CHAPTER ONE

Theory and Approaches in Research into Interaction, Corrective Feedback, and Tasks in L2 Learning

The focus of this book is explaining how to do research that examines the relationships amongst interaction, feedback, tasks, and second language learning. The book begins, in the current chapter, by talking about some of the theoretical underpinnings for this sort of research, before moving to practical considerations in the subsequent chapters, including how to design studies, the many ways of collecting, coding, and analyzing data, and what sort of issues and fixes for them can arise in research on how interaction, feedback, and task research may contribute to second language learning.

Although there are a number of different theoretical foundations for doing research in interaction, feedback, and task-based learning, this brief review begins with the paradigm that has been central to the majority of work in these areas, known as the cognitive–interactionist paradigm, or also as simply the interaction approach. This perspective posits that second language acquisition research in interaction and corrective feedback is concerned with how aspects of language can be learned through the various processes and products of interaction, including input, output, and feedback. These processes are commonly brought together through communicative tasks which are frequently used in second language research as well as in task-based instruction. The origins of this line of research into second language interaction and corrective feedback are usually traced back to Long's (1981) original interaction hypothesis, which has evolved over time to reflect a more expanded concept of interaction (see Long, 1996, 2015; Mackey, 2012a). The interaction hypothesis now encompasses how interactional processes create learning opportunities for language learners including the mechanism by which corrective feedback can be utilized to promote modification of learners' linguistic output and L2 learning. More recently, the interaction hypothesis has become known as an approach and has evolved and expanded such that in addition to the originally primarily cognitive and information-processing focus, "social factors are now regularly considered and researched as a part of the agenda" (King & Mackey, 2016, p. 211). Despite these different iterations of the

definitions and scope of the interaction approach over time, the area of primary research interest remains the same – L2 learners' acquisition of language through interaction, which includes corrective feedback as well as modified input and output, and which is often realized through communicative tasks whether for research or practice.

From its roots in the 1970s, second language interaction and corrective feedback research has increased exponentially. Almost a decade ago, there were reports that the number of publications in this field had tripled since the 1980s (Plonsky & Gass, 2011), and over the last ten years this has increased even more, such that an increasing number of papers, books, and conference strands have now led to book series, special issues of journals, and even a dedicated professional organization and conference (The International Association for Task-Based Language Teaching, and its biannual conference, as just one example).

While studies in the 1980s primarily focused on whether there was a positive relationship between second language interaction and production gains, the empirical focus moved towards an emphasis on the direct assessment of learning outcomes in the mid 1990s. In the 1980s the mainstream research practice was cross-sectional investigation, with the field expanding in the 1990s to include a body of pre-test/post-test studies that directly addressed the interaction–learning relationship. Further growth of interaction–acquisition research was characterized by a move towards mainstream theoretical status (Gass, 1997; Gass & Mackey, 2006; Long, 1996; Mackey, 1999; Mackey et al., 2012; Pica, 1994). One example of its increasing reach has been the expansion of interaction work to include technology applications through computer-mediated communication (CMC) (Sachs & Suh, 2007; Smith, 2012; Ziegler, 2016).

In parallel to interaction work, task research began to take off with early definitions of task by Long (1985) and later ones by Long (2015, 2016), Long, Lee, and Hillman (2019), Skehan (1998), and Ellis (2003) as scholars and practitioners came to recognize tasks both as effective for research and as pedagogic tools within lessons and a guiding principle for developing syllabi (Long, 2015; Long & Robinson, 1998). Significantly, as compared to other approaches to language teaching that have fallen in and out of favor, task-based language teaching is distinguished by being based in syllabi grounded in the real-world (authentic) daily tasks a specific group of learners needs to accomplish in their second language. This approach to using tasks in L2 instruction has a number of theoretical underpinnings, ranging from focus on form (Long, 2000, 2015) to the

cognition hypothesis (Robinson, 1995) and makes a number of specific, testable, and empirical claims, for example, in relation to task complexity (Robinson, 2007). Other approaches to tasks in instruction also exist, and full discussions can be found in excellent overviews like Bygate (2015), Bygate, Norris, and Van den Branden (2015), and Ellis, Skehan, Li, et al. (2019).

Just as tasks in language learning have been studied and used from different perspectives, interaction and feedback have also been considered in approaches other than the interactionist one. For example, sociocultural theorists (Lantolf et al., 2015) believe, based on Vygotsky's pioneering work, that developmental processes occur as a part and result of participation in cultural, linguistic, family, peer group, school, and other interactions and language learning is part of this. Studies of interaction, feedback, and tasks conducted in this paradigm use many of the same materials and methods as the ones carried out from the interactionist perspective, although the emphasis of many of them tends to be production rather than development. A number of interesting studies in this line of research have been carried out by Swain and her colleagues investigating how second language learners, often in classrooms, can progress their language learning by talking, either in the L1 or L2, about features of the new language (Swain & Lapkin, 2002; Swain et al., 2009). Other approaches include language socialization, which focuses on how learners become members of a target-language group including, for example, classroom communities or second language learner communities. Learners' and teachers' identities are increasingly a focus of studies investigating beliefs. Investigations into the role of interaction, feedback, and tasks in L2 learning from the perspective of language socialization often take ethnographic or interpretative approaches to the collection and analysis of data, but mixed methods are also sometimes seen in this sort of research, hence, some of the methodologies described here may also be of interest to researchers grounding their work in socialization approaches. Duff (2012) provides an excellent overview of work in this area.

Turning back to the approach that underpins the majority of work described in this book, the cognitive–interactionist paradigm, it is interesting to note that while interaction and feedback had been measured or valued in terms of their effectiveness on linguistic development since the mid 1990s, task-based language teaching was, until relatively recently, most frequently measured by changes to fluency, accuracy, and complexity, or simply put, production as opposed to development. However, over

the last decades that has changed, with task studies, like interaction and feedback research, focusing on actual learning outcomes as well as changes in production. Currently, there are many hundreds of primary studies of interaction, corrective feedback, and tasks as well as an increasing number of syntheses and meta-analyses.

Accompanying this primary work and development of the approaches and underpinning for the theory, there have also been important innovations in research methods. Sometimes methodological advancement has driven theory and sometimes vice versa, which is quite typical in the social and psychological sciences in general. In the 1980s and 1990s traditional types of instruments and data collection methods tended to be recycled from study to study, and particular research questions and methods for addressing them showed a number of similarities across studies. This had one major advantage in that comparisons could be made of research that used similar or identical methods.

Over the last ten years in particular, though, methodologies have expanded and advanced, often driven by developments in technology and influenced by researchers who came to the area with a deeper understanding of fields like psychology, sociology, education, and even neuroscience.

With these developments, there has been a dramatic increase in the number of texts on the topic of research methodology in the general field of SLA (e.g. Mackey & Gass, 2016; Phakiti et al., 2018). Some have examined specific domains of second language research such as child language (Hoff, 2011), narratives (Barkhuizen et al., 2014), priming (McDonough & Trofimovich, 2008), replication (Porte, 2012), psycholinguistics (Jegerski & Van Patten, 2013), and qualitative methods (Zacharias, 2012). However, despite being one of the most researched areas in SLA (Plonsky & Gass, 2011), the interaction approach, including research on feedback and tasks has, until now, lacked a book specifically covering research methodology in the area.

1.1 The Scope of This Book and the Inclusion of New Data

This book fills that gap by focusing on research methods in the three distinct but inter-related areas of second language acquisition: research on interaction, corrective feedback, and task-based language learning. One of the ways it does this is to include evidence from new data taken from two different studies that illustrate and exemplify various points and trends, including (a) a quantitative, experimental study of cognitive creativity, which shows how these three areas are related while driving

forward the field's understanding about individual differences in inter-action and feedback-driven learning via tasks, and (b) a qualitative, descriptive study that exemplifies how knowledge about interaction, feedback, and task-driven second language learning can be shaped by the methodology used.

The book is designed to be both a reference and a guide for students, teachers, scholars, and anyone who is interested in conducting or appraising research on interaction in second language learning contexts, corrective feedback, and tasks. Written to be reader-friendly, features include highlighted boxes asking readers to pause and consider related questions, or read an article under discussion, together with key points highlighted as memory aids, charts, and graphics. By the end of the book, readers should have a good understanding of how key findings in the separate related areas of interaction, feedback, and task research have been obtained, as well as how these areas fit together, and, most import-antly, feel confident in choosing amongst the various options and using them to carry out research in these three areas.

1.2 Theoretical Background

There are already a considerable number of published overviews of theories and research related to the topic of interaction in SLA, pub-lished in handbooks, in encyclopedias, in theories of SLA texts, and in standalone books (for just a few examples, see García Mayo & Alcón Soler, 2013; Gass, 2010; Mackey et al., 2012; Mackey, 2012a). These overviews provide comprehensive summaries of the theory in the fields of interaction, corrective feedback, and tasks, including reviews of sem-inal works in the field. Rather than repeating such efforts, the current chapter briefly outlines key aspects of the cognitive–interactionist approach that are of interest, based on the different methodologies and instruments presented in this book, and then discusses some of the many places where interaction, corrective feedback, and tasks have already been thoroughly overviewed and explained, where readers are encour-aged to go on to learn more about theory in the field of interaction, feedback, and task research. The focus of the rest of this book is on providing the information and tools needed to conduct a particular research project. Each section of the current chapter, then, concludes with open areas of research that I believe are ripe for new empirical investigations, presented to inspire new research projects for researchers to keep in mind as they read the remainder of the book.

1.3 Interaction Research

Research into interaction and its potential for affecting second language learning is based on investigations of the kinds of linguistic input learners receive, and the output they produce. Krashen's (1977) input hypothesis suggested that access to comprehensible input under facilitative conditions would support L2 acquisition. Swain's (1985) output hypothesis proposed that learners also needed to produce the new language in order to learn it effectively. Long's (1980) interaction hypothesis suggested that SLA is facilitated by conversational interactions where learners have to negotiate for meaning and receive corrections of their productions. Schmidt (1990) added that learners need to consciously notice linguistic features in the input in order to acquire them. Table 1.1 presents some of the seminal articles that helped define key aspects of the interaction approach.

Since the inception of this approach to SLA, hundreds of empirical investigations and several meta-analyses have connected interaction to successful L2 development (see, for example, Keck, et al., 2006; Li, 2010; Lyster & Saito, 2010; Mackey & Goo, 2007; Russell & Spada, 2006; and see Chapter 6 on meta-analysis for more details).

Overviews and reviews of work in interaction are available in a variety of handbooks and encyclopedias.

Table 1.1 Foundational articles for the interaction approach to SLA

Topic	Subtopic	Authors
Input	Input hypothesis	Krashen (1977, 1980)
	Comprehensible input	Long (1985)
Output	Output hypothesis	Swain (1985)
	Modified output	Swain (2005)
Negotiation for meaning	Corrective feedback	Carroll & Swain (1993)
	Interaction hypothesis	Long (1980, 1996)
		Gass (1997)
		Pica (1994)
		Mackey (1999)
Noticing	Noticing hypothesis	Schmidt (1990)

Read It!

García Mayo, M. D. P. & Alcón Soler, E. (2013). Negotiated input and output /
interaction. In J. Herschensohn & M. Young-Scholten (Eds.), *The Cambridge
Handbook of Second Language Acquisition* (pp. 209–229). Cambridge University Press.

"This chapter is organized as follows: Section 10.2 presents a historical
overview of the origins of research on the role of learner interaction in
language learning, where we will refer to the seminal work by Hatch
(1978b) and Long (1980, 1981) and the latter's important revision of the
Interaction Hypothesis (Long 1996). Section 10.3 describes the major theoretical constructs of input, output and feedback and illustrates how interaction
is argued to facilitate learning by providing contexts in which learners are
exposed to L2 input and are "pushed" (Swain 2005) to make their output
more accurate. Interaction also provides learners with an opportunity to
negotiate meaning and form with their conversational partners and to receive
feedback in response to difficulties that might arise during conversational
exchanges. Both negotiation and feedback have been shown to play an
important facilitative role in language learning (Mackey, 2006; see also Chapters 29 and 30, this volume). Section 10.4 considers several factors that
influence conversational interaction and Section 10.5 concludes the chapter,
highlighting lines for further research within the IM" (p. 210).

Note that these authors refer to the theory as the "Interaction Model (IM)"
rather than the "interaction approach."

Read It!

Mackey, A., Abbuhl, R., & Gass, S. M. (2012). Interactionist approach. In
S. Gass & A. Mackey (Eds.), *The Routledge Handbook of Second Language
Acquisition* (pp. 7–23). Routledge.

"In the 30 years since the initial formulation of the Interaction Hypothesis (Long,
1980, 1981), there has been an explosion of studies investigating the ways in
which interaction can benefit second language acquisition (SLA), with the most
recent work documenting its evolution from hypothesis to approach (Gass &
Mackey, 2007a). This review begins with an overview of the historical background of the interactionist approach and then discusses the core issues surrounding it, examines some of the ways in which data are collected in this area
of SLA, and explores the practical applications of the approach. Directions for
future research will be addressed in the final section" (p. 7).

Read It!

Gass, S. M. (2010). Interactionist perspectives on second language acquisi-tion. In R. B. Kaplan (Ed.), *The Oxford Handbook of Applied Linguistics* (2nd ed., pp. 217–231). Oxford University Press.

"This article analyses the idea of second language acquisition from an interactionist perspective. The field of second language acquisition has been studied from many angles. This broad scope is due in part to the myriad disciplinary backgrounds of scholars in the field. This article deals with the interactionist perspective and, as such, is primarily concerned with the environment in which second language learning takes place. It is important to note from the outset that this perspective is by and large neutral as to the role of innateness. In other words, it is compatible with a view of second language acquisition that posits an innate learning mechanism; it is also compatible with a model of learning that posits no such mechanism. This article deals with interactionist approaches focusing on how learners use their linguistic environment to build their knowledge of the second lan-guage. To summarize, the interaction approach considers production of language as a construct important for understanding second language learning" (p. 217).

Read It!

Gass, S. M. & Mackey, A. (2006). *Input, interaction, and output: An overview. AILA Review, 19*(1), 3–17.

"This paper presents an overview of what has come to be known as the Interaction Hypothesis, the basic tenet of which is that through input and interaction with interlocutors, language learners have opportunities to notice differences between their own formulations of the target language and the language of their conversational partners. They also receive feedback which both modifies the linguistic input they receive and pushes them to modify their output during conversation. This paper focuses on the major constructs of this approach to SLA, namely, input, interaction, feedback and output, and discusses recent literature that addresses these issues" (p. 3).

You can also find shorter, more concise overviews of the interaction approach to SLA in encyclopedias such as the *Encyclopedia of Applied Linguistics*.

Read It!

Mackey, A. & Goo, J. (2012). Interaction approach in second language acquisition. In C. Chapelle (Ed.), *The Encyclopedia of Applied Linguistics* (pp. 2748–2758). Wiley-Blackwell.

"The interaction approach to second language acquisition posits that learners can benefit from taking part in interaction because of a variety of developmentally helpful opportunities, conditions, and processes which interaction can expose them to. These include input, negotiation, output, feedback, and attention." [Topics covered] "Input, negotiation for meaning in interaction, output in interaction, feedback in interaction, and noticing, attention, and working memory in interaction research. The entry also includes examples from data for each topic" (p. 2748).

Read It!

Abbuhl, R., Mackey, A., Ziegler, N., & Amoroso, L. (2018). Interaction and learning grammar. In J. I. Liontas (Ed.), *The TESOL Encyclopedia of English Language Teaching* (pp. 1–7). Wiley-Blackwell.

"This entry discusses the interaction hypothesis and how input, output, feedback, and attention are believed to facilitate the acquisition of second language (L2) grammar. Following a brief overview of the central tenets of the approach, the entry addresses recent research on the role of interaction, including negotiation for meaning and corrective feedback, and how empirical findings might be practically applied in the L2 grammar classroom" (p. 1).

There are also several books dedicated to the interaction approach and its implications for research in SLA, which give useful overviews.

Read It!

Mackey, A. (2012a). *Input, Interaction, and Corrective Feedback in L2 Learning*. Oxford University Press.

"The question of how interaction and corrective feedback affect second language (L2) learning has increasingly attracted the interest of researchers

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in recent years. This book describes the processes involved in interaction-driven second language learning and presents a methodological framework for studying them. A substantial amount of research on interaction has been carried out over the past two decades; the author provides a timely, comprehensive, and up-to-date survey of this significant body of work. In particular, she explores the recent growth in research into the role of cognitive and social factors in evaluating how interaction works. Researchers, research students, and all those working within the field of second language acquisition will find this book an authoritative and valuable resource" (Back matter).

Read It!

Gass, S. M. (2017). *Input, Interaction, and the Second Language Learner* (2nd ed.). Routledge.

"The volume provides an important view of the relationship between input, interaction, and SLA. In so doing, it should prove useful to those whose major concern is with the acquisition of a second or foreign language, as well as those who are primarily interested in these issues from a pedagogical perspective. The book does not explicate or advocate a particular teaching methodology but does attempt to lay out some of the underpinnings of what is involved in interaction – what interaction is and what purpose it serves. Research in SLA is concerned with the knowledge that second language learners do and do not acquire, and how that knowledge comes about. This book ties these issues together from three perspectives: the input/interaction framework, information-processing, and learnability" (p. i).

Other volumes explore specific interlocutors for interaction such as peer-to-peer interactions and the potential benefits for SLA.

Read It!

Philp, J., Adams, R., & Iwashita, N. (2013). *Peer Interaction and Second Language Learning*. Routledge.

"*Peer Interaction and Second Language Learning* synthesizes the existing body of research on the role of peer interaction in second language learning