instructors use ICs for teachable moments that relate to Focus-on-Form as the need arises, such as assisting their learners in planned and unplanned grammar-related matters. They use ICs to foster discussions that target metacognition to build cognitive habits and develop syntactic structures in the target language during the reading/writing tasks (Sam and Noor) and produce mental operations to address verb form and pronunciation (Dima).

There are variations in the literature regarding task research in terms of negotiation of meaning in using tasks and Focus-on-Form in its sociocultural (interactionist) and cognitive approaches; such difference is mainly related to how Focus-on-Form is achieved (Skehan, 2003). The instructors in this study reflect variations and commonalities in their use of ICs to mediate language development. In this regard, *recast* emerges as a prominent manifestation of Focus-on-Form in Sam, Dima, and Noor's orchestration of ICs. There is a reliance on the negotiation of meaning and its related traditional approach of checking comprehension, requesting clarification, and confirming understanding—these manifest when these instructors use ICs to instruct for the target task.

However, negotiation of meaning also manifests in various other forms in this study. Sam, Dima, and Noor provide a rather purposeful and agile assistance as they respond to the needs of learners and the conversational flow within the process of achieving the task objectives. Accordingly, their assistance includes negotiation of meaning that goes beyond the traditional approach but rather includes other forms that are related to the role of noticing, whether through input (Schmidt, 1990) or the gap in the output (Swain, 1995; 2000). These emerge in these instructors' use of Goldenberg's (1991) **IC element #3 (direct teaching)** and Tharp and Gallimore's (1988) **means of assistance #5 (questioning)** and its various manifestations in **IC elements #4, 5, and 6 (promotion of more complex language, promotion of bases for statements and fewer known-answer questions, respectively)**. In addition, the type of task, its purpose, and execution play a crucial role in the way these instructors assist their learners, hence shaping the types of ICs they use to mediate language learning and development.

In the sections above I presented and discussed the cross-case analysis findings and their related assertions based on units of analysis 1 to 3. In the following section, I address the cross-case analysis process, findings, and discussion of the synchronous recorded data, based on unit of analysis 4.

Cross-Case Analysis and Findings of Using ICs in the Synchronous Recorded Sessions

The cross-case analysis of the recorded sessions (using ICs in actions) is based on Unit of Analysis 4 to address Sub Q3: What aspects of ICs are emerging in the synchronous oral and text-based interactions of the ESOL instructors with their learners? The cross-analysis is based on the findings of the recorded sessions for each case. In the following sections, I present the process for the cross-case analysis and its findings and discuss them.

The Process of the Cross-Case Analysis of the Recorded Synchronous Sessions

In the previous chapters (5, 6, and 7), I conducted the within-case analysis and reported on the participants' use of ICs following Tharp and Gallimore's (1988) means of assistance and Goldenberg's (1991) 10 elements of ICs. Qualitative data analysis is an iterative and reflexive process that begins as data are being collected rather than upon completion of data collection (Stake, 1995). Accordingly, throughout the study, I adopted an inductive approach to qualitative data analysis where I identified important categories in the data, as well as patterns and relationships, through a process of discovery. I also used my research journal to record observations and notes that represent theoretical insights and created conceptual memos as I engaged with the data.

For the cross-case analysis of the recorded sessions, I consulted my research journal and compiled the within-case findings of the recorded synchronous sessions. I arranged the traced patterns on the use of the means of assistance and IC elements for each case and revisited my research journal. Then, I classified the data according to the two major phases of the task for each instructor, namely Phase 1, task introduction, and Phase 2, task execution. Then, I conducted a mapping for the within-case findings for each case and color-coded them (see Appendix H). To trace the patterns within the task phases, I extracted the color-coded data in my research journal and included a description of the patterns of IC elements and their related means of assistance. Based on the data (Appendix H) and the description in the research journal, I used a notebook where I hand-mapped the data again and interpreted how they relate to, facilitate, and support one another in writing.

I compared my notes in the journal with the color-coded data in the appendix; then, I visualized it in a hand-designed figure. I traced the general patterns of using ICs in each phase of

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the task for each case. Accordingly, I traced the use of ICs in the first phase of the task. The data revealed that the instructors' use of ICs in this phase of the task revolves around introducing the task and gradually getting closer to the focus of the task and its execution. The data also unfolded that this process is grounded in Tharp and Gallimore's **means # 7 (task structuring)**. I repeated the same process to trace the use of ICs in the second phase of the task. Goldenberg's **IC element #7 (responsiveness to students' contributions)** was prominent across the cases. Then, I conducted a third round of data analysis and mapping of the orchestration of ICs manually to organize, trace, and visualize the motion of the orchestration of ICs across the cases.

Through multiple graphs that attempt to depict the relationship between the use of ICs within the two phases of the task, I traced what constitutes an orchestration of ICs in Phase 1 task introduction (Figure 7) and the orchestration of ICs in Phase 2 task execution (Figure 8). As represented in the two figures, the visuals intend to depict my interpretation of the relationships of using ICs within each task phase. **Task structuring and responsiveness to students' contributions** are driven by **means of assistance #5 (questioning)**. Consulting with my notes in the research journal, these were also prominent in the semi-structured interview and follow-up interview. Nonetheless, the instructors were unable to depict the process clearly. The concepts of "eliciting," "step-by-step" "gradually," "asking questions," and "it depends on what the students say," as expressed recurrently by the three instructors throughout the data of this study, revealed themselves in the cross-case analysis showing their influential role in the process of using ICs.

Based on my notes in my research journal and comparisons of the within-case findings and reflexivity, the data also revealed patterns of using ICs within these general patterns (**task structuring and responsiveness to students**) of the task phases. For example, a mechanism for orchestrating **IC element #2 (activation of background knowledge)** emerged amongst others.

Nonetheless, the focus of qualitative case study data analyses is on the interrelated aspects of the cases rather than breaking the whole into parts (Merriam, 1988; Stake 1995). Therefore, I kept my attention to the whole analysis, and instead of focusing on breaking down every pattern of using ICs in such complex system of language in use, I directed my attention to drawing an overall picture of how these participants use ICs as a whole. This helped draw a clear mechanism of ICs orchestration that could be transferred to similar contexts and inform theory and pedagogy for using ICs in online adult ESOL classrooms. I sent the findings and interpretations of this cross-case analysis to the three instructors for member checking, and they approved them with no objections.

Cross-Case Findings of Using ICs in the Recorded Synchronous Session

The cross-case analysis of the recorded synchronous sessions for this multiple case study addressed Sub-question 2, investigating the aspects of ICs that emerge in the ESOL adult synchronous online classroom. The analysis of the within-case findings shows that the instructors assist their students' performance in the target task by employing multiple types of the elements of ICs and means of assistance depending on the focus of the task, stage, and needs and responses of their learners. Nonetheless, the cross-case analysis detects a pattern that is consistent across the cases. In other words, while the topics, tasks, and needs for each case are different, the motion/mechanism of orchestrating ICs is similar in the two phases of the task across the cases.

The three instructors have demonstrated a recurrent general pattern in their use of ICs in their respective phases of the task (introductory phase/ execution phase) and focus of the tasks: Sam (reading and meaning of text structure and cohesion/writing missing parts of text); Dima pre-listening (speaking targeting past events) and listening with integrated grammar (sequence

for past events); Noor (reading & meaning of types of paragraphs, grammar/transition words and punctuation in conveying meaning of the types of paragraphs and its relation to writing). For the first phase of the task, despite their different focus, each instructor starts with **means #7 (task structuring)**.

In facilitating this introductory phase, these instructors orchestrate the same elements of ICs with a slight variation in the order in which these elements are used due to the dynamic aspect of conversations, focus of task, and students' responsiveness to their instructors' input.

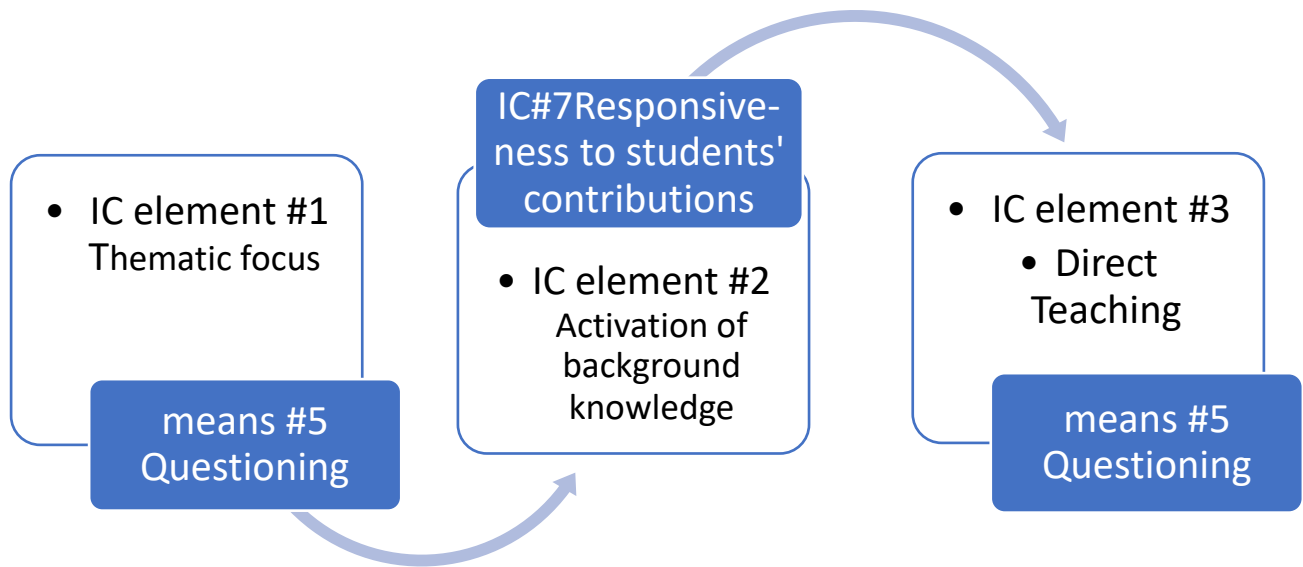
Such a recurrent pattern includes **IC elements #1, #2, #3, #4, #5, (#6 for Sam) and #7**.

In this introductory phase of the task, the cross-case data analysis captures '**questioning**' as the driving means for the orchestration **of IC elements within means #7 (task structuring;** Figure 7).

In the execution phase of the task, **IC element #7 (responsiveness to students' contribution)** was prominent in an influential manner in the pattern (Figure 8).

Figure 7

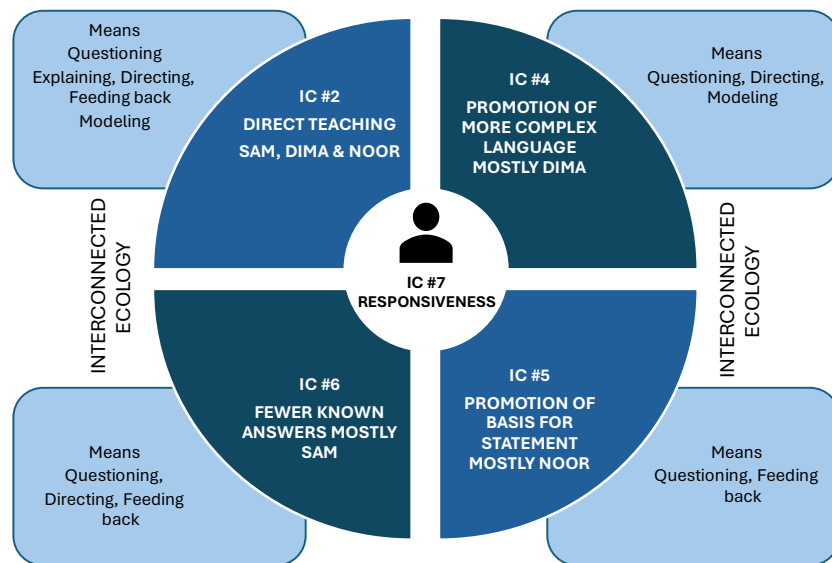
Mechanism of Using ICs in Phase 1 of Task



Note: Figure 7 illustrates the mechanism of using IC elements in the first phase of the task. The arrows show the sequence of this process that starts with IC element #1 that is mediated by means #5. Next, the use of IC #2 is mediated by IC #7. Following is IC #3 that infuses the use of means #5 to mark the start of a new cycle of assistance as the instructors move towards the next phase of the task.

Figure 8

Cross-Case Mechanism of Using ICs in Phase 2 of Task



Note: Figure 8 illustrates the mechanism of using IC elements in the execution phase of the task that is driven by IC #7 in the center. It shows the interconnected IC elements, and their correspondent means of assistance used across the cases. It also highlights these recurrent IC elements across the cases as well as which IC element tends to be more prominent for each case. Further explanation is provided below.

In orchestrating ICs, these instructors use one or more IC element(s) simultaneously. The type of task and its focus require the identification of structural parts of the text (Sam and Noor) and past events (Dima), understanding of the meaning of a text/paragraph, using cohesion/coherence (Sam and Noor), and understanding and using past tense and sequence words (Dima). In the initial phase of the task, the three instructors started by **means #5 (task structuring)**. In the introductory phase and the process of task structuring, Sam, Dima and Noor used a combination of IC **element #1 (thematic focus)** and IC **element #2 (activation of**

background knowledge). They simultaneously infused **IC element #3 (direct teaching)** to explain, remind, exemplify, and model the main concept/theme of their target task. As they gradually transition and move to the second phase, as stated by Dima and Noor, “it is all about asking questions,” the cross-case analysis unleashed the enactment of what the participants meant “by asking questioning”; the process of asking a question is intertwined, connecting all elements of ICs.

The use of **IC #7 (responsiveness to students’ contribution)** is part of the natural flow of conversations that occurs in language in use; once an interlocutor asks a question (the instructor, in this case), the listener answers (the students), the conversation is then weaved based on a response to what has been said. Such an essential part of the co-construction of conversations is manifested in the instructor’s use of **IC #7** in a traceable pattern that explains the orchestration of the conversational moves across the cases. The orchestration of **IC #7 (responsiveness to students’ contributions)** is facilitated by asking more questions, manifested in the form of **IC #5 (promotion of bases for statement)**, **IC element #4 (promotion of more complex language)**, and **IC element #6 (fewer known-answer questions)**.

While Sam, Dima and Noor used the same IC elements, each of these instructors seemed to employ one element more than the other instructors. For instance, Sam frequently infuses **IC element #6 (few known -answer questions)**. This may relate to their emphasis on topic selection and valuing discussions based on the concepts of “border, enclosure & extraction.” For them, these topics urge open discussions and invite multiple possible answers. Similarly, their approach to language learning is grounded in language construction that is generative and open to multiple possibilities of conveying meaning and structures. For Dima, their prominent use of **IC element #4 (promotion of more complex language)** reflects this instructor’s belief in using

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ICs as a mediation tool that creates opportunities for more language exposure and production. This instructor's pattern targets more language production as aligned with their focus on targeting more language in use and modeling real-world practice whenever possible and at any stage of the task.

Noor often resorts to **IC #5 (promotion of basis for statement)**. While their pattern of using ICs is similar to the other cases, the way this instructor enacts it is prominently structured throughout Phase 2 of the task execution. This consistency reflects their emphasis on building metacognitive structures and the role of “repetition for retention” as they assist their adult ESOL learners' processes of thinking about form and meaning (transition words and punctuation and meaning making). They repeatedly use ICs that reflect a consistent cycle of strategies that are mainly driven by **means #5 (questioning)** for eliminating wrong answers to build metacognitive processes as they guide students' decision-making regarding transition words and punctuation.

It is worth mentioning that the cross-case analysis captures what Noor repeatedly expressed in the semi-structured interview as “I don't know, I just ask questions.” Within the similar general pattern as Sam and Dima, asking questions in the episodes of using ICs for Noor also consists of five recurrent steps. I discussed such emerging pattern with Noor (along with the extract from the recording), who also confirmed and approved its description in the synthesis of the follow-up interview and sent their mapping of the use ICs for member checking. I illustrate the steps and their related ICs below:

- Step 1/question 1: “is there a verb or a noun” to identify subject/verb, then explain syntactic structure (**means #5 questioning + IC #3 direct teaching**).
- Step 2/question 2: an implicit hint to eliminate wrong answers/ options that do not fit (**questioning + IC #4 promotion of more complex language**).

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- Step 3/question 3: related to the meaning conveyed in the sentence that the transition word will serve (**questioning + IC #7 responsiveness**).
- Step 4/question 4: point out the meaning and elicit responses from the extract in the sentence and pause for students to provide answers about meaning and the part that justifies their reasoning (**questioning + IC #5 promotion of basis for statements**).
- Step 5/strategy 5: recapping and integrating the use of punctuation place or absence as well as explaining the right choice/answer for the selection of the appropriate transition word. (**IC element #3 direct teaching**).

The findings of the cross-case analysis capture the essence of using ICs and attempt to visualize the instructors' tangible moves/actions within the complexities of the connected and interdependent elements of discourse for language learning. Such an interconnectedness is contained and mirrored in the instructors' use of **IC element #9 (a challenging but non-threatening atmosphere)**, **element #8 (connected discourse)**, and **IC #10 (general participation including self-turn)**. These are infused, and in their pedagogical moves and conversations; such elements constitute the big umbrella under which all other IC elements operate. They manifest in all aspects of using other IC elements and are pivotal as they help create ZPD, where the three participants assist their adult ESOL learners. As they intertwine with many other IC elements, they represent and reflect the atmosphere (**IC #9**), flow of conversations (**IC #8**), and classroom management strategies (**IC #10**) within a social and ecological constructivist online language teaching and learning approach.

Based on Tharp and Gallimore's means of seven assistance and Goldenberg's 10 elements of ICs, these commonalities and uniqueness across the cases depict a shared approach to using ICs. The findings of the cross-case analysis help understand the three instructors'

pedagogical decision-making in assisting the performance of adult ESOL learners. Accordingly, the captured patterns of using ICs reflect a common purpose and similar enactment of assistance for language development. While having a particular focus, Sam, Dima, and Noor's use of questioning gradually assists students to "produce a mental operation that [they] cannot or will not produce alone. The assistance provided by the question is prompting of that mental operation" (Tharp & Gallimore, 1988, p. 60).

Through responsiveness that requires planning and immediacy, these instructors promote decision-making for the *mental operation* being co-constructed and facilitated within the task. Their orchestration of ICs and enacted moves are inspired by their beliefs and orientations: Sam employs multiple possible ways of generating ideas and constructing language; Dima uses language as a tool to create opportunities for language exposure as well as language in use like in real-world scenarios; and Noor encourages gradual and consistent building of cognitive habits to retain L2 mental habits. Simultaneously, the three instructors are attentively responsive to their students' contributions. While being responsive, these instructors use questioning and weave other **IC elements (promotion of more complex language and basis for statement, and few known-answer questions)** and **means of assistance (such as explaining, directing, feedback, and modeling** in the process of using ICs).

The orchestration of this mechanism of using ICs is influenced by the beliefs and assumptions of Sam, Dima and Noor regarding online language pedagogy and language learning. Such an orchestration manifests in various SLA theories. In the following section, I discuss these instructors' orchestration of ICs in relation to SLA. Then, I situate them within their stances on online language pedagogy and their selection of the affordances of the online synchronous environment.

Cross-Case Discussion of Using ICs in the Synchronous Recorded Sessions: SLA and the Online Environment

Orchestration of IC Elements and SLA

The three participants acknowledge that their participation in this study helped them reflect on their beliefs and actions in their synchronous online ESOL classrooms. They agree that they “have never thought about this [ICs] before, but now realize that [they are] using a lot of ICs.” (Sam, Dima, and Noor). The cross-case analysis (based on units of analysis 1-3) data revealed that these instructors mainly refer to the use of ICs as “asking questions,” “eliciting information”, and “modeling”. In addition, when asked to explain further their use of ICs (the ‘what’ and ‘how’), they also mention a common emphasis and refer to the use of questions as each of Dima and Noor expresses it in many instances “Now that I’m thinking about it, I see how it is all about asking questions”. They also refer to task and students’ contributions and their role in shaping their use of questions (ICs).

In addition, based on unit of analysis 4, the cross-case analysis of the findings of the instructors’ enactment of ICs mirrors various SLA and second language learning theories. The findings also reveal Tharp and Gallimore’s means of assistance, mainly **means #5 (questioning)** and Goldenberg’s elements of ICs, in a generally similar pattern, as introduced in the previous section. The participants did not explicitly name SLA theories, means of assistance, and IC elements; however, their actions of using ICs in the recorded sessions mirrored these theories and eventually were confirmed in the discussions of the ICs extract in the follow-up interviews with them.

Krashen’s input hypothesis, where comprehensible input is necessary for SLA/language development, is evident in the instructors’ use of Tharp and Gallimore’s **means of assistance #1**

(**modeling**) and Goldenberg's **ICs element #3 (direct teaching)**. The employability of modeling and direct teaching can provide comprehensible input for learners. Such a comprehensible input seems useful when instructing for task execution. However, Tharp and Gallimore's **means of assistance #1**, particularly relevant to child learning and the reading skill, is grounded in the behaviorist approach, where the teacher uses modeling by showing expected behavior to the child learner. In contrast, Sam, Dima, and Noor's enactment of ICs in this study reveals a sociocultural approach to modeling for adult ESOL learners of various language skills, where modeling is related to using language as a semiotic tool and a target for learning.

In this study, these instructors model their use of language to provide an accurate and fluent model of language within their interactions with their students as they respond to their contributions. Moreover, these instructors do not explicitly model language and then urge students to use it; rather, they create the context and weave conversations in which they engage their ESOL adult students, provide direct explanations of language structure, and guide students' metacognitive strategies (direct and indirectly) as needed. They gradually help their students move through ZPD to reach the stage of understanding, decision-making, and the ability to develop or refine their language production.

While Krashen's concept of comprehensible input plays a role in the acquisition of receptive language skills, such as reading, it has been criticized by many applied linguists and researchers for falling short of the language development of production skills (speaking/writing) (Skehan, 2003). Although they do not explicitly express such stances on SLA, Sam, Dima, and Noor employ ICs as comprehensible input. In addition, these instructors target language production through IC elements that assist their learners' responses and help them build metacognitive strategies for a more independent language in use. Accordingly, Sam, Dima and

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Noor's use of ICs goes beyond comprehensible input; it also helps create opportunities for them to be responsive to their students' language production through the negotiation of meaning. Their use of ICs in this study reflects online language pedagogy that is inspired by the sociocultural theory, where interaction creates opportunities to use language as a semiotic tool for language development (Lantolf, 2009). These instructors' use of ICs in their oral and written forms (via audio and chat) also reflects Long's (1983, 1989) psycholinguistic approach to the interaction where negotiation of meaning emerges in its various forms, such as *comprehension checks*, *clarification requests*, and *confirmation checks*. Sam, Dima, and Noor directly referred to "asking questions" (in the interviews) and heavily asked questions (in the synchronous sessions). Nonetheless, the cross-case analysis of the recordings shows that every question is purposeful and requires immediacy within the given context and based on the type of task, given instruction, and students' contributions (Sam, Dima, and Noor). The questions also give feedback on linguistic forms that do not necessarily emerge within the discussion but rather seem problematic for adult ESOL learners (Noor). In addition, these instructors enact a process of using ICs that is dynamic, attentive, and more complex than merely employing negotiation of meaning to ensure learners' understanding and instructors' confirmations. For instance, they employ ICs as *recast* where rephrasing and modeling feedback occur (Long et al., 1998), hence modifying their learners' output (Swain, 2002) and providing immediate personalized feedback on interlanguage (Pica, 1994) within the interaction and exchanges with their learners.

Furthermore, in this study, the instructors' use of ICs manifests in the SLA concept of Focus-on-Form in its sociocultural approach (Swain & Lapkin, 2001) as well as bringing students' cognitive attention to form (Robinson, 2001; Skehan, 1998). The cross-case analysis data of the recorded sessions reveal that these instructors value interaction and language in use

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(fluency) and orchestrate ICs to help learners expand on their language in use, such as eliciting more details and building on their ideas (**IC #4 and #5**). Equally, their emphasis on form is apparent; their actions show a focus on grammar integration for accuracy, including syntactic structure, punctuation, and vocabulary. Such an emphasis on both interaction for fluency and bringing learners' attention to focus on form for accuracy also mirrors their perception of their holistic approach to language learning and its interconnectedness. Hence, these instructors use IC elements to notice the form (linguistic item) in the input they provide to students (Schmidt, 1990) or in leading them to notice the gap in their output (Swain, 1995) within the flow of conversations.

Accordingly, these instructors' use of ICs on how to achieve Focus-on-Form shows such variation in responding to students' contributions and providing feedback. As Sam puts it: "I use a lot of questions to help them come up with ideas and more details and sentences. And then I use a lot of implicit feedback" for language structure, punctuation, and grammar for accuracy. Dima and Noor do not explicitly explain their use of "implicit feedback" but their actions using ICs mirrored Sam's quote. Nonetheless, while the three instructors refer to implicit feedback (in the semi-structured interview), their actions (in the recorded sessions) reflect the noticing hypothesis in its "cognitive, attention-driven perspectives" (Skehan, 2003, p. 2) by using ICs to ask questions, rephrase, explain and repeat; they attempt to bring the learners' attention to language form, through input (Schmidt, 1990).

Sam, Dima, and Noor also employ noticing the gap in their students' output (Swain 1995) by using ICs to ask questions to elicit a more accurate use of language, adjust language in use, and model a correct version. This is exemplified when these instructors use ICs to modify the student's output, a version of an output that includes mistakes/errors, to make them notice a gap

in their language production by asking questions or rephrasing learners' statements. The instructors also resort to what they call "explicit feedback" by directly providing and modeling the correct answer. Modeling occurs when students reach a stage where they have not noticed the gap in their output after multiple attempts of assistance from the instructor. Even with what Sam, Dima and Noor refer to as "explicit feedback," they rather employ the noticing hypothesis by indirectly modifying their students' output or directly and explicitly explaining the modified version they had provided. Also, these instructors lead and guide their students' output through strategies such as modifying, adjusting, co-constructing, co-editing, extending, and building on their output.

The orchestration of ICs in this multiple case study reflects a Vygotskian/socio-constructivist perspective on learning, where the three instructors encourage participation, create the context for social interaction, and model the natural interaction that occur in real-world settings in the way they interact with, converse, and engage students in conversations through ICs (Dima). They also encourage students to participate in selected topics that relate to their background (i.e., familiar content and culture) to foster conversations (interactions) wherein the socio-construction of meaning and language production occur (such as in interactions between them and their learners). Within these conversations, mediation of language learning occurs by using ICs.

Additionally, the orchestration of ICs (mainly for Noor) speaks to a mix of Piagetian cognitive constructivist perspective of learning and a Vygotskian approach, where language is a tool for mediation of cognitive development within social interactions. The former emerges where the participant uses IC to pre-dominantly focus on modeling metacognitive activities to build a new way of thinking in the target language. The latter emerges through asking questions

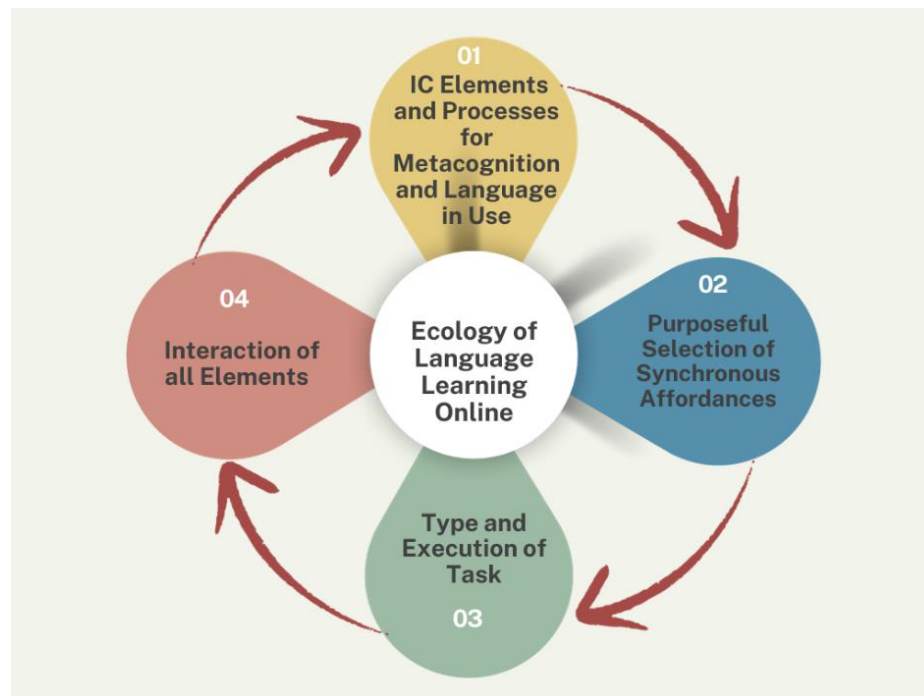
to mediate a particular pattern of thinking that they intend to pass to their students to assist them in the decision-making of linguistic and grammatical aspects of language learning.

Orchestration of IC Elements and Online Language Pedagogical Ecology

In this study, the ecology of language learning online consists of the dynamic interconnectedness between 1) the assistance of the metacognitive processes internal to learners and the promotion of language in use through various types and processes of ICs, 2) the purposeful selection and activation of synchronous affordances (mainly audio and chat, in addition to polls, screen share, emojis, or access to external resources through the web) to mediate the interdependency of these elements, 3) the type and execution of tasks, and 4) how all these constituents interact in the virtual synchronous environment to promote language development (Figure 9).

Figure 9

The Ecology of Language Learning Online



The orchestration of IC elements is grounded in the various forms of *negotiation of meaning* and *focus on form*. What the instructors refer to as “asking a lot of questions” (Sam, Dima, and Noor) and “ICQs and CCQs” (Dima) manifest in various types and purposes of ICs. They mainly manifest in Tharp and Gallimore’s (1988)’s **means of assistance #5 (questioning)** and Goldenberg’s (1991) instructional elements of **IC #2 (activation of background knowledge)**, **IC#4 (promotion of more complex language)**, and **IC#5 (promotion of base for statement)** as well as the conversational **IC element #6 (fewer known- answer questions)**. The three instructors orchestrate such use of ICs in their synchronous online language classroom through a purposeful selection of digital tools to utilize the synchronous affordances to mediate language learning. Sam, Dima, and Noor find audio as the most efficient affordance for an effective online language pedagogy in the synchronous environment. In addition, while these instructors use the chat to assist their learners in performing simple tasks, such as addressing spelling, sentence writing, and vocabulary, they simultaneously use audio to mediate the execution of these tasks. Audio allows for immediacy and real-time interaction (Clark et al., 2015; Themelis & Sime, 2020). Therefore, Sam, Dima, and Noor resort to audio to simultaneously assist with what is occurring in the chat via ICs in their oral forms; they use audio to orally provide feedback, discuss what students submitted in the chat, ask questions to clarify or guide students’ performance occurring in the chat, and guide them to reach the desired outcome.

In addition, Sam, Dima, and Noor emphasize that giving clear instructions to students to perform the task is crucial for an effective online language pedagogy. As shown in action in the recorded synchronous sessions, these instructors use several pedagogical purposes of giving instructions using ICs, both via audio and chat, such as to 1) ensure a clear understanding of

expectations, 2) regulate students' participation and engagement behind the virtual screen, 3) cater to the students' various levels, and 4) cater to the students' affective domain for them to "feel comfortable and at ease," as well as support "shy students" and boost their confidence.

Key Summary for Chapter 8

In this chapter, I presented the processes of the cross-case analyses of the within-case findings and discussed them, addressing the research questions of this study. The analysis was based on the semi-structured and follow-up interview data for each case and units of analysis 1 to 3. I also presented the process and the cross-case analysis of the within-case findings of the recorded synchronous session for each case, based on unit of analysis 4. I discussed the cross-case findings regarding second language acquisition theories and the two frameworks of assistance (Tharp & Gallimore, 1988) and IC elements (Goldenberg, 1991).

The two cross-case analyses revealed a whole ecology of language pedagogy online. The backgrounds and perceptions of Sam, Dima and Noor regarding learning and teaching adult ESOL learners play an important role in their pedagogical decisions online, such as the focus of learning and strategies to assist learners, as well as the task preparation and execution. Hence, these instructors' backgrounds and perceptions shape the types of ICs employed and the way they orchestrate them in the online classroom. These instructors strive to foster an environment that supports affective factors for learning and promotes social and personalized learning. Their use of ICs is paramount in mediating the interconnected and interdependent language learning process and synchronous affordances through a purposeful selection of the digital tools and facilitating the task being performed; they purposefully employ synchronous affordances.

Sam, Dima, and Noor mainly resort to audio affordance to cater to the social aspect that plays a crucial role in the affective (emotional) domain of language learning. Their enactment of

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ICs online constitutes a clear pattern during the first introductory phase and the second execution phase of the task. Recast, negotiation of meaning, and Focus-on-Form represent the major manifestations of SLA in the use of Tharp and Gallimore's means of assistance (mainly questioning) and Goldenberg's IC elements. While the 10 elements of IC emerged, elements such as responsiveness to students' contributions, promotion of more complex contributions, promotion of base for statements, and promotion of few known-answer questions deem to be driving the process. An interconnectedness between all these elements of beliefs and assumptions, synchronous affordances, and tasks constitutes the ecology of using ICs in the adult ESOL synchronous classroom.

Chapter 9. Significance, Limitations, and Future Directions

In this chapter, I begin by discussing the significance of the study to the participants, and to me, as the researcher. In addition, I highlight the significance of the findings to the fields of online ESOL pedagogy, the use of ICs in the online synchronous environment, and SLA. Then, I present its limitations and efforts to address them while also contributing to the trustworthiness of the qualitative research. I conclude with recommendations and directions for future research. In the following section, I address the significance of my research to the participants and to me as the researcher in this study.

Significance of the Research

Significance to the Participants of the Research

The interviews and discussions of the data and its interpretation involved Sam, Dima, and Noor in reflections that helped bring aspects of their tacit knowledge, beliefs, and assumptions to the surface. Tacit knowledge is sensed but hard to express (Gillham, 2000). However, reflections contributed to making Sam, Dima, and Noor's online practices visible as well helped in verbalizing them., Reflection is essential to unleash the complexities of teaching and learning. Nonetheless, reflection requires intentional and strategic processes as well as the opportunity and safe space to enact it. Overall, for Sam, Dima, and Noor, engaging in reflection and discussion was highly valuable for all. Noor's interviews lasted longer than the others, as Noor engaged with me (the researcher) in deep reflections, reiterations, and co-construction of intended messages in more extended episodes. Eventually, Noor was able to connect their background, beliefs and assumptions, their use of ICs and ESOL classroom practice in general, and in the online synchronous environment in particular. Similarly, Sam and Dima expressed their gratitude

to be involved in such a reflective process about their beliefs and assumptions, and their use of ICs teaching in the online language classroom for adult ESOL learners. Their engagement in reflection about their beliefs and knowledge has “a high impact practice that develops teachers’ learning” (Slade et al., 2019, p. 1). The dissemination of this knowledge benefits these instructors as well as other educators by inviting them to engage in a reflective classroom practice and adapting the findings of this research to their own contexts.

By the end of their participation in this study, Sam, Dima, and Noor have recognized how this research has enhanced their understanding of the phenomena under investigation. They have also shown appreciation and self-satisfaction due to the deep reflections on their beliefs and practice for online learning and teaching. Sam is promoted to a digital associate position, while Dima is promoted to a lead position for the online ESOL program at the institution. Noor is ever grateful for “the rich and the most reflective experience” because of their participation in this study.

This research made Sam, Dima, and Noor aware of what their actions and practices brought on and conveyed to their learning as ESOL practitioners; they repeatedly stated, “I never thought about it before”. Throughout their participation in this study, they communicated how significant it was for them. They particularly valued the opportunities to engage in reflecting upon and discussing applied linguistics and online pedagogy (Sam), reflecting on their practice, and gaining new knowledge about the use of ICs (Dima), and reflecting on and confirming their perceptions about teaching and learning from the process of synthesizing complex discussions in conducting research (Noor). These participants also explicitly communicated in emails their gratitude and these benefits from taking part in this study.

Significance to the Researcher

The importance of reflection to refine practice is significant not only to the participants of this study but also to me as the researcher. During the journey of conducting this study, I revisited SLA theories, IC frameworks, and online education. I enhanced my theoretical knowledge, engaged in reflexive processes about my practice and stances on SLA, and learned from Sam, Dima and Noor's practice and their decision-making for online synchronous language learning. The classroom management strategies and purposeful use of synchronous affordances were paramount in enlightening me about the effective ways and challenges that arise in the synchronous online environment for ESOL adult learners. As a researcher, I evolved from exploring how ICs are orchestrated to connecting applied linguistics and online learning to my knowledge and stances. In addition, using a reflexive journal where I documented the research processes, my practices as a researcher and engaged in critical reflection on those processes and practices, I learned much about qualitative research. In fact, critical self-reflection raised my awareness of the non-linear processes of qualitative research (Boden et al., 2005) and helped me foster skills in being very vigilant and transparent in the data collection, analysis, and interpretation of the findings. This reflexive practice made my own thoughts, opinions, experiences, and beliefs on the use of ICs, SLA, and online pedagogy visible to me as the researcher of this study (Ortlipp, 2008).

The prominent theme of the affective domain for language learning synchronously confirmed the challenges that I, as the researcher and a language educator for online communication and writing courses for adult learners, faced while teaching online and simultaneously conducting this study. In this regard, the findings made me more attentive to the affective domain for online learning. In addition, I refined my awareness of the pedagogical

decisions for the design of my online courses and aspects of classroom management using digital technology. Sam, Dima and Noor's perceptions and practices, and the insights I gained from the literature, especially (Brown, 2007; Duffy et al., 2009; Flavell, 1987; Hiver & Whitehead, 2018; Hoven & Palalas, 2011), further engaged me in the interconnected approach to learning. This has empowered me to put into practice the theoretical knowledge and integrate the practical insights gleaned from the participants into my online courses. As the data analysis and interpretation were ongoing in this research, my reflective practice in my online adult classroom was also shaped and refined in the process.

Significance to the Fields of Online ESOL Pedagogy, ICs Frameworks and SLA: Bridging Theory With Practice

This research helps bridge frameworks of using ICs and theories of SLA with online language classroom practice, thereby contributing to refining praxis. The findings of this study uncover how SLA theories manifest in the use of IC elements in their oral and written forms in the synchronous environment. The generated insights and assertions also represent knowledge that is created from classroom practice that informs frameworks of using ICs and further builds on it to include immediate and purposeful pedagogical decision-making shaped by task design and implementation. Moreover, this study informs the language field, particularly online language pedagogy, on the purposeful and instrumental use of the digital tools and the synchronous affordances for language mediation and development online. Bridging theory and practice contributes to the general scholarship of language learning and praxis and the need for attention to, the recognition and understanding of the ecology of language teaching and learning online.

The findings of this study contribute to connecting SLA theories with ESOL instructors' tacit knowledge and their pedagogical practices online. One of the main purposes of this research was to make Sam, Dima, and Noor more aware of the theories of using ICs for second language mediation and attentive to the purposeful use of digital technologies and their synchronous affordances to underlie and direct their practice. From this awareness-raising experience, these three online ESOL instructors may now be able to transfer some of their new awareness to other, similar contexts, and the findings may thus be of benefit to ESOL educators teaching adult learners online.

In addition, the findings of the instructors' enactment of ICs mirror various SLA and second language learning theories such as the Input and Output hypothesis, the Noticing hypothesis, as well as the sociocultural and ecological approaches to Interaction. Sam, Dima, and Noor's actions provide granulated mechanisms on how to intentionally employ SLA-supported IC elements that represent Recast, Negotiation of Meaning, and Focus-on-Form.

Addressing Limitations and Ensuring Trustworthiness of the Study

As mentioned in the Methodology section (Chapter 3), this multiple case study is grounded in the constructivist paradigm. Yin's (2009) criteria—internal validity, external validity, and reliability are mostly common in case study research. These are described as post-positivist (Guba & Lincoln, 1994). In this study, I adopted an alternate terminology for Yin's criteria that aligns with the constructivist paradigm. Accordingly, the trustworthiness of this study was shaped by its credibility, transferability, dependability, and confirmability. The various strategies of the research design aligned with Guba and Lincoln's (1994) criteria of trustworthiness and its corresponding strategies.

Furthermore, the data collection and analysis helped ensure the plausibility of this qualitative research. Deliberate sampling decisions and strategies enhanced its credibility. The use of the participant criteria questionnaire helped me filter and make purposeful decisions, which led to a six-month waiting period to select the three instructors (out of 34 respondents), increasing the likelihood of having knowledgeable instructors (cases) who contributed and strengthened the credibility of the study. In addition, member-checking for the transcripts of the interviews and the synthesis of the discussions of the follow-up interviews for accuracy of intended messages, and the analysis and interpretation of the cross-case analysis further strengthened the credibility of this study.

As I discussed in Chapter 3, qualitative case study design requires intensive data collection from multiple resources (Creswell & Poth, 2018; Guba & Lincoln, 1994; Stake, 1998). Appropriately, the data collection procedure for this study contributed to the credibility, dependability, and confirmability of the research design, as it involved triangulation using multiple sources of data via various techniques such as simultaneous notetaking (field notes) while conducting live semi-structured interviews, synthesis of follow-up interview discussion, member checking, and a reflexive research journal.

In constructivist research, knowledge is subjective, and “the researcher’s values and dispositions influence the knowledge that is constructed through interaction with the phenomenon and participants in the inquiry” (Given, 2023, p. 118). As the researcher in this study, my beliefs and assumptions about language learning and teaching are inherent in the way I perceive and interpret knowledge; my analysis and interpretation of the findings of this study reflected my perspective as the listener, viewer, interpreter, and interactor with my participants

and the meaning they conveyed to me. Multiple perspectives then arose within and across the cases.

Engaging in a process of reflection and reflexivity also enhanced the credibility, dependability, and confirmability of this study. To be able to draw conclusions that are apparent across the cases as well as recognize the uniqueness of each, reflexivity was ongoing, complex, and accompanied by constant consultation with my research journal and notes recorded in the margins of the set of collected data in otter.ai and Nvivo12 and in the documents of the data analysis, and interpretation of the findings. Reflexivity allowed me to clarify the various meanings and interpretations of the phenomenon of using ICs in the synchronous environment, and its relation to second language acquisition and language learning. It also allowed me to recognize my own stances, understand and embrace the different perceptions that Sam, Dima, and Noor intended to or explicitly stated in the data. Reflexivity helped discern their variations of interpretations that represented commonalities across the cases at times, and the uniqueness of each case at other times. Commonalities across the cases served the generalizability of findings (Stake, 1995) and the holistic aspect of the case study, while the uniqueness of the findings of each case showed their particularities and contexts (Merriam, 1998).

A more constructivist alternate terminology of generalizability is transferability (Guba & Lincoln, 1994). Aligned with the constructivist paradigm, interpretation in this study "is considered to be dependable—not reliable—[as] the inquiry process is tracked, with changes being documented and made available for public inspection" (Given, 2023, p. 118). Accordingly, the research design, strategies, and instruments that I discussed above are deliberately part of such an inquiry process. In addition, the reflexive and open mindset I adopted in this study enriches the interpretation of the collected qualitative data and enhances its transferability, thus

proving "useful[ness] to others in similar situations" (Marshall & Rossman, 2006, p. 201). "It is up to readers to transfer this understanding to other contexts and assess the similarity" (Given, 2023, p. 118). For that reason, I offer readers of this study the opportunity to transfer their discernment of the findings by recognizing similarities between their contexts and those in this study through the thick description provided of the cases, analyses, findings, and their discussions.

Future Research and Directions

As a result of this multiple case study, I proffer the following recommendations for future research.

The investigation of the use of ICs in the chat was peripheral for several reasons. The data revealed more use of chat by students than instructors. These were excluded from data as the focus of this study is on the instructors' actions. Moreover, Sam, Dima, and Noor's use of ICs in the chat was simultaneously supported by audio and oral ICs. For Sam, in particular, the use of private chat was a significant strategy compared to Dima and Noor who relied more on audio and, sometimes, on the general chat. Sam's data revealed a unique way of using chat to assist their students' performance in the "written register" and their use of private chat (as discussed in Chapter 5). Though I investigated the chat and extracted the emergent use of ICs by instructors in the public chat, using ICs in the written form alone in the private chat was invisible to me, the researcher. To address this limitation, I extracted the episodes that included the use of ICs and relied mostly on what could be heard in the recording to analyze the use of ICs in the chat by the instructors. As a result, the interpretation of the use of ICs in the written chat was based on Sam, Dima and Noor's explanations and the relevance of my interpretations of their

views. Further research that focuses on the use of chat for written ICs in the general and private chat would further inform online language pedagogy.

The findings of this study reveal the significant role the multimodal environment plays in shaping the decisions of the instructors, the types of ICs, and how they can facilitate these ICs to mediate language learning for groups of learners with different levels, synchronously. Moreover, this study is related to ZPD and instruction targeting the “potential level of development”, namely cognitive (metacognition of language learning concepts) and linguistic (language production within social functions). However, this study did not investigate whether such assistance resulted in cognitive and linguistic language development. As Vygotsky (1978) stated, “good learning is that which is in advance of development” (p. 89). Future research, similar to this study, investigating the use of ICs and its effectiveness in moving learners within ZPD may result in tangible language development. The investigation can relate to assessment that reflects “actual development” and benefit language educators and SLA researchers in synchronous online environments.

Finally, as discussed in Chapter 4, obtaining research ethics for this multiple case study represented a real challenge as it required numerous ethics processes to meet the various institutional demands. Case study research, within a single institution, to observe their faculty use of ICs and promote effective ways of using ICs in the synchronous online adult language classroom may reduce the burden of obtaining ethics. The single case study research may also benefit the institution’s professional development and teacher training programs. The results can inform pre-service provisions as well as assisting practicing language educators within the single institution on how to master an orchestration of ICs. This would further granulate the mechanisms of using each IC element with purposeful use of affordances. The dissemination of

knowledge of the single case institution could then be transferred to similar contexts and institutions.

As I conclude this dissertation, generative AI is infiltrating synchronous (and asynchronous) learning. Especially with the presence of AI and chatbots that can generate human-like interactions, an intriguing discussion is developing about their roles in synchronous interactions, including in the language field. Practice is now taking a new direction, and theories related to AI and its role in assisting human instructors will bridge and refine both human and AI-assisted praxis (Hwang et al., 2020; Xu & Ouyang, 2022). In relation to this study, the future direction is: how can AI affordances shape the instructors' orchestration of ICs for online language teaching and learning?

Theme of Interest That was not Possible to Explore

A prevailing theme that emerged from this study, but was not possible to explore, is the virtual space of the breakout rooms and the impossibility of recording the instructors' assistance to their learners. Sam, Dima, and Noor spoke about the synchronous virtual space (Zoom) and its influence on their pedagogy. As they discussed its affordances, they also highlighted its constraints for using ICs to assist ESOL teaching and learning. One of the major constraints they mentioned is the limitations of using breakout rooms in relation to the immediacy of pedagogical decision-making and assisting learners simultaneously. These constraints derive from the impossibility of being simultaneously in all breakout rooms or the influence of the instructor entering the breakout room. While the absence of the instructor in the breakout rooms may be an enabler for learning, in the opinion of Sam, Dima and Noor, every time they enter the breakout room, they may hinder the flow of the conversations occurring amongst their students. Moreover, as the focus of this study is on the use of instructor's ICs, it was impossible to access the

conversations occurring in breakout rooms due to the limitation of the technology interface to provide recordings of these conversations and capture the use of ICs in this virtual space. I suggest the need for more research into the ways in which online language educators are working with (or around) breakout rooms to further develop the use of ICs for effective assistance of language learning.

Concluding Remarks

Addressing the main research question of this multiple case study, Sam, Dima, and Noor's orchestration of ICs in the synchronous online environment reflects an ecological approach that recognizes the holistic nature of language learning and values the interconnected aspects including pedagogy, task, purposeful use of the affordances of the digital technology and the way these depend on and influence one another. This investigation of orchestrating ICs draws on common mechanisms of using ICs for these three instructors and equally values the particularities and uniqueness that each instructor revealed (backgrounds, and beliefs and assumptions). Both commonalities and uniqueness are essential in the process of teaching and learning in the synchronous environment. The pedagogical actions of Sam, Dima, and Noor target structure as a starting point that feeds into the process of using ICs to shape language mediation and support development. For Sam, the structure of the reading passage represents the focal start of the first phase of discussions that lead to the upcoming writing task while for Dima, the sequence of events in the speaking and listening phases sets the scene for their target grammar and vocabulary tasks. For Noor, the various types of paragraphs situate their goal for the grammar task that addresses the use of transition words. The "back and forth" of using questions and various elements of ICs, their interconnectedness, their dependability on topics, and the purposeful use of the multimodal learning environment and its synchronous affordances

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(audio, chat, screen share, web browsing, external resources) all reflect the holistic aspect that situates, guides, and influences these various constituents. Findings relating to the research sub-questions reveal that instructors' beliefs and assumptions about SLA, language pedagogy, and the online environment, in the cases in this study, those of Sam, Dima, and Noor, have unique influences on their task design and implementation in the synchronous online environment. These are in turn shaped by the natural flow and immediacy of the instructors' pedagogical decision-making (being attentive and responsive as needed) and function within the ecological aspect of language pedagogy and learning online.

This study underscores the art of teaching and further investigates the intricacies of the orchestration of ICs in the synchronous classroom for adult novice ESOL learners. The findings help illuminate the significance of pedagogical decision-making that is informed by theory but also shaped by the instructors' beliefs and assumptions to refine instruction and mediate language learning. Such planned and purposeful, nonetheless flexible, and agile pedagogical practices help foster the co-construction of knowledge through ICs, with the ultimate goal of crafting meaningful and engaging learning experiences online. The intentional use of ICs to build a community of learners in the synchronous environment is notable in this study in responding to the affective domain for adult language learners. Furthermore, tacit knowledge uncovered through the reflective practice of the three cases (Sam, Dima, and Noor), highlights the importance of using ICs with adult learners and bridging IC frameworks with SLA. These findings revealed dynamic mechanisms for the orchestration of ICs that can inform ESOL educators and language institutions on the processes of assistance within ZPD to foster language learning and development online. The purposeful and instrumental use of the synchronous affordances provides unique insights on how to navigate the ESOL online classrooms for

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language mediation, effective classroom management strategies, as well as task implementation. The perceptions and actions of the three ESOL instructors on the use of ICs online underlie the ecological aspect of language learning and the complexity of its processes. The mechanisms traced in this study reflect the holistic and interconnected aspects of the instructors' orchestration of ICs, its relation to SLA, the role of task preparation and implementation, and the purposeful uses of the synchronous affordances. Such ecology of language learning underpins the significance of this study to help ESOL educators refine their online pedagogy.

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Appendix A: Competency Profile of the Digital and Online Teacher of 2030

Below are the competencies for “facilitating learning” and “pedagogical strategies”, as per the recommendations for the competency profile of the 2030 digital and online teacher (Ally, 2019, pp. 310-311):

Facilitate learning. The “facilitate learning” area has the largest number of competencies (29; Figure 8), which is an indication that a major role of the digital teacher will be as a facilitator of learning. In the digital era, learners will be learning virtually where there is a physical separation of the digital teacher and the learners.

F. Facilitate Learning	F1. Personalize the learning for individual learners.	F2. Respond to learners' questions in a timely manner.	F3. Ability to change strategies on the fly when supporting the learner to meet the learner needs.	F4. Respect different learner types and adapt to the learner.
	F5. Encourage creativity.	F6. Encourage innovation.	F7. Be a good listener.	F8. Provide appropriate feedback.
	F9. Show enthusiasm about the learning materials.	F10. Model working in the digital age.	F11. Motivate students to learn.	F12. Encourage social interaction between learners.
	F13. Ability to formulate good questions when interacting with learners.	F14. Model good virtual behavior.	F15. Be approachable.	F16. Promote and model digital citizenship and responsibility.

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Ally

F17. Encourage authentic learning.	F18. Inspire learners.	F19. Create a comfortable learning atmosphere.	F20. Provide feedback to individual learners to meet their individual needs.
F21. Interpret learner dashboard to monitor each learner performance.	F22. Interpret learner's question.	F23. Solve learner's problems.	F24. Provide support to learners who are on the go.
F25. Act as a coach for learners.	F26. Act as a mentor for learners.	F27. Support learners using digital technology.	F28. Be an expert in the content to help learners who will be at different points in the learning process.
F29. Encourage learners to think outside the box.			

Figure 8. Facilitation competencies for the digital teacher.

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Pedagogical strategies. The teacher has to use appropriate pedagogical strategies to allow students to achieve the learning outcomes. The “Pedagogical Strategies” area has 12 competencies for the digital teacher (Figure 9).

G. Pedagogical strategies	G1. Use appropriate pedagogical approach to match the technology.	G2. Use appropriate learning theory to develop learning strategies to maximize learning.	G3. Offer choices and multiple options for presenting concepts through resources and support options.	G4. Prescribe learning activities for individual learners.
	G5. Use appropriate collaborative online learning frameworks to encourage interaction between learners and between the teacher and the learner.	G6. Suggest remedial activities to help learners who need them.	G7 Use a variety of learning strategies to develop high level knowledge and skills.	G8. Use interactive strategies such as serious games and simulations to motivate learners.
	G9. Engage learners during the learning process.	G10. Suggest additional learning activities for learners who need them.	G11. Use problem-based learning to encourage high level learning.	G12. Encourage learners to learn independently.

Figure 9. Pedagogical strategies competencies for the digital teacher.

Appendix B: An Invitation to Participate and Criteria Selection Questionnaire

My name is Chadia Mansour, and I am a doctoral candidate in the Centre for Interdisciplinary Studies, Faculty of Humanities and Social Sciences at Athabasca University in Canada. This is an invitation to participate in my dissertation on the ESOL instructors' beliefs, assumptions, and practices in the synchronous online classroom. My research study intends to include English instructors that have been teaching ESOL for adult novice learners online before COVID-19 pandemic, in Canada. I am seeking ESOL experts who would like to share their experiences and expertise to contribute to the ELT research and online pedagogy to benefit colleagues around the globe.

Thank you for those who are interested in taking part.

Based on the selection questionnaire, certain teachers will be selected for participation. The study, will involve three phases:

- 1- An online interview via zoom (60 – 90 min)
- 2- One to two recorded classroom session(s)
- 3- A follow up interview (60 – 90 min)

Please note that this is a call for participant selection questionnaire. Those who will be selected will be contacted via email to voluntarily take part in the three phases of the study mentioned above. I will need to obtain consent from your institution for Phase two to one recorded classroom sessions and will provide your students with a statement that explains the purpose of the study and the need to access one to two recorded observations. The statement will be provided in English and their first languages and will ensure that none of their data will be traceable nor any of their quotes will be used in this study as the focus will be on you as the instructor of the class. For phases one and three, there will be an honorarium of a 50 CAD amazon card for each phase: a total of 100 CAD at the completion of the data collection.

If you are interested in participating in this study, please (click here/insert link to questionnaire) to read the information and consent form and start the questionnaire.

Participant Criteria Selection Questionnaire:

Q1- I am based in Canada and I have been teaching ESOL in the synchronous multimodal online mode, before and/or during the COVID-19 pandemic:

Yes (if you select yes, please continue with the whole questionnaire)

Provide your affiliated institution (optional):

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No (if you select no, then unfortunately you will not fit the purpose of this study. Thank you for your time.)

Q2- My experience, before and/or during the pandemic, in the ESOL synchronous online teaching includes:

1- 2 years

2-3 years

3 years +

Q3: Adult novice learners, in this study, are learners whose English proficiency fits within one of the Canadian Language Benchmark (CLB) levels of beginner learners (CBL1_CBL5). Teaching in the synchronous environment includes for example environments such as Zoom and Microsoft Teams where teachers and students are virtually together using audio-video interactions and written interaction (chat).

I have taught novice adult learners before and/or during the pandemic, synchronously online for:

0- 1 year

1-2 years

3 years +

Q4- I have been involved in professional development for planned online teaching and/or emergency remote teaching:

Yes

No

Q5- I have earned credentials for planned online teaching and/or emergency remote teaching:

Yes

No

Q6- Instructional Conversations are defined as: “dialogue between teacher and learners in which the teacher listens carefully to groups of students’ communicative intent, and tailors the dialogue to meet the emerging understanding of the learners” and that “teaching occurs when performance is achieved through assistance” (Tharp & Gallimore 1991, p. 2). In other words, English teachers who use instructional conversations (ICs) assist their learners by engaging in conversations with them to push them to modify their language output. In addition, teachers may

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use ICs to stimulate cognitive challenges and enhance the understanding of concepts that are new to the learners' knowledge or background.

For example, teachers may use ICs to explain a concept in the English language that is not part of the learners' linguistic repertoire such as a grammatical concept that is new to them (e.g., teaching a relative clause to Japanese L1 speakers or indefinite articles to Arabic L1 speakers).

I am aware of the techniques of using instructional conversations:

Yes

No

Not sure

Q-7 I use instructional conversations (in the form of oral/audio interactions and written chat) in my online teaching in the synchronous environment:

Yes

No

Not sure

Q-8 I use instructional conversations purposefully:

Most of the times

Often

Sometimes

Rarely

Q9- I am aware of sound pedagogical practices that mediate second language acquisition:

Yes

No

Not sure

Q 10- I use and refer to second language acquisition while preparing for and/or teaching my ESOL classes online.

Most of the times

Often

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Sometimes

Rarely

Q11- When I teach online, I (you may choose more than one answer):

- Formulate meaningful questions when interacting with my students.
- Act as a coach for my students.
- Encourage students to think outside of the box.
- Let my students work on the tasks collaboratively without interfering.
- Consider myself an expert in English to help my students move to a different level within their language development.
- I adapt my pedagogy to the technology and mode I am using (oral vs chat)
- Encourage interaction between students and between students and myself.
- Use SLA learning theories to develop the linguistics skills of my students.
- Guide conversation to include students' views, judgments, and rationales using text evidence and other substantive support.

Appendix C: Information Letter

This form provides the details of this study. After reading it and you wish to participate in the study, you will be directed to fill out the consent form.

Title of the study: Instructional Conversations: Case studies of the perceptions and actions of TESOL teachers in synchronous environments

Principal investigator/researcher: Chadia Mansour, an Ed.D. candidate in the Centre for Interdisciplinary Studies, Faculty of Humanities and Social Sciences at Athabasca University, Canada.

Purpose of the study: As a researcher, I seek insights from experts of English to Speakers of Other Languages (ESOL) beliefs, perceptions and practices relating to their use of instructional conversations (ICs) and language learning, in the synchronous multimodal online classroom. I look for feedback to help examine the instructors' experiences and uncover the pedagogical intricacies of using ICs that mediate English language learning processes and hence, bridge online classroom practice with theory.

Participants: I would like to invite three to five ESOL experts, based in Canada, with a minimum of two to three years of teaching experience (before the pandemic) of ESOL to novice adult learners in the synchronous online multimodal environment. Participation is strictly voluntary.

Benefits: It will be beneficial to reflect on your beliefs, perceptions, and practices as they relate to online synchronous pedagogy to mediate your students' English language learning and development. Findings of this study will also benefit the ESOL community especially with the rising needs of online language learning. Your expertise will be of a great value to the field of online language teaching and contribute to applied linguistics and language educators' research. As a participant in this study and as an act of gratitude for your time, expertise, and knowledge, upon completion of the three phases, you will receive 100 CAD electronic amazon card via email.

What is expected from you: First, I will ask you to take an online questionnaire. If you are selected, you will be contacted via email. Then, I will ask you if you will be willing to participate in this study by filling the consent form.

Participants' Rights to:

- **Confidentiality:** your identity will be kept anonymous during the data collection and analysis through the use of different names or alphanumeric codes.
- **Ask questions:** you have the right to ask questions about this study, at any time of the research. You may contact me at cmansour1@athabasca.edu or we can schedule a call to

talk to me directly if you wish to. This study has been reviewed by the Athabasca University Research Ethics Board. Should you have any comments or concerns regarding your treatment as a participant in this study, please contact the Office of Research Ethics at 1-800-788-9041, ext. 6718 or by e-mail to rebsec@athabascau.ca.

- **Withdrawal:** you have the right to withdraw from this study at any time during the collection data period, without prejudice and with no harm. You also have the right to refuse to answer some questions. Any participants who wish to withdraw must inform the researcher via email within one week, and any data related to them will be immediately destroyed. However, once the research findings are reported and/or published, you CANNOT withdraw.
- **Results of the study:** The existence of the research will be listed in an abstract posted online at the Athabasca University Library's Digital Thesis and Project Room; and the final research paper will be publicly available. All promises of confidentiality made to participants will be respected, and the access link of the final research will be sent to the participants via email.

Risks: There are no potential risks in your decisions to participate in any of the phases of this study.

Appendix D: Participant Written Consent Form

[*Instructional Conversations: Case studies of the perceptions and actions of TESOL teachers in synchronous environments*]

Please type your initials in the box

1. I _____ voluntarily agree to participate in this research study.
2. I understand that even if I agree to participate now in this research study, I am free to stop taking part and can withdraw from the study at any time without giving any reason, and that I am free to decline to answer any particular question or questions without providing any reasons or consequences of any kind.
3. I confirm that I have had the purpose and nature of the above study explained to me in writing, or it has been read to me. I have had the opportunity to consider the information, ask questions about the study and have had these answered satisfactorily.
4. I understand that participation involves a video- recorded interview and a follow up interview, both via zoom.
5. I agree to my interviews via zoom to be video recorded.
6. I understand that all information I provide for this study will be treated confidentially.
7. I understand that in any report on the results of this research my identity will remain anonymous. This will be done by changing my name and disguising any details of my interview which may reveal my identity or the identity of people I speak about.
8. I understand that I can ask for access to the information I provide, and I can request the destruction of that information, if I wish at any time.

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9. I understand that disguised extracts from my interview will be quoted in the researcher's dissertation, academic presentations, and published papers related to the dissertation. However, no identifiable information related to the participant will be included whatsoever.

10. I understand that signed consent forms and original video recordings will be retained in a secured hard drive of the researcher, and that data will be retained in a password protected document for access and that only the researcher and their supervisors will have access to data which will be destroyed five years after the completion of this study.

11. I understand that I am free to contact any of the people involved in the research to seek further clarification and information.

Researcher:

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I have read and understood the information contained in this letter, and I agree to participate in the study, on the understanding that I may refuse to answer certain questions, and I may withdraw at any time during the data collection period.

Signature of research participant

Date -----

Signature of researcher

I believe that the research participant above is giving informed consent to participate in this study.

Date -----

Appendix E: Statement to Non-participant Students

English version:

This letter is to explain to you as students attending this online English class that I am conducting doctoral research which will focus on the instructional conversations of your teacher of English. I have obtained ethical approval from my institution and your institution. Your teacher has also willingly agreed to participate in my research. Phase two of my research will require recordings of your instructor while teaching. The purpose of this statement is to ensure that you understand that:

- (i) the class will be recorded audio and video on 1-2 occasions;
- (ii) you will be notified in advance and reminded of those dates;
- (iii) you may choose to participate on those days anonymously (i.e. to use a pseudonym) and with your camera off;
- (iv) none of your recorded interactions with the teacher will form part of the research being analyzed. I am studying your instructor's use of instructional conversations and the influence of the technology. Student interactions do not form part of the research data.

OPTION#1: I GIVE CONSENT TO BE IN THE RECORDING

_SIGNATURE_____

OPTION #2: I CHOOSE NOT TO GIVE CONSENT AND I'D LIKE to SIGN IN

ANONYMOUSLY AND WITH MY CAMERA OFF _SIGNATURE_____

Translated version in the student's first language:

Appendix F: Interview Guide

The semi-structured interview topics:

- 1- The orchestration of ICs in the synchronous online classroom (addresses the overarching research question)
- 2- ICs and language learning mediation (addresses sub-Q 1)
- 3- The environment influence on the use of ICs (addresses sub-Qs 2& 3)

Interview Guide

Topic 1: The orchestration of ICs in the synchronous online classroom:

- 1- I would love to hear more about your experience in teaching ESOL to novice adult learners online. (Ice breaker)
- 2- Could you please explain how do you use instructional conversations with your ESOL novice adult learners in your synchronous classroom? (Open Question: addresses Overarching research Q.)
- 3- Are there any frameworks, models, or strategies that you consider best to follow to use ICs online?
- 4- Based on your experience, do you have any recommendations on how teachers should use or best practices of ICs in the synchronous online classrooms?

Topic 2: ICs and language learning mediation (implicitly addresses sub-Q1)

- 1- Could you please explain your motives behind using ICs in your synchronous ESOL classrooms? (teachers' beliefs about the use of ICs)
- 2- Could you explain how ICs help your student language learning? (teacher's beliefs about SLA/ESOL language learning and development)
- 3- What benefits do you think ICs bring into the learning experience of your adult learners online?

Topic 3: The synchronous environments' influence on the use ICs

- 1- Could you please explain any preparation that may lay the ground for you to use ICs in your online classroom? (prompting ideas regarding task design)
 - 2- What are your suggestions for choosing oral versus the text-based interactions while using ICs in assisting your students? (addressing the synchronous interactions)
 - 3- Could you explain how using oral (using audio) versus text-based (using chat) interactions may be more suitable for certain types of ICs over others? Are there any particular elements of ICs that you think would emerge in any of these synchronous interactions?
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Appendix G: Mapping of Means of Assistance and ICs

Tharp and Gallimore’s (1988) Means of Assistance	Goldenberg’s (1995) Ten IC Elements
<p>1. Modeling: offering behaviour for imitation. Modeling assists by giving the learner information and a remembered image that can serve as a performance standard.</p>	<p>IC element #2: Activation and use of background and relevant schemata- The teacher either "hooks into" or provides students with pertinent background knowledge and relevant schemata necessary for understanding a text. Background knowledge and schemata are then woven into the discussion that follows.</p> <p>IC element #3: Direct teaching – when necessary, the teacher provides direct teaching of a skill or concept.</p> <p>(interesting here how A003 uses consistent strategies (look at extract 16) to build a mental image/cognitive skills (metacognition) and strategies on decision-making through questioning and their unique 5 steps (in red in doc) to IC element promote bases for statements, through directing and questioning – three means intertwine here (directing, questioning) and IC elements all play a role in “modeling”.</p>
<p>2. Feeding back: providing information on performance as it compares to a standard. This allows the learners to compare their performance to the standard and thus allows self-correction.</p>	<p>IC element#7: Responsiveness to student contributions - while having an initial plan and maintaining the focus and coherence of the discussion, the teacher is also responsive to students’ statements and the opportunities they provide.</p>
<p>3. Contingency managing: applying the principles of reinforcement and punishment. In this means of assistance performance, rewards and punishment are arranged to follow on behaviour, depending on whether or not the behaviour is desired.</p>	<p>This <u>conflicts</u> with IC elements:</p> <p>Ic#9: challenging but non-threatening atmosphere-the teacher creates a "zone of proximal development" ... where a challenging atmosphere is balanced by a positive affective climate. The teacher is more collaborator than evaluator and creates an atmosphere that challenges students and allows them to negotiate and construct the meaning of the text</p> <p>& IC#10: General participations including self-selected turns: the teacher encourages general participation among students. The teacher</p>

	<p>does not hold exclusive right to determine who talks, and students are encouraged to volunteer or otherwise influence the selection of speaking turns.</p>
<p>The difference here is drawn may be from the difference between behaviorism from which contingency managing seems to be inspired and psychology and particularly socio-cultural theory that ICs are inspired from (Vygotsky).</p> <p>Contingency management—related to responsiveness without the punishment—this is when constructivism comes in—teacher cease a teachable moment—responds to them and may be reinforce it by modeling back.</p> <p>If we supplement #3 (contingency management) with responsiveness and overlay the scaffolding of ZPD and remove punishment and replace that with modeling back.</p> <p>YOU HAVE TO MAKE A DISCUSSION ABOUT THE INAPPLICABILTY OF SIOCULTYRAL /CONSTRUCTIVISM BECAUSE OF THE BAHAVIORISM</p> <p>“Contingency management” as a term and could be interpreted as “teachable moment” depending on how behaviorist managed it is different from how constructivist manage it</p> <p>That will be a nice way of mapping across without ingesting behaviorism approach into constructivist approach into IC – teachable moment!!!</p>	
<p>4. Directing: requesting specific action. Directing assists by specifying the correct response, providing clarity and information, and promoting decision-making.</p>	<p>IC element #2 – Activation and use of background and relevant schemata- The teacher either "hooks into" or provides students with pertinent background knowledge and relevant schemata necessary for understanding a text. Background knowledge and schemata are then woven into the discussion that follows</p> <p>IC element #3: Direct teaching –</p> <p>when necessary, the teacher provides direct teaching of a skill or concept.</p> <p>IC element #7: Responsiveness to students’ contributions - while having an initial plan and maintaining the focus and coherence of the discussion, the teacher is also responsive to students’ statements and the opportunities they provide.</p>

<p>5. Questioning: producing a mental operation that the learner cannot or would not produce alone. This interaction assists further by giving the assistor information about the learner's developing understanding.</p>	<p>IC#4: Promotion of more complex language --the teacher elicits more extended student contributions by using a variety of elicitation techniques, for example, invitations to expand ("Tell me more about ____ "), questions ("What do you mean by ____ ?"), restatements ("In other words, ____ "), and pauses.</p> <p>How? Could be by modeling—this is intertwining.</p> <p>IC element #5: Promotion of bases for statements the teacher promotes students' use of text, pictures, and reasoning to support an argument or position. Without overwhelming students, the teacher probes for the bases of students' statements: "How do you know?" "What makes you think that?". "Show us where it says ____ ."</p> <p>or IC element#6: Few known answer questions- much of the discussion centers on questions and answers for which there might be more than one correct answer.</p>
<p>6. Explaining: providing explanatory and belief structure. This assists learners in organizing and justifying new learning and perceptions.</p>	<p>IC element #3: Direct teaching when necessary, the teacher provides direct teaching of a skill or concept.</p> <p>IC element #7: Responsiveness to students' contributions - while having an initial plan and maintaining the focus and coherence of the discussion, the teacher is also responsive to students' statements and the opportunities they provide.</p>

<p>7. Task structuring: chunking, segregating, sequencing, or otherwise structuring a task into or from components. This modification assists by better fitting the task itself into the zone of proximal development.</p>	<p>IC element #1: Thematic focus - the teacher selects a theme or idea to serve as a starting point to focus the discussion and has a general plan on how the theme will unfold, including how to “chunk” the text to permit optimal exploration of the theme.</p> <p>IC element #2 – Activation and use of background and relevant schemata- The teacher either "hooks into" or provides students with pertinent background knowledge and relevant schemata necessary for understanding a text. Background knowledge and schemata are then woven into the discussion that follows.</p> <p>IC element #2 is from the learner perception than teacher’s perspective</p> <p>At least 2 perspectives here- A) teacher end:</p> <p>Content/material design for the task & the pedagogy and how the teacher will activate/help with</p> <p>The teacher either "hooks into" or provides students with pertinent background knowledge and relevant schemata necessary for understanding a text. Background knowledge and schemata are then woven into the discussion that follows.</p> <p>B) learner IC#10: “General Participation including self-turn the teacher encourages general participation among students. The teacher does not hold exclusive right to determine who talks, and students are encouraged to volunteer or otherwise influence the selection of speaking turns.</p>
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Appendix H: Mapping of the Within Case Findings

Findings of case- based patterns of means of assistance & ICs						
Unit of Analysis 4:		Case A		Case B		Case C
	-Phase 1 of task: introduction of the task (reading/writing task) within multiple conversational episodes	<p>Pattern for using ICs within means #7 'task structuring' : <u>facilitated by</u> means#5 'questioning' <u>orchestrated by</u> IC element #1 'thematic focus' & IC element #2 'activation of background knowledge and relevant schemata' means#6 'explaining' & IC element #3: Direct teaching</p>	-Phase 1 of Task: Introduction of task objective (simple past), the phases, (listening, speaking, grammar) and their focus (sequencing)	<p>Pattern for using ICs within means#7 task structuring: <u>facilitated by</u> means#5 'questioning' <u>orchestrated by</u> : IC element #1 Thematic focus & IC element #2: Activation and use of background and relevant schemata. alternation between means#5. questioning, IC element #7: responsiveness to students' contributions and IC#4 promotion of more complex language IC element #3: direct teaching IC</p>	- classroom management (LMS & expectations)	<p>means#4 directing: "requesting specific action & IC element #3 direct teaching Addressing technology use, expectations, learning strategies and reason behind using them Pattern for using ICs within means #7 task structuring: <u>facilitated by</u> means#5 questioning <u>orchestrated by</u> IC element #1 thematic focus & IC element #2 activation and use of background and relevant schemata</p>

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			speaking phase: a recurrent pattern of ICs		-phase 1 of task: introduction: Focus: transition words and its relation to the different kinds of writing	Pattern for activation of background knowledge: IC element #3 direct teaching alternation between means#6 explaining, and means#5 questioning supported by IC element # 7 responsiveness to students' contribution & IC element #4 promotion of more complex language supported by
	Phase 2 of task: reconstructing missing parts (sentences of the reading text) within multiple conversational episodes	Pattern for assisting in reconstructing missing parts of text) (means#4 'directing' "requesting specific action. Directing assists by specifying the correct response, providing clarity and information, and promoting decision-making" (Followed, means#5 'questioning' ... and means#6 'explaining') IC element#5 "promotion of basics for statements or positions"	Phase 2: pre-listening task (speaking)	(pattern within task structuring for sequencing of past events in speaking phase): means#7 'task structuring' & IC element #1 Thematic focus IC element #2: Activation and use of background and relevant schemata. (means#5 questioning. Then, means#6 explaining) & IC element #3: direct teaching IC element #5 promotion of bases for statements, IC#4: promotion of more complex language, and IC element #7: responsiveness to students' contributions & (means#2. feeding back and means#4. Directing) – same cycle repeated	Phase 2: task execution: working on the assigned task(transition words & types of paragraphs	Pattern within eliciting correct answers from students after individually working on the assigned task (cognitive structuring: gradual reach to correct answer through elimination strategy) means#4 directing, followed by means#5 questioning & IC element #5 promotion of bases for statements IC element #7 responsiveness to students' contributions

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						and IC element #5 promotion of bases for statements
		<p>Pattern/recurrent cycle of assistance occurs in response to IC element#7 'responsiveness to students' contribution':</p> <p>IC element #3 direct teaching</p> <p>IC element#6: 'few known answer questions'</p> <p>& IC element #5 'promotion of bases for statements</p>				
		<p>Case A infusion of IC element#6 reflect their emphasis on topic selection and the discussions based on the concepts of "border, enclosure & extraction" that are urge for open discussion and multiple possible answers/similar to language construction that is generative and open to multiple possibilities of conveying meaning and structures.</p>	<p>Listening phase and its integrated grammar task</p>	<p>Pattern/recurrent cycle of assistance occurs in response to IC element#7 responsive to student contributions.</p> <p>within IC element #3 direct teaching followed by means#5 questioning weaving IC#4 promotion of <u>more complex language</u>, and IC element #5 promotion of bases for statements together.</p>	<p>CLEAR PATTERN in using questioning similar to Cases A& B in the type of ICs and means of assistance); but unique in the consistency throughout this phase-exact pattern with each item addressed through questioning to lead to an elimination of wrong meaning, explain (/teach &directing (IC element#3 direct teaching), feeding back (IC element #7 responsiveness to ss contribution) and closing up with modeling the correct answer. The same patter occur for the next addressed item being covered in the task.</p> <p>pattern of ICs clearly reflects using means # 5 questioning for negotiation of meaning leading to elimination of wrong meaning to gradually reach the correct answer. It embeds the use of IC#7 to be responsive to a confusion/error and cease "teachable moment" (case C participant) to clarify and give examples by using IC element #3direct teaching & means#2 feeding back. & also directing (means#4) and means# 1 modeling.</p>	

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					IC element #2: activation and use of background and relevant schemata for the next addressed item/meaning
				<p>Case B participant uses a similar pattern within IC element 3 – direct teaching that includes: the use of IC element#4 promotion of more complex language and IC element#5 promotion of bases for statements.</p> <p>Case B pattern targets more language production as aligned with the instructor’s belief of targeting more language production that models real world practice whenever possible and at any stage of the task. The prominence of using IC element #4 reflects the instructor’s belief in using ICs as mediation tool that creates opportunities for more language in use.</p>	<p>case C participant enacts a clear pattern characterized by the elimination of wrong answers, guided through various types of questions that reflect multiple use of IC elements mainly: responsiveness to students’ contributions, IC element#3direct teaching, explaining and the use of IC element#4 promotion of more complex language and, with a focus on IC element#5providing a basis for statements. As the purpose of the instructor is to provide a reasoning for decision-making (for paragraph type, meaning and use of transition words), such consistent pattern targets modeling metacognitive strategies for building a cognitive structure (Tharp& Gallimore, 1987) that leads to a more independent language production and self-assessment.</p>
	writing the sentences	A combination of IC element #3& direct teaching & means #6 explaining as a form of Means#1 modeling			

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	<p>-Within all the phases of the tasks and its all conversational episodes</p>	<p>IC element #9 'a challenging but non-threatening atmosphere'</p> <p>element#8. Connected discourse & IC# 10 'general participation including self-turn'</p> <p>These two IC elements are the umbrella under which all other means of assistance and IC elements are orchestrated.</p>		<p>element#8 connected discourse</p> <p>IC element #9 'a challenging but non-threatening atmosphere'</p> <p>IC#10: "General Participation including self-turn"</p>	<p>element#8 connected discourse</p> <p>IC element #9 'a challenging but non-threatening atmosphere'</p> <p>IC#10: "General Participation including self-turn"</p>
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Appendix I: Code Book

For each code in a qualitative research codebook, you want to include detail description of each code & an example. Keep track of the meaning of the codes and revisit them to refine when needed.

- Code definition
- Examples of what to include with this code

An example of a qualitative code book:

Behaviors

Type of behaviors observed during research analysis

Examples: Re-reading transcript, keeping track of good quotes, looking for patterns

Collaborating

When groups of researchers collaborate on the same project together

Examples: Working together as a team, co-analysis with clients.

Motivations

Motivations behind why people decide to use an analysis tool

Examples: saving time, staying organized, increasing transparency.

For stage 1, I adopted a deductive approach for initial coding. The deductive approach is used to get familiar with my data set. The priori codes used while using a deductive approach were derived from the focus of the data collection tool (the semi-structured interview) and 2 research sub questions addressed SubQ1 and SubQ2.

Then, I used an inductive approach to coding to develop an initial set of codes. During the first stage, I created a code book and used it to proceed with stage 2. Once the initial code set (first draft) has been established, I moved to stage 2 to conduct line by line coding. I then reviewed my data line by line, paying closer attention to the data and refining codes as well as updating the code definitions in the code book. I used the research journal to note down insights as I am coding data.

Method of coding: descriptive and values methods

Code: Beliefs and Assumptions about SLA/Language Learning/affordances: When the participant expresses opinions, attitudes, values, assumptions, theories, evaluative statements, related to language learning and/or teaching online.

Example: “I would say my favourite, you know, lexical category is conjunction, okay. And this, this goes into another theoretical element of threshold learning”.

Subcode: instructor’s belief on the effectiveness of video: instructor’s belief in the effectiveness of video for the visual affordance based on their personal learning style and/or the levels of learners.

Example: “imagine it's the same difference between watching TV and listening to the radio. Of course, you're more engaged with the TV, this is at least personally, because I am a typical visual learner. So, the visual elements mean a lot to me. So, I believe, it makes a great difference to many of the students as well”.

Subcode: instructor’s belief on the effectiveness of audio: The instructor’s belief that the use of audio/video is more effective for beginner/intermediate language level classes to give instruction and/or assist/explain for several reasons.

Example: “I feel with at least at least with the students from foundations to intermediate level, using oral instructions are more effective than then written ones because, first of all, not everyone can read fast. They will not follow up with reading. They might be slow; they might miss it. But listening to it, I feel it's more effective with this level”.

Subcode: instructor’s belief on language pedagogy: the instructor beliefs on effective language pedagogy

Example: “the centre really depends on engaging the students in the learning process. It’s not about lecturing at all”.

Sub-subcode: differentiated instruction: the instructor’s belief on using differentiated instruction through word choice/structure and adjustment of material to cater to the different levels of students in the same class: the instructor’s use of simple language that fits lower level (SLA/comprehensible input), and language that would challenge higher level students in the same class.

Example1: “grading your language with them is very important. Picking the words to put in the question is very important”.

Example2: “I have students who are higher level, but they are in my class as well. So, I need to challenge them. So, I use my language, I grade the language to fit on the levels in the classroom”.

Sub-subcode: cognitive preparation for target language: when instructor believes that prior to introducing target language, they need to engage students in an activity to prepare them cognitively about the target language.

Example: So now their minds are prepared, they already heard that it's not brand new

Sub-subcode: linguistic preparation for target language: when instructor believes that prior to introducing target language, they need to engage students in an activity as a trial/ modeling of how the target language is used.

Example: And when we start teaching and learning the target language, they are already prepared for it. So it helps them understand it better, they know how it was used.

Sub-subcode: knowing the students' levels and needs: the instructor's belief on the importance of know their student's levels, what they already know and their needs to be able to prepare and use the right pedagogy that fits and serves their learning.

Example: "everything depends on your class level, you have to know the level, you have to know what they know already. And you have to understand the needs of your students, you know how to ask the questions, what works best for them".

Sub-subcode: step by step approach for language retention: instructor's belief in the importance of a step-by-step approach to guide students learning by eliciting information gradually for the sake of language retention.

Example: when I elicit something rather than I would say spoon feeding it to them, it helps stick better to their brains they do not forget it as easily

Sub-subcode: metacognitive skills for learner agency: instructor's belief in modeling metacognitive strategies to help students recognize their language learning and build metacognitive skills to help them break linguistic norms coming from their L1 and check their own learning (learner agency to produce language independently).

Example: it develops the skill of them checking their own work. Whether it is oral production or written production, so it helps them think about how they check their work as well

Sub Code: Social emotional affect: instructor's statements related to learners' feelings, attitudes, online classroom atmosphere that influence language learning and pedagogy, (such as shyness, embarrassment, humor, laughter, sympathy, understanding and accommodating of emotions, surprise, stress, anxiety, dislikes, likes, confidence, pride, familiarity). These are related to the instructor's beliefs/assumptions regarding the importance of such affections in relation to language learning --- this could be grouped into positives and negatives—revisit and update (social emotional)

Example: "And that **familiarity**, can decrease some of the stress from a surprise moment"

Sub-subcode: social affect: instructor's belief in the importance of the social affect for language learning such as building a community, feeling connected, personalized learning or interfering with language learning such isolation, disconnect...

Sub-sub-subcode: building a rapport with students: instructor's belief in community building through personalized learning to make students comfortable and engage students in learning.

Example: "throughout the class use their names a lot. They are not just users. They're people. use their names to personalize learning"

Sub-sub-subcode: community building: strategies used that create or contribute to the social aspect for a group of learners online.

Example: "I think, recognising that those experiences are unique and valuable to share in the group, I've really noticed over time, that that builds comfort in a group of people who may not know each other and for maybe feeling differently about participating in an online class".

Sub-subcode: emotional affect: Instructor's belief in the importance of the emotional affect for language learning such as confidence, pride, content... or interfering with language learning such as anxiety...

Example: "Confidence is a huge part of language learning and using the language outside the classroom. If they don't have the confidence, they will not use it and it's useless".

Code: management: related to organizing, grouping, participation and turn taking regulations, expectations, pace of learning, activities order, task management,

Subcode: online classroom management: regulations to organize learners' behavior, participation and performance expectations, strategies to create a non-disruptive learning environment and encourage engagement and community building.

Example: "If the task is a lower-level challenge, I might not ask in a regular order, I might jump around. And one reason for that is to just ensure that people are not disappearing"

Sub-subcode: peer instruction for classroom management: instructor's use of peers to show others where to find grades, feedback ect.,

Example: "like how to check your grades. So what can we see this? Where can we see the feedback? To show the others? Another strategy that I use, I use other students to show. So using their peers".

Sub-subcode: expectations: instructor's expectations related to participations and engagement and why using different methods for participation

Example: "And for me, that's important to show that I'm not just looking for one right answer to satisfy me, but I'm interested in everybody speaking, sharing, supporting each other's

points, feeling like that approach in the classroom, like you don't have to say something new. But you can agree with another student. And that's, that's a useful participation”.

Sub-subcode: predictable participation: the way the instructor regulates participation in the online classroom in a predictable way by going through the list of attendees where everyone is asked to participate.

Example: “one is to do a regular go around for all the students on each question and to make sure that I hear from each student in a very consistent turn taking way”.

Sub-subcode: unpredictable participation: the way the instructor regulates participation in the online classroom in an unpredictable way by randomly calling on names to participate and not everyone would be asked to participate, randomly calling names (irregular turn taking) but still hears from everyone or by asking students who are interested to participate to give a sign they are interested and the instructor would make a short list from which they would select names.

Example: “And so that method of engaging is different than a consistent turn taking, but still values hearing from each student and keeps them on their toes”. Example 2: “For sure. Yeah, like a random randomised or shuffle”.

Sub-subcode: formative assessment for classroom management: Instructor’s use of formative assessment (use of questions) to assess student’s prior knowledge and use it for classroom management such as students grouping to balance different levels for group work in breakout rooms and keeping them alert, focused and engaged.

Example: “I sometimes also, when I asked these questions, and I see the students who know about the topic that we're going to teach, I keep that in mind when creating breakout rooms. So I make sure that for example, we do not all end up in the same breakout room to balance the power in each room”.

Subcode: Management of task: strategies used to regulate learners’ engagement while performing a task and based on the type of task.

Example: “what if we're going to do an exercise sheet and we're going to go through some answers that are not drawing from your personal experience, but more so performing a grammar-based task, I want to take an irregular order, but still hear from everybody”.

Code: Recognition of influential factors: related to instructor’s awareness, acknowledgement, and recognition of various factors influencing (contributing to or interfering with) language learning. Such factors include understanding of challenges, valuing prior experiences and knowledge, various cultures, and history as well as the instructor’s previous experiences and their role in the classroom and how they contribute to shaping their pedagogical choices for online language learning and teaching.

Subcode: Recognition of online classroom characteristics: statements related to the instructors’ recognition of characteristics of online classroom (**pros and cons**).

Example: “we're so disembodied in our online class”

Example: “but there's a high rate of response in a small group class, I've had maybe maximum eight students in my online courses for the past seven months. And that's wonderful in terms of participation”

Subcode: Recognizing Challenges:

Sub-subcode: recognizing language challenges: recognizing the challenges related to language proficiency, struggles with using the language, language as a barrier

Example: “that content exists for those learners already. And the challenge is expressing it”.

Sub-subcode: recognizing prior education: instructor's recognition of the learners' prior education and the ever-existing struggle they experience due to the new requirements of the Canadian system.

Example: “how there are so many people who go through the system of migration to Canada, their prior education is high level, and their opportunities and degree of recognition in Canada is limited. And that struggle, I think, is something that is an affect in the classroom that we're in more than it's never absent. It's always there”.

Sub-subcode: recognizing language and content challenge: instructor's recognition of the burden of learning new language and new content simultaneously.

Example: “I think that definitely an overwhelming experience for second language learners can be new language and new content at the same time”.

Sub-subcode: recognizing different students' levels challenge: the instructor's recognition of the existence of different levels of students in the same classroom for various reasons and the need to make decisions to facilitate learning for all levels.

Example: “you get different kinds of students in an online environment that you didn't think about it before; because of the way the placement test is done online such as technical issues or because students are not used to do it online so that are more stressed and couldn't speak during the test and they end up in a lower level than what they should be”.

Sub-subcode: recognizing students' engagement challenge: the instructor's recognition of their challenge to engage students in learning to have them follow, ask questions, and interact.

Example: “My biggest challenge is to get them to ask questions and as for help first”.

Sub-subcode: recognizing technology related challenges: the instructor's recognition of their students' challenge with use of technology.

Example: “There are definitely some affordances for doing things virtually but again it greatly depends on my group of students in terms of how tech savvy they are”.

Subcode: recognizing history: instructor's recognition of history related matters (imperialism, history of colonies and settlers, reflection of history of language variation...) and language instruction as well as its importance to integrate it in language learning/teaching.

Example: “Given that the classroom is so abstracted online, to keep topics and discussion and sharing grounded in people's material reality and those circumstances and history”

Subcode: recognizing instructor’s experiences: the instructor’s awareness and recognition of their prior teaching experiences and education (teaching, observations, motivations, knowledge from their education) and how they shaped their views about language learning/teaching and/or their current practice

Example: “so what I noticed in my role at a community centre, working with youth who were new to Canada and their families, is the extreme difference in investment in quality of language programmes offered in public for free to newcomers, and the difference in the post secondary systems for international students. And how much detail and level and support could potentially be offered to international students. And what I noticed was that it wasn't accessible in the same way to the community”.

Subcode: Recognizing instructor’s goal: instructor’s awareness of their goal with their learners which shapes their pedagogy.

Sub-subcode: support language learning through experiential learning

Example: “And so if my goal is to just support language learning, I would want to draw on this kind of experiential learning model and validate what process of learning has happened in the past for people and see how that might be translated as they learn a new language”.

Sub-subcode: student engagement through learner-centered approach

Example: “the centre really depends on engaging the students in the learning process. It's not about lecturing at all. So when I, when I did the CELTA course I learned a lot. And I saw how effective engaging the students in the learning process is to the students and to the to the teachers as well”.

Subcode: recognizing prior knowledge and experiences: instructor’s awareness, recognition and valuing learners’ prior experiences and knowledge and its role in learning a new language (English).

Example: “whether you're dealing with a specialised professional, or if somebody who is an expert on their own life experience, I would say that the recognition of the prior knowledge and the experience that everybody has, is a really critical element”.

Subcode: recognizing culture: instructor’s awareness, acknowledgment and understanding of cultural differences of learners and theirs and their value in the language classroom.

Example: “if my instructional conversations involve themes of performing culture shock, that is positioning me to look at the environment, whether it's linguistic or cultural, or historical as, as one that shocks me as well, then that's the way to build the kind of allegiance with the students that are coming here and experiencing such a combination of difference, right, it's the linguistic challenge, but underneath that so much cultural difference”.

Code: Overcoming challenges: The instructor's pedagogical decisions to respond to their awareness of the various challenges of their learners to effectively assist their language learning.

Subcode: use of various synchronous affordance for student engagement: instructor's use of various tools to engage students.

Example: "I would say like that is different in an online environment is that I try as I said, I try to use different tools. So either, I ask them, for example, to discuss first in a breakout room, and then bring it out to the **main room** for like further discussion. Sometimes, I use the Poll or I use the chat box. So I try to use a variety of ways."

Subcode: use of various synchronous affordance to accommodate various learners: instructor's use of various tools to accommodate various learners particularly but not limited to shy learners.

Example:" when I create breakout rooms, especially, you know, for **the warming up discussions**, introduces us to the topic, or **when we do a practice, Students feel more comfortable**, like many of them at least, like I'm not talking about all of them, of course, but many students feel more comfortable working, you know, smaller groups, and for **the poll**, for example, **I know some students like to participate** but they feel shy, they don't want to you to know that their answer is not correct in front of everyone. So I use the poll which **encourages them because the poll is usually anonymous.**"

Subcode: content selection: instructors' decision-making to respond to challenges through appropriate content selection.

Example: "also start with and particularly in online discussions with that sort of material reality that people are struggling with. Given that the classroom is so abstracted online, to keep topics and discussion and sharing grounded in people's material reality and those circumstances and history, I find it's useful because it's a foundation that people can speak to in their lives".

Subcode: topic selection: instructors' decision-making to respond to challenges through appropriate topic selection.

Example: "want to choose something that is a bit abstracted".

Sub-subcode: integration of culture: instructor's intentional use of topics that are related to culture

Example: "but also, it can bring this personal sharing about people's families and their ways of interacting with culture in a local and international sense".

Sub-subcode: topic interpretations: instructor's intentional use of topics that would generate multiple perspectives and various interpretations to create rich discussions (to allow for interlanguage to emerge hence be able to assist their learners with their language development).

Example: “I get a lot of value out of those subjects, because they're, the responses are really wide ranging”.

Subcode: strategies to overcome virtual affordances limitations: instructors’ use of various strategies to overcome the limitation of the virtual affordances to be able to assist their students such as: taking notes and/recognizing students’ voices during audio for more assistance in breakout rooms, taking notes when visiting breakout rooms to address them in main room with the whole class.

Example: “I take notes, and then after the breakout rooms, end I talk about it with the entire class, but I still feel it would be sometimes more effective if I could address it on the spot to all the groups”

Code: TASK related matters: matters related to the task (lessons/activities) design/preparation, types , goals and the process of working on tasks (activities) in class.

Subcode: task design/lesson preparation: the process of preparation of task/lesson/ (time, activity, steps, goal...)

Example: “it takes a long time to prepare but during class, time goes fast and the students are engaged and I saw how effective it is”.

Example: “when I plan my lesson, like for example, I divide my lesson into parts”

Sub-subcode: lesson division: instructor preparation of a consistent set of parts of lesson in each class (starting with speaking, then listening then grammar) where each part builds on the target language.

Example: “so when I plan my lesson, for example, I divide my lesson into parts.

Sub-sub-subcode: Gradual building of target language: when the instructor uses phases of gradual introduction of target language (through introduction of listening, then listening activity, then grammar) as a preparation of what is coming next.

Example: “then we move to the to a listening activity, where they listen to and it prepares them to what's coming ahead when they do the listening activity as well. So it prepares them to what's coming ahead. And the listening would have the target language in it. And then we move to the grammar part”

Subcode: common task types: the types of activities that are commonly used in the classroom.

Example: “I think a lot of the time, there might be a task that's about target vocabulary, or target verb tense, and that those type of gap fill tasks that would come on exercise sheets, that would be a common practice”.

Subcode: task building: instructor’s use of strategies to build on a given task/activity.

Example: “doing like an extension task from an exercise that is simple”

Sub-subcode: conjunction: instructor’s building on an activity through the use of conjunction.

USE OF ICS IN SYNCHRONOUS ESOL ENVIRONMENTS

Example: “What I like to build from there with is an extension that's really driven by conjunctions”.

Sub-subcode: projects: instructor’s use of projects to incorporate chunking, iteration and step by step building including assessment.

Example: “And being able to have dialogue based on the first iteration of a project, I think is really important because doing a practice presentation, or a draft of an essay or research essay as a, as a project step”

Sub-subcode: triple Venn diagram: instructor’s use of diagram in task design and discussions regardless of the type of task and topic to allow for rich discussions and multiple interpretation and opportunities for language use and production.

Example: “that's my main thing that I would share on a jam board is to say, here's three circles, take these three subtopics, or, you know, three quotes, or it's anything that we could put together in that overlapping circle setup”.

Sub-code: Immediacy of pedagogical decision-making: when instructor uses a part of the lesson as an assessment/having an idea of students’ knowledge about the target language and/or respond to a student’s contribution and make pedagogical decision on the go immediately or at a later stage in the lesson.

Example: “I start my lesson with the speaking part. And then try to extract some of the target language that I have in mind to teach for that day, from the students just to see what they know how they are using what the target language that I am planning to teach on that day”.

Sub-code: task type influencing use of ICs: when a particular task/activity/targeted skill type influences the instructor’s use of ICs.

Example: “especially with speaking, I use implicit feedback a lot. I resort to explicit feedback only when they repeatedly make the same mistake, and they cannot catch that it is actually something can be corrected”.

Code: Synchronous affordances: When instructor talks about using the affordances of the synchronous environment such as what, when how and why to use video/audio, private versus group chat, screenshare, jam board to assist learners.

Example: “And when I'm trying to build on a simple activity that I might share through a screen share of an exercise sheet, or a PDF that I dropped in the chat. I asked them to put their extended answers in the chat. And so that's where I get to see specific feedback from each student about how they understood where they're taking the new half of the sentence that is up to them”.

Subcode: use of chat: instructors decision-making on when to use private versus public (whole class) chat and for what purpose.

Example: “So that use of the private message in the chat, it does both of those things. So I'll say okay, like, everybody, you have 10 minutes to do this. But send it in the private chat, if

you are, you know, done early, so that it doesn't give the answers to the other students. But when I'm just asking for some sentences from everybody, and it's not this kind of time to like answer specific answer type of task, I'll often just say, Can I share your example with the rest of the class”.

Subcode: use of chat to regulate participation:

Sub-subcode: use of chat for technical skills: instructor's asking students to use chat to train them/overcome technical issues (typing faster).

Example: “Also I want them to type, you know, and also in the online environment, I want them to use the keyboard, they have to be fast using the keyboard”

Sub-subcode: use of chat for formative assessment and feedback: instructor's asking students to use chat to catch grammatical and spelling errors and/or to check student's understanding of such matters and provide feedback.

Example: “For example, for verb ending, like Ed or the whole point of changes. I want them to write in the chat. I want to catch some spelling mistakes. I can only do that through the chat”.

Subcode: use of polls: instructor's use of poll on the screen for classroom management (to ensure participation and/or students' engagement).

Example: “I use the poll on screen. So, for example. So, did you start walking home before it started to rain and then it will pop up on the screen yes or no?”

Subcode: use of screenshare: instructor's decision on when to use screenshare (for material) and/or jam board (for students to work on a particular activity) and for what purpose.

Sub-subcode: screenshare for visuals: instructor's use of screenshare to explain visuals (external resources such as google search for information, pictures for a lexicon definition...)

Example: “So I try to make sure I share my screen and go through those visual definition”

Sub-subcode: screenshare for peer instruction: after several attempts from the instructor and when student's fail to understand, the instructor uses peer instruction through screenshare to show/explain matters related to navigating the online LMS, finding information, working on an activity on a google document etc.,

Example: “I ask one of this is good with technology to share the screen and show the others what we're doing”.

Subcode: screenshare for PPTs and its interactive tools: the instructor shares PPT on screen while working on an activity/providing instruction/explaining and uses its interactive tools (annotation, underlining, highlighting, writing, deleting...) instead of chat.

Example: “I would write on the slide itself, like some explanations, I would just do it on the slide, use the annotations on the slide itself, I use the tools to write on the slide to underline certain things”.

Subcode: use of audio/video: instructor's use of audio/video only and/or simultaneously

with chat and other affordances.

Example: “And often I'll say, I've made some really small corrections. Notice, and I'll point them out verbally”.

Sub-subcode: audio for working on PPT and discussions: the instructor's use of audio to engage in discussions with students while simultaneously working on activity on a share PPT.

Example: “So, I feel like as if I'm using the word document, and the discussion is there the whole time, I rarely use the chat”.

Sub-subcode: video for gestures: instructor's keep their camera on/video to teach via using gestures.

Subcode: breakout rooms: the instructor's use of break out room for different purposes such as student's engagement, catering for shy students, working on warming up or practice...

Example: “I create breakout rooms, especially, you know, for the warming up discussions, introduces us to the topic, or when we do a practice”

Subcode: use of whiteboard: instructor's use of the virtual platform whiteboard they want to communicate something in writing to their students or to work/ explain.

Example: “If I want to write something for them to see, I would use the whiteboard”

Subcode: use of Synchronous LMS interface: when instructor asks students to use the LMS interface such as a thumb up as a classroom management technique.

Example: “and you know, whether their cameras off, they might still give this indication, and I can feel like they're participating and responding to a cue with something that is part of the Zoom interface”.

Code: Instructional Conversations Strategies: when the participant refers to using ICs to assist learners explaining and/or describing what they could do or say by questioning, making a statement, feeding back, use direct instruction, modeling, explaining, responding to students' contribution and/or why they are using ICs.

Example: “And so you're giving that ambiguous answer of oh, this is right. And this is also right. And then, at the at the same time, like to, you know, really show that there's, you know, within, like within that limitation of grammar, instructional discussion, on the content side, we can have a lot more flexibility to validate what the students are saying and say, you are contributing on topic. Thank you. Please continue doing that.

Sub-code: ICs for real-world practice: instructor's purpose for using of instructional conversations: to engage students in conversation as a practice for real-world situations/tasks and mediate their language learning.

Example: “I feel like using instructional conversations let's say you put more real-world situations, for the students to practice the language better, instead of using other ways.

So, using the instructional conversations is more like a real-world task because the purpose of their language learning is to use it outside the classroom”.

Subcode: conversations: strategies to initiate, facilitate, direct, assist, and navigate conversations

Example: “the sentence structure part is familiar, and it's been introduced, and the task of going off in the group to do it to share and participate in our, you know, group discussion”.

Sub-subcode: questioning: instructor’s use of questioning during conversations as a means to assist student’s learning and to keep them engaged.

Example: “Through the listening activity, when we look at the questions first, before we start the audio, they look at the questions. I discuss the questions with them. So it's always done through discussion, I always ask questions I ask and I take this is the idea”.

Sub-sub-subcode: Instruction Checking Questions (ICQs): instructor’s use of questions related to checking students’ understanding of the instruction for class work, ensuring everyone is on the same page and keep them alerted and engaged.

Example: “So, this helps the students to be more engaged, it helps me know that they know what we're doing, they understand what we're doing. And for other students who were not paying attention, it's just a repetition to what I just said”.

Example: “the instruction checking questions, help the students know what we're doing, stay engaged, stay up, because they know that we'll be asking a question at any moment. You know, it's helps them stay focused, because they want to be prepared to answer at any moment”.

Sub-sub-subcode: Concept Checking Questions (CCQs): instructor’s use of questions to guide student’s thinking and understanding of a language related concept following a step by step approach instead of providing the correct answer/definition...

Example: “the concept checking questions. They help a lot with teaching the target language. I'm sure you're familiar with concept checking questions for teaching grammar, so guiding the students through questions until you reach the target language, they really see the difference instead of just saying it right away”.

Sub-sub-subcode: questions for formative assessment: instructor’s use of questions as a formative assessment strategy to keep students engaged in learning online, to assess their prior knowledge and check their understanding.

Example: “So, I use a lot of formative assessments, I teach a bit and then oh, is it this or that? Do you think this is this or it is something else?”

Sub-sub-subcode: use of noticing hypothesis: instructor’s use of questions to assist their students and driven by the “noticing hypothesis” (cognitive, attention-driven perspectives) when asking questions/ rephrasing statements to bring students’ attention to a gap in their language output implicitly and/or explicitly.

Example: “I use a lot of implicit feedback, for example, my friends come on the weekend. Oh, they came to your house”.

Sub-sub-subcode: eliciting more contributions: the instructor's use of questions to elicit more/extended contributions for more language production from students.

Example: "For example, if they get stuck, for example, and didn't know what else to say. So, when they say, okay, my weekend was good. And I ask: Oh, really? Did you do something interesting? Oh, yeah, we went out Oh, really? Where did you go? Were you alone? Or with your friends? Oh, did you eat something? I try to, ask questions to help them to guide the conversation and direct the conversation and help them come up with more details".

Subcode: visualisation for learning: instructor's use of visualization as a main concept to assist cognitive and linguistic development such as planned/designed resources such diagrams or external resources websites that visualize language structures and/or concepts.

Example: "And the other part is, there's a really good website is called English grammar revolution.com. And it gives a very visual breakdown of what I'm talking about in terms of diagram of a simple compound, complex and compound complex sentences".

Subcode: embodiment: explaining using metaphors to explain language related concepts and demonstrate using body parts (such as shoulder...)

Example: "we're so disembodied in our online class, I try to say, our shoulder is a coordinating conjunction, and our elbow is at subordinate conjunction. And we could use one or the other, or we can use both, and we get more dexterity when we use both".

Subcode: repetition for clarification or language retention: the instructor's purposeful use of repetition and/or reminding about previously introduced knowledge combined with questioning to assist their students and to help them remember and retain the information.

Example: "Some students are fast in getting a point while others are slower so I use a lot of repetition".

According to Tharp and Gallimore (1988, 1991), there are seven means of assistance performance that had been long studied in behavioural and cognitive science as follows:

1. **Modeling:** offering behaviour for imitation. Modeling assists by giving the learner information and a remembered image that can serve as a performance standard.
2. **Feeding back:** providing information on performance as it compares to a standard. This allows the learners to compare their performance to the standard and thus allows self-correction.
3. **Contingency managing:** applying the principles of reinforcement and punishment. In this means of assistance performance, rewards and punishment are arranged to follow on behaviour, depending on whether or not the behaviour is desired.

4. **Directing:** requesting specific action. Directing assists by specifying the correct response, providing clarity and information, and promoting decision-making.
5. **Questioning:** producing a mental operation that the learner cannot or would not produce alone. This interaction assists further by giving the assistor information about the learner's developing understanding.
6. **Explaining:** providing explanatory and belief structure. This assists learners in organizing and justifying new learning and perceptions.
7. **Task structuring:** chunking, segregating, sequencing, or otherwise structuring a task into or from components. This modification assists by better fitting the task itself into the zone of proximal development. (p. 4)

Goldenberg's (1991) model of the ten elements of ICs comprises the following five instructional elements (#1 to 5) and five conversational elements (#6 to 10):

1. **Thematic focus:** the teacher selects a theme or idea to serve as a starting point to focus the discussion and has a general plan on how the theme will unfold, including how to "chunk" the text to permit optimal exploration of the theme.
2. **Activation and use of background and relevant schemata:** The teacher either "hooks into" or provides students with pertinent background knowledge and relevant schemata necessary for understanding a text. Background knowledge and schemata are then woven into the discussion that follows.
3. **Direct teaching:** when necessary, the teacher provides direct teaching of a skill or concept.
4. **Promotion of more complex language and expression:** the teacher elicits more extended student contributions by using a variety of elicitation techniques, for example, invitations to expand ("Tell me more about ____ "), questions ("What do you mean by ____ ?"), restatements ("In other words, ____ "), and pauses.
5. **Promotion of basics for statements or positions:** the teacher promotes students' use of text, pictures, and reasoning to support an argument or position. Without overwhelming students, the teacher probes for the bases of students' statements: "How do you know?" "What makes you think that? ". "Show us where it says ____ ."
6. **Few "known-answer" questions:** much of the discussion centers on questions and answers for which there might be more than one correct answer.
7. **Responsiveness of student contributions:** while having an initial plan and maintaining the focus and coherence of the discussion, the teacher is also responsive to students' statements and the opportunities they provide.

8. **Connected discourse:** the discussion is characterized by multiple, interactive, connected turns; succeeding utterances build upon and extend previous ones.
9. **A challenging but non-threatening atmosphere:** the teacher creates a "zone of proximal development" ... where a challenging atmosphere is balanced by a positive affective climate. The teacher is more collaborator than evaluator and creates an atmosphere that challenges students and allows them to negotiate and construct the meaning of the text.
10. **General participations including self-selected turns:** the teacher encourages general participation among students. The teacher does not hold exclusive right to determine who talks, and students are encouraged to volunteer or otherwise influence the selection of speaking turns. (p. 8)

Appendix J: Ethical Approval



CERTIFICATION OF ETHICAL APPROVAL

The Athabasca University Research Ethics Board (REB) has reviewed and approved the research project noted below. The REB is constituted and operates in accordance with the current version of the Tri-Council Policy Statement: Ethical Conduct for Research Involving Humans (TCPS2) and Athabasca University Policy and Procedures.

Ethics File No.: 24588

Principal Investigator:

Mrs. Chadia Mansour, Doctoral Student
Faculty of Humanities & Social Sciences\Doctor of Education (EdD) in Distance Education

Supervisor:

Dr. Debra Hoven (Supervisor)
Dr. Agnieszka Palalas (Co-Supervisor)

Project Title:

Instructional Conversation: Case studies of the perceptions and actions of TESOL teachers in synchronous environments

Effective Date: February 08, 2022

Expiry Date: February 07, 2023

Restrictions:

Any modification or amendment to the approved research must be submitted to the AUREB for approval.

Ethical approval is valid *for a period of one year*. An annual request for renewal must be submitted and approved by the above expiry date if a project is ongoing beyond one year.

A Project Completion (Final) Report must be submitted when the research is complete (*i.e. all participant contact and data collection is concluded, no follow-up with participants is anticipated and findings have been made available/provided to participants (if applicable)*) or the research is terminated.

Approved by:

Date: February 08, 2022

Michael Lithgow, Chair
Faculty of Humanities & Social Sciences, Departmental Ethics Review Committee