Section I: Inquiry

1 How to ACE the Research Process

Guiding Questions:

1. What is research?
2. Have you conducted research before?
3. What are some topics you want to explore in your own classroom or future classrooms?
4. What are the main steps in the research process?

All research comes from a place of inquiry, ongoing questioning to better understand a phenomenon of interest in the world. This notion is described by Wolcott (1992) as 'idea-driven research' (p. 7). Research by and for language teachers can be applicable, collaborative and empowering: ACE. If you choose to do research in your language classroom, it is frequently because you are interested in finding out more about how to do your work more effectively. By engaging wholeheartedly in the process of inquiry (Graziano and Raulin, 2012), you can then *apply* your research findings to fostering a classroom environment that matches your language-teaching philosophy. The research process can also be *collaborative*. At the very least you are collaborating with members of your community of practice through reading and citing relevant literature, and at most you can discuss and work with other practitioners on research that is based on your interests. This means that you are never truly on your own when engaging in teacher research. The research process can be *empowering* in that you are able to capitalize upon your curiosity in order to

contribute to your immediate environment, as well as to the field of language education more broadly. As teachers, you are knowledge producers in the realm of language education research. In this book, my goal is to provide you with a range of approaches that can facilitate your development of the knowledge, skills and attitudes associated with *applicable*, *collaborative* and *empowering* language education research. The book highlights strategies for developing a **research disposition**, an approach to professional practice that involves continuous inquiry, responsiveness and change.

This book will focus on inquiry, the ongoing critical questioning of a phenomenon of interest; the research process, the 11 steps of which are included below; and synthesis, the bringing together of multiple threads of argument. We will discuss research-shaped practice, informed by existing literature and also by research conducted by teachers themselves. This book provides language teachers with the **methodological toolkit** to engage in the process of inquiry (Graziano and Raulin, 2012) involved in conducting language classroom research (cf. Burnaford, Fischer, and Hobson, 2001; Fichtman Dana and Yendol-Hoppey, 2014; Higgins, Parsons, and Bonne, 2011). The book will take as its starting point those questions that you as language teachers inquire about in your daily practice and will then provide the tools for selecting the research methods that are appropriate to answer those questions.

Second Language Classroom Research

Second language classroom research is a growing field in applied linguistics (cf. Allwright and Bailey, 1991; Bailey and Nunan, 1996; Chaudron, 1988; Nunan and Bailey, 2009; Seliger and Long, 1983; Tarone, Gass and Cohen, 1994). It is important for all language teachers to learn from existing research so that it may inform their practice and also to engage in research themselves in order to contribute to their own and broader bodies of knowledge on central topics in the field (cf. McDonough

and McDonough, 2014). The similarities and differences among classroom, teacher and action research (Bailey, 2014; Nunan and Bailey, 2009) are essential for teachers to grasp as a framework for situating their own research inquiry. Classroom research is conducted in classrooms and teacher research is conducted by teachers (on/in different contexts) (Nunan and Bailey, 2009). Action research is 'a form of research designed for practitioners that allows teachers, for example, to research practices, schools, students, communities, curriculum, and so on, for the purpose of improving their professional work' (Kincheloe, 2008, p. 20). In addition, Schachter and Gass (1994) highlight some of the central issues involved in conducting classroom research, which teachers should be aware of, including collaboration, combining pedagogical soundness and experimentally acceptable **practices**, political and social decisions that may interrupt the research, and sharing the results.

A merging of teacher and researcher expertise, skills and interests shape much of this book's focus. As Seliger and Long (1983) note, 'Good language teachers have always acted like researchers, realizing that language teaching and learning are very complex activities which require constant questioning and the analysis of problematic solutions' (p. v). They also highlight the fact that 'the language teacher and the researcher share the same goal: understanding what is involved in the process of second language acquisition' (ibid., p. vi).

This book will provide you with approaches to conducting research focused on both **ideologies** (belief systems) and practices (daily behaviours). It provides language teachers with a range of tools to investigate both what individuals and communities *believe* and what they *do* in diverse contexts. Taking an ecological approach (cf. van Lier, 2004) to language teaching, this book acknowledges the broader systems of which language classrooms are a part. For example, as opposed to focusing on one classroom and its students, some chapters will present tools for collecting data from other teachers, administrators and stakeholders within larger school systems. You can also use the book's material to focus on data using traditional

language modalities, as well as digital literacy, texting, blogging and other multimodal literacies (cf. Vaish and Towndrow, 2010) in language classrooms and blended learning environments (cf. Tomlinson and Whittaker, 2013; Nunan and Bailey, 2009, pp. 20–21). This broadening of what counts as language learning research, beyond a focus on 'classrooms' (cf. Benson & Reinders, 2011), can allow language teachers in diverse contexts to adapt the materials for their own purposes.

The Research Process

The book is organized into four sections: Inquiry, Data Collection, Data Analysis and Bringing It All Together. Each section will provide you with reflections and activities to complete while you learn about the 11 steps in the research process (Fig. 1.1). Please note that these steps do not have to be followed in the order implied by the sequencing. Also, especially in naturalistic research, many of these steps are recursive. For example, you may begin collecting data and then realize you need to read up on a particular topic before engaging in analysis.
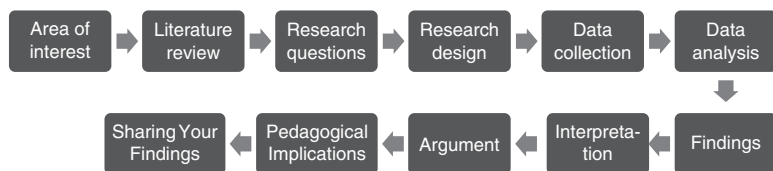
Figure 1.1   The Research Process

1. Establishing an area of interest ('topic': e.g. focus on form, interaction in asynchronous online environments)
2. Conducting a literature review (methods, gap, state of field): peer-reviewed articles and books, blogs, documentaries, reports, other institutions' reports and materials, personal communication
3. Developing research questions (inductive/deductive)
4. Selecting an appropriate research design (methods; e.g. questionnaires, interviews, focus groups, observations)

5. Data collection (e.g. piloting, sample selection)
6. Data analysis (interpretive, statistical)
7. Identification of findings
8. Interpretation of the analysis
9. Building an argument ('intended to persuade') (findings, compare to other literature)
10. Identification of implications (now what?)
11. Sharing of findings (e.g. articles, conferences, social media, reports)

The book focuses on creating a clear process and rationale for the design and the carrying out of **empirical** (data-based) research. Different chapters focus on the creation of research questions, inductive and deductive research, quantitative and qualitative data and data collection and analysis.

World Views Underpinning Research Methodological Choices

Every methodological choice in research is shaped by our views of the world. For example, do I believe that there are multiple truths, or that there is only one? Do I believe that individuals construct their realities, or that there is a unified reality independent of our perceptions of it? Mills and Birks (2014, p. 20, Table 2.1) provide a useful overview of research paradigms and their associated characteristics. They note that *positivism* "asserts the existence of a single reality that is there to be discovered" (p. 20). *Postpositivism* 'rejects the concept of a measurable reality that exists in isolation of the observer' (p. 20). *Postmodernism* 'posits that the reality of a phenomenon is subjectively relative to those who experience it' (p. 20). *Critical theory* 'seeks to redress societal injustices through research' (p. 20). *Constructivism* 'recognizes that reality is constructed by those who experience it and that research is a process of reconstructing that reality (p. 20).

Creswell (2014, p. 5) also discusses the interconnectedness of philosophical world views with research design and methods. He notes that a 'transformative worldview' holds that research inquiry needs to be intertwined with politics and a political

change agenda to confront social oppression at whatever level it occurs (Mertens, 2010)' (Creswell, 2014, p. 9), which is similar to critical theory in Mills and Birks' typology. He also adds *pragmatism*, which is focused on 'actions, situations, and consequences. … [T]here is a concern with applications – what works – and solutions to problems (Patton, 1990)' (Creswell, 2014, p. 10). As you consider how you might approach your own research, it is important to continuously question how your methodological choices may be shaped by your own world views.

REFLECTION 1.1

Which of the 5 world views listed above do you adhere to most closely? Why do you think that is? What experiences and interactions have helped to shape your world views? In what ways, if any, do you think these world views might have an impact on your research? Share your thoughts with a colleague if possible.

Diverse Research Approaches

A methodology is 'a particular social scientific discourse (a way of acting, thinking, and speaking) that occupies a middle ground between a discussion of methods (procedures, techniques) and discussions of issues in the philosophy of science' (Schwandt, 2007, p. 193). See Brown 2004, p. 496, Figure 19.6, for standards of research soundness continua for primary research and Creswell 2014, p. 18, Table 1.4, for qualitative, quantitative and mixed methods approaches.

Nunan and Bailey (2009) discuss two main research traditions: psychometric, in which 'the aim is to test the influence of different variables on one another' (p. 6), and naturalistic, in which 'the aim is to obtain insights into the complexities of teaching and learning through uncontrolled observation and description' (p. 7). They further highlight Grotjahn's (1987)

discussion of the three aspects of research (p. 11): the design (experimental, quasi-experimental and nonexperimental), the data collected (quantitative or qualitative) and the type of analysis (statistical or interpretive). Though there are two 'pure' forms (psychometric – experimental design, quantitative data, statistical analysis – and naturalistic – nonexperimental design, qualitative data, interpretive analysis), a researcher could combine aspects of their framework to 'yield six mixed or "hybrid" forms' (p. 11). Generally speaking, the naturalistic paradigm is based on a constructivist world view, whereas the psychometric paradigm is based on a positivist or postpositivist paradigm.

Approaches to qualitative data collection include narrative research, phenomenology, grounded theory, ethnography and case studies and approaches to quantitative data collection include experimental and nonexperimental (Creswell, 2014, p. 12). Mixed methods may be convergent, explanatory sequential, or exploratory sequential (Creswell, 2014, p. 12). One might collect qualitative data through interviews, focus groups and reflections, with quantitative data being based on measures of test scores and Likert scale responses. Brown (2004, p. 490, Figure 19.5) provides a useful summary of the primary research characteristics, which has more complexity than the Grotjahn (1987) paradigm. Though in general the book will employ Grotjahn's (1987) paradigm, at times the Brown (2004) typology may be useful for you as well if further details or complexity are needed.

Brown notes that there are three main types of primary research: interpretive research (case studies, introspection, discourse analysis, interactional analysis, and classroom observation), survey research (interviews, questionnaires), and statistical research (descriptive, exploratory, quasi-experimental, experimental). He also highlights a quantitative–qualitative continuum spanning from qualitative–exploratory to quantitative–statistical. Below is a list of twelve features of these various research approaches (Brown, 2004, p. 490):

1. Data Type (Qualitative – Quantitative)
2. Data Collection Methods (Non-Experimental – Experimental)
3. Data Analysis Methods (Interpretive – Statistical)

4. Intrusiveness (Non-Intervention – High Intervention)
5. Selectivity (Non-Selective – Highly Selective)
6. Variable Description (Variable Definition – Variable Operationalization)
7. Theory Generation (Hypothesis Forming – Hypothesis Testing)
8. Reasoning (Inductive – Deductive)
9. Context (Natural – Controlled)
10. Time Orientation (Longitudinal – Cross-Sectional)
11. Participants (Small Sample Size – Large Sample Size)
12. Perspective (Emic – Etic)

These features can provide a useful heuristic for determining the details of your research design as you plan out your own research projects.

REFLECTION 1.2

Based on your existing knowledge of research (from previous classes, research projects, literature reviews, etc.) which of the terms above are you familiar with? Which are you curious to know more about? Based on what you already know about research approaches where would your ideal research would fall along the continua listed above? Why? Share your thoughts with a colleague if possible.

A Note about Research Methods

Many discussions of research methods encompass false dichotomies (quantitative/qualitative (for more on this, see Brown 2004, p. 488), ideologies/practices, deductive/inductive). Though at first it may be useful to distinguish these various aspects of research, it may be even more helpful to think of these concepts as spectrums (see also Reichardt and Cook, 1979, p. 10, for a comparison of qualitative and quantitative research paradigms, reproduced in Brown, 2004, p. 487). For example, questionnaires can involve the collection of qualitative and quantitative data,

as well as interpretive and statistical analysis. One can use interviews to talk about ideologies and also report on practices and decision making. Observation may help us understand ideologies, identities and practices. There are deductive–inductive hybrid research designs. And frequently, the strongest arguments involve synthesis, connections and triangulation among multiple research methods, all of which relate back to one's research question. One way to think through all of this complexity is to create a research proposal that helps solidify your plans and interests, which you can share with a colleague or mentor (cf. Paltridge and Phakiti, 2015, pp. 272–273). The process of receiving feedback on your proposal is a critical step in the research process and can help you to understand your research plan and details from another point of view. This can also facilitate your participation in a community of practice and will encourage you to provide feedback to others as well.

Time Management

Though conducting research can be quite rewarding, carving out time to engage in research can be difficult. Therefore, it is important to create timelines that acknowledge teachers' cyclical timing, break down the research process and select an appropriate scope for your research. For example, in terms of completing readings as you work on your literature review, I would recommend that you set a goal that is doable given the specific time constraints in your day/week. For example, if you teach Monday–Thursday at 9–3, you could plan to find 2–3 new sources every Friday 12–1. Here again, the goal is to create a research plan that is manageable, systematic and motivating.

The Writing Process

Throughout the research process, you will be writing at various phases and for different purposes (Wolcott, 2009). Creswell (2014) describes 'Writing as Thinking' and 'Habits of Writing' (pp. 84–86). For example, you might be taking brainstorming

notes as you consider your possible topic(s) of interest. You could also draft multiple research questions to get feedback from a colleague or friend. The literature review process is also one of multiple drafts (discussed in more detail in Chapter 2). During the **coding** and memoing process, you create notes based on transcripts and textual material. I would encourage you to consider your preferences in terms of writing (place, amount of time, modality, etc.) and also identify particular people with whom you can engage in a fruitful feedback-and-revision process. See Creswell (2014) for detailed guidance on writing proposals, abstracts, introductions, literature reviews, research questions and purpose statements (along with examples for different research types).

Overview of the Book

Section I: Inquiry

This section outlines the process of research, beginning with topics of inquiry and moving to the literature review, research questions, data collection/analysis, findings, argument and finally pedagogical implications. It will highlight the ways that research methods are selected carefully in order to appropriately answer research questions and that methods can complement one another.

Chapter 1: How to ACE the Research Process

This chapter provides an overview of the research process and will highlight the importance of research-shaped practice, informed by existing literature and also by research conducted by teachers themselves. It also discusses approaches to argument and evidence, which be discussed in further detail in Section IV. The chapter provides an overview of inductive and deductive research, approaches to qualitative and quantitative data collection and **reliability** and **validity**.

Chapter 2: The Noun and the Verb of the Literature Review

This chapter focuses on various approaches to conducting and constructing a literature review, beginning with topics that one is interested in investigating. It includes a number of visual representations that can help teachers conceptualize which bodies of literature they are hoping to draw upon and contribute to. It will highlight a number of hands-on activities (e.g. annotated bibliographies, Venn diagrams, long/medium/close-up shots) as ways to think through the process of and build the product of the literature review. This chapter also emphasizes not only understanding literature but also critiquing it, in relation to one's chosen focus.

Chapter 3: Research Questions and Research Design: Concretizing Inquiry

This chapter discusses how to move from a topic to a research question that is answerable based on a particular research design. It discusses both inductive and deductive research questions. It also highlights how the literature review's purpose is to set up the research question as a means to fill an existing research gap. Finally, it includes a discussion of your creating implications questions, which your eventual argument may be able to inform.

Chapter 4: Research Ethics: Reasons, Roles, Responsibilities and Relationships

This chapter discusses ethical issues raised by research, including the management of roles (teacher vs researcher), **informed consent** and boundaries. In particular, it highlights how a teacher's identities and others' perceptions can shape the material one can reasonably attain. In addition, it emphasizes the **ethical dilemmas** involved in taking on a researcher role to analysing data that may have originally been shared for educational purposes when one was in a teacher role. It also provides strategies for approaching students and other stakeholders as a researcher and asking them to provide data (e.g. interviews).

Section II: Data Collection

This section highlights methods that capture and analyse ideologies, meaning individuals' and communities' perceptions, views and beliefs (in some literature called 'Introspective' data methods, cf. Nunan and Bailey, 2009) as well as those that capture and analyse practices, what individuals and communities do on a daily basis. The section focuses on how various methods of data collection can complement one another for the purpose of answering a particular research question (see Creswell, 2014, pp. 191–192 for options, advantages and limitations of various qualitative data collection types).

Chapter 5: Making Questionnaires Work for You

This chapter focuses on questionnaire design, including the range of question types and their positives and negatives, as well as the order of questions. It discusses if, how and when to effectively ask demographic questions. It provides tools for effective question design (cf. Boyd and Heritage, 2006; Clayman and Heritage, 2002), acknowledging that the ways that questions are constructed have a huge impact on the responses that will be provided. It discusses the possibilities of questionnaires (e.g. collecting a lot of data quickly) and their limitations (e.g. depending on what people say they believe or do). It also includes details about online tools (e.g. Google Docs, Survey-Monkey) for collecting survey data. In addition, it provides key questions to think about in relation to using questionnaire data in combination with other data collection methods like interviews and focus groups.

Chapter 6: Interviews, Focus Groups and Reflections

This chapter discusses the range of options for collecting interview data, on its own and in combination with other data collection methods. It provides an overview of open-ended, semi-structured and **structured interview** methods, as well as hands-on activities designed to allow you the opportunity to

practise a variety of interview techniques. In addition to a treatment of focus groups as a potential methodology, it discusses the use of various types of reflection, using Murphy's (2014) discussion of reflection-in-action (present), reflection-on-action (past) and reflection-for-action (future) that builds upon Schön's (1984, 1987) research on reflective practitioners. The chapter highlights how you can create and analyse individual reflection journals and collaborative reflections to think through your own practice. It also provides tools and reflection prompts for your students, which can then be analysed using discourse analytic and content analytic methods. There will be some discussion of think-aloud and stimulated recall protocols, as modes of reflection.

Chapter 7: Case Studies, Ethnography and Visual Data

Chapter 7 focuses on case studies in applied linguistics as a key methodology for your research. In addition, it will focus on ethnography, 'the written description of the social organization, social activities, symbolic and material resources, and interpretive practices characteristic of a particular group of people' (Duranti, 1997, p. 85). In ethnography, the goal is an **emic** (insider's) view through long-term **participant-observation**. In this chapter, you have the opportunity to learn about ethnographic methods such as disciplined notetaking. This chapter also discusses various forms of visual data, including photographs, maps and continuous monitoring. There is also a discussion of issues related to video- and audio-recordings, including frame grabs and subtitles, for a range of research purposes.

Chapter 8: Transcription: Process and Product

This chapter will highlight the range of transcription conventions for a variety of purposes, as a step towards **discourse analysis** and **content analysis**. Discourse analysis for language teachers (cf. McCarthy, 1991) will be highlighted as a means to

examine in-class interactions, technology-facilitated interactions (e.g. AdobeConnect) and real-life interactions that can be used to teach descriptive language norms to one's class. It will also be discussed as a tool that teachers can teach to students, to collect data on real-life language use and authentic materials as a means to grasp descriptive language norms. Classroom data in the form of transcripts are included in this section.

Chapter 9: Approaches to Collection of Quantitative Data

This chapter discusses approaches to collection of quantitative data for examining individual and community practices and ideologies (for further exploration, see Plonsky, 2015). We will discuss different quantitative research designs, **variables**, levels of measurement, reliability, validity, **replicability** and **sampling**. These will be discussed as they connect to deductive research questions.

Section III: Data Analysis

This section will provide an overview of approaches to the analysis of qualitative data and quantitative data.

Chapter 10: Interpretive Analysis of Qualitative Data

The interpretive analysis process will be discussed in relation to qualitative data. We will focus on selecting the appropriate data analysis method (e.g. coding, discourse analysis, content analysis) for identifying patterns and themes in the particular data you have collected. We will then discuss some steps for engaging in these different qualitative data analysis methods.

Chapter 11: Approaches to Analysis of Quantitative Data

This chapter will focus on core concepts in analysis of quantitative data. It will discuss frequency and percentage distributions, **descriptive statistics** and **inferential statistics** options.

Section IV: Bringing It All Together

This section will synthesize the material presented thus far, focusing on the ways that in-depth analysis of various forms of data can be brought together into our argument, a discourse intended to persuade that establishes a position through rational support (Belcher, 2012, pp. 82, 87). It will focus on the ways that teachers can move from evidence and argument to what this may mean for one's teaching. And lastly this section will discuss how practitioner-researchers can become part of a community of practice.

Chapter 12: Arguments, Implications and Communities of Practice

This chapter provides approaches to creating an argument based on convincing evidence, especially considering one's eventual goals and audience. It also relates back to the research questions, ensuring that the argument does in fact answer them. It will then move from evidence and argument to possible implications for one's teaching. In particular, readers will be exposed to sample lesson plans that demonstrate how research can inform teaching practice. It also provides approaches to sharing one's research with others, throughout the research process and afterwards. It is designed to help practitioner-researchers build a community of practice where mentoring of various types occurs and in which different types of knowledge and expertise are valued.

Conclusion

Your questions and areas of interest may originate from the literature and/or from your classroom. Engaging in inquiry can therefore be an **iterative process**, in which research and teaching are mutually constitutive. For example, you might create a lesson/curriculum/assessment and measure its effects, and then be responsive to the results you find in the ways you teach from that point on. Throughout the research process, you can ask yourself some questions: Who are the people I want to connect

with and learn from? To whom is my research relevant? By engaging in ongoing inquiry you can then apply your findings to your own practice and to the field of language education more broadly. Good luck!

Suggested Readings

Paltridge, B. and Phakiti, A. (eds) (2015). *Research Methods in Applied Linguistics: A Practical Resource*. London, UK: Bloomsbury Publishing.
This book is an incredibly useful and comprehensive resource for research in applied linguistics. The first half of the book provides overviews of key research methods (e.g. case studies, survey research), and the second half shares practical insights for research in particular areas of applied linguistics (e.g. research speaking, researching motivation).

Denzin, N.K. and Lincoln, Y.S. (eds) (2003). *Collecting and Interpreting Qualitative Materials*. Thousand Oaks, CA: SAGE Publications.
This edited volume provides detailed information about various modes of qualitative data collection and interpretation, from scholars in a range of disciplines.

Richards, K. (2003). *Qualitative Inquiry in TESOL*. Basingstoke: Palgrave Macmillan.
This book provides a useful overview of naturalistic, qualitative and action research inquiry, especially for applied linguistics and language teaching.

http://www.sjsu.edu/faculty/masucci/InterpretingQualitative Data.pdf
This PowerPoint from a professor at San Jose State University includes clear explanations of qualitative data.