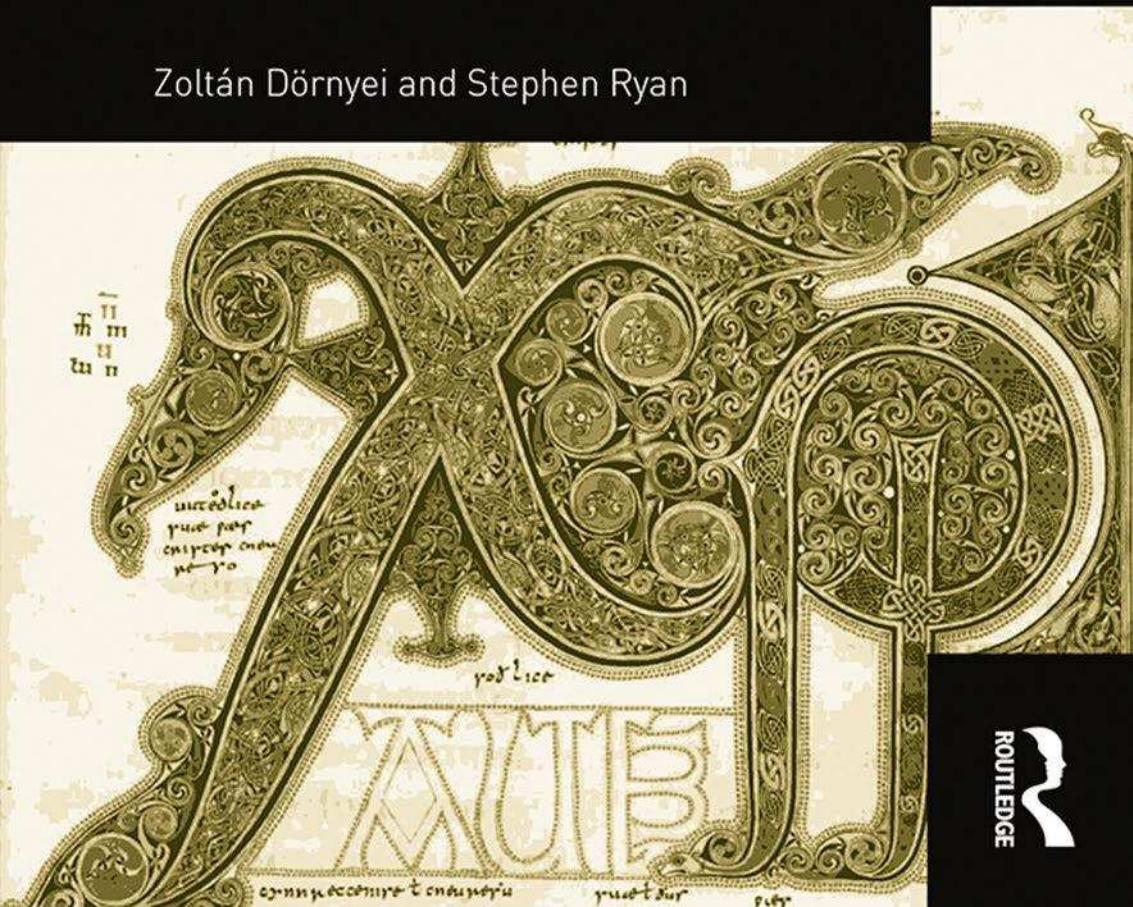
Second Language Acquisition Research Series

THE PSYCHOLOGY OF THE LANGUAGE LEARNER REVISITED

Zoltán Dörnyei and Stephen Ryan



ROUTLEDGE

THE PSYCHOLOGY OF THE LANGUAGE LEARNER REVISITED

Over the past decade, the focus of inquiry into the psychology of SLA has shifted from the analysis of various characteristics within individuals toward a greater consideration of individuals' dynamic interactions with diverse contexts. This revisit of the bestselling *The Psychology of the Language Learner* reflects on these developments by challenging some of the assumptions upon which the original text was based, maintaining the familiar structure of the original, while situating the discussion within a very different theoretical framework.

Written in a lively, accessible style, the book considers how the field has evolved and maintains a keen eye on the future, suggesting exciting new directions for the psychology of SLA. *The Psychology of the Language Learner Revisited* will appeal to students and researchers in a wide range of disciplines, including applied linguistics, second language acquisition, modern languages, and psychology.

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THE PSYCHOLOGY OF THE LANGUAGE LEARNER REVISITED

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Routledge
Taylor & Francis Group
NEW YORK AND LONDON

First published 2015
by Routledge
711 Third Avenue, New York, NY 10017

and by Routledge
2 Park Square, Milton Park, Abingdon, Oxon, OX14 4RN

Routledge is an imprint of the Taylor & Francis Group, an informa business

Library of Congress Cataloging-in-Publication Data
Dörnyei, Zoltán.
The psychology of the language learner revisited / Zoltán Dörnyei and Stephen Ryan.
pages cm. — (Second language acquisition research series)
Includes bibliographical references and index.
1. Second language acquisition—Psychological aspects. 2. Applied linguistics. I. Ryan, Stephen, (Economist) II. Title.
P118.2.D66 2015
418.001′9—dc23
2014043519

ISBN: 978-1-138-01873-0 (hbk)
ISBN: 978-1-138-01874-7 (pbk)
ISBN: 978-1-315-77955-3 (ebk)

Typeset in Bembo
by Apex CoVantage, LLC

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PREFACE

In 2005, Zoltán published the original *The Psychology of the Language Learner: Individual Differences in Second Language Acquisition,* and a decade later we have decided to revisit this book. In this short preface we would like to explain why we thought that such a revisitation was a good idea, what such a revisitation involves, and what we hoped our book might achieve besides offering an updated literature review.

Why Is a Revisitation a Good Idea?

Looking at the title of the current volume, *The Psychology of the Language Learner Revisited,* raises the obvious question of what made this revisitation necessary. The obvious answer is that because 10 years have passed since the publication of the original book, the literature that the material was drawing on could do with an update. After all, as we shall see later, the past decade has seen no fewer than six edited volumes published on the subject of language learning motivation alone—to take but one individual difference (ID) construct—and the number of research papers on various ID issues has been in the hundreds. This reflects a genuine surge of productivity in the area, thus warranting a fresh look at the field. Having said that, the need to account for the new research explains only in part our decision to readdress the ID issue. Indeed, while we shall review a great amount of post-2005 literature in the following chapters, our main interest underlying this volume has been in documenting the fundamentally changing concept of 'individual differences' in general and how the emerging new understanding can be applied to SLA research in particular.

At the turn of the second millennium—when the original book was written—the notion of IDs seemed like a relatively straightforward answer to the age-old

question of "Why do individuals differ so much in second language attainment success?" At that time the field of SLA was virtually uniform in agreeing that a great deal of the observed variation in L2 learning achievement could be attributed to a well-definable cluster of learner characteristics, which were conveniently termed "individual differences." The positive reception of the 2005 book, then, could be explained by the fact that it embraced this widespread view and attempted the sensible task of taking stock of the most important ID factors in SLA in a systematic and yet accessible manner.

Looking back, we may conclude that the publication of *The Psychology of the Language Learner: Individual Differences in Second Language Acquisition* marked something of a watershed in the ID literature. On the one hand, it did accomplish its task of delivering a rounded overview of research that had been conducted on various learner characteristics in the field of SLA. On the other hand, it also drew a line under the 'classic' avenue of ID research, pointing at new directions; as the conclusion explicitly stated, "All the variables described in this book are either in the process of, or in desperate need of, theoretical restructuring" (p. 218). The discussion, however, stopped at this point, and it is perhaps testimony to the vitality of our field that a book that seemed rather provocative in some of its conclusions in 2005 now appears somewhat conservative. Thus, the current revisitation is aimed at picking up the flow where the 2005 book left off and carrying the critical process forward by assessing to what extent and in what ways the various ID factors have undergone restructuring over the past decade.

What Will the Revisitation Involve?

It is fair to say that we were both hesitant, even apprehensive, about revisiting the 2005 book for several reasons. First, both of us have been increasingly critical of the value or relevance of the traditional ID paradigm, with one of us (Dörnyei, 2009b) going as far as to question its very existence, labeling it a mere myth. Second, we shared the concern that the theoretical framework underpinning the original book might be so far removed from current understandings that we would find the text only had historical value as an artifact of a bygone era, functioning merely as a snapshot of thinking about psychology and SLA at a particular point in time. This, we feared, would make the 'revisitation' a more challenging task than a 'revision' in the ordinary sense, because we would need to produce, in effect, a novel, comprehensive theoretical system—and a matching new research summary—of learner characteristics. We were hesitant as to whether we were ready to accomplish this task, but then we realized that there might be an alternative approach to conducting such a revisitation: We could start a critical dialogue with the original material that would reinvigorate the 2005 text through exposure to current theoretical perspectives. This would involve, in other words, taking the 2005 text as a baseline and then evaluating how recent findings fit, or do not fit, into the 2005 classic framework.

Following from this realization, the current volume takes the peculiar stance of trying to convey a sense of continuity and discontinuity at the same time, which is further reflected by the fact that it is not presented as a second edition of the 2005 text, but rather as a new book juxtaposed with the old one, also involving a new co-author. For Stephen, the 2005 text represented something of an entry point into the field, the prevailing orthodoxy; thus he approaches the text from a very different perspective than Zoltán does; we believe that this contrast in authorial perspectives further contributes to a rich ongoing dialogue throughout the text. Nevertheless, we are well aware that this revisitation is a little bit like trying to have our cake and eat it too, but we think that such a dual perspective might offer a useful interface with the current state of the art of the field. As the discussion in the next chapters will show, the study of individual differences is in a theoretical turmoil, with powerful arguments suggesting that IDs do not exist as such and also that they do. Indeed, most scholars specialized in ID research seem to operate with one foot in the past and one foot in the future, with the current authors being no exceptions. For example, although Zoltán has been in the forefront of arguing in favor of the rejection of a 'simplistic' notion of IDs in principle, he has been happy to conduct extensive research on one of the principal ID factors, motivation, without resolving the controversy of what this construct really is. Thus, our primary objective in this volume is to place the theoretical dilemmas concerning individual differences in a framework that will be conducive to progression; we do so as both friend and foe, which at times admittedly required a delicate balancing act. A simple update would have been a useful but, we feel, an essentially backward-looking approach, and instead, we have decided to take a more adventurous path.

Who Is This Revisitation For?

The current volume, *The Psychology of the Language Learner Revisited,* operates on two levels. First, it presents an up-to-date account of theory and research, thereby providing a (hopefully) valuable resource for students and researchers entering the field. Second, the dialogic nature of the revisitation means that it will (again, hopefully) also be of interest to established academics looking to engage in a critical consideration of how the field is developing, even those familiar with the 2005 text. So, the way we envisaged this book gives plenty of people a reason to buy a copy.

What Do We Hope to Achieve with Our Visit and How?

In order to make the dialogue with the 2005 version meaningful and accessible, we retained as much of the original structure as possible. The sequence of the chapters follows a well-established pathway, starting with a general discussion of the ID issue and then proceeding from the broad toward the narrow by covering

personality, aptitude, motivation, styles, strategies, and other learner characteristics. We shall start each chapter with a general reflection of the topic in the light of recent advances; we will then go on to introduce the specific learner characteristic in a systematic manner, outlining the main perspectives on the subject in the literature; finally, we will conclude with a focus on how recent developments in the field have shed new light on the topic, and in which direction the field is moving.

In conclusion, we would like to stress that we have no axes to grind. The original book expressed some strong opinions (e.g., on learning strategies) and some novel views (e.g., on motivation), which elicited a considerable response in the field over the years that followed. The current revisitation, however, has not been motivated by a desire to defend our position or argue our case. We find the concept of learner characteristics genuinely intriguing—and sometimes also genuinely annoying!—and we have approached the current task as travelers do when they return to a land after a long interval, excited about the journey of rediscovering what has changed and what remained the same. Please join us.

1

INTRODUCTION

Individual Differences—Then and Now

> Every man is in certain respects: a. like all other men, b. like some other men, c. like no other man.
>
> (Kluckhohn & Murray, 1948, p. 35)

Though the language employed in our opening quote betrays its origins in a very different era, Kluckhohn and Murray's (1948) classic observation remains valid today. The notion that people differ from, and have things in common with, each other is hardly new or revelatory; it is something immediately obvious to anybody who has ever interacted with more than two human beings. Accordingly, a well-developed strand of psychology—*differential psychology* or, as it has been recently more frequently referred to, *individual difference (ID) research*—has been concerned with understanding those characteristics that make individuals dissimilar to each other, exploring how and why such differences occur. This matter is related to one of the fundamental issues underlying the whole domain of psychology as an academic discipline. Ever since the early days of its existence, psychology has been trying to achieve two different and somewhat contradictory objectives: to understand the *uniqueness* of the individual mind and to explore the *general* principles of the human mind; in Barrett's (2006, p. 35) words, "The goal of psychology is to discover the scientifically viable constructs or categories that will characterize what is variant and invariant in the working of the human mind." Individual difference research, then, has been focusing on the former area: inter-individual variation.

In this chapter we will first introduce the concept of IDs and describe the 'classic' perspective on it; in doing so, we hope to present a strong case that understanding learner variation is an essential part of the study of second language acquisition (SLA) in general. Then, after we have set the scene, we will turn to

some of the problems that have emerged regarding the traditional conceptualization of ID variables and which have resulted in the transitional stage regarding the status of individual differences that characterizes the field today. Finally, we conclude the chapter by discussing new angles to the understanding of learner characteristics that may offer viable future directions for research.

The Classic Perspective on Individual Differences

As the term suggests, *individual differences* are characteristics or traits in which individuals may be shown to differ from each other. Admittedly, for many scholars such differences constitute mere distractions to their work: How much easier it would be to formulate valid conclusions and generalizations about the human species if everybody was alike! Research results would then apply to everyone and, based on these findings, we would be able to design effective therapy or intervention that would suit all. Thus, in this ideal world "rules and regulations could be developed to cover all situations, and there would be no unknowns" (Breslin, 1994, p. 224). Alas, although the distinctness that each of us displays may be seen by some as a nuisance, it is still there—and the world is surely a better place for it. In fact, one of the most important ways in which the social sciences differ from the natural sciences stems exactly from the existence of individual differences: The molecules of a cell, if treated identically, will respond identically, whereas human behavior—even that of identical twins—may vary significantly in response to a certain stimulus.

IDs are seemingly easy to define: They concern anything that marks a person as a distinct and unique human being. While this may appear by and large true—particularly if we adopt a broad conception of IDs—we need to set some restrictions to avoid regarding, for example, someone's tendency to wear a brightly colored T-shirt or a bow tie as an ID. Therefore, all scientific definitions of IDs assume the relevance of *stability,* and this notion of stability will feature as a key consideration as we attempt to reconceptualize IDs within SLA later in the book. Differential psychology emphasizes individual variation from person to person only to the extent that those individualizing features exhibit continuity over time (Cervone & Pervin, 2013). Yet, even with this restriction, the kind and number of ways by which an individual can be different is extensive because of the innumerable interactions between heredity and environment that occur throughout one's life span. Although a specific consideration of the 'nature or nurture' debate—that is, whether individual differences are due to heredity or environmental influences—is outside the scope of this book (see e.g., Dale, Harlaar, & Plomin, 2012), questions of how inherited genetic information and interaction with the environment (Anastasi, 1994) may limit or facilitate individual achievement are central to our discussion.

So, can the term *individual differences* be further narrowed? It can and it has been: The majority of books and articles dealing with the subject tends to cover

fewer than a dozen ID factors. This is because the actual practice of differential psychology does not focus on mere idiosyncrasies, even when these are stable ones, but rather on broader dimensions that (a) are applicable to everyone and (b) discriminate among people (Snow, Corno, & Jackson, 1996). As Michael Eysenck (1994) summarized it very clearly,

> Although human beings differ from each other in numerous ways, some of those ways are clearly of more significance to psychology than others. Foot size and eye color are presumably of little or no relevance as determinants of behavior (although foot size may matter to professional footballers!), whereas personality appears to play a major role in influencing our behavior.
>
> (p. 1)

Thus, the classic ID construct refers to dimensions of enduring personal characteristics that are assumed to apply to everybody and on which people differ by degree. Or, in other words, it concerns stable and systematic deviations from a normative blueprint. We should note that these descriptions do not resolve the basic dilemma of the scientific study of human differences, namely the question of how to conceive of *general* laws or categories for describing human individuality that at the same time do justice to the full array of human *uniqueness*. Placing ID research in a historical context is a useful first step in exploring this dilemma further.

A Brief History of Individual Difference Research

In their account of the historical development of differential psychology, Revelle, Wilt, and Condon (2011) explain that understanding how people differ from each other, and then applying that knowledge, is a pursuit that has occupied human society for much of its recorded history. They identify passages in ancient texts—for example, the Old Testament or classical Greek literature such as Plato's *The Republic*—that grapple with some of the fundamental concerns of differential psychology. However, in order to discover the origins of modern ID research we need to go back no further than the end of the 19th century: Charles Darwin's cousin, Sir Frances Galton (1822–1911), is usually credited with being the first to investigate individual differences scientifically, and Galton's empirical and methodological research, which also involved developing appropriate statistical techniques for data analysis, is also seen as the genesis of quantitative psychology in general. Following Galton, ID research was firmly and irreversibly put on the research agenda at the turn of the century by the work of French psychologist Alfred Binet (1857–1911). He became interested in individual differences partly as a result of his observations of the different ways his daughters solved problems, and his 1895 article co-authored by Victor Henri on "individual psychology"

was the first systematic description of the aims, scope, and methods of the topic. The real impetus to further research was given by the construction of the first intelligence test by Binet and his colleague Theodore Simon, and ever since the publication of this instrument in 1905, intelligence research and measurement theory have driven the study of individual differences forward.

The Binet-Simon intelligence scale was devised to separate slow and fast learners in the French school system, and adaptations were soon prepared for use in Germany and Britain. The popularity of intelligence testing spread quickly as the potential use of intelligence measures for selection and recruitment procedures was recognized. In the first half of the 20th century several other ability tests were developed and employed, and significant advances were made in statistics to provide analytical techniques to process and evaluate the test scores, making up what is commonly referred to as the classical testing theory (see Kline, 2005). This theory was then applied to the design of tests of personality, attitudes, specific cognitive aptitudes, and other psychological constructs.

The first listing of virtually all differential characteristics was constructed by Gordon Allport and Henry Odbert in 1936: They collected 17,953 descriptive words from an English dictionary and argued that each of these potentially suggested an individual difference variable. During the subsequent decades this extensive, and frankly unmanageable, list has been condensed by others to the key variables that are discussed currently under the ID rubric (for further details on identifying a parsimonious set of personality traits, see Chapter 2). The field rapidly gained momentum and by the 1950s—the era that Revelle *et al.* (2011) suggest may represent the "high point of differential psychology"—it had generated enough empirical research on cognitive, affective, and psychomotor characteristics for Anne Anastasi to prepare her seminal summary, *Differential Psychology,* in 1958. With ongoing developments in the study of personality, motivation, and various cognitive abilities, ID research is still a powerful area within psychology, having its own society, the International Society for the Study of Individual Differences, and dozens of academic journals targeting either individual differences in general (e.g., *Personality and Individual Differences* and *Learning and Individual Differences*) or some specific ID factor (e.g., *Intelligence*). The importance of IDs has also been widely recognized in educational contexts and a great deal of research has been conducted in educational psychology on how to adapt instruction to the strengths, weaknesses, and preferences of learners.

Individual Differences in Second Language Studies

It has been long observed that there is a particularly wide variation among language learners in terms of their ultimate success in mastering an L2 and therefore the study of IDs—especially language aptitude and language learning motivation—has been a featured research area in SLA studies. Despite the fact that bilingualism, not monolingualism, is the norm in many, if not most,

parts of the world, the capacity to acquire a second language to a high level of proficiency is not considered universal (we explore the links between L1 and L2 learning in more detail in Chapter 3). Schumann (2013) provides an evolutionary explanation for how we may have arrived at this situation, exploring the connections between the individual, the environment, and language. He argues that since almost everybody masters a first language with little difficulty, we can assume that there must have been some evolutionary advantage associated with the acquisition of language, and as a result, the ability to master a first language was genetically transmitted to future generations, ultimately becoming a universal human characteristic. In contrast, in the earliest forms of human settlement there was probably little intergroup contact that would have made the capacity to learn languages an imperative, and indeed, the widespread learning of foreign languages appears to be a relatively recent human endeavor, largely stimulated by increased population mobility and the spread of mass education. This being the case, we should not be surprised to find that serious consideration of the ways in which individuals differ in their language learning has a relatively short history.

Although various L2 learner characteristics had been investigated earlier, the real momentum in studying IDs within SLA came in the wake of the influential research on 'good language learners' in the mid-1970s (Naiman, Fröhlich, Stern, & Todesco, 1978; Rubin, 1975; for a retrospective review, see Griffiths, 2008). The results of this line of inquiry highlighted in general the significance of IDs as key factors that make L2 learners excel, and they indicated in particular that besides *language aptitude* and *motivation*—which had been known to affect L2 learning success—there were further important learner variables fostering L2 attainment, most importantly the students' own active and creative participation in the learning process through the application of individualized learning techniques. Thus, *language learning strategies* were included in the inventory of important learner characteristics, and Peter Skehan's (1989) seminal book on the subject, *Individual Differences in Second Language Learning,* also added *learning styles* to the 'canonical' list of IDs in language learning.

We may characterize the initial wave of ID research in SLA, centered around Skehan's canon, as a quest to first identify those learner characteristics that have the most significant effect on learning outcomes and then to analyze the specific effects of particular characteristics. Dewaele (2009, 2012a) describes this quest as a holy grail approach because it was motivated by the underlying belief that "some hidden internal characteristic of the L2 learner predetermines a more or a less successful outcome" (2012a, p. 159), and therefore uncovering this single source was hoped to unlock the doors to effective learning. Although not everybody went so far as to assign IDs any holy grail significance, it was widely accepted—and the 2005 version of our book fully reflected this—that ID factors were powerful background learner variables with potential make-or-break quality, affecting different aspects of the acquisition process: *Motivation* was seen

to underlie the direction and magnitude of learning behavior in terms of the learner's choice, intensity, and duration of learning; *language aptitude* concerned the cognitive dimension, referring to the capacity and quality of learning; *learning styles* were related to the manner of learning; and *learning strategies* were somewhere in between motivation and learning styles by referring to the learner's proactiveness in selecting specific made-to-measure learning routes. Thus, the composite of these variables was seen to answer *why, how long, how hard, how well, how proactively,* and *in what way* the learner engaged in the learning process.

Challenges to the Classic ID Paradigm

What is wrong, one may ask, with the seemingly straightforward conceptualization of ID factors described above? As Dörnyei (2009b) has argued, the intuitively convincing classic ID paradigm rests on (at least) four assumptions: (a) IDs exist as *distinctly definable* psychological constructs; (b) IDs are relatively *stable* attributes; (c) different IDs form relatively *monolithic* components that concern different aspects of human functioning and that are therefore only moderately related to each other; and (d) IDs are *learner-internal,* and thus relatively independent from the external factors of the environment. Since the publication of the original version of our book, however, serious issues have been raised about each of these four assumptions. As we shall argue below briefly—and then in more detail in the following chapters—when we look more closely, individual learner characteristics are not stable but show salient temporal and situational variation, and neither are they distinct and monolithic but involve, instead, complex constellations made up of different parts that interact with each other and the environment synchronically and diachronically. Murphey and Falout (2013) sum up the changing perspective well when they describe the current ID research agenda as one that portrays IDs as "socially interdependent, malleable states developing over time." This view is a far cry from the static, trait-like representation located inside the individual that is so often implied in everyday parlance—for example, when we say that Rupert is motivated or Gertrude has a low language aptitude. Let us start exploring the new emerging paradigm by focusing on two key issues, *context* and *time.*

The Question of Context and Time

In an analysis of SLA, Ellis and Larsen-Freeman (2006, p. 563) reflected on the issues of context and time as follows: "To attribute causality to any one variable (or even a constellation of variables) without taking time and context into account is misguided." This conclusion is in line with the outcome of a long-standing dispute in psychology, the 'person-situation debate,' concerning the extent to which the individual's experience in the social environment affects aspects of human functioning, including language acquisition and use. Although

in this matter the secret often lies in the details (for a discussion, see Leary & Hoyle, 2009), Funder's (2006) conclusion reflects an emerging consensus:

> Since at least the 1930s, deep thinkers as diverse as Allport (1937) and Lewin (1951) have argued that invidious comparisons miss the point because behavior is a function of an interaction between the person and the situation. By the 1980s this recognition had deteriorated into a truism. Nowadays, everybody is an interactionist.
>
> (p. 22)

The question of situatedness also emerged as one of the central issues regarding IDs in the original version of our book; as the conclusion stated, scholars had come to "reject the notion that the various traits are context-independent and absolute," and were increasingly proposing "new dynamic conceptualizations in which ID factors enter into some interaction with the situational parameters rather than cutting across tasks and environments" (Dörnyei, 2005, p. 218). Indeed, recent L2 research has increasingly adopted a dynamic perspective that takes into account the interactions between variables and how these are mediated by context (Dewaele, 2012b; Dewaele & Furnham, 1999; Dörnyei, 2009a; Dörnyei & Ushioda, 2009; Mercer, Ryan, & Williams, 2012; Ushioda, 2012). This growing concern with the notion of stable, trait-like ID factors in SLA has paralleled a similar trend regarding individual differences in psychology: Revelle *et al.* (2011) characterized the late 20th century as the dark ages of differential psychology because the notion of the trait had come under attack from all angles and had become distinctly unfashionable. The work of Walter Mischel (1968, 2004; Mischel, Shioda, & Ayduk, 2007) was highly influential in initiating this change as Mischel found that human behavior was often more a function of situational factors than stable traits; that is, "People do what their immediate situations tell them to do rather than what their long-standing internal traits might prompt them to do" (McAdams, 2006, p. 12).

The contextual dependence of IDs is closely related to their *temporal variation*. The parameters of a social situation change over time, and this change affects the learner characteristics operating within that context, and these characteristics are further affected by their continuous interaction with other learner variables. In Ellis and Larsen-Freeman's (2006) expressive words,

> The fact is that the effect of variables waxes and wanes. The many actors in the cast of language learning have different hours upon the stage, different prominences in different acts and scenes. The play evolves as goals and subgoals are set and met, strong motives once satisfied fade into history, forces gather then dissipate once the battle is done, a brief entrance can change fate from tragedy to farce, a kingdom may be lost all for the want of a horseshoe nail.
>
> (p. 563)

In the light of these considerations, IDs are better seen as ongoing, evolving constructs rather than stable learner traits—aptly reflected, for example, in the design of *process models* in L2 motivation research (to be discussed further in Chapter 4). We must note, however, that while the lack of stability has posed a serious challenge to the notion of IDs, it did not fully undermine the concept, because one could, in principle, imagine learner characteristics as 'shimmering stars' that are solid themselves but differ depending on the amount of light that reaches a person as a consequence of various modifying factors. However, the solidity of the underlying substance has also been questioned by recent analyses of the homogeneous versus heterogeneous nature of ID factors.

The Question of Homogeneity

A closer look at any ID factor reveals that they are not monolithic but are, instead, made up of a number of constituent components that are dynamically interacting with each other. For example, as we shall see later, both motivation and aptitude have been shown to be multicomponential, making it difficult to pinpoint what the 'pure' core of each variable is. To take motivation for illustration, a complex motivation construct often includes cognitive or strategic components such as the appraisal of a learning situation or the effective use of volitional control, thereby straddling traditional ID boundaries and thus raising the question of whether it makes sense to consider these components in isolation. This recognition has given rise to an intriguing strand in educational psychology examining what are known as *trait complexes* (Ackerman & Beier, 2006; Ackerman, Bowen, Beier, & Kanfer, 2001; Ackerman, Chamorro-Premuzic, & Furnham, 2011; Chamorro-Premuzic & Arteche, 2008). According to this approach, rather than concentrate on specific learner characteristics, trait complexes reflect the *cumulative* effects of different variables and how they combine to either facilitate or impede academic achievement. So, for example, if we consider the case of a particularly outgoing and sociable language learner with lower than average cognitive abilities and low levels of conscientiousness, we may find that in learning situations that require communicative interactions, this learner's sociable disposition might compensate for the lack of cognitive ability and conscientiousness in facilitating investment in the ongoing activity and leading ultimately to achievement. Thus, the broad conclusion of this line of research is that "an interplay of cognitive abilities and personality traits are involved in the determination of the direction and intensity of intellectual investments, which in turn, affect academic achievement in a variety of contexts" (Ackerman, Chamorro-Premuzic, & Furnham, 2011, p. 33).

With its focus on looking at the interplay between traits and their cumulative effects, the trait complex approach offers a promising way forward in our attempt to reconsider IDs within SLA. It, however, also highlights a fundamental theoretical question about conceptualizing IDs meaningfully. Dörnyei (2009b) has

argued that given the complex and interlocking nature of higher-order human functioning, individual differences in mental functions typically involve a *blended operation* of cognitive, affective, and motivational components—a convergence that becomes even more obvious if we take a neuropsychological perspective, because at the level of neural networks it is difficult to maintain the traditional separation of different types of functions. The question, then, is whether in the light of the interwoven and fluid system of human mental characteristics it makes sense to keep speaking about any subsets of these characteristics—such as motivational or cognitive factors—as distinct entities. In other words, given that individual variation in human mental functions can be meaningfully understood only in their interrelated operation—and it is sometimes virtually impossible to isolate any common denominators or core ingredients in this mixture—is there any theoretical justification for proposing any macro-structuring principles to learner characteristics such as the specific ID factors?

The honest answer to this question is that the jury is still out in this respect. There is no doubt that the classic ID paradigm has been seriously challenged, if not irreparably damaged, but different scholars have been looking for a way forward in rather different ways. In order to illustrate the main dilemmas faced by scholars interested in the psychology of the L2 learner, in the rest of this chapter we shall address four topics that are closely related to this matter: emotions, the 'trilogy of mind,' a complex dynamic systems approach, and McAdams's recent personality theory.

Emotions

Perhaps the greatest omission of the classic ID paradigm is that it barely acknowledges the central role of emotions in human thought and behavior, even though affect is an unavoidable component of any attempt to understand the nature of learner characteristics. Feelings and emotions play a huge part in all our lives, yet they have been shunned to a large extent by both the psychology and the SLA literature. 'Shunned' does not mean fully 'ignored,' though, because there is a significant body of research looking at emotions in both fields; but affect has been considered at best a poor relation to rational thinking, a disposition that originates from the deeply rooted tradition in Western thought that has separated reason from emotion (Damasio, 1994). Consistent with this tradition, the roots of the field of SLA are resolutely cognitivist, with the initial focus of SLA research being on identifying and describing universal patterns and processes of language development, without any place for irregular and unpredictable emotions within such a research agenda.

When SLA researchers finally did acknowledge an emotional component to language learning, the initial instinct was to problematize, that is, to look at how emotional factors, such as those associated with anxiety (e.g., Horwitz, 2001; MacIntyre, 1999), may impede language learning. This is a legitimate and

valuable line of inquiry, but there are also other, more positive emotions, such as excitement or hope, that are integral to learning a language, and we need to consider these aspects too. L2 learning is an emotionally loaded experience and any description of what makes a particular learner unique needs to take this into account; as Swain (2013, p. 196) argues, the "relationship between cognition and emotion is, minimally, interdependent; maximally, they are inseparable/integrated." Thus, it is fair to conclude that past research on learner characteristics has suffered from a general 'emotional deficit' and the 2005 version of our book reflected this trend fully: Affective issues were only discussed under the rubric of 'emotion control strategies' within the chapters on motivation and learning strategies.

Trilogy of Mind

In considering any organizational principles within the interrelated tapestry of learner characteristics, Dörnyei (2009b) has highlighted one perspective that allows for the separation of the main types of mental functions, the *phenomenological* (i.e., experiential) view: People can phenomenally distinguish three areas of mental functioning—*cognition, motivation,* and *affect* (or emotions). Motivation and cognition can be differentiated from each other because they 'feel' different: If we want something, we have the distinct experience of 'wanting' it and we can even grade this experience in terms of its strength (e.g., I can hardly wait . . . or I really-really-really *want it!*); and similarly, cognition/thoughts also have their distinct experiential feel, which is revealed in phrases such as 'cold intellect,' capturing a key feature of cognition, namely that it has no valence (i.e., it is not gradable in terms of intensity either in the positive or negative directions). Emotions are closer to motivation than to cognition in the sense that they are also gradable (i.e., one can be angry and one can be *very* angry), but people typically have no problem distinguishing the motivational experiences of desire and wanting from emotional states such as feeling happy or sad or angry.

The distinction of cognition, motivation, and affect—or as Parrott (2004, p. 7) has summed up, the "reasoning part," the "appetitive part," and the "spirited part"—corresponds to a traditional division that goes back to Greek philosophy, often referred to as the "trilogy of the mind" (see Mayer, Chabot, & Carlsmith, 1997): Plato proposed that the human soul contained three components: *cognition* (corresponding to thought and reason and associated with the ruling class of philosophers, kings, and statesmen); *emotion/passion* (corresponding to anger or spirited higher ideal emotions and associated with the warrior class); and *conation/motivation* (associated with impulses, cravings, and desires, and associated with the lower classes) (for a review, see Scherer, 1995). The trilogy of mind reflects these three interrelated but conceptually distinct mental

systems, and the maintenance of this tripartite view might be helpful when faced with the highly integrated nature of the mind. Indeed, in the preface to a recent edited volume on individual differences, Chamorro-Premuzic, von Stumm, and Furnham (2011, p. xvi) affirm that "individuals differ along continua of affect, behavior, cognition, and motivation, and most of which can be understood and operationalized in terms of quantifiable trait dimensions, such as intelligence and personality."

Complex Dynamic Systems Approach

The three subsystems subsumed by the trilogy of mind represent three mental dimensions that have continuous dynamic interaction with each other and cannot exist in isolation from one another; as Buck (2005, p. 198) has succinctly put it, "In their fully articulated forms, emotions imply cognitions imply motives imply emotions, and so on." This dynamic conception of contextually grounded and mutually interacting IDs reflects a broader move both within personality psychology and the specific field of SLA toward regarding the individual as well as the attributes within the individual in terms of a *complex dynamic system* (see Cervone & Pervin, 2013; Dörnyei, MacIntyre, & Henry, 2015). Such an approach implies an ontological shift, moving the unit of analysis from the isolated component to the system as a whole: When viewed from a complex dynamic systems perspective, not only are individuals a product of the constant interactions between their various individual attributes and contexts, but those attributes themselves are also multicomponential in nature and make up a holistic dynamic framework. Accordingly, ID research can be linked in this respect to the recent 'dynamic turn' in SLA (see e.g., de Bot, Lowie, & Verspoor, 2007; Ellis & Larsen-Freeman, 2006; Larsen-Freeman & Cameron, 2008).

Reframing individual differences as complex dynamic systems has the potential to mitigate many of the failings associated with the classic ID conceptualization in that from this perspective the notion of 'internal to the learner' means neither static nor separate from the outside world—people are constantly adapting to changes within themselves and to external events. Indeed, arguably the most significant contribution of a complex dynamic systems approach is in its role as an overriding guiding principle that positions *change* rather than stability as the norm, moving us away from static conceptualizations of learners toward embracing notions of change and growth within a synergetic relationship of agent and its context. Recently, Dörnyei, MacIntyre, and Henry (2015) have edited a whole collection of papers that were intended to operationalize the dynamic systems approach in concrete terms for the study of one prominent learner characteristic—motivation—and we shall review this effort in Chapter 4 when we discuss the topic of language learning motivation.

McAdams's Theory of Personality

A theory of personality based on a narrow range of stable traits can only tell us so much about a specific individual, and McAdams (2006) describes this as the "psychology of the stranger": When we meet someone for the first time, we soon form an impression of that person as we make observations concerning their appearance, their speech, and their actions, yet based on such inferences we could not claim to really 'know' this person—hence, the psychology of the stranger. From an educational perspective, there is surely little benefit in pursuing models that merely describe learners at the 'stranger' level; for psychology to have meaningful educational relevance it must offer insights into learners as rounded individuals. McAdams suggests that in order to really 'know' someone we need to consider personality using a three-tiered framework:

1. *Dispositional traits,* referring to relatively stable and decontextualized, broad dimensions of individual differences, such as extraversion, friendliness, dutifulness, depressiveness, and neuroticism. In the past, theories of personality structure such as the Big Five model (see next chapter) have been trying to capture the essence of this dimension.
2. *Characteristic adaptations,* referring to constructs that are highly contextualized in time, place, and/or social role, and which include "motives, goals, plans, strivings, strategies, values, virtues, schemas, self-images, mental representations of significant others, developmental tasks, and many other aspects of human individuality" (McAdams & Pals, 2006, p. 208). The classic ID paradigm has focused primarily on this level of personality.
3. *Integrative life narratives,* referring to a highly personal organizational framework that helps people to make sense of their lives and that constitutes an individual's narrative identity. McAdams and Pals (2006) describe this novel personality dimension as "internalized and evolving life stories that reconstruct the past and imagine the future to provide a person's life with identity (unity, purpose, meaning)" (p. 212).

We shall describe McAdams's three-tier theory in more detail in the next chapter, so here we would like only to highlight three attractive aspects of it. First, it is noteworthy that the theory does *not* reject the classic notion of personality traits and ID variables but rather suggests that individual differences occur at different levels of situatedness, resulting in constructs that are not to be mixed up in theoretical discussions. Second, McAdams's model has an inherently dynamic character in that it portrays different personality characteristics not only interacting with each other within their own level but also cross-dimensionally. Finally, the addition of the novel narrative dimension accounts for a so far overlooked level of the self, whereby people organize and understand their experiences and memories in the form of autobiographical stories and thus, we may

say, they *narrate themselves into the person they become*. The quality of personal life stories, therefore, is seen to constitute a crucial aspect of why and how people differ from each other.

Conclusion

We started out this chapter with Kluckhohn and Murray's (1948) classic observation that people differ from but also have things in common with each other, and the fundamental duality of similarity versus difference permeates the whole domain of ID research: The classic ID paradigm focused on inter-individual *differences* but only in those aspects that were *common* to all people, and the canonical ID factors were treated both as being trait-like and at the same time subject to contextual and temporal variation. We have argued that ID factors cannot be seen as fully stable and distinctly modular, which undermines their validity as scientific concepts, but it is noteworthy how much the fields of psychology and SLA have resisted the efforts to eradicate the ID concept. Indeed, in a lively account of the historical development of personality psychology, McAdams (2006) refers to the "revenge of the trait" (p. 12) after surviving a "near-death experience" (McAdams & Pals, 2006, p. 204), and the dramatic language underlines the general enigma that IDs pose. Accordingly, a key decision we had to make at the outset of this project concerned the question of how to set about the task of rethinking individual differences within SLA: Do we tear the whole building down and build again from scratch? Or do we make adjustments within existing structures?

As discussed in the preface, the question of continuity with past research is central to this book, and we have decided to follow a pragmatic approach in this respect. We welcome McAdams's personality model in giving theoretical substance to the common observation that notwithstanding some undeniable contextual and temporal variation, certain features of learners and their behavior tend to remain relatively stable and predictable, and it would be counterproductive to deny this. However, we also acknowledge the dynamic systems principle that conceptualizations of learning that rely entirely on stability across situations fail to account for the complexity of what is really going on in learning environments such as L2 classrooms. The significance of situatedness is reflected in McAdams's concept of characteristic adaptations, but a particularly fruitful way of reconciling the apparently incompatible perspectives of stability and variability involves drawing on the third tier of McAdams's personality model by exploring the role of a narrative self or script in shaping human individuality (Lilgendahl & McAdams, 2011; McAdams, 2006, 2012; McAdams & Pals, 2006; Tomkins, 1978), a topic we shall expand upon in the final chapter of this book.

In terms of the concrete structuring of this volume, we have decided to retain much of the familiar approach of discussing learner characteristics according to the canonical ID factors. No matter how hard we tried to escape the classic ID

paradigm, no matter how hard we tried to couch matters in the language of situatedness, complexity, or dynamism, we always returned to the reality that the most effective way to understand how learners differ from each other is to consider how they vary across a narrow range of generalizable features.

It would have been wonderful if we had been able to devise some innovative format that would have better reflected the interconnected nature of the concepts we discuss. However, as we said in the preface, the field is in transition and this transitional state can best be reflected by a dialogue within a recognizable organizational structure. Since our dialogue is based on the revisitation of the original version of this book, we decided to broadly shadow that original text, with the deviations representing a 2015 perspective as the most recent stop on a continuing journey. Then, should someone pay another visit in another 10 years' time, they are likely to be able to discuss similarly exciting developments as those we have witnessed over the past decade.

2

PERSONALITY

The 2005 version of this chapter began by grappling with the issue of where to situate a discussion of personality in a book on the psychology of the language learner: On the one hand, personality is the most individual characteristic of a human being and therefore it is appropriate to start the summary of individual differences with a description of the various personality factors; on the other hand, from an educational perspective, the role and impact of personality appears to be curiously limited, and the amount of research targeting personality in L2 studies has been minimal compared to the study of most other ID variables discussed in this book. In preparing this revisitation, we were faced with the same dilemma, because if the question is how the field of SLA has responded to the major advances within personality psychology, the short answer is that it has not. However, this absence of engagement may not simply be a function of some sort of inertia in our field; after all, SLA has made considerable headway in other ID domains—for example, motivation—that resonated better with the day-to-day concerns of the field. Instead, it seems more likely that scholars have not embraced the findings of personality research because they failed to see its direct relevance to the study of L2 learners. This situation, however, might be changing, as relatively recent developments within personality psychology associated with Dan McAdams's work (briefly mentioned in the previous chapter) offer great potential for SLA researchers. The newly emerging perspective considers how stable personality traits interact with situational adaptions within a dynamic framework of personality, and although there has been no specific research in L2 studies that apply McAdams's theory yet, we are optimistic that this approach presents a promising way forward.

Personality and Psychology

In so many ways personality is *the* key individual difference, and indeed, in his 2007 Hans Eysenck Memorial Lecture, Philip Corr (2007) rightly highlighted the lay perception that psychology is essentially the study of personality: While professional psychologists may be specialized in professional issues such as social or clinical aspects, to the lay observer the field of psychology is all about the understanding of personality. Furthermore, even from within psychology, the study of personality has a special status; as Pervin and John (2001, p. 3) put it, "Personality is the part of the field of psychology that most considers people in their entirety as individuals and as complex beings." Of course, in a book primarily concerned with second language learning, we cannot offer a comprehensive discussion of a field as extensive as personality psychology, so the following sections will focus first on core conceptual/definitional issues and then outline some of the main themes and models relevant to our subject. The rest of the chapter will examine the interface of personality and learning, and especially language learning.

Definitions

The Collins Cobuild Dictionary defines *personality* as one's "whole character and nature," and according to Pervin and John's (2001) standard definition, personality represents those characteristics of the person that "account for consistent patterns of feeling, thinking, and behaving" (p. 4). Such a broad view of personality allows for a wide range of approaches to its study as long as the emphasis is on 'consistent patterns,' a condition that is in full accordance with the principles guiding the birth of psychology as an academic discipline in the early 20th century, powerfully articulated by one of the pioneers of the field, J. P. Guilford (1936), when he argued that "science . . . is not interested in the unique event; the unique event belongs to history, not to science" (p. 676). Not surprisingly, then, we are back to the general versus unique dilemma identified in the previous chapter, because the call to be 'scientific' and thus to investigate and describe the 'general' has been in contrast with the repeated pleas over the years for a greater consideration of the 'unique' individual in personality psychology.

In support of the scientific definition, personal experience suggests that there is a certain constancy about the way in which an individual behaves, regardless of the actual situation. Indeed, every language contains a wide array of adjectives to describe such general patterns, ranging from *aggressive* to *kind* or from *lazy* to *sociable,* and there seems to be considerable agreement among people and across cultures about such categorizations, suggesting that these adjectives represent underlying personality traits. Personality theories, then, attempt to identify such traits and organize them into broad personality dimensions.

Barenbaum and Winter (2008) explain that the field of personality psychology actually began under the guise of the term 'character,' but partly because of the moral dimension attached to this term, it gradually fell out of favor, to be abandoned and replaced by the more neutral 'personality.' A further basic definitional clarification concerns how 'temperament' connects to 'personality.' As Clark and Watson (2008) note, the concept of temperament has its origins in ancient history and is typically used to refer to a "characteristic emotional style" (p. 265), rooted in the biological substrate of behavior and usually considered highly heritable (Snow *et al.,* 1996); it involves the kind of characteristics whose traces we can already detect in early childhood. Thus, temperament and personality can be seen as broadly overlapping domains, with temperament providing the primarily biological basis for the developing personality (Hogan, Harkness, & Lubinski, 2000). Interestingly, several scholars (e.g., Arikha, 2007; Clark & Watson, 2008; Leaver, Ehrman, & Shekhtman, 2005) acknowledge the lasting influence of the Classic Greek taxonomy of personality proposed over 2,000 years ago by Hippocrates and Galen, consisting of four temperamental types: *phlegmatic* (unflappable and slow to take action), *sanguine* (easily but not strongly excited and having short-lived interests), *choleric* (impetuous and impulsive, often ambitious and perfectionist), and *melancholic* (inclined to reflection).

The Structure of Personality

Personality is such a crucial aspect of psychology that every main psychological strand has attempted to contribute to the existing knowledge in this area. Thus, the scope of theorizing can be as broad as the differences among the various paradigms in psychology. This is why the field of personality has been "filled with issues that divide scientists along sharply defined lines and lead to alternative, competing schools of thought" (Pervin & John, 2001, p. 25). These competing schools and paradigms have, in turn, identified a plethora of personality factors that sometimes differ only in label while referring nearly to the same thing, or—which can be more confusing—have the same label while measuring different things. Against the backdrop of this confusing situation it has been a most welcome—and frankly surprising—development that at the end of the 20th century a consensus had emerged in the field with regard to the main dimensions of human personality, with the 'Big Five' model, sometimes also known as the Five-Factor model (FFM), (e.g., Costa & McCrae, 1985, 1989, 1992; Goldberg, 1992, 1993; McCrae & Costa, 1987, 2003, 2008; McCrae & John, 1992), achieving a dominant status and becoming almost ubiquitous in personality studies. For example, in a recent review John, Naumann, and Soto (2008) have reported that since 2006 the number of Big Five publications has outnumbered all other models by more than 5:1 and the gap continues to increase. Let us have a look at this model more closely.

The 'Big Five' Model

As the name suggests, the Big Five model consists of five basic personality dimensions. Two of these—*extraversion* versus *introversion,* and *neuroticism emotionality* versus *emotional stability*—have derived from Eysenck's three-factor model of personality (e.g., Eysenck & Eysenck, 1985), to which the new model added the three new dimensions of *Conscientiousness, Agreeableness,* and *Openness to Experience* (often simply referred to as 'Openness'). These five dimensions tend to make common sense even to non-specialists, which is partly because of the genesis of the construct: The original and quite ingenious idea behind the theory goes back to research conducted in the 1930s by Klages (1932), Baumgarten (1933), and Allport and Odbert (1936), who assumed that if there was a certain consistency about how people behaved, then this must be reflected in the natural language people used to characterize each other. Collecting all the possible such adjectives in a given language would, therefore, provide a comprehensive list of personality factors, and by submitting these adjectives to factor analysis we might distill a smaller number of underlying personality dimensions or traits. This became known as the *psycholexical approach,* and from an initial "semantic nightmare" (Allport, 1937, p. 353) of over 18,000 terms, we have now arrived at a parsimonious five-component framework.

The term 'Big Five' was originally coined by Lewis Goldberg (1981), but in recent years the model has been most closely associated with the work of Robert McCrae and Paul Costa. All five dimensions are rather broad (hence 'Big' in the label), subsuming several important facets, which are usually referred to as *primary traits*. Because the model originated in adjectives, an effective way of describing the five main dimensions—the initials of which enable the acronym OCEAN—is listing some key adjectives they are associated with at the high and the low end (see Table 2.1).

TABLE 2.1 Descriptors for the components of the Big Five model

- *Openness:* High scorers are imaginative, curious, flexible, creative, moved by art, novelty seeking, original, and untraditional; low scorers are conservative, conventional, down-to-earth, unartistic, and practical.
- *Conscientiousness:* High scorers are systematic, meticulous, efficient, organized, reliable, responsible, hard-working, persevering, and self-disciplined; low scorers are unreliable, aimless, careless, disorganized, late, lazy, negligent, and weak-willed.
- *Extraversion–Introversion:* High scorers are sociable, gregarious, active, assertive, passionate, and talkative; low scorers are passive, quiet, reserved, withdrawn, sober, aloof, and restrained.
- *Agreeableness:* High scorers are friendly, good-natured, likable, kind, forgiving, trusting, cooperative, modest, and generous; low scorers are cold, cynical, rude, unpleasant, critical, antagonistic, suspicious, vengeful, irritable, and uncooperative.
- *Neuroticism–Emotional Stability:* High scorers are worrying, anxious, insecure, depressed, self-conscious, moody, emotional, and unstable; low scorers are calm, relaxed, unemotional, hardy, comfortable, content, even tempered, and self-satisfied.

When we look at the list it becomes evident that some of the scales are rather skewed in terms of their content, with one end of the scale being clearly more positive than the other (in the Conscientiousness and Agreeableness scales, for example, nobody would want to score low)—this vulnerability to socially desirable responses has remained a pertinent criticism of the model (see e.g., Ben-Porath & Waller, 1992; Widiger, 1992). Nevertheless, extensive empirical studies that have tested the model (for a recent review, see John *et al.,* 2008) have generally confirmed that it provides a good representation of the central features of personality, attesting to the fact that "the Big Five personality structure is a human universal" (Pervin & Cervone, 2010, p. 265).

One reason that Costa and McCrae's work has risen to such prominence is that they also developed assessment instruments that operationalize the Big Five model in a psychometrically appropriate manner (for a comprehensive review of the development of these instruments, see Costa & McCrae, 2008). They began their work by analyzing Cattell's 16PF (personality factors) (Cattell, Eber, & Tatsuoka, 1970) and this led them to develop the 'NEO-PI' (NEO stands for Neuroticism-Extraversion-Openness, with PI an abbreviation for Personality Inventory). The NEO-PI was revised in 1992 with the publication of the NEO-PI-R, a more finely tuned instrument comprising 240 items, in which each of the five 'Big' domains is represented by six lower-level facets, which are in turn assessed by eight items (Costa & McCrae, 1992; for a description, see Table 2.2). Obviously, such a comprehensive instrument as the NEO-PI-R takes a considerable amount of time to administer, making it impractical in many cases. In response, a shortened, concise form of the instrument, the NEO Five-Factor Inventory (NEO-FFI) (Costa & McCrae, 1989), has been developed and used widely.

The various versions of the NEO-PI are not the only personality inventories currently in use. The range and number of personality assessment instruments are extensive, and each of these batteries reflects a particular conceptualization of the nature and structure of personality (for an indication of the range of instruments currently in use, see Rushton & Irwing, 2011). The most widely employed personality test in the world is the Myers-Briggs Type Indicator (MBTI), to be discussed in some detail below.

Myers-Briggs Type Indicator (MBTI)

The MBTI is based around Carl Jung's theory of three bipolar types: *extraversion–introversion, sensing–intuiting,* and *thinking–feeling* (for a detailed description of Jungian personality models from an L2 perspective, see Leaver *et al.,* 2005) and was constructed by a mother-daughter team, Isabel Myers and Katharine Briggs (1976), who also added a fourth dichotomy to Jung's taxonomy: *judging–perceiving.* Table 2.3 contains the description of the four dichotomies targeted by the MBTI. The use of the term 'indicator' in the title of the instrument, instead

TABLE 2.2 A description of Costa and McCrae's (1992) 'NEO-PI' (revised version)

Dimensions and facets	*Description and sample items (in italics)*
Neuroticism	This scale covers emotional adjustment and stability at one extreme, and maladjustment and neuroticism at the other.
• Anxiety	• *I am easily frightened.*
• Angry Hostility	• *I often get angry at the way people treat me.*
• Depression	• *Sometimes I feel completely worthless.*
• Self-Consciousness	• *At times I have been so ashamed I just wanted to hide.*
• Impulsiveness	• *I have trouble resisting my cravings.*
• Vulnerability	• *When I'm under a great deal of stress, sometimes I feel like I'm going to pieces.*
Extraversion	This scale reflects extraversion at one extreme and introversion at the other.
• Warmth	• *I really like most people I meet.*
• Gregariousness	• *I like to have a lot of people around me.*
• Assertiveness	• *I am dominant, forceful, and assertive.*
• Activity	• *I usually seem to be in a hurry.*
• Excitement-Seeking	• *I like to be where the action is.*
• Positive Emotions	• *Sometimes I bubble with happiness.*
Openness to Experience	This scale taps an openness to new experiences, thoughts, and processes at one end, and a rejection of such at the other end.
• Fantasy	• *I have an active fantasy life.*
• Aesthetics	• *I am intrigued by the patterns I find in art and nature.*
• Feelings	• *How I feel about things is important to me.*
• Actions	• *I often try new and foreign foods.*
• Ideas	• *I have a lot of intellectual curiosity.*
• Values	• *I consider myself broad-minded and tolerant of other people's lifestyles.*
Agreeableness	This scale represents a type of 'easy-going' at one end and 'hard-headed' at the other end.
• Trust	• *I believe that most people are basically well-intentioned.*
• Straightforwardness	• *I would hate to be thought of as a hypocrite.*
• Altruism	• *I try to be courteous to everyone I meet.*
• Compliance	• *I hesitate to express my anger even when it's justified.*
• Modesty	• *I try to be humble.*
• Tender-Mindedness	• *We can never do too much for the poor and elderly.*
Conscientiousness	This scale reflects a complex trait sometimes called 'Will to Achieve' or 'Character,' reflecting a high desire at one end and a lower desire at the other.
• Competence	• *I pride myself on my sound judgment.*
• Order	• *I never seem to be able to get organized. (Reversed score)*
• Dutifulness	• *When I make a commitment, I can always be counted on to follow through.*
• Achievement Striving	• *I've worked hard to accomplish my goals.*
• Self-Discipline	• *I am a productive person who always gets the job done.*
• Deliberation	• *I always consider the consequences before I take action.*

TABLE 2.3 Descriptions of the four dichotomies targeted by the Myers-Briggs Type Indicator (MBTI)

- *Extraversion–Introversion,* referring to where people prefer to focus their attention and get their energy from: the *outer world* of people and activity or their *inner world* of ideas and experiences. This facet is also part of the Big Five model and has already been described there.
- *Sensing–Intuition,* referring to how people perceive the world and gather information. 'Sensing' concerns what is real and actual as experienced through one or more of the five senses; a sensing person therefore is empirically inclined and tends to be interested in the observable physical world with all its rich details. In contrast, a person on the 'intuitive' end of the continuum does not rely on the process of sensing and is less interested in the factual details; instead, he/she relies on the process of intuition, preferring the abstract and imaginative to the concrete, and tends to focus on the patterns and meanings in the data.
- *Thinking–Feeling,* referring to how people prefer to arrive at conclusions and make decisions. 'Thinking' types follow rational principles while trying to reduce the impact of any subjective, emotional factors; they make decisions impersonally on the basis of logical consequences. 'Feeling' types, on the other hand, are guided by concern for others and for social values; they strive for harmony and show compassion; they are slow to voice criticism even if it is due but are quick to show appreciation; thus, they 'think with their hearts' (Ehrman, 1996).
- *Judging–Perceiving,* referring to how people prefer to deal with the outer world and take action. Judging types favor a planned and orderly way, seeking closure and finality, whereas people on the perceiving end of the scale like flexibility and spontaneity and therefore like to keep their options open. They often resist efforts of others to impose order on their lives.

of the more common 'test' or 'inventory,' is not a mere stylistic issue. It is related to the fact that the dimensions of the MBTI do not refer to traditional scales ranging from positive to negative (e.g., like those in the NEO-PI). Rather, they indicate various aspects of one's psychological set-up and, depending on their combinations, every type can have positive or negative effects in a specific life domain. This value-neutral approach is very similar to what we find with learning styles (see Chapter 5), where scholars also emphasize that the various style dimensions carry no value judgment and that an individual can be successful in every style position, only in a different way.

The MBTI requires people to make forced choices and decide on one pole of each of the four preferences, which can be problematic in cases where individuals do not always feel that they belong to one extreme or the other but rather somewhere in between. The permutation of the preferences yields 16 possible combinations called 'types,' usually marked by the four initial letters of the preferences (because two components start with an 'I,' 'intuition' is marked with the letter 'N'); for example, Myers's own type preference was

Introversion–Intuition–Feeling–Perceiving (INFP). Despite various criticisms (see Furnham, 1986; McCrae & Costa, 1989), the MBTI has been translated into at least 21 languages and over 1.5 million individual assessments are carried out annually, often within large, successful businesses. Its various uses include personnel selection, team building, improving customer service, and conflict resolution. It has also been used in L2 studies, particularly as a learning style measure.

Toward a 'Big One'?

The Big Five model is based upon the claim that the five factors identified represent the most basic dimensions of human personality. This raises the obvious question as to whether five is the most appropriate number of dimensions with which to describe human personality. Funder's (2001) answer is 'almost certainly no.' As he argues, whereas almost any personality construct can be mapped onto the Big Five, we cannot derive every personality construct *from* the combinations of the Big Five. Therefore, he goes on, "This lack of comprehensiveness becomes a problem when researchers, seduced by convenience and seeming consensus, act as if they can obtain a complete portrait of personality by grabbing five quick ratings" (p. 201). We should bear this view in mind when we consider the fact that there has been considerable interest in recent years in a 'Big One,' a so-called General Factor of Personality (GFP). First proposed by Musek (2007), the argument is that all of the factors in the Big Five can be explained by this super-factor, making it similar in nature to the *g* factor underlying the Intelligence Quotient (IQ) in the measurement of cognitive abilities. This GFP has been explained by evolutionary processes that favor socially desirable traits and posits the notion of a 'good' personality: Somebody with a high GFP would score low on Neuroticism but high on the other four factors in the Big Five model, and according to Rushton and Irwing (2011), individuals with a high GFP are "altruistic, agreeable, relaxed, conscientious, sociable, and open, with high levels of well-being and self-esteem" (p. 134).

The GFP is far from universally accepted (for reviews, see Donnellan, Hopwood, & Wright, 2012; Ferguson, Chamorro-Premuzic, Pickering, & Weiss, 2011; Just, 2011), with one recurring criticism being that it represents more a statistical artifact than a concept with any practical relevance (Revelle & Wilt, 2013). Interestingly, exactly the same criticism has been leveled at the mysterious *g* factor in cognitive measurement; for example, Oberauer, Schulze, Wilhelm, and Süß (2005) assert: "By definition, *g* is conceptually opaque—it is the common variance of a set of tasks that happened to be constructed and used by intelligence researchers over a century. It reflects no explicit theoretical concept" (p. 64). Admittedly, from our educational standpoint, it is difficult to envision a practical use for a single, value-laden personality trait, but it does reinforce the

despairing conclusion of Matthews (1999), cited already in the 2005 version of this book, that "deciding whether to work with broader or narrower traits is a perennial problem for personality psychology" (p. 268).

Personality in Context

As McCrae and Costa (2008) readily acknowledge about the Big Five model, "Neither the model itself nor the body of research with which it is associated constitutes a theory of personality" (p. 159). A model can describe personality but it explains neither the causes of personality differences (Corr, DeYoung, & McNaughton, 2013) nor their effects. It is evident that the potential determinants of personality include a complex array of environmental, situational, and cultural variables, as well as biological factors related to one's genetic make-up. Of these, a key consideration within personality psychology, and one that has a particular relevance to L2 studies, concerns the impact of *situational factors* on the variation of personality and behavior. It has been widely observed that certain individual characteristics tend to be stable over time and across situations, while others tend to be highly dependent on immediate situational demands. Much recent research has been concerned with seeking an accommodation between static trait-centered theories describing the structure of personality and more dynamic models that describe the situated processes associated with personality in specific contexts. Integrating these two seemingly conflicting perspectives into a unifying framework presents, unsurprisingly, a considerable challenge, but not an impossible task because, as Mischel (1999) argues, "Dispositions and processing dynamics are two complementary facets of the same phenomena and the same unitary personality system" (p. 56). From an educational perspective, our interest in stable traits extends as far as their interactions with specific language learning/use contexts and the cumulative effect of these interactions, for as Pervin and John (2001) summarized, "To a certain extent people are the same regardless of context, and to a certain extent they also are different depending on the context" (p. 290). This is an issue that we shall return to more than once in the following chapters, and which has been taken into account in a recent personality model, the 'New Big Five,' to which we turn now.

A 'New Big Five'?

Despite its limitations as a largely descriptive model prioritizing regularity over developmental processes, it is difficult to deny the huge contribution the Big Five model has made to personality psychology, which has been reflected in the model's general acceptance as a standard in depicting personality structure. Nevertheless, there is still a powerful sentiment that "personality psychology should be offering more. Despite its recent revival, personality psychology still

falls somewhat short because it continues to retreat from its unique historical mission. That mission is to provide *an integrative framework for understanding the whole person*" (McAdams & Pals, 2006, p. 204, italics in original). This 'mission' resonates with our own aim in revisiting the 2005 articulation of the psychology of the L2 learner of shifting the field away from a modular conceptualization of IDs toward a more integrated account. What makes McAdams and Pals's proposal of a 'New Big Five' especially intriguing in this respect is that while it recognizes the existence and importance of stable personality traits, it situates them within a particular sociocultural context and a dynamically interacting personality framework.

In Chapter 1 we discussed McAdams's theory of personality, and Figure 2.1 presents a schematic representation of a subsequent articulation of that theory, known as the 'New Big Five.' The figure illustrates well that this conceptualization is more than a mere taxonomy of personality dimensions. It attempts to outline how personality emerges through interactions with the sociocultural context and in response to specific situational demands. At one level, humans

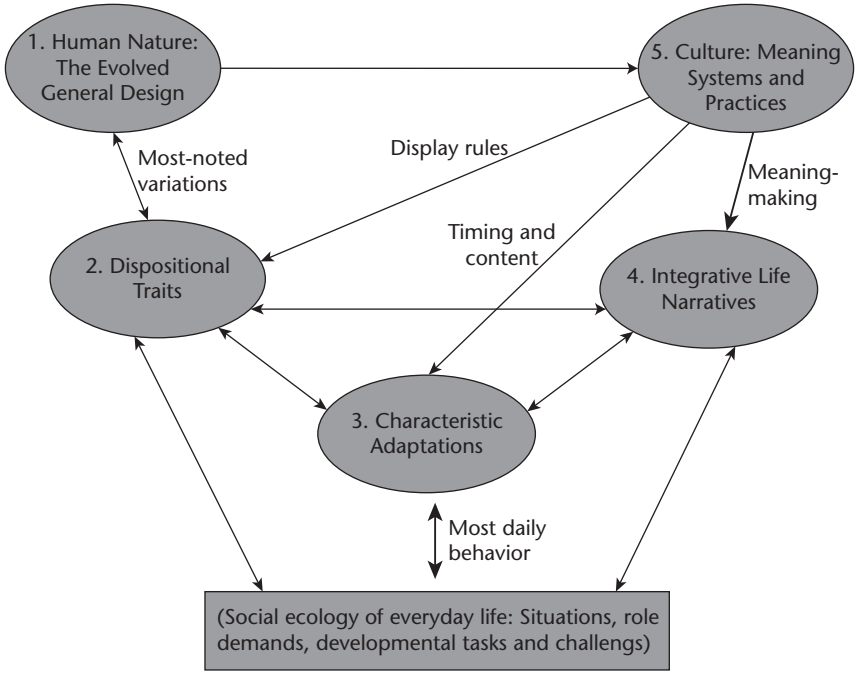

FIGURE 2.1 Schematic representation of McAdams and Pals's (2006, p. 213) 'New Big Five' model

are all to some extent variations on a common template of human nature and share a *general design*. The next domain, known as *dispositional traits,* includes those personality features that tend to be stable over time and across situations—essentially we are talking about the components of the Big Five model here. At the next level, we need to consider *characteristic adaptations,* that is, the various beliefs, goals, and strategies that individuals tend to employ in response to specific situations. At the fourth level, the component that makes for a truly integrative model is revealed, the ongoing *life narrative* that individuals construct to define who they are, to connect with others, and ultimately to regulate behavior. The final component to this model is the *sociocultural context* in which all of this takes place—that is, the various customs, traditions, and value systems that influence the development of personality.

Thus, in place of a simple unidirectional cause–effect relationship between personality and behavior, this model suggests a more dynamic interplay between the demands of a particular situation, personality dispositions, characteristic adaptations, and life narratives. Underpinning all this is the individual's biological inheritance, as well as various sociocultural background influences, thereby offering a gateway to a more integrated theory of personality that attempts to explain the dynamic development of real people in actual contexts. As we will see throughout the chapters of this book, the main thrust of the model appears to answer several calls coming from various directions within L2 studies, and we shall return to these issues in the final chapter.

Personality and Learning

Most people would agree that personality variables and types are important factors in determining our behavior in general, and from an educational perspective the real question is how such dispositions affect learning. Over the years, numerous studies have attempted to identify the personality correlates of academic achievement (for recent work in this area, see e.g., Ackerman, Chamorro-Premuzic, & Furnham, 2011; Busoni & Di Fabio, 2007; Furnham, Crump, Batey, & Chamorro-Premuzic, 2009; Heaven & Ciarrochi, 2012; Noftle & Robins, 2007; O'Connor & Paunonen, 2007). The 2005 version of this book characterized the results of these efforts as varied and inconclusive, and this situation has not changed much over the past decade. Within the Big Five paradigm, the two dimensions that are intuitively most closely related to learning are Openness to Experience and Conscientiousness (Heaven & Ciarrochi, 2012), and of the two, Conscientiousness in particular has proved to be "the most consistent and strongest predictor of academic achievement" (Kappe & van der Flier, 2012, p. 615) at various stages of learning, from pre-school (Abe, 2005) to adulthood (Shiner, Masten, & Roberts, 2003).

Extraversion, on the other hand, has been found to have a negative relationship with academic success (O'Connor & Paunonen, 2007) because of introverts'

greater ability to consolidate learning, lower distractibility, and better study habits. Similarly, Neuroticism often produces a negative correlation with learning achievement because of the anxiety factor that it subsumes, although Kappe and van der Flier (2010) have found a positive association in this respect within learning environments where the methods of assessment were less stressful. Nevertheless, even in the studies that report a significant link between personality factors and learning measures, the correlation rarely explains more than about 15% of the variance in academic performance. Furthermore, the moderate but significant results reported in the literature can be paralleled by numerous studies that have failed to produce any meaningful outcomes, and even when significant personality–achievement correlations were found in one setting, they often could not be replicated in another. It seems therefore that Aiken's (1999) general conclusion about personality–behavior relations is just as true now as it was 15 years ago: "Despite the large number of hypotheses concerning personality that have been generated over the years, on one test of their validity—the ability to make accurate behavioral predictions—they have not fared very well" (p. 169).

What explains these inconclusive and often counter-intuitive results? At least five main points can be mentioned:

Interaction with Situation-Specific Variables

There is considerable evidence that personality factors interact with numerous variables inherent to the social context of the learning situation, which prevents generalized linear associations (such as correlations) from reaching overall significance. One such variable concerns the age of the learner, as the learning experience can differ according to the learners' relative educational stage. Skehan (1989), for example, reported on a study by Wankowski that related extraversion–introversion to age and found that this personality trait affected achievement differently before and after puberty in the investigated sample: Below puberty extraverts had an advantage over introverts whereas after puberty it was the other way around. Wankowski explained the shift with the different learning environments students were exposed to, as a result of which the nature of the 'achieving personality' changed. This makes sense: It is not difficult to think of certain types of learning situations in which an outgoing and sociable person would excel and some other contexts that would favor his/her more quiet and sober counterparts.

Farsides and Woodfield's (2003) findings further illustrate that the personality–learning relation is to a great extent the function of contextual features. In their view, students relatively high in Openness should thrive in educational settings that promote and reward critical and original thought, but not in settings that emphasize the acquisition of received wisdom. Interestingly, their study also produced an unexpected result, namely that Agreeableness, which is

usually found to be non-significant (Noftle & Robins, 2007; O'Connor & Paunonen, 2007), correlated significantly with long-term academic achievement as expressed by course grades. A closer analysis revealed that this influence was entirely mediated by situational factors: The particular course that the study focused on had a strong seminar component and it was found that Agreeable students went to seminars more often than did less Agreeable students; this more intensive participation in this course element, in turn, was rewarded by improved final course grades. The authors therefore concluded that students relatively high in Agreeableness should thrive when instruction and assessment occur within social interaction, while those lower in Agreeableness should fare better in educational settings where students are less socially interdependent (or are even negatively interdependent).

Need for Less Simplistic Models

Although it is clear from the above that the relationship between personality factors and learning achievement is often *not* direct and linear, but indirect as it is mediated by various modifying variables, the typical research design reported in the literature is still correlational, testing for simple personality trait–learning outcome relationships. The inconclusive findings obtained from research adopting this approach suggest that such simplistic research designs tend not to yield valuable insights and that researchers therefore need to consider more complex, nonlinear relationships. Thus, we are back to the fundamental issue discussed at some length in Chapter 1, namely that personality cannot be meaningfully isolated from the learning context, which warrants research designs that control for contextual factors rather than treat them as unwanted interference or background noise.

Supertraits or Primary Traits

As we have seen earlier, the Big Five construct consists of five main dimensions, or 'supertraits,' and 30 facets, or 'primary traits.' Although the rationale for clustering the primary traits into supertraits was that all the facets within a dimension were interrelated, when it comes to their relationship with academic success we find differences among the interrelated primary traits in terms of their impact on learning. So, as we shall discuss in the next section, we may find only a weak relationship between Neuroticism and learning outcomes, but the relationship is typically much stronger if we consider the trait-anxiety facet of Neuroticism separately. Such internal variation obviously reduces the supertraits' predictive capacity, but the alternative—that is, examining the personality–learning relation at the primary trait level—would in effect mean giving up the Big Five construct with all its merits.

Methodological Issues

The inconclusive results in the literature are also partly due to various research methodological limitations or inconsistencies. For example, Farsides and Woodfield (2003) found that different studies have permitted considerably different time lapses between the collection of predictor and criterion data, with a range of a few weeks to several years. A further potential source of insignificant results is that many of the studies employed convenience samples, with the most typical being psychology majors at the university of the researchers. The problem with this is that being a psychology major in itself implies a certain form of academic achievement and in such pre-selected samples the variance in ID variables can be so restricted that it may in some (but not all) cases prevent correlation-based coefficients from reaching statistical significance.

Operationalizing Academic Achievement

In order to discuss academic achievement, we need to have some consensus on how to measure it. Different studies have used different criteria for academic success. In a survey of 23 studies published between 1991 and 2006, O'Connor and Paunonen (2007) found a broad range of measurements of academic achievement, from grade point average and performance on standardized tests to classroom participation. This is obviously a problem because we cannot expect consistent findings between research that is investigating the effects of independent variables (personality traits) on a dependent variable (academic achievement) when the latter has been operationalized in numerous ways.

In conclusion, most specialists in the field would agree that past research has not done justice to the assumed relation between personality variables and learning outcomes: As mentioned above, even carefully executed studies rarely manage to explain more than about 15% of the variance in academic success. This relatively low percentage, however, may not be so surprising if we consider the following analogy: Personality traits can in many ways be compared to the ingredients of a cooking recipe and a good cook can usually prepare a delicious meal of almost any ingredients by knowing how to combine them. In a similar vein, one can argue that we should not expect many strong linear relationships (expressed, e.g., by correlations) between individual personality traits and achievement because successful learners can combine their personality features to best effect by utilizing their specific strengths and compensating for their possible weaknesses in adjustment to the particular learning environment.

Personality and SLA

There has been a long-standing and widespread perception that good language learners are characterized by a unique personality set-up. For example, according to a questionnaire survey of L2 teachers' views on this issue, Lalonde, Lee, and

Gardner (1987) found that 83% of the teachers rated the good language learner to have prominent personality features, with the following 11 traits yielding consensual agreement: meticulous, persevering, sociable, independent, inquisitive, involved, organized, active, flexible, assertive, and imaginative. The first four of these traits were also represented in the profile obtained by Naiman *et al.* (1978), which employed open-ended questions. Examining French immersion programs, Swain and Burnaby (1976) affirmed that parents considered certain personality traits important qualities for success, even though out of the four such factors identified—happy, cheerful, talkative, and having a tendency toward perfectionism—only the last one, perfectionist tendencies, correlated significantly with L2 performance.

Thus, the curious situation is that while all parties to the language learning process—teachers, learners, and their parents—appear to agree that personality factors play a significant role in successful L2 learning, there has been a major disconnect between this perception and research findings. This suggests that either the perception itself is misguided or that researchers are for some reason failing to explain the link between personality and SLA. Indeed, when we began researching this revised edition, one of our first steps was to search through various databases for articles in leading SLA/applied linguistics journals with the term 'personality' in the title and we could only find two articles published since 2005. So, let us start the discussion on personality and L2 learning/use by considering why SLA scholars have been reluctant to explore this link.

Methodological Challenges

According to Dewaele (2012b), one reason for the paucity of any systematic research on the role of personality factors in SLA could be a simple lack of expertise. Any study of the effects of personality on language learning would require theoretical knowledge and research skills in the fields of personality psychology, educational psychology, and applied linguistics among others. However, very few individuals meet these criteria, and even those who do are faced with further methodological challenges. The first and foremost of these is to reconcile the differing perspectives of psychologists and linguists: Personality psychologists, according to Dewaele and Furnham (1999), tend to explain linguistic behavior at a global level (e.g., by looking at verbosity) without going into a detailed microanalysis (e.g., looking at discourse markers) as is usually done by linguists. In contrast, linguists who sample a rich selection of L2 competencies as target variables would need a small number of quick—and therefore inevitably somewhat crude—ratings of personality in order to avoid the over-complication of the research design.

Finding the right approach and level of analysis is further thwarted by the fact—highlighted by Furnham (1990) already a quarter of a century ago—that a bewildering array of ways exist to measure both personality and speech, with different methods tapping into slightly different aspects. The complexity of selecting

the most suitable measurement procedures and instruments has clearly served as a deterrent both for linguists and psychologists, and so did the fact that various combinations of the selected measures often produced mixed results, making the interpretation of the findings problematic. Finally, even when an appropriate approach and suitable indices of personality have been arrived at, it is often very difficult to isolate the specific effects of any personality variable in a process as drawn out and as subject to situational fluctuations as learning a second language.

Extraversion and Introversion

Similar to first language studies, the most researched personality aspect in L2 studies has been the extraversion–introversion dimension. Nonetheless, the emerging picture about the role of extraversion–introversion has been unsatisfying, with scholars either concluding that the relationship between this trait and learning was insignificant or mixed. Dewaele and Furnham (1999) have explained that the bad reputation in the L2 field of the extraversion construct—"the unloved variable"—is the result of not distinguishing properly between written and oral language criteria, as exemplified by Naiman *et al.*'s (1978) influential study on the topic, which only examined criterion measures from written language and found no significant relationships between these and extraversion. However, Dewaele and Furnham argued that in the studies where extraversion scores are correlated with linguistic variables extracted from complex verbal tasks (i.e., conversations), a clear pattern emerges: Extraverts are found to be more fluent than introverts both in L1 and L2 and particularly in formal situations or in environments characterized by interpersonal stress. As the authors explain, introverts can suffer from increased pressure because the intensity of arousal exceeds their optimal level, which in turn inhibits the automaticity of speech production. They slide back to controlled serial processing, rather than automatic parallel processing, which overloads their working memory. As a consequence, their speech slows down, they hesitate more often, they tend to make more errors, and they are unable to produce utterances of great length (cf. also Dewaele & Furnham, 2000).

A further, related insight into the superior fluency of extraverts was provided by a study by Dewaele (2004), in which he found that extraverted L2 speakers tended to use colloquial words freely whereas introverts tended to avoid them. However, the picture becomes blurred when we consider a study of high-achieving language learners carried out by Ehrman (2008). Using the MBTI, she found that "the best language learners tend to have introverted personalities, a finding which runs contrary to much of the literature, and, even, to pedagogical intuition" (p. 70). She also found that the most important personality variable amongst the high achievers was intuition. Also noteworthy in this respect is the investigation of MacIntyre, Clément, and Noels (2007), which highlighted the

significance of situational conditions: In their study focusing on the effects of the learning situation and extraversion on the vocabulary test scores of Canadian French L2 learners, the researchers found that introverts performed best when studying in a familiar environment, whereas extraverts performed better in more novel conditions.

The main lesson of these mixed results is that we should not think of L2 learning as a monolithic process but rather as a series of diverse tasks and processes, some of which may suit extraverts, while others may favor introverts. Potential confounding variables abound, which is well illustrated by Wakamoto's (2009) results that point to the fact that extraverts and introverts may favor different learning styles and adopt different learning strategies: In this particular study extraverts showed preference for more social forms of learning and introverts for solving problems individually. That is, with regard to L2 learning, both extraversion and introversion may have beneficial features, depending on the particular task and social situation in question.

The Big Five in L2 Studies

While it is safe to say that the extravert-introvert dimension has received the most attention within SLA, other personality dimensions have also been investigated. Verhoeven and Vermeer's (2002) study deserves special attention, as this study was the first to use the Big Five personality construct in L2 research. The purpose of the investigation was to examine the communicative competence of young teenage language learners in the Netherlands in relation to their personality characteristics (and also to compare these learners with a native-speaking sample). Following Bachman and Palmer's (1996) taxonomy, communicative competence was operationalized in terms of three main constituents: organizational competence (measured by standardized discrete-point tests of vocabulary, grammar, and reading), strategic competence (measured by two rating scales for teachers to judge the children's planning of communicative behavior and monitoring communication), and pragmatic competence (measured by student performance on eight different role-play tasks). It was found that only Openness to Experience correlated substantially with the linguistic abilities of the children across all three competencies (with a mean correlation of 0.43). Extraversion was associated only with strategic competence, but the highly significant correlation ($r = 0.51$) between the two variables was very much in line with the theoretical considerations reported in the section on extraversion–introversion above. Conscientiousness had a moderate correlation with organizational competence ($r = 0.28$), whereas the other two facets of the Big Five model (Agreeableness and Neuroticism) were unrelated to L2 communicative competence. These findings are interesting in themselves and they also indicate that if scholars include in their research paradigm a more elaborate

conception of L2 proficiency than a global L2 proficiency measure, stronger and more meaningful relationships can be identified.

Lower-Order Personality Traits

The 2005 version of our book held out great hope that the emergence of the Big Five model might reinvigorate research into links between personality and language learning. However, the actual trend over the past decade has shown that a large proportion of the meaningful findings relating personality to L2 achievement have emerged at the *facet* rather than the *dimension* level of the Big Five model (i.e., involving lower-order personality constructs), which brings into question the usefulness of the Big Five model for investigating a domain as situationally dependent as L2 learning. As a prime example, in the Big Five model *anxiety* is seen as a facet of Neuroticism and, yet—as will be discussed in Chapter 7—there is a huge body of literature connecting anxiety to language learning and showing conclusively that anxiety is a key factor in both the learning and use of an L2. In contrast, no such relationship has been found at the higher dimensional level of Neuroticism.

A second relevant component of the Big Five model is *Tolerance of Ambiguity* (TA), which is a lower-order personality trait associated with the Openness dimension. Ehrman (1993) has described TA as including the ability (a) to take in new information; (b) to hold contradictory or incomplete information; and (c) to adapt in response to the unfamiliar. High TA has been considered essential to successful language learning ever since Rubin's (1975) seminal 'good language learner' study stated that the "good language learner is . . . comfortable with uncertainty . . . and willing to try out his guesses" (p. 45). Recent years have witnessed something of a renewed interest in the importance of TA. For example, in a study of Korean university learners of English, Thompson and Lee (2013) found, through factor analysis, a factor they labeled 'Fear of Ambiguity in English,' which they described as a "a panicked feeling when not everything is understood in English" (p. 739), and in a similar vein, in a study of secondary school learners in Hong Kong, Dewaele and Shan Ip (2013) observed a strong relationship between TA and anxiety, indirectly suggesting a link between the higher-order personality traits of Neuroticism and Openness. Finally, Doughty, Campbell, Mislevy, Bunting, Bowles, and Koeth (2010) have highlighted the importance of TA in attention control and memory:

> Tolerance of ambiguity is the ability to keep contradictory or incomplete input in memory. This ability may be important for language learning because input that is meaningless or seems contradictory at an early point in language learning may become important later on in the learning process.
>
> (p. 18)

Personality as the Dependent Variable

The vast majority of studies into the relationships between language learning and personality have focused on the effects of personality types on L2 success, treating personality as an independent variable, and the original version of this chapter concluded by calling for more studies employing personality traits as independent variables. However, Dewaele (2012a) provides an intriguing shift in focus by looking at personality as the *dependent variable,* considering how the learning and use of other languages can *affect* one's personality. For example, in a study of London teenagers, Dewaele and Van Oudenhoven (2009) found significant differences in the personality profiles of multilingual participants, such as higher levels of Openness and Neuroticism. Similarly, Korzilius, Van Hooft, Planken, and Hendrix (2011) investigated non-international and international employees of a Dutch multinational company and found that the number of foreign languages known by participants correlated significantly with a variable labeled 'Open-mindedness.' Of course, neither study proves that it was the engagement with L2 studies and the resultant bilingual existence that caused the observed differences (and not the other way around), but Dewaele and Wei (2013) make a convincing point when they state that a "high level of multilingualism and multiculturalism represents the kind of enduring sociocultural influence that can shape personality" (p. 231).

This potential change in perspective from independent to dependent variable is important in that it encourages us to consider an altogether more dynamic interaction between personality and L2 proficiency. The conventional approach of identifying and isolating personality traits and then attempting to measure their effect on language achievement in a linear manner has not been an unqualified success and, similar to the inconclusive and moderate findings concerning the personality–learning relationship in general, it has by and large failed to do justice to the topic. Looking at how personality develops *alongside* language may produce fresh insights and possibly more noteworthy revelations.

Conclusion

The conclusion of this chapter in the original version of this book was that although adjectives such as 'weak,' 'mixed,' 'equivocal,' and 'insignificant' tended to characterize empirical results concerning the relationship between personality and learning, there was hope that the growing consensus built around the Big Five model would open up novel opportunities for research and shed new light on the various possible relationships between personality and language learning. This clearly has not happened and one has the feeling that, apart from a few exceptions, the SLA research community as a whole has given up on exploring how personality is implicated in the L2 learning process. Considering the possible reasons for this state of the art may help us understand how

the field has changed in recent years and chart possible directions for future progress.

In our review of research into the effects of personality on second language learning, the overriding narrative is clear: In cases where researchers have attempted to isolate the effects of single personality traits, where language learning and learning achievement—including L2 outcomes—have been operationalized in a simplified fashion, and where the relationship between personality and SLA has been conceptualized as linear or unidirectional, research findings have been less-than-satisfactory. These approaches appear to have hit a dead end, and recent years have been a particularly barren time for research into the relationship between personality and SLA. This is in sharp contrast to an opposite trend already mentioned in the preface, namely that the same period has seen a rise in studies focusing on learner characteristics, especially on L2 motivation. This would suggest that scholars see the significance of the learner within the learning process more than before, but they do not attempt to capture this significance within the framework of higher-order personality traits. Indeed, it was concluded above that a large proportion of the meaningful findings relating personality to L2 achievement has emerged with lower-order personality constructs.

However, we conclude this chapter on an optimistic note, suggesting that the barren spell of exploring personality factors in SLA may well be the precursor to a resurgence in interest. Simplistic, causal frameworks have provided few benefits in the past, but new research paradigms based on the dynamic interactions between the individual and context, such as the 'New Big Five' framework discussed in this chapter, promise to reveal much more. Virtually everybody who has ever taught or learned a foreign language will affirm that aspects of personality determine the extent of success, and our hope is that researchers equipped with more appropriate tools and working within more nuanced and dynamic frameworks will, eventually, back up this observation.

3

LANGUAGE APTITUDE

The concept of *language aptitude* is related to the broader concept of *human abilities,* covering a range of cognitively based learner differences. In the domain of second language learning "aptitude is characterized as strengths individual learners have—relative to their population—in the cognitive abilities [which] information processing draws on during L2 learning and performance in various contexts and at different stages" (Robinson, 2005, p. 46). Aptitude has traditionally been seen as a key factor in L2 learning; for example, in a large-scale survey of individual differences, Ehrman and Oxford (1995) found that aptitude measures were the ID variables that most strongly correlated with L2 proficiency. In this chapter we take a closer look at what components this construct subsumes, how it is measured, and what its role is in the SLA process. We also consider how conceptualizations of aptitude have changed over the years and what this tells us about current understandings of the psychology of the L2 learner.

A consistent theme throughout the chapter will be the observation that the interest in and understandings of ability have gone hand in hand with *aptitude assessment.* According to Cooper (2002), ability testing stretches back 4,000 years to when the Chinese used a form of ability testing to select candidates for their civil service; and indeed, the accurate identification of who will benefit from a particular course of education, or which job applicants are likely to perform best if appointed, is still seen as having important financial and personal benefits. This tendency can be especially pronounced in domains such as language learning, where there exists a popular belief that success largely depends on a special kind of language aptitude.

Basic Conceptual Issues

Let us start our discussion with some basic conceptual issues. The general term *(human) mental ability* is typically used in psychology to refer to a variety of

human traits that are involved in thinking, reasoning, processing information, and acquiring new knowledge. In other words, mental abilities reflect *cognitive* processes and skills. When describing such processes and skills, experts and non-specialists alike use several terms, most notably 'ability,' 'aptitude,' and 'intelligence.' How do these differ from each other?

Although some scholars distinguish between ability and aptitude, in typical practice the two are used synonymously. Furthermore, in educational contexts such as L2 learning, ability is often used to mean 'learning ability,' that is, the individual's potential for acquiring new knowledge or skills. Thus, 'language aptitude' means exactly the same as 'language ability' and is typically meant to denote 'language learning ability.' What about intelligence? Intelligence is yet another synonym for 'ability' but when it is used on its own (i.e., not in a phrase such as 'spatial intelligence' or 'verbal intelligence') it usually has a broader meaning, referring to a general kind of aptitude that is not limited to a specific performance area but is transferable to many sorts of performance. This general usage is explained by the fact that scores on all subtests of abilities measured by intelligence tests are positively intercorrelated, which makes it possible to compute a single higher-order factor, usually labeled as *g,* that describes the commonalities of the various abilities. The famous/infamous IQ coefficient is intended to assess this general *g* factor.

Theories of Intelligence

'Intelligence' in the scientific sense is not a unitary construct and several theories have been proposed in the past to describe the hierarchical organization of the many constituent abilities identified. Detailed description of these theories would go beyond the scope of this chapter, but to illustrate the kinds of constructs we can find in the literature let us briefly consider some of the most influential taxonomies. In the 1920s, Spearman described intelligence as a combination of a general factor *(g),* which is available to an individual to the same degree for all intellectual acts, as well as several specific factors that vary in strength from one act to another. Ten years later Thurstone distinguished seven primary mental abilities: *verbal comprehension, word fluency, number facility, spatial visualization, associative memory, perceptual speed,* and *reasoning.* In the 1960s, Guilford's famous structure-of-intellect model contained an elaborate structure that eventually included as many as 180 different factors. At about the same time, Cattell's influential theory divided up general intelligence into *fluid intelligence* (Gf) and *crystallized intelligence* (Gc). Fluid intelligence is the ability to adapt to novel situations, as manifested in performance on tests of reasoning ability about sequences of abstract shapes or manually assembling larger objects from groups of novel shapes. Crystallized intelligence consists of knowledge and skills acquired by experience and education, and is specific to certain fields and domains, such as knowledge of history or mathematical skills. In recent years, Gardner's (1983,

2000) 'multiple intelligence' model has offered an alternative perspective by discussing human cognition and potential in terms of different 'intelligences' such as *verbal-linguistic, logical-mathematical, bodily-kinesthetic, spatial, intrapersonal, interpersonal, musical, naturalist,* and *existential.* Similarly Sternberg's (1985) triarchic theory of intelligence, or 'successful intelligence,' construct has also attracted considerable attention and this will be further discussed in a separate section below.

This very brief description illustrates well two important points about aptitude: First, there is no universally accepted theory or definition of intelligence and neither is there a canonical list of 'real' mental abilities. In fact, even the much-researched *g* factor remains quite an enigma: Although it accounts for approximately 50% of the overall variance of cognitive abilities in general (Carroll, 1993), there is no universally accepted definition of what it denotes, and—as was mentioned briefly in the previous chapter—there is also a strong view that *g* is not a theoretically driven construct but merely a mathematical artifact (see e.g., Oberauer, Schulze, Wilhelm, & Süß, 2005). In other words, *g* may not exist in reality but only refers to some cumulative common cognitive index. The second central point to make about aptitude is that it is multicomponential in nature and therefore we can expect some variation within individuals with regard to their specific mental abilities; that is, for example, someone with a superior verbal ability may be relatively weak at reasoning tasks.

Ability and Language Learning

As we have seen above, the term *intelligence* is often used to denote the 'ability to learn' and in fact, the first modern intelligence test, the 1905 Binet-Simon Intelligence Scale, was originally developed to identify pupils who could not benefit from regular instruction in school classrooms because of their limited mental ability. Ever since these early days, intelligence has been closely associated with learning success, and therefore it was only a matter of time before attempts were made to conceptualize the specific ability to learn a foreign language. This ability has been referred to under a variety of names, ranging from 'language aptitude' and a special 'propensity' or 'talent' for learning an L2 to more colloquial terms such as a 'flair,' 'gift,' or 'knack' for languages. Indeed, language aptitude is one of those psychological concepts that is readily recognizable for researchers and laypeople alike, as there is a widespread perception of a natural, innate ability to learn an L2 that varies significantly from individual to individual (cf. Mercer, 2012a). Yet, when we subject the concept to closer scrutiny, it also becomes clear that what lies behind the popular surface meaning is rather ambiguous: Even language teaching experts would find it difficult to define what exactly this 'language flair' involves and, similar to their colleagues in mainstream psychology, scholars specializing in language aptitude research display considerable diversity in their conceptualizations of the construct.

The crux of the problem is that, strictly speaking, there is no such thing as 'language aptitude.' Instead, we have a number of cognitive factors making up a composite measure that can be referred to as the learner's overall capacity to master a foreign language. In other words, foreign language aptitude is not a unitary factor but rather a complex of "basic abilities that are essential to facilitate foreign language learning" (Carroll & Sapon, 1959, p. 14); thus, the concept concerns a variety of cognitively based learner differences. While this definition has been adequate for several decades, recent research into specific cognitive skills and capacities related to learning, such as 'working memory' or 'phonological coding/decoding,' has called into question some of these assumptions, with Robinson (2013, p. 57) arguing that there is a "clear need to update our current measures of, and theories of, aptitude, accommodating, where necessary, these recent findings from SLA and cognitive psychology research." However, because standard measures of language aptitude remain relatively good indicators of learning success across a wide range of situational parameters, the catch-all umbrella term of 'language aptitude' is still widely used in the general sense.

Traditional Issues in Language Aptitude Research

In the previous section we pointed out that there is no single entity that we can identify as 'language aptitude,' nevertheless scholars have traditionally found it useful to use the term as a shorthand when discussing a number of central issues concerning the cognitive dimension of SLA. Let us survey briefly the most important points raised and repeatedly revisited in the language aptitude literature.

What Does Language Aptitude Determine?

At the broadest level, as Robinson (2013) points out, language aptitude refers to "the ability to successfully adapt to and profit from instructed, or naturalistic exposure to the L2" (p. 57); that is, it is concerned with a learner's readiness to learn. However, there is a general agreement that language aptitude does *not* simply predict whether an individual can learn a foreign language or not. Rather, except for extreme cases, it predicts the *rate of progress* the individual is likely to make in learning "under optimal conditions of motivation, opportunity to learn, and quality of instruction" (Carroll, 1973, p. 6). Accordingly, Carroll and Sapon (1959) defined the predictive value of a given test score as follows:

> Knowing the individual's level of ability, we may infer the level of effort and motivation he must expend to learn successfully. A student with a somewhat low aptitude score will need to work harder in an academic language course than a student with a high aptitude test score. If the score is very low, the student may not succeed in any event.
>
> (p. 14)

Over the past decade, there has been a shift in the focus of aptitude research away from predicting the pace of acquisition toward considering how aptitude may impose a *ceiling* on that acquisition. There has been growing interest in the role of aptitude in predicting an *ultimate level of attainment* (e.g., Abrahamsson & Hyltenstam, 2008; Kormos, 2013; Linck *et al.,* 2013). This is explained by the observation that very few adult learners of a second language ever attain near-native-like levels of proficiency—indeed, according to an extreme position, "Native-like ultimate attainment in adult learners is, in principle, nonexistent" (Abrahamsson & Hyltenstam, 2008, p. 499)—and this observation, although disputed by some (Birdsong, 2004, 2007), has led some researchers to consider whether aptitude may explain differences in ultimate attainment. However, as Kormos (2013) rightly points out, viewing language aptitude in this light would require a broadening, or even re-definition, of the concept in order to take into account other non-cognitive variables—such as motivation or aspects of personality—that are integral to the L2 acquisition process. Such a reconceptualization has not taken place yet.

L1 Versus L2 Aptitude

Is language aptitude specific to SLA? After all, many of the cognitive factors that contribute to L2 learning are common to learning in other domains. To start with, we must realize that research into language aptitude is predicated on the observation that we find significantly greater differences in language proficiency among individuals acquiring an L2 than those acquiring an L1. However, differences in L1 comprehension and production *do* exist and begin to emerge early in childhood, later affecting performance in reading and writing as children progress through school (Bates, Dale, & Thal, 1995; Cunningham & Stankovich, 1997; Shore, 1995; Sparks *et al.,* 1998). It makes intuitive sense that such individual differences in one's native language skills are related to a learner's capacity to master a second language and some research findings support this view. In a study conducted in the 1980s, Skehan and Ducroquet (1988) administered foreign language aptitude tests to children who had participated in the Bristol Language Project (Wells, 1985) a decade earlier (for reviews, see Skehan, 1989, 1991). They found a significant positive association between the participants' first language development and their aptitude scores: There were several correlations on the order of 0.40 and above between first language measures of developing syntax (e.g., mean morpheme length of utterance, noun phrase complexity) and language aptitude. This led Skehan to conclude that aptitude for foreign languages was, to some extent, a residue of first language learning ability. However, he also emphasized that first language influences only explain part of the variance because aptitude also reflects abilities to handle decontextualized language material.

The most sustained and thorough research into first language influences on L2 acquisition has been conducted by Sparks and Ganschow in collaboration with various colleagues (Sparks *et al.,* 1998; Sparks & Ganschow, 1991, 2001;

Sparks, Ganschow, & Patton, 1995). We discuss the theoretical contribution of this line of research later in the chapter, but at this point we will concentrate on their consistent finding that L1 cognitive abilities are related to L2 acquisition. For example, two studies (Sparks, Humbach, & Javorsky, 2008; Sparks, Patton, Ganschow, & Humbach, 2009) found that assessment of L1 literacy administered as early as the fourth grade could reliably predict subsequent L2 proficiency in high school. Sparks and colleagues have not been alone in observing strong relationships between L1 skills and L2 achievement; other researchers (e.g., Dufva & Voeten, 1999; Gottardo & Mueller, 2009; van Gelderen, Schoonen, Stoel, de Glopper, & Hulstijn, 2007) have reached similar conclusions, suggesting that L2 aptitude cannot be considered in isolation from L1 learning.

In recent years, influenced by the field's growing interest in complex interactions, a more indirect, though still important, link between L1 and L2 aptitude has been highlighted. If we refer back to the earlier discussion of Cattell's concepts of fluid and crystallized intelligences, we can assume that much of our crystallized intelligence is mediated through L1 skills. Language learning situations that make demands on crystallized intelligence, such as verbal abilities or domain-specific knowledge, are thus dependent on the ability to acquire knowledge and skills in the L1 (Kormos, 2013). The clear implication here, and one we will return to later in the chapter, is that neither language learning nor language aptitude should be considered as monolithic and stable entities; different aspects and different stages of the language learning process require different cognitive abilities. This concern demands a more considered understanding of the relationship between language aptitude and intelligence.

Language Aptitude and Intelligence

One of the most persistent issues in the L2 aptitude literature has been the relationship between language aptitude and general intelligence. This is understandable: If the predictive power of language aptitude is almost entirely because of the commonalities it shares with intelligence, we would need to reconsider the importance attached to the construct—whereas if we find that language aptitude exerts its influence above that of intelligence, that would confirm the validity of the concept. Carroll (1962) certainly believed that intelligence and language aptitude were distinct concepts:

> Learning to speak and understand a foreign language is a fairly specialized talent (or group of talents), relatively independent of those traits ordinarily included under "intelligence"; and . . . [a] relatively small fraction of the general population seems to have enough of this talent to be worth subjecting to the rigorous, intensive, expensive training programs in foreign languages operated by military and governmental organizations.
>
> (p. 89)

Of course, we should realize that the whole issue is somewhat artificial because past research has revealed that both intelligence and language aptitude are composite constructs, subsuming a number of distinct components. Therefore, it is likely that instead of a clear-cut relationship between the two higher-order factors (i.e., 'intelligence' and 'language aptitude'), there is a complex pattern of interrelationships between their constituent components: Some cognitive components of general (i.e., non-language-specific) mental abilities will undoubtedly play a role in one's language learning capacity, whereas some others might be irrelevant.

A second and related point to note here is that when scholars talk about the relationship between language aptitude and intelligence, what they mean is the relationship between language aptitude *test scores* and intelligence *test scores*. We will discuss language aptitude assessment instruments in more detail in the next section, but at this point we need to realize that language aptitude tests usually contain certain subsections that are also standard parts of intelligence tests. Thus, we can assume that because both intelligence and language aptitude are composite constructs that involve a range of cognitive factors—some of which, but not all, clearly overlap—we can expect considerable but not perfect correlation between the two higher-order factors.

Research conducted by Gardner (1985) and Skehan (1986) confirmed the partial separation and partial relatedness of intelligence and language aptitude. Gardner and Lambert (1972) for example reported a median correlation of 0.43 between IQ and aptitude measures, and Skehan (1989) quoted very similar results, a correlation of 0.44, from his earlier research. In contrast, Robinson (2002) reported a considerably weaker relationship: In his study the correlation between scores on the Wechsler Adult Intelligence Scale and the Language Aptitude Battery for Japanese (Sasaki, 1996) was only 0.17, which did not even reach significance. We should also note Sasaki's (1993a, 1993b) results after comparing the scores of a number of intelligence and aptitude tests: She found that although a first-order factor analysis of the aptitude and intelligence scores revealed some separation between the two areas, a second-order factor analysis suggested that one common factor could account for the variance in the intelligence measures and some of the aptitude variables.

In sum, the complex of general intelligence and the complex of language aptitude share definite commonalities but do not coincide completely. The 2005 version of this book concluded that this suggested a need to identify more precisely the various independent components of language aptitude. However, a decade later we have become more cautious of using words such as 'independent' and would argue instead that investigating *interactions* between components may be a more fruitful approach. Nevertheless, we still concur with Sawyer and Ranta's (2001) conclusion that "treating L2 aptitude in a monolithic way obscures the nature of the relationship between general cognitive abilities and specific linguistic ones" (p. 329).

Language Aptitude and Age

Does language aptitude change with age either in a positive or in a negative way? On the one hand, if language aptitude is indeed a trait, it should be relatively stable over time. Intelligence, for example, has been found to be remarkably stable, as evidenced in a notable study by Deary, Whalley, Lemmon, Crawford, and Starr (2000). These scholars managed to track down 101 individuals in Scotland who took part in an intelligence survey in 1932 at the age of 11. Sixty-six years later they took the same test and the correlations between the two test scores reached 0.80 (after some statistical corrections). This extraordinary result indicates that a person's intelligence is a powerful predictor of their performance on the same test even several generations later, and Cooper (2002) cited further evidence showing that intelligence measured in middle childhood was a good predictor of intelligence displayed in later life. (Of course, we need to also bear in mind in this respect the uncertainty about what intelligence represents.) The other side of the coin, however, is that age is a central factor in an individual's language learning capacity—as evidenced by the vast amount of literature on the 'critical period hypothesis' addressing age-related changes in SLA (for reviews see Dörnyei, 2009b; Singleton, 2012; Muñoz & Singleton, 2011)—and therefore it is not unreasonable to assume that some of the age-related variation is mediated through aptitude changes that occur over time.

Having considered this question in some depth, Carroll and Sapon (1959) found no evidence that language aptitude changed with time, and two decades later Carroll (1981) confirmed that foreign language aptitude appeared to be relatively fixed over long periods of an individual's life span. Skehan's and Ducroquet's Bristol Follow-Up Study also suggests stability, as evidenced by the significant correlations between related measures taken more than 10 years apart. Skehan (1989) therefore concluded that some language learning abilities emerge by the age of three and a half (which was the age at which the Bristol project first measured the participants' language skills). He also pointed out, however, that it is still not clear whether these abilities are innate or were influenced by the early environment the children were exposed to in the first three years of their lives.

A further key issue relates to the role that aptitude, and its various components, play at different ages. Harley and Hart (1997) investigated seventh grade and eleventh grade immersion school children and analyzed how the predictive qualities of different aptitude components changed with age. Their findings showed that different components of aptitude were implicated in the different age groups: With younger children, the stronger correlations were found with the memory components, whereas with older learners it was the language analysis subtests that had the highest explanatory power. In a follow-up study, Harley

and Hart (2002) found further evidence that the nature of the aptitude–outcome relationship can change with age:

> In sum, there are several findings in this study that provide some support for the argument that analytical language ability is more closely associated with second language outcomes when intensive exposure to the language is first experienced in adolescence. This relationship appears to hold, though not as strongly, even when exposure takes place in an environment outside the second language classroom.
>
> (p. 329)

A further related concept is *age of onset,* that is, the age at which the individual begins to learn a language. In a study of Hungarian immigrants to the U.S., DeKeyser (2000) found a significant correlation between aptitude and language outcomes for adult arrivals, but not for those who arrived as children. Those who arrived in the U.S. as children attained high levels of proficiency regardless of their aptitude level, but only those adult arrivals who scored high on aptitude tests achieved similar levels of proficiency: For the adults DeKeyser found a significant correlation ($r = .33$, $p < .05$), but a non-significant correlation among those who arrived as children. DeKeyser, Alfi-Shabtay, and Ravid (2010) replicated the 2000 study by looking at Russian speakers regarding their acquisition of English in the U.S. and of Hebrew in Israel; in both cases the findings supported the 2000 research. Abrahamsson and Hyltenstam (2008) similarly looked at the effects of age and aptitude in a group of L1 Spanish speakers who had achieved high levels of proficiency in Swedish. They found that the late learner group of high proficiency speakers had higher aptitude test scores than the early onset group, which led them to conclude that "in order to pass for a native speaker in everyday language use, a high degree of aptitude is required for the adult learner but not for the child learner" (p. 498).

Dynamic Conceptualizations of Aptitude

In the field of educational psychology, Carol Dweck and numerous associates (Blackwell, Trzesniewski, & Dweck, 2007; Dweck, 1999, 2006; Dweck, Chiu, & Hong, 1995; Dweck & Molden, 2007; for a similar but separate line of research, see Feuerstein, Feuerstein, & Falik, 2010) have considered the *malleability* of human abilities, arguing that the brain functions like any other muscle and can be developed through exercise. Indeed, in connection to L2 learning, Grigorenko, Sternberg, and Ehrman (2000) have argued that language aptitude has only been regarded as a fixed entity because that is how the construct was conceptualized to start with; in their view, language aptitude is partly based on expertise in certain kinds of information processing that, like any other kind of expertise,

can be developed. Thus, these scholars look at language aptitude as a form of developing expertise rather than as an entity fixed at birth.

A further question related to the dynamic nature of aptitude is whether language learning itself can affect language aptitude, thus turning the simple, unidirectional aptitude–learning relationship into a bidirectional link. For example, there is some evidence (e.g., Bialystok, Craik, & Ryan, 2006; Emmorey, Luk, Pyers, & Bialystok, 2008) that bilinguals outperform monolinguals on certain nonlinguistic learning tasks, and in a recent study, Thompson (2013) found that previous language learning experience had a positive effect on language aptitude scores. Such a dynamic conception of language aptitude, centered around a virtuous circle in which learning more languages increases one's capacity to learn even more, is undoubtedly attractive from a practitioner's point of view, but it also highlights the underlying uncertainty of which aspects of the composite cognitive cluster that we label 'language aptitude' respond to external experiences.

Language Aptitude, Teaching Methods, and Learning Situations

Aptitude research has thrived at times when it responded to the needs and concerns of practitioners. The 1970s and 1980s witnessed a 'turn away' (Robinson, 2007) from this area largely because the notion of language aptitude had been conceptualized as a monolithic, static trait that was seen to have little direct relevance to communicative language teaching (Ranta, 2008), and aptitude effects were considered even less salient when L2 learning took place outside the classroom environment as part of the more naturalistic language acquisition processes. The decisive question in this respect is whether there are certain learning methods, or types of exposure to instructional input, that are associated with specific kinds of language aptitude. In other words, how situated is the concept of language aptitude? Before we attempt to answer this question, let us have a look at where this idea originated.

The belief that aptitude tests can serve practical, educational purposes was first expressed in a seminal study by Wesche (1981), who examined how L2 instruction could be adapted to account for aptitude differences. Wesche investigated the French language training program of the Public Service Commission of Canada, in which language aptitude tests had long been used for prognostic and diagnostic purposes. The program offered three different types of language instruction: (a) an *audio-visual method,* (b) an *analytical approach,* and (c) a *functional approach*. The audio-visual method was the core method used with most of the students, but in the other two groups learners received alternative instruction. Although there has been criticism of the criteria used to assign students to the various approaches (Vatz, Tare, Jackson, & Doughty, 2013), the basic principle observed was to match students to the type of instruction best suited to their

aptitude profile. Those who did well on the more analytic subtests of the aptitude test were assigned to the analytical approach; those learners, on the other hand, who had good memory and auditory abilities but achieved low scores on the tests measuring analytical abilities were assigned to the functional approach to help them overcome difficulties associated with their less developed analytic abilities.

According to Wesche (1981), learners receiving this type of differentiated instruction reported overall satisfaction with the methods assigned to them and felt more comfortable during lessons. Analytic learners matched with an analytic methodology did better than such learners matched with the audiolingual methodology, and memory-oriented learners also did better with the memory-oriented communicative approach that involved learning longer chunks of unanalyzed language. In contrast to this matching strategy, Skehan (1998, 2002) argued for a compensatory approach whereby tailored instruction in areas of weakness may help learners overcome various aptitudinal limitations. Following from this, Ranta (2002, 2005) studied the effects of remedial activities for learners of English in Quebec who had been identified as 'less analytic' at an early age. Ranta found that learners identified as less analytic had developed their oral production more slowly than the more analytic individuals, but when they received focused instruction designed to help them overcome their weaknesses, they made more rapid progress than similar learners who did not receive this instruction (see also the relevant discussion on style matching and stretching in Chapter 5).

Thus, consistent with Wesche's initial finding, in a review of the classroom implications of research into language aptitude, Cook (1996) concluded that "predictions about success need to take into account the kind of classroom that is involved rather than being biased toward one kind or assuming there is a single factor of aptitude which applies regardless of situation" (p. 101). This notion of situational sensitivity has also informed an important line of research on *aptitude–treatment interaction,* most closely associated with Peter Robinson (Robinson, 1997, 2001, 2002, 2005, 2007). Robinson's work, which we discuss in more detail later in the chapter, focuses on the microanalysis of the interrelationships between cognitive factors and situated SLA processes, and his results indicate that different types of learning processes are best enhanced by certain combinations of aptitude factors.

The above considerations would suggest that the answer to our original question as to whether certain types of language aptitude suit certain instructional environments better than others is affirmative. However, the other side of the coin is that some evidence points to the opposite conclusion, namely that language aptitude has a robust effect that is *not* restricted to specific teaching methodologies and learning situations. Having considered the changing perception of language aptitude, Ehrman and Oxford (1995) launched a research project to test whether the emerging reservations in this area were justified. They found that despite the communicative transformation in teaching methodology, traditional measurements of aptitude continued "to correlate with overall learning success

at more or less the same levels as it did in the heyday of audiolingual training" (p. 76). In their review of language aptitude research, Sawyer and Ranta (2001) also concluded that the predictive value of aptitude measures is maintained in a variety of settings and it is usually found to be relevant to L2 learning in both implicit and explicit conditions.

In sum, the attractive idea that the assessment of language abilities can have such pedagogic relevance that by identifying certain aptitudinal strengths and weaknesses we can facilitate learning is less than straightforward—similar to the conclusion of the previous section, much depends on how we conceptualize the composite cognitive construct of language aptitude. This is the point where we must turn to measurement issues because—as has already been mentioned briefly—virtually every time a scholar talks about language aptitude, what is really meant by the concept is 'the results of a language aptitude test.' Therefore, much depends on how such tests yield their results.

Language Aptitude Research: Measurement and Theory

A core assumption underlying research into language aptitude is that it is a measurable entity, a point made strongly by Robinson (2013, p. 1): "Like height, intelligence quotient (IQ), or working-memory capacity, aptitude is measurable, and differs in degree between learners in any population." Accordingly—and similar to how the measurement of intelligence went hand in hand with the development of differential psychology in the first half of the 20th century—theory-building on language aptitude has been inextricably linked to the development of measurement instruments. In this section, we consider the pivotal role of language aptitude assessment instruments, both their application and how they have shaped subsequent conceptualizations of aptitude.

The Purpose of Language Aptitude Testing

Let us start by examining the purpose of aptitude tests. Ostensibly, language ability testing has a very clear function: "The purpose of language aptitude assessment is to measure potential for success in learning a second language" (Doughty, 2013, p. 23). However, if we dig a little beneath the surface, we can identify a variety of reasons for which aptitude test scores can be used:

- *Selection:* This the most obvious application of a language aptitude test and the one to which Doughty is referring above. Effective selection could reduce both costs and time, as well as screen out language learners unlikely to benefit from instruction.
- *Research:* An unambiguous area of employing aptitude tests is in research studies in which scholars want to control for or further investigate cognitive ability factors.

- *Allocating resources:* By streaming language learners according to their aptitude scores, program administrators can have a more precise understanding of the extent of extra resources that the lower-aptitude groups might need to achieve the required level of proficiency.
- *Program evaluation:* By administering aptitude tests it may be possible to compare the learners' actual achievement with the achievement one might expect on the basis of their L2 learning ability. This would allow for a more accurate evaluation of the effectiveness of language teaching programs.
- *Tailoring instruction to the learners' aptitude level:* From an educational point of view, this might be the most interesting line of research. Following Wesche's (1981) original study discussed above, several scholars have suggested (e.g., Doughty, 2013; Ehrman, 1996; Ranta, 2008; Sawyer & Ranta, 2001; Skehan, 1989, 1998) that aptitude tests can be used to identify the particular cognitive strengths and learning style preferences of groups of learners, so that this diagnostic information can be used to tailor the quality and quantity of language instruction accordingly.
- *Predicting 'real-world' performance:* Although early aptitude tests were specifically designed with formal classrooms in mind, and did not really consider language use outside those classrooms, recent years have seen a growth in interest in how aptitude may relate to performance in naturalistic settings (Doughty, 2013). For example, O'Brien, Segalowitz, Freed, and Collentine (2007) found that aptitude, assessed in the form of phonological short-term memory, explained gains in oral proficiency achieved by L2 Spanish learners during a period of study abroad, that is, while learning in a naturalistic environment. Furthermore, they found that aptitude accounted for gains in oral fluency made by the study-abroad learners more than it did for other learners in more formal classroom settings.

To take a historical perspective, language aptitude testing was originally motivated by exactly the same reasons as the testing of intelligence, namely to make the most efficient use of scarce resources. In an article describing the beginning of language aptitude testing, Spolsky (1995) explains that in the 1920s and 1930s the U.S. school curriculum allocated such little time to the study of foreign languages that language learning failure became all too common. With articles written about the 'deplorable mortality in foreign language classes,' educational authorities commissioned the design of 'prognosis tests' to help to identify prospective 'causalities.' These tests did not have any firm theoretical foundation but their design was based on two main approaches that every language aptitude test has followed ever since: Spolsky labels these approaches *analytical* and *synthetic.* The former involves constructing tasks that tap specific cognitive abilities that are assumed to play a significant role in language learning; these tasks are in the students' first language and usually concern some aspect of verbal intelligence. In contrast, the synthetic approach involves devising mini-learning tasks that the

students have to carry out as part of the test-taking process, and based on students' achievement in learning certain aspects of an artificial language or a rare existing L2, generalizations are made about the learners' likely performance in a real language learning program.

The first language aptitude test is generally acknowledged to be Symonds's Foreign Language Prognosis Test (1930) and the goal of this and other tests developed in this initial period of test design was, in effect, to increase the cost-effectiveness of language education. It was exactly the same thinking 30 years later, in the 1950s and 1960s in the U.S., that led to the second wave of aptitude test development, which we can call the 'golden period' of scientific language aptitude testing (Rees, 2000). The best-known and most widely used test devised during this period is John Carroll and Stanley Sapon's (1959) Modern Language Aptitude Test (MLAT), and below we will use this battery as a platform from which to discuss the classic approach to aptitude assessment.

The Modern Language Aptitude Test (MLAT) and the Classic Approach

The first point to acknowledge about the MLAT is that it is very much a product of its time. When we say this, we do not do so in any pejorative sense; in fact, we would argue that the MLAT has been remarkably successful in achieving its primary aim of predicting successful L2 learning, and it has also made a significant contribution to advancing the research agenda. Nevertheless, the test was developed within certain constraints; among these were administrative demands to process a large number of tests in a short time, technical limitations that required a pencil-and-paper format, and, most significantly of all, the theoretical limitations imposed by SLA theory of the time. The development of the test was explained by the authors as follows:

> The Modern Language Aptitude Test is the outcome of a five-year research study conducted during the years 1953–1958 at Harvard University. In the course of this study, many varieties of verbal tests were devised and tried out; the present test is comprised of a group of relatively uncorrelated sub-tests which more or less consistently showed good validity and made unique contributions to the prediction of success in foreign languages. The experimental tests were administered to about five thousand persons.
>
> (Carroll & Sapon, 1959, p. 3)

Although such a pragmatic strategy might appear rather atheoretical, the fact is that the study of cognitive abilities has often been characterized in the past by such a trial-and-error-based approach. Note that Carroll and Sapon did not even mention any theoretical work in their account; instead, what they highlighted was the trying out of a great number of intuitively appealing task types that were

expected to tell good and bad language learners apart (i.e., in which good learners were significantly more successful than their slower counterparts) and then selecting the tasks that worked best in this respect. Thus, during this process, Carroll and Sapon followed a simple, and in psychology well established, three-step recipe for test design:

1. Based on some external criterion, select a group of people with high levels of the attribute under investigation and a second group with low levels.
2. Ask them to do a variety of tasks related to the attribute in question.
3. Choose the tasks that separate the two groups best without the different tasks correlating too highly with each other, as high correlations would indicate that the tasks do not provide unique information but only duplicate the others.

Table 3.1 provides a description of Carroll and Sapon's (1959) MLAT. It is testament to the success of Carroll and Sapon's original work that more than five decades later this instrument still constitutes the standard against which all new instruments are evaluated.

Bottom-Up Theory-Building

The creation of the MLAT was followed by a wave of further test construction work, the best-known outcomes of which are the Pimsleur Language Aptitude Battery (PLAB; Pimsleur, 1966) and the Defense Language Aptitude Battery (DLAB; Petersen & Al-Haik, 1976). In spite of all the creative effort, however, there is a general agreement in the literature that the new batteries did not demonstrate superiority over the MLAT (cf. Sawyer & Ranta, 2001; Sparks & Ganschow, 2001), a point Carroll himself also made when he looked back on the history of the MLAT and the instruments that followed in its wake; Carroll (1990) surmised:

> Since 1959, the publication date of the MLAT, there has been considerable research that throws light on the components of foreign language aptitude and that provides information that might be useful in revising this and other batteries of foreign language aptitude tests. For the most part, this research has not suggested any major change in the components of foreign language aptitude that have been recognized from the start.
>
> (p. 14)

Although the development of the MLAT was atheoretical, it still proved a reliable instrument for the purpose it was created, namely for identifying learners who were best able to benefit from classroom-based instruction. The huge benefit of having a reliable instrument is that it offers the chance to define the

TABLE 3.1 The Modern Language Aptitude Test (MLAT)

The MLAT is a paper-and-pencil test battery, composed of five parts. Its administration takes about 60–70 minutes. The standardization of the administration is ensured by the use of recorded material that includes the instructions and the phonetic material for certain parts (Parts 1 and 2). The five constituent sections are as follows:

1. ***Number Learning:*** Subjects hear some numbers in a new language (only numbers 1–4, 10–40, and 100–400), and are provided with some auditory practice to learn them. Then they must translate 15 numbers between 1 and 400 into English.
2. ***Phonetic Script:*** First, students hear a set of short nonsense words while they follow their printed phonetic script, which is presented in fairly simple and regular symbols. Then they hear one word at a time and must choose from four printed alternatives. The whole task includes 30 sets of four words each.
3. ***Spelling Clues:*** This part looks like a vocabulary test in that subjects must choose, from five alternatives, the word which is nearest in meaning to a test word; thus, the results depend on vocabulary knowledge in one's first language. A unique feature of the task is that the test word is not spelled normally but phonetically. There is a total of 50 test words.

   e.g., ernst
   A. shelter D. slanted E. impatient
   B. sincere E. free

4. ***Words in Sentences:*** This test measures 'grammatical sensitivity.' First, subjects are presented with a key sentence in which a word or phrase is underlined. In the sentence (or sentences) following the key sentence, five alternative words or phrases are underlined. Subjects must select the one that performs the same function as the underlined word in the key sentence. There are altogether 45 key sentences.

   e.g., Mary is cutting the <u>APPLE</u>.
   <u>My brother</u> <u>John</u> is beating <u>his</u> <u>dog</u> <u>with a big stick</u>.
   A B C D E

5. ***Paired Associates:*** In this test students have a total of four minutes to memorize 24 Kurdish/English word pairs. Retention is tested by means of a multiple-choice test in which subjects must choose the proper equivalent for each Kurdish word from five English alternatives. All the distracters are selected from the 24 English words contained in the original list, which makes the test more difficult.

content and the boundaries of the construct that it appears to tap into in a *post hoc* manner. This was, in fact, the dominant route in intelligence research: By submitting various intelligence test scores to complex multivariate statistical analyses, researchers were able to specify a number of underlying cognitive abilities (cf. Carroll, 1993), and Carroll (1973, 1981) followed the same approach to distill the constituents of the theoretical construct of language aptitude. As a result, he concluded that language aptitude comprised four constituent abilities:

1. *Phonetic coding ability,* which is considered the most important component and is defined as "an ability to identify distinct sounds, to form associations

between these sounds and symbols representing them, and to retain these associations" (Carroll, 1981, p. 105). Carroll (1973) argued that the student's main problem is not so much discriminating sounds, but rather identifying sounds or a string of sounds as unique entities and storing them in long-term memory. This ability therefore involves the coding, assimilation, and remembering of phonetic material.

2. *Grammatical sensitivity,* which is "the ability to recognize the grammatical functions of words (or other linguistic entities) in sentence structures" (Carroll, 1981, p. 105), or in other words, "the individual's ability to demonstrate his awareness of the syntactical patterning of sentences in a language and of the grammatical functions of individual elements in a sentence" (Carroll, 1973, p. 7). Although this ability does not require any knowledge of grammatical terminology, it implies an awareness of grammatical relationships.
3. *Rote learning ability,* which is the "ability to learn associations between sounds and meaning rapidly and efficiently, and to retain these associations" (Carroll, 1981, p. 105). It refers to the capacity to remember large amounts of foreign language material.
4. *Inductive language learning ability,* which is "the ability to infer or induce the rules governing a set of language materials, given samples of language materials that permit such inferences" (Carroll, 1981, p. 105), or in other words, the ability to "identify patterns of correspondences and relationships involving either meaning or grammatical form" (Carroll, 1973, p. 8) from the primary language data.

Although Carroll's construct makes intuitive sense, the potential weakness of such *post hoc* theorizing is that different instruments may yield different underlying theoretical constructs. This issue can be best illustrated with the era's other famous battery, the PLAB (Pimsleur, 1966). Essentially, Pimsleur followed the established template by first devising an instrument that worked well in separating good and less good language learners, and then constructing a theory of language aptitude from the analysis of PLAB data. However, since the PLAB was a different test from the MLAT, the *post hoc* analysis unsurprisingly resulted in a different conceptualization of the theoretical construct of language aptitude. Similar to the MLAT, the PLAB was also a paper-and-pencil test battery, but it placed a greater emphasis on auditory factors than the MLAT and less on memory, and it also contained two items that clearly stood out: 'Grade Point Average' and 'Interest in Foreign Language Learning.' Drawing on data gathered by the PLAB, Pimsleur (1966) conceptualized the 'aptitude for learning a modern language' in terms of three factors:

1. *Verbal intelligence,* that is, "the knowledge of words and the ability to reason analytically in using verbal materials" (p. 14).

2. *Motivation,* whose problematic position within the aptitude complex we discuss in the next section.
3. *Auditory ability,* which is "the ability to receive and process information through the ear" (Pimsleur, 1966, p. 14).

This taxonomy shares some common features with Carroll's aptitude construct: Pimsleur's 'verbal intelligence' component is similar to 'grammatical sensitivity' and 'inductive language learning ability,' whereas 'auditory ability' bears a resemblance to the 'phonetic coding ability.' There are, however, also some basic differences between the two constructs. First, because the PLAB did not include a memory component, this aspect is completely missing from Pimsleur's theoretical conceptualization. Second, although it was Carroll who identified the 'inductive learning ability' component, the MLAT only measures it indirectly, whereas the PLAB specifically targets this component. Third, and perhaps most significant of all, Pimsleur conceived language learning ability in a broader sense than did Carroll by including motivation as one of the constituents. This was not in line with the generally accepted view that aptitude and motivation were two independent factors (e.g., Gardner & MacIntyre, 1992), but the inclusion followed from the 'bottom-up' theorizing procedure, as the motivation variable in the PLAB made a significant contribution to the predictive capacity of the instrument in separating good and less good learners and therefore qualified for incorporation in the final construct.

From a current perspective, what Pimsleur did in expanding his conceptualization of aptitude is illuminating as it, perhaps inadvertently, suggests that cognition interacts with motivation and that looking at the cumulative effects of a range of variables is a more effective approach than attempting to isolate and measure the effects of a single cognitive variable. For example, no one would claim that a student's achievement in, say, history is part of their language aptitude, or that motivation—measured by the interest item—is a purely cognitive ability that would qualify to be a component of the aptitude complex. Yet, based on the 'include-if-it-helps-to-discriminate-good-and-bad-students' principle, this is essentially what Pimsleur did, and interestingly, an analysis of the validity studies reported in the PLAB manual reveals that for certain high school samples the grade point average subtest was not only the best predictor of the achievement criterion, but it was also a better predictor than the total PLAB score (Rees, 2000).

In conclusion, assessment instruments have originally functioned as the principal engine driving research into language aptitude: The 'classic' approach to aptitude assessment involved—broadly speaking—first constructing a test that works and then later understanding what it measures. In summarizing this approach, we can say that while it has succeeded in its first task, producing tests that are reliable predictors of achievement, it seems to have come to the end of the line as far as offering new insights into the nature of aptitude itself.

New Developments in Language Aptitude Assessment

Let us have a look now at more recent developments in aptitude measurement that have diverged from the classic approach in that they were theoretically rather than psychometrically driven.

CANAL-FT

The first serious effort of aptitude test construction in the post-classic era involved Grigorenko *et al.* (2000) devising a new instrument, the 'Cognitive Ability for Novelty in Acquisition of Language as applied to foreign language test' (CANAL-FT). In contrast to the MLAT or the PLAB, which had emerged from the tradition of the psychometric test development process, the CANAL-FT is an avowedly 'theory-based' instrument, drawing on Sternberg's triarchic theory of human intelligence (Sternberg, 2002). This theory is also called the 'theory of successful intelligence' because it concerns the cognitive abilities that are necessary for success in everyday life rather than merely in school learning situations. According to the theory, intelligence is seen as the complex of three aspects: *analytical, creative,* and *practical* dimensions. *Analytical intelligence* is involved when the components of intelligence are applied to analyze, evaluate, judge, compare, and contrast. *Creative intelligence* is called on when having to cope with novelty and when one is involved in processes of creating, inventing, and discovering. *Practical intelligence* concerns dealing with problems and issues that one is confronted with in daily life, such as on the job or in the home, involving the abilities to apply and implement knowledge. Sternberg argued that there is a common set of processes underlying these three dimensions, comprising various *metacomponents* such as planning, monitoring, and evaluating, and *performance components* that are in charge of executing the instructions of the metacomponents.

The main emphasis in the CANAL-FT is on measuring how people cope with novelty and ambiguity in their learning. The instrument is based on the notion of dynamic testing (Grigorenko & Sternberg, 1998; Sternberg & Grigorenko, 2002), which aims to identify learning potential in contrast to static tests that measure learning achievements. In the CANAL-FT, this is done through mini-learning tasks in the form of an artificial language, whose successful accomplishment is believed to correlate with real-life task achievement. These tasks involve five knowledge acquisition processes:

1. *Selective encoding:* Distinguishing between more and less relevant information for one's purposes.
2. *Accidental encoding:* Encoding background or secondary information and grasping the background context of the information stream.
3. *Selective comparison:* Determining the relevance of old information for current tasks to enhance learning.

4. *Selective transfer:* Applying decoded or inferred rules to new contexts and tasks.
5. *Selective combination:* Synthesizing the disparate pieces of information that have been collected via selective and accidental encoding.

These five knowledge acquisition processes are operationalized at four language levels—lexical, morphological, semantic, and syntactic—and in two modes of input and output: visual and oral. The permutations of these parameters already create a complex and rich design, but the test adds one final dimension: As the authors argue, for language learning to take place, the linguistic material must be understood and *encoded* into working memory (which we discuss later in this chapter), and then *stored* in long-term memory for later *retrieval;* these aspects of encoding, storage, and retrieval can be assessed through two types of recall tasks: *immediate recall* right after learning has taken place; and *delayed recall* at some substantial time interval after learning has taken place.

Table 3.2 presents a description of Grigorenko *et al.*'s (2000) instrument. As can be seen, it is entirely based on the gradual and incremental learning of an artificial language, 'Ursulu.' The authors validated the test through a correlational study in which the convergent validity of the measurement provided by the CANAL-FT was appraised by means of its correlations with the MLAT, and its discriminant validity was assessed through the test's correlations with two established intelligence measures. Despite highly promising results indicating the viability of the CANAL theory, which led the authors to conclude that their "work should be viewed as a foundation for further development rather than as a completed effort" (Grigorenko *et al.,* 2000, p. 401), the challenge to pursue CANAL-FT theory further has not been taken up widely, which is partly because the full battery has never been made widely available to the research community. According to Ehrman (personal communication, October 9, 2014), a practical reason why the test was not promoted was that, although its administration involved a rather cumbersome procedure, it did not yield better statistical prediction than the MLAT.

LLAMA

Recent innovations in aptitude assessment have been facilitated by a reduced need for parsimony (Robinson, 2013); in the era of the MLAT or PLAB, parsimony was essential because of technological constraints, but these days computer-delivered subtests that allow individuals to work at their own convenience are a viable option. One recently developed assessment measure that exploits the potential of computer technology is the LLAMA test (LLAMA; Meara, 2005). This is a test still within the Carrollian tradition, being loosely based around adaptations of Carroll's original work. Much of the impetus for the development of this instrument came from a desire to accommodate the needs of speakers of languages other than English, and, subsequently, languages that do not use the Roman alphabet. The main components of the test are:

TABLE 3.2 Description of the CANAL-FT Language Aptitude Test

The CANAL-FT comprises nine sections: Five involve immediate recall and the other four are identical to these five sections except that they are presented later and involve delayed recall (the last section does not have a delayed counterpart). A common element of the sections is that they all focus on the learning of an artificial language, Ursulu. This is presented gradually, so that initially participants have no knowledge of the language; by the end of the test, however, they have mastered enough lexical, morphological, semantic, and syntactic knowledge to cope with a small story in Ursulu. The five sections are as follows:

1. ***Learning Meanings of Neologisms from Context:*** Participants are presented with 24 brief paragraphs within a 2 × 3 factorial design (type of presentation: oral or visual × density of unknown words: low, medium, or high). Understanding is tested via a multiple-choice format, where students are asked to guess which of five alternatives is most likely to correspond to the meaning of an unknown neologism inserted into the text. Two multiple-choice items are presented immediately after receipt of every passage, and one item relevant to every passage is presented at least 30 minutes after receipt of the passages in order to measure storage in long-term memory.
2. ***Understanding the Meaning of Passages:*** The six test items in this part are identical in form to those in Section 1, but the assessment involves comprehension of whole passages rather than merely of lexical items. Again, half of the items are presented visually, the other half orally, and the passages differ in terms of the density of unknown words. The test differs from standard reading and oral comprehension tests in the inclusion of unknown words in the passages. Such words render these passages more like those that would be encountered in the process of learning an L2.
3. ***Continuous Paired-Associate Learning:*** In this test, participants are presented with 60 paired associates (word pairs), half of them visually, half of them orally. They are required to learn the successive pairings and during this process they are tested at irregular intervals on words learned more recently as well as less recently. The test differs from a straightforward paired-associates memory test in that there are certain rules that can facilitate learning, relating some of the terms to others.
4. ***Sentential Inference:*** Participants receive 20 sets of three to five sentences in the Ursulu language with their translations presented either visually or orally. They are then presented with a new sentence, either in English or in Ursulu, and are asked to indicate—based on inferences made from the previously presented sentence pairs—which of five multiple-choice answers best represents the translation.
5. ***Learning Language Rules:*** Participants are given some vocabulary, some grammar, and some examples of how the Ursulu language works. From this type of information they are expected to learn some of the most evident rules of the language. To measure this learning, they are presented with 12 items (lexical, semantic, morphological, and syntactic) that test their understanding of the Ursulu language.

- LLAMA B, which measures the ability to learn relatively large amounts of vocabulary in a relatively short space of time;
- LLAMA D, which measures the ability to recognize patterns in spoken language;
- LLAMA E, which is a sound–symbol correspondence task that requires test-takers to infer relationships between the sounds they hear and a writing system; and

- LLAMA F, which assesses testtakers' ability to infer grammatical rules of an unknown language.

Although the LLAMA test represents a fine-tuning of the MLAT approach in accordance with recent technological advances and increasingly globalized, multilingual educational settings, it remains an instrument rooted in the traditional modular view of aptitude as an entirely cognitive construct. It has been made public through the IRIS (Instruments for Research into Second Languages) database (www.iris-database.org/iris/app/home/index).

Hi-LAB

Another recently developed assessment measurement is the High-Level Language Aptitude Battery (Hi-LAB; Doughty, Campbell, Bunting, Bowles, & Haarmann, 2007; Linck *et al.,* 2013), which is a highly sophisticated instrument designed to identify individuals capable of achieving high levels of attainment. The test posits aptitude as a "measurable ceiling" (Doughty *et al.,* 2010, p. 10) on the ultimate level of attainment and is intended to "address the need for an aptitude battery geared for professional levels" (Doughty, 2013, p. 8). The actual test consists of a language history questionnaire and as many as 11 separate cognitive and perceptual subtests (see Linck *et al.,* 2013, for a full account). These subtests and the constructs they are intended to measure are summarized in Table 3.3.

TABLE 3.3 Description of the Hi-LAB

Working Memory	
Executive Functioning	
• Updating	*Running Memory Span Test* Participants are required to listen to lists of letters and then try to recall the last six letters from each list, and to do so in the same order as originally presented.
• Inhibitory Control	*Antisaccade Test* In this test a visual cue is presented on a screen to suggest the position of a target letter that will appear. The target letter (B, P, or R) is then very briefly displayed; in some cases the cue and the letter appear on the same side of the screen and in others the opposite. The task for the participant is to inhibit the urge to use the cue as an aid to locating the letter. *Stroop Test* Participants are presented with either colored rectangles or the words "red," "green," or "blue" on the screen. Sometimes the color of the word and its meaning are the same and at others they are different. Participants are required to indicate the color they have seen, ignoring the meaning of the word they have seen.

(*Continued*)

TABLE 3.3 (Continued)

• Task Switching	*Task Switching Numbers Test* Participants are required to look at numbers superimposed on a colored background box. They are then required to classify each number as either odd or even, or less than five or greater than five, according to the color of the background displayed.
Phonological Short-Term Memory	*Letter Span Test* Participants are required to view lists of letters presented on the screen, and then recall those letters in order after their presentation. *Non-word Span Test* Participants see a list of plausible, one-syllable non-words on a computer screen and are then required to indicate whether they have seen the words appearing on a subsequent longer list.
Associative Memory	*Paired-Associates Test* Participants are required to learn 20 word pairs, each consisting of an English noun paired with a non-word. Each word pair is presented five times for five seconds. Participants are then asked to choose the correct 'foreign language' word when presented with a corresponding English word.
Long-Term Memory Retrieval	*Available Long-Term Memory Synonym Test* Participants are required to listen to a list of five words and are then shown two topic words. One of the topic words represents a synonym for two words in the original list and the other is a synonym for the remaining three words in the list. Participants then press a button to indicate which word had more synonyms in the list.
Implicit Learning	*Serial Reaction Time Test* Participants see a visual cue (an asterisk) appear in one of four boxes arranged horizontally on a screen. They are then asked to press a key corresponding to the location of the asterisk as quickly and as accurately as possible. At times the asterisks appear in random order and other times in some type of sequential pattern. Thus, the test measures both speed of response and the ability to implicitly detect order.
Processing Speed	*Serial Reaction Time Test* The same test as in the previous section is employed.
Auditory Perceptual Acuity	*Phonemic Discrimination: Hindi, English Pseudo-contrastive Test* In this test participants listen to two sounds in sequence, and are required to indicate whether they are the same or different sounds. *Phonemic Categorization: Russian Test* Participants are required listen to Russian language sounds that would be considered the same phoneme in English. Participants listen to each sound and are then asked to assign it to one of three categories.

As we can see from Table 3.3, aptitude measurements have come a long way since the MLAT; the Hi-LAB represents an altogether richer, theoretically grounded conceptualization of language learning ability. It is centered around a single purpose, namely identifying individuals capable of high levels of attainment in an L2, and it achieves this task through an exhaustive battery of subtests. Nevertheless, despite the huge advances in both the scope and depth of inquiry suggested by the Hi-LAB, the underlying principle is still one that regards the learner's highest attainable proficiency as being primarily dependent on cognitive and perceptual abilities.

Summary

In summary, we can identify three approaches to the measurement of language aptitude in the newly developed test batteries. One involves integrating measurement and theory in an instrument that conceptualizes aptitude as a dynamic construct, as exemplified by the CANAL-FT. The second is to focus the scope of inquiry on identifying the ultimate level of attainment for high achievers, as does the Hi-LAB. And finally, the third route aims at technologically updating the classic Carrollian approach, as in the LLAMA. The continued attraction of the 'classic' approach to the measurement of aptitude is understandable; it has provided educators and researchers with psychometrically sound instruments capable of assessing language learners in a way that allowed them to predict the rate of language learning with some reliability. However, the classic approach still left us with two major unresolved issues. The first was that although it generated sound, reliable instruments, it was difficult to specify what those instruments were measuring, which is—as we have seen earlier—a long-standing issue in intelligence measurement as illustrated by the prevailing uncertainty of the *g* factor. Second, the classic conceptualization of aptitude as measured by tests such as the MLAT had little to say about the process of language learning itself. This point was summarized by Robinson (2013, p. 2) as follows:

1. Learning a language involves different abilities at different stages of *development*. The MLAT and other current aptitude tests don't measure these.
2. Learning a language takes place in many different situations and classroom contexts. The MLAT and other current aptitude tests are *insensitive* to these.

Thus, a major lesson for future developments in aptitude assessment is that a pedagogically relevant description of language aptitude needs to be more situationally sensitive, taking into account the specific demands of different learning processes and how they may be overcome by certain combinations of aptitude factors.

Shifting Theoretical Perspectives

Despite broad agreement that language aptitude as measured by batteries such as the MLAT is a key factor in language learning success, researchers eventually lost interest and 'turned away' from the concept in the 1970s and 1980s. Why did such an important predictor of L2 learning success fail to attract more sustained interest? The reasons, according to Skehan (2002), were threefold: Language aptitude had been perceived as (a) undemocratic with respect to learners, (b) out-of-date conceptually, and (c) of little practical explanatory value. As he argued, determining a learner's fixed endowment of language learning capacity was seen to work against the learner-centered principles of modern language education (see also Stansfield & Reed, 2004); the general feeling in the profession was that although aptitude might be predictive for contexts characterized by structured input and practice-oriented activities, it was less relevant to the communication-based, meaningful language use that characterized the newly emerging language teaching paradigm—communicative language teaching. Furthermore, several theoreticians of the time (e.g., Bialystok & Fröhlich, 1978; Gardner, 1985; Krashen, 1981) relegated aptitude effects only to *classroom learning* in contrast to the more naturalistic engagement of language acquisition processes, which were seen as superior.

The 1990s witnessed a revival of interest and a marked shift in the research community's attitudes toward language aptitude. The decade began with the publication of an ambitious anthology entitled *Language Aptitude Reconsidered,* edited by Thomas Parry and Charles Stansfield (1990), and this volume appeared to inject the field with some fresh momentum. The next 10 years or so produced an impressive body of research into the concept of language aptitude, both in terms of quantity and range of fresh theoretical perspectives. What caused this revival? There are at least two main reasons: First, advances in cognitive psychology allowed for a more accurate representation of the various mental skills and constituent aptitudes that made up the composite language learning ability. Second, scholars started to explore ways of linking language aptitude to a number of important issues and processes in SLA. Though this revival proved to be relatively short-lived, it did introduce several novel lines of inquiry within the broad area of cognitive abilities in SLA. In the following sections, we sample some of the most significant ideas generated during this aptitude 'renaissance,' and consider how these have been taken forward by the field in more recent years.

Sparks and Ganschow's Linguistic Coding Differences Hypothesis

A systematic line of research by Richard Sparks, Leonore Ganschow, and their associates has focused on what they have labeled the Linguistic Coding Differences

Hypothesis (LCDH). Originally, the hypothesis was called the Linguistic Coding Deficit Hypothesis, as at its core is the idea that one's capacity to learn an L2 is closely related to the individual's L1 learning skills, and L2 learning difficulties stem in part from deficits that also occur in native language acquisition (e.g., Sparks, 1995, 2012; Sparks & Ganschow, 1991, 1999, 2001; Sparks *et al.,* 1995, 1998). The central cognitive factor the theory focused on is *linguistic coding,* which refers to L1 literacy skills such as phonological/orthographic processing and word recognition/decoding (i.e., single-word reading). The LCDH proposes that these abilities serve as the foundation for learning an L2, and an insufficient level of development in linguistic coding skills has a profound impact on L2 learning ability, resulting in a serious handicap. Thus, linguistic coding ability has come to be seen as a primary ID variable.

Sparks, Ganschow, and their colleagues have accumulated an impressive amount of evidence supporting their hypothesis and there is also some data from other research that is in accordance with their conclusions. One of the main types of LCDH studies has involved conducting comparative analyses of good and poor L2 learners in various age groups and learning situations to see whether they differed in their linguistic coding skills. As Sparks and Ganschow (2001) summarized, the findings of these investigations consistently revealed that (a) successful L2 learners exhibited significantly stronger L1 literacy skills than unsuccessful learners, (b) they were also superior on L1 syntactic measures but not on semantic tasks, and (c) they had significantly stronger language aptitude (measured by the MLAT). Based on these findings, Sparks and Ganschow recommend that one important way of improving the accuracy of language aptitude measures is to elaborate on their phonological content both in the learners' L1 and L2 by including in the instruments relevant tasks to assessing word recognition, pseudo-word decoding, phonological memory, and phonemic awareness.

The studies of Sparks, Ganschow, and colleagues have been replicated by researchers working in different educational settings and with different languages. For example, Chung and Ho (2010) investigated the cognitive skills and reading development in both Chinese (L1) and English (L2) in a group Chinese children with dyslexia. They found that the children with dyslexia showed weaker performance in both languages and had more difficulties in phonological awareness in English, yet the children with dyslexia were no different from their peers in phonological awareness in Chinese, and the authors suggest that this is further evidence of cross-linguistic transfer from L1 to L2. The significance of L1 literacy skills in L2 studies was also highlighted in an important longitudinal study conducted by Dufva and Voeten (1999), investigating 160 Finnish elementary school children from the first to the third grade. The researchers examined two cognitive areas, L1 literacy acquisition and phonological memory (the latter being part of 'working memory' and

which is discussed later in this chapter) in terms of their impact on learning English as a foreign language. The longitudinal design of their investigation allowed them to establish cause–effect relationships, which they then confirmed using structural equation modeling. Measures obtained in first grade were L1 word recognition and listening comprehension; in the second grade L1 word recognition, reading comprehension, and phonological memory; and in the third grade, L2 skills. Dufva and Voeten found that both L1 literacy and phonological memory had positive effects on L2 learning, together explaining 58% of the variance in English proficiency. This is a remarkably high figure (corresponding to a multiple correlation of around 0.76), rarely encountered in L2 studies, and its magnitude is particularly noteworthy because the tasks measuring English proficiency covered a wide range of competencies, focusing on listening comprehension, communicative skills, and active vocabulary knowledge.

Dufva and Voeten (1999) also found that it was *not* the rate of development in word recognition from first to second grade that mattered but the *ultimate level* achieved by the end of second grade: The more advanced the children's speed of L1 word recognition was, the better they were at English. In fact, the level of development of L1 word recognition was the strongest predictor of L2 learning in the whole study. Based on these results, the authors concluded that native language word recognition formed the basis of learning an L2. Therefore, in agreement with Sparks and Ganschow (2001), they recommended that educators assess L1 literacy skills early on so that at-risk children can be provided with intensive literacy instruction, especially in the prerequisites of word recognition (e.g., phonological awareness), in order to enhance their learning of an L2.

Implicit Memory and 'Implicit Aptitude'

A considerable amount of the optimism expressed in the conclusion to the 2005 version of this chapter stemmed from the advances in understanding human memory systems that were occurring at the time. There was a belief that research was finally honing in on a single memory trait capable of predicting language development and that perhaps working memory itself corresponded to Spearman's *g* (Kyllonen, 1996). In recent years this enthusiasm has been tempered by an awareness that our knowledge of how the memory works is still limited, particularly in relation to implicit memory (Dörnyei, 2009b). Implicit memory is a difficult concept to describe, and perhaps the best way to do so is to contrast it with explicit memory. Explicit memory involves the conscious recall of information, the awareness that one is accessing the memory while, in contrast, implicit memory relates to occasions when one accesses the memory without intent or even without being conscious of doing so. One illustration of the difference

between the two types of memory is in how we recall passwords on a computer or other electronic devices; there are some passwords that we need to wrack our brains in order to recall (explicit memory), while in other cases, especially passwords we use very often, our fingers just seem to do the work without us having to think (implicit memory).

Conventional approaches to the study of language aptitude have been heavily biased toward the explicit processes involved in language learning. However, as Kaufman *et al.* (2010) observe, "Implicit learning is only weakly related to psychometric intelligence," and since so much of the language learning process is implicit, we need a better understanding of what we can call 'implicit aptitude.' In a highly promising recent line of research, Granena (2012, 2014) has proposed different aptitude profiles based around the distinction between explicit language aptitude (ELA) and implicit language aptitude (ILA). In a study of Chinese learners of Spanish, she identified four such profiles—High ILA/High ELA; High ILA/Low ELA; Low ILA/High ELA; and Low ILA/Low ELA—and suggested that these might correspond to certain cognitive styles (see Chapter 5); so, for example, high implicit aptitude may relate to a preference for intuitive or experiential learning. Clearly this line of research is still in its early stages and faces a huge challenge in providing both operationalizations and measurements of implicit aptitude; nevertheless, it represents a promising way forward in that it both foregrounds implicit learning and generates links with other cognitive aspects of learning.

Working Memory and Language Aptitude

A decade or so ago scholars had "pinned their hopes on working memory" (Winke, 2013), and in the intervening years, research into working memory appears to have been the most active area in language aptitude studies (for a recent overview, see Wen, 2014). Researchers have investigated the role of working memory in overall L2 proficiency (Kormos & Sáfár, 2008) as well as in a broad range of specific aspects of the language acquisition process: sentence processing (Juffs, 2005, 2006; Sagarra, 2007; Sagarra & Herschensohn, 2010), oral fluency (Segalowitz *et al.,* 2008), reading comprehension (Fontanini & Tomitch, 2009), the acquisition of formal grammar (Robinson, 2005; Sagarra, 2007, 2008), vocabulary learning (Masoura & Gathercole, 2005; Speciale, Ellis, & Bywater, 2004; Trofimovich, Ammar, & Gatbonton, 2007), and the processing of feedback (e.g., Goo, 2012; Mackey & Sachs, 2012; Révész, 2012).

Much of the initial impetus for this line of research came from Miyake and Friedman's (1998) highly influential paper in which they hypothesized 'working memory as aptitude' and concluded that "working memory for language may be one (if not the) central component of this language aptitude" (p. 339). These scholars emphasized that although working memory played a central role in all forms of higher-level cognition, its role was particularly featured in language

processing because both the production and the comprehension of language required the processing of sequences of symbols over time in a *linear* manner. This linearity, in turn, necessitated a temporal storing capacity and the ability to integrate information from the stream of successive discourse. Miyake and Friedman therefore concluded that individual differences in L1 working memory capacity for language were closely related not only to L2 working memory capacity and L2 language comprehension skills but also to the speed and efficiency of the acquisition of L2 knowledge.

We must point out here that although Miyake and Friedman's paper is perhaps the best known of this era, it appeared as part of a wider movement to incorporate advances in cognitive psychology into SLA, and scholars (e.g., Ellis, 1996; Harrington & Sawyer, 1992; Mackey, Philp, Egi, Fujii, & Tatsumi, 2002; Osaka & Osaka, 1992) were particularly attracted to the concept of working memory because it appeared to offer a genuine inroad into the cognitive base of L2 acquisition. For example, in a study looking at the effects of phonological working memory, Ellis (1996, p. 102) concluded: "To put it bluntly, learners' ability to repeat total gobbledygook is a remarkably good predictor of their ability to acquire sophisticated language skills in both the L1 and the L2." The recognition that the capacity to store and process unfamiliar sounds in the memory was a strong predictor of L2 acquisition and warranted further investigations into how the human mind achieved this capacity and how it differed across individuals.

The notion of "a mental workspace" (Lee, Ning, & Goh, 2013, p. 73) is typically employed to describe working memory, and this workspace is used for the "temporary storage and manipulation of information that is assumed to be necessary for a wide range of complex cognitive activities" (Baddeley, 2003, p. 189); thus, it underpins our capacity for thinking and has important specific implications for language processing. It is an active system, one that can "maintain information in an active and readily accessible state, while concurrently and selectively processing new information" (Conway, Jarrold, Kane, Miyake, & Towse, 2007, p. 3). How is the construct of 'working memory' structured? There are several models available (see Dehn, 2008) but here we focus on the best-known theory—associated with the work of Alan Baddeley—which is the only one to have received serious attention within L2 studies. Originally, Baddeley and Hitch (1974) suggested that working memory could be divided into three subsystems, but this was later expanded to four (for a more recent review, see Baddeley, 2007):

1. The *phonological loop* is the specialized verbal component of working memory, concerned with the temporary storage of verbal and acoustic information. The stored material is subject to rapid decay (over approximately two seconds), but the loss of information can be offset by 'subvocal rehearsal,' which reactivates the decaying representations and which can also translate visual information into phonological form.

2. The *visuospatial sketchpad* is the visual equivalent of the phonological loop, responsible for integrating spatial, visual, and kinesthetic information into a unified representation, which can be temporarily stored and manipulated. This system is involved, for example, in everyday reading tasks but its functioning has been less studied than that of the phonological loop. Baddeley suggests, however, that similar to the phonological loop, the visuospatial sketchpad also has a storage and a processing component (the latter termed the 'inner scribe'), which can, for example, translate verbal information into an image-based code.
3. The *central executive* is the most important and least understood aspect of working memory, responsible for its attentional control. It constitutes the supervisory attentional system that allocates attentional resources and regulates the selection, initiation, and termination of processing routines (e.g., encoding, storing, and retrieving). Thus, it receives, coordinates, and integrates information from the subsystems of the visuospatial sketchpad and the phonological loop as well as from long-term memory to carry out complex cognitive tasks such as future planning, decision making, mathematical calculations, and reasoning. It is also involved in performing reading and comprehension, and—interestingly—in trouble-shooting in situations in which the automatic processes run into difficulty, which links it to the use of communication strategies (cf. Dörnyei & Kormos, 1998). The central executive is of particular relevance to our discussion because the executive processes are thought to be the principal factors determining individual differences in 'working memory span' (Baddeley, 2003; Daneman & Carpenter, 1980).
4. The *episodic buffer* was the final component added to Baddeley's model and it represents a storage counterpart of the central executive, which is now seen as purely a control system without any storage capacity. The episodic buffer combines information from different sources and modalities into a single, multifaceted code, or 'episode'—hence the 'episodic' part of the label. It is assumed to underpin the capacity for conscious awareness.

The overall capacity of working memory can be expressed in terms of the *working memory span*. This has proved to be a robust predictor of a wide range of complex cognitive skills and it is highly correlated with performance on the type of reasoning tasks that underpin standard tests of intelligence. It is measured by instruments and procedures whereby participants are typically required to combine some sort of (a) processing and (b) storage of information in a dynamic and simultaneous manner; thus, the assessment goes beyond traditional memory tests such as digit or word span measures. Table 3.4 describes one of the best-known instruments, developed by Daneman and Carpenter (1980).

In sum, the enthusiasm that fired the interest in working memory came from a view that working memory capacity may offer the key to the whole of language aptitude itself (Sawyer & Ranta, 2001). From a present-day standpoint,

TABLE 3.4 Description of Daneman and Carpenter's (1980) Reading Span Test

Participants are asked to read aloud a set of unrelated sentences and then recall the final word of each sentence in that set. The 9- to 16-word long sentences were taken from general knowledge quiz books and each ended in a different word: e.g.,

- *"You can trace the languages English and German back to the same roots."*
- *"The Supreme Court of the United States has eleven justices."*

The processing element of the test is provided by the task that after reading each sentence the participants have to decide whether it was true or false—the sentences are of moderate difficulty, with half of them being true and the other half false.

The total test contains three sets each of two, three, four, five, and six sentences, and the participants are presented increasingly longer sets until they fail to recall the sentence-final words of all three sets at a particular level.

The level at which a participant is correct on two out of three sets is taken as a measure of the individual's reading span. Being correct on only one set at a particular level is given a credit of .5. Miyake and Friedman (1998) added that in some studies the reading span measure has been the total number of sentence-final words recalled from all the trials.

The test also has a listening version, which works along the same lines and which correlates well with the reading span.

there is now a notably more cautious tone, as illustrated by Kormos's (2013) summary: "Currently, evidence for the role of working memory in input processing has mainly been studied in the field of sentence processing, and evidence for the role of working memory in affecting sentence comprehension has been mixed" (p. 141). This conclusion is also echoed by Juffs and Harrington's (2011) review of the relationships between working memory and L2 learning: "'WM' is not a unitary construct. Rather, it is a set of processes that underpin the learning and use of a second or additional languages" (p. 159). Their summary runs counter to some of the aspirations of early research into working memory within SLA, as it highlights the dual functions of storing and processing information and argues that the relative importance of these working memory functions may *change* both over time and according to the nature of the learning activity. It is highly significant that the general observation about the situated nature of learner characteristics discussed in Chapter 1 appears to apply even to such a core cognitive construct as working memory.

Robinson's Research on the Aptitude–Treatment Interaction

A central issue in ID research, and one that has emerged in aptitude research in particular, is the question of whether there are any optimal *combinations* of ID variables that are especially conducive to efficient learning. In educational psychology, Richard Snow was influential in highlighting the potential importance of ID variable clusters or, as he called them, *aptitude complexes*. His initiative has been taken up by several of his colleagues and students (cf. Ackerman, 2003;

Corno *et al.,* 2002) because "although isolated traits often have . . . substantial impact on learning outcomes, it may be that combinations of traits have more predictive power than traits in isolation" (Ackerman, 2003, p. 92). The concept of 'aptitude complexes' can also be combined with Cronbach's 'aptitude–treatment interaction' approach that concerns the ways by which mental abilities interact with learning conditions in order to optimize learning, for example, by matching the learners' cognitive features with instructional methods. This powerful situated, learning-specific ID paradigm is the theoretical foundation that Peter Robinson (e.g., 2001, 2002, 2005, 2007) drew on in his pioneering research program on language aptitude–treatment interaction. He conceptualized language aptitude as the sum of lower-level abilities, grouped into cognitive factors, which differentially support learning in various learning situations/conditions:

> L2 learning can now be seen as the result of an interaction between a learner's pattern of abilities in relevant areas for L2 processing, and the instructional interventions and techniques that are adopted in the L2 classroom. Techniques that may work for one learner, will often, therefore, not be so effective for another.
>
> (Robinson, 2013, p. 60)

The significance of Robinson's aptitude research lies in the fact that he made the first attempt in the L2 field to describe concrete sets of cognitive demands that can be associated with some basic learning types/tasks, and then to identify specific aptitude complexes to match these cognitive processing conditions. He argued that this approach not only had theoretical implications but was also a fruitful direction in terms of practical relevance:

> Profiling individual differences in cognitive abilities, and matching these profiles to effective instructional options, such as types of pedagogic tasks, interventionist "focus on form" techniques, and more broadly defined learning conditions, is a major aim of pedagogically oriented language aptitude research.
>
> (Robinson, 2002, p. 113)

With regard to the specific learning types, Robinson distinguished three conditions of exposure to input—implicit, incidental, and explicit learning—and then discussed a number of *cognitive resources* (e.g., attentional or working memory capacity) and *primary abilities* (e.g., pattern recognition or processing speed) that combine to define sets of *higher-order abilities* directly involved in carrying out learning tasks (e.g., noticing the gap, or metalinguistic rule rehearsal). These second-order abilities can then be grouped into aptitude complexes that exert an optimal influence on learning in specific learning conditions, such as focus on form via recasts; incidental learning via oral or written content (by means of orally or typographically salient 'input floods'); and explicit rule learning.

At the time of the original publication of our book in 2005, Robinson's framework represented a great leap forward: It took into account two crucial aspects of learning abilities, their situational dependence and their combined impact, presenting L2 learning aptitude as a dynamic construct, reflecting the interrelationship of clusters of learner variables with the cognitive demands of specific L2 learning tasks and instructional techniques (Robinson, 2005). However, despite the huge potential of, and some empirical support for, the approach (e.g., Kormos & Trebits, 2012), Robinson's initiative has not been taken up widely by other researchers, which is possibly because of the considerable methodological challenges involved in researching aptitude–treatment interactions (see Vatz *et al.,* 2013). Nevertheless, this dynamic conceptualization has the potential to make aptitude research more compatible with current perspectives in SLA research, and it may be the case that methodological developments in other areas of SLA will enable future researchers to build upon Robinson's framework.

Skehan's Conception of Language Aptitude and SLA

While Peter Robinson was investigating the relationships between aptitudes and the learning situation, or teaching methods, Peter Skehan (1998, 2002; Dörnyei & Skehan, 2003) was interested in how language aptitude functioned within the context of constantly developing language abilities and skills, and as a result he identified four main stages of acquisition: *noticing, patterning, controlling,* and *lexicalizing.* Skehan argued that by taking a componential approach to analyzing aptitude we may identify certain aptitudinal constituents that are relevant not simply to formal classroom learning, but also to various general aspects or stages of SLA processing.

Table 3.5 presents Skehan's proposal of theoretical matches between stages of SLA and aptitude components. The putative aptitude constructs shown in the table are the results of Skehan's attempt to determine whether learners would show individual variation in the various L2 processing phases, and if so, whether this variation could be explained by the effects of existing language aptitude components. If the answer to the first question was yes and to the second no, Skehan proposed an additional aptitude construct. In the aptitude column in the table the components that have not as yet been explicitly addressed by existing aptitude tests are printed in italics. This is an interesting example of SLA research serving as a driving force for extending aptitude research, and some of the correspondences indicated in the table require little justification; for example, phonetic coding ability can be related to input processing; language analytic ability (grammatical sensitivity and inductive language learning) to central processing; and memory-as-retrieval to output and fluency.

As we look back on the past 10 years or so of research into language aptitude, what is perhaps most striking is that despite the clear research agenda set out by Skehan, scholars have been reluctant to explore the full potential of this approach. This is particularly surprising because Skehan's conceptualization of

TABLE 3.5 Skehan's proposal of SLA stages and aptitude constructs

SLA stage	*Corresponding aptitude constructs**
Input Processing Strategies, such as Segmentation	• *Attentional Control* • *Working Memory*
Noticing	• Phonetic Coding Ability • *Working Memory*
Pattern Identification	• Phonetic Coding Ability • *Working Memory* • Grammatical Sensitivity • Inductive Language Learning Ability
Pattern Restructuring and Manipulation	• Grammatical Sensitivity • Inductive Language Learning Ability
Pattern Control	• *Automatization* • *Integrative Memory*
Pattern Integration	• *Chunking* • *Retrieval Memory*

*Italics indicate components that had not been addressed by existing aptitude tests at the time of Skehan's proposal.

aptitude did offer the possibility of linking established research—in the form of existing aptitude tests that could be used to capture certain abilities involved at different stages of L2 processing—with newer conceptualizations of aptitude as well as with the development of further complementary subtests.

Where Are We Now?

Aptitude has long been regarded as one of the most reliable indicators of L2 learning success, yet throughout this chapter we have witnessed something of an on-off relationship between aptitude research and the wider SLA research agenda: We have seen the 'turn away' of the 1970s and 1980s, the 'return' of the 1990s, and according to Robinson (2013), aptitude has once again become a "relatively neglected area" in the current decade. It may be unkind to describe language aptitude research as having stalled, but there is a definite sense of a vehicle 'coasting in neutral' in no particular direction. By way of illustration, in a relatively recent review of the state of theory and research into 'cognitive aptitudes in SLA' (DeKeyser & Koeth, 2011), only 7 out of a total of 88 listed references concerned post-2005 research within SLA, and in another review specifically concerned with 'new perspectives,' Robinson (2013) cites only 3 post-2005 sources within a total of 108 listed references (and all 3 are other reviews of the field rather than original studies). It seems therefore that the 2005 version of this chapter appears to have been written at a peak of enthusiasm and interest in language aptitude, concluding that "aptitude represents one of the most promising areas of SLA research." So, what has changed?

One explanation for the lack of recent developments is the somewhat inevitable slow-down in momentum: The low-hanging fruit have been picked, leaving a much less enticing landscape for future researchers. We have also seen how assessment instruments have traditionally driven theory in the past, but in the post-MLAT era the few emerging new instruments have not only been of restricted availability, but have also produced test scores that were less readily matchable to aspects of cognitive theory than were the results of the aptitude tests in Carroll's time. The changing social and educational climate has also worked against aptitude testing. With the growing mobility across state boundaries in the world, agencies that traditionally promoted language aptitude assessment in order to be able to select and then train expert L2 users for their own purposes (e.g., U.S. military agencies) have been able to increasingly recruit bilingual candidates from among heritage language speakers. The subsequent reduction of motivation for aptitude selection had a negative impact on the demand for devising new assessment instruments, and consequently aptitude theory-building has lost a crucial driving force.

Finally, and this applies to several other constructs to be discussed later in this book, the current SLA research environment favors complex interactions to simple causal relationships. Given that the aptitude–achievement link is perhaps the most basic of all causal relationships found within the SLA literature, it is one that fails to excite researchers. Indices of congenital cognitive capacity to learn tend to be relevant only insomuch as they can be used as background variables for research paradigms in which the emphasis—and therefore most of the creative research activity—concerns some other aspect of SLA.

Future Challenges and Directions

The conclusion of the 2005 version of this chapter was that language aptitude research was in a state of transition, a verdict that still applies in 2015. By way of wrapping up this revisitation of aptitude research, we will identify some of the characteristics of these transitional processes with a view to outlining future research directions. Before offering a broader summary, let us start with four shorter points:

- *Aptitude as a complex*. Consistent with the original 2005 conclusion, we see language aptitude as a complex, a composite measure consisting of multiple factors that affect the learner's capacity to learn a language. In a break from the 2005 conclusion, we would not regard this as 'restrictive' in any way—for example by limiting aptitude complexes to cognitive variables only. In fact, we see this development as a liberating move in that it frees aptitude researchers from the pressure to identify a discrete cognitive variable prescribed by the spirit of the modular classic ID paradigm. Instead, scholars now have greater opportunities to explore the various interactions contributing to aptitude complexes.

- *Links to classroom practice.* At various points throughout this chapter, we have seen that language aptitude research has been at its most effective and productive when closely aligned to educational realities. Contextually sensitive conceptualizations of language aptitude open up possibilities for integrating aptitude research into mainstream SLA studies, where investigations of interactions with context are now well established. Such conceptualizations of aptitude also allow researchers to link cognitive abilities to instructed SLA and language pedagogy in a practical way.
- *Aptitude as a dynamic construct.* In recent years, aptitude research has suffered because it has been regarded as inconsistent with the prevailing educational climate. However, dynamic conceptualizations of aptitude promise to make aptitude research more pedagogically relevant: The traditional view of aptitude has been of a fixed and uniform cognitive capacity within an individual, but an increasing willingness to entertain dynamic conceptualizations of aptitude—for example in the manner reflected in the CANAL-FT—could be empowering for learners and could potentially revitalize aptitude research by making it more attractive to classroom practitioners.
- *The changing scope of inquiry.* The development of the Hi-LAB points to a more focused future role for assessment instruments. This battery has been designed solely to identify possible high achievers; that is, it is primarily concerned with an individual's ultimate level of attainment, which represents a shift in the focus of aptitude research. While the concentration on the ultimate level of attainment seemingly constitutes a tightening of the scope of inquiry, it also suggests a broadening of the research agenda in order to be able to explore how other factors, such as motivation or personality, interact to affect the capacity to learn.

To summarize the overall course of language aptitude research in broad terms, we can identify two basic directions for the future: The first involves continuing to investigate a latent cognitive factor essential to successful language learning, which parallels the ongoing analysis of *g* in intelligence research. In this respect, a crucial factor holding back a solely cognitive approach in the past has been that, similar to the enigma of the nature of IQ, we still do not quite know what language aptitude is, even though we can devise instruments that predict L2 learning progress in a reliable manner. Accordingly, descriptions of aptitude in terms of how its various dimensions relate to L2 learning domains/skills have made only limited advances since Carroll's earliest theorization. A focus on (working) memory appeared to offer the prospect of a major breakthrough (and this was already highlighted by Carroll himself), but here research has been muted by our insufficient understanding of implicit memory (and implicit learning). Barring major breakthroughs in neuroscience, it would seem that the most productive way forward for this first direction of language aptitude research is to pursue investigations of the cognitive base of various specific aspects of language learning, following the example of Robinson's pioneering inquiries.

In harmony with the first option, the second possible future direction also concerns the understanding of how the various cognitive processes connect to other aspects of the language learning experience, but this approach goes beyond a conceptualization of aptitude as merely a robust cognitive factor. One general lesson drawn from a review of aptitude research has been that cognition does not function in isolation but interacts with other mental functions such as motivation and emotion. Therefore, a more elaborate and educationally meaningful conceptualization of language aptitude would not necessarily be restricted to cognitive aptitude alone. By suggesting this, we are in fact coming full circle and returning to the early days of language aptitude research: As we have seen earlier, Pimsleur's PLAB contained a highly effective attitudinal item, thereby treating language aptitude as a conglomerate. As we shall observe in the next chapter on motivation, a willingness to explore psychological constructs as situated conglomerates can lead to highly productive research agendas.

4

MOTIVATION

It is easy to see why *motivation* is of great importance in SLA: It provides the primary impetus to initiate L2 learning and later the driving force to sustain the long, often tedious learning process; indeed, all the other factors involved in SLA presuppose motivation to some extent. Without sufficient motivation, even individuals with the most remarkable abilities cannot accomplish long-term goals, and neither are appropriate curricula or good teaching enough on their own to ensure student achievement. On the other hand, high motivation can make up for considerable deficiencies both in one's language aptitude and learning conditions. Accordingly, motivation research has traditionally been a particularly active area within the study of SLA, and this activity has increased dramatically over the past decade: Of all the constructs covered in this book, motivation is the one that has been subject to the most thorough theoretical overhaul since the 2005 version. Indeed, some of the material discussed in the original chapter has a distinctly historical feel to it in places, which is somewhat ironic given that the chapter represented in many ways the 2005 volume's centerpiece, containing some of the most cutting-edge discussion (e.g., it introduced Zoltán's L2 Motivational Self System for the first time). A newcomer to the field of L2 motivation research in 2015 would barely recognize several of the concerns of the research agenda outlined in 2005, even though that chapter served as a catalyst for much of the change that has taken place over the past decade.

To give an indication of the scale of that activity, let us look at some published output in the field of L2 motivation studies. Prior to the original edition of *The Psychology of the Language Learner,* we are aware of only one major edited anthology of papers focusing on L2 motivation (Dörnyei & Schmidt, 2001), whereas over the past six years, between 2009 and 2015, we know of at least seven such anthologies (Apple, DaSilva, & Fellner, 2013; Csizér & Magid, 2014;

Dörnyei, MacIntyre, & Henry, 2015; Dörnyei & Ushioda, 2009; Lasagabaster, Doiz, & Sierra, 2014; Murray, Gao, & Lamb, 2011; Ushioda, 2013). This level of output is not only a measure of productivity on the part of researchers, but it also reflects a wider interest in the topic, since publishers would have been unlikely to invest in such works if they had not believed that there was a substantial market.

As a consequence of the scale of the changes we have witnessed in recent years, the structure of this chapter differs from the others in this book. Referring back to the collections of edited volumes mentioned above, the fact that three of those were published while we were actually in the process of writing this book made it clear to us that trying to produce a comprehensive state-of-the-art account of L2 motivation research might not be realistic in a single chapter, particularly if we note that the 100+ papers in the seven edited volumes were accompanied by at least twice as many studies published in journals and other collections. Instead, a more fruitful approach may be to look for core trends and then try to characterize the overall trajectory of the field. Furthermore, because several of the currently most promising lines of inquiry are relatively new, attempting to preserve the structure of the original chapter does not really make sense in 2015. Instead, we treat the 2005 material as a lens through which we filter our current discussion of L2 motivation: We see it as a watershed in the development of L2 motivation research, the point at which the current surge in activity begins. Accordingly, in the first half of the chapter we offer a brief overview of the historical development of L2 motivation research leading up to the original publication of this book; then in the second half we outline the central features of the huge body of research that has appeared since 2005, concluded by an appraisal of how we think the field is developing.

Historical Development of L2 Motivation Research

Looking back, the 2005 discussion of motivation provides a good illustration of the tendency in ID research to have 'one foot in the past and one foot in the future' that we mentioned in the preface. Although the original chapter was forward-looking, and can be said to have played a significant role in setting the research agenda, it still turned a very cautious eye over its shoulder, going to great lengths to maintain connections with existing L2 motivation theory. A core element of that chapter was a historical overview, identifying three stages in the development of L2 motivation theory:

(a) The *social psychological period* (1959–1990)—characterized by the work of Robert Gardner and his students and associates in Canada.
(b) The *cognitive-situated period* (the 1990s)—characterized by moves to shift the research agenda away from its social psychological roots toward a

realignment with mainstream educational psychology, mainly driven by cognitive theories originally developed in non-L2-specific research.

(c) The *process-oriented period* (turn of the century to the present day)—characterized by an interest in motivational change, especially concerned with how motivation emerges from interaction between individuals and contexts.

Of course, the dates used here are only rough indicators, as there was a considerable amount of overlap between stages; for example, some research from the cognitive-situated period still contained elements of a social psychological approach, and the cognitive theories introduced in the 1990s are still pursued in the current era.

Social Psychological Foundations

The foundations of L2 motivation research can be found in the work of a group of social psychologists working in Canada beginning in the late 1950s, most notably Robert Gardner, Wallace Lambert, and their associates. They presented a theory that offered clarity and intuitive appeal, while also demonstrating research methodological rigor. As a result, L2 motivation research took off and the Gardnerian perspective dominated the field for a long time. Emerging from the unique Canadian social situation characterized by the often confrontational coexistence of the Anglophone and Francophone communities, Gardner and Lambert's (1972) starting point was the recognition that unlike several other school subjects, a foreign language is *not* a socioculturally neutral educational area but is affected by a range of social psychological factors such as language attitudes, cultural stereotypes, and even geopolitical considerations. The central tenet of their approach was that "students' attitudes toward the specific language group are bound to influence how successful they will be in incorporating aspects of that language" (Gardner, 1985, p. 6).

What is key here—and now appears obvious from our 21st-century standpoint—is that the attitudes and other motivational dispositions of the learner were seen as a crucial determinant of successful language learning, whereas up to that point, language learning success had been conceived primarily as a function of aptitude and effective teaching. Furthermore, while traditional motivation research in psychology had almost entirely focused on the *individual learner's* attributes—for example, needs, goals, expectancies, values, and interests—Gardner and his colleagues combined this individualistic perspective with social psychological insights concerning the relationships between the L1 and L2 *communities*. This integration of elements of individualistic and social psychology in the study of the motivational antecedents of human behavior was radically new in the 1960s and was almost three decades ahead of its time (MacIntyre, 2004)—it was only in the 1990s that motivational psychologists began to catch up and started to show an active interest in the social context of motivation.

Gardner's Motivation Theory

In 2015, our interest in Robert Gardner's motivation theory (for a recent review, see Gardner, 2010) is not so much in the specific constructs he proposed—because those have been further refined and developed by advances in the past four decades—as in the overall system of ID facets in which he has placed the notion of motivation. His 'socio-educational model of second language acquisition' (see Figure 4.1) is a broad schematic outline of how motivation is related to other learner characteristics and language achievement, placing motivation within a system of four distinct aspects of the second language acquisition process:

- antecedent factors (which can be biological or experiential such as gender, age, or learning history)
- individual difference (i.e., learner) variables
- language acquisition contexts
- learning outcomes

The main learner characteristics covered by the model are intelligence, language aptitude, language learning strategies, language attitudes, motivation, and

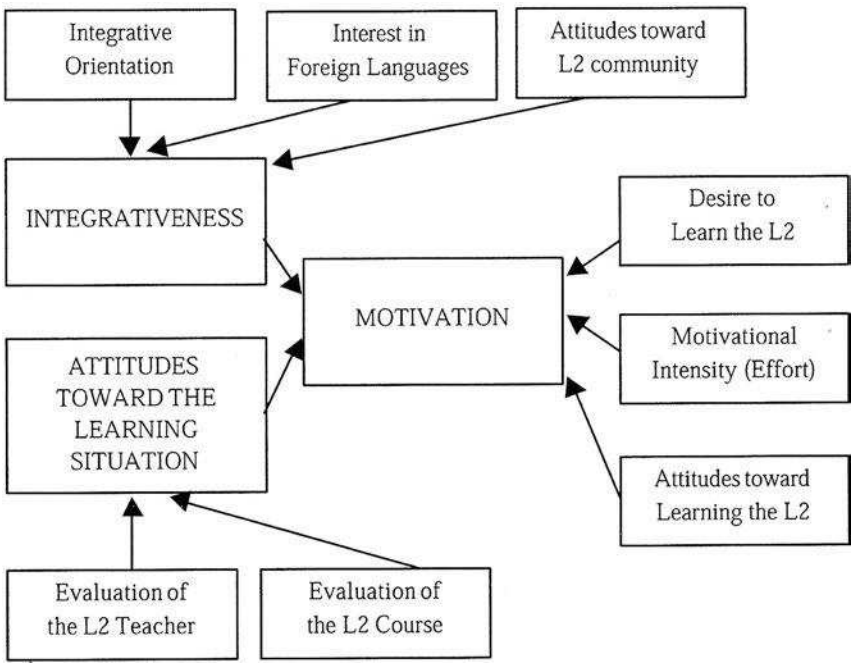

FIGURE 4.1 Gardner's socio-educational model of second language acquisition (Gardner & MacIntyre, 1993, p. 8)

language anxiety—an extensive list that is not too far off from the emerging canonical list of ID variables discussed in Chapter 1. Although Gardner (1985, p. 166) himself stated that he did not believe that the model was the true or final one, it still contained "many elements which must be considered in future developments." Indeed, he continued, "A true test of any theoretical formulation is not only its ability to explain and account for phenomena . . . but also its ability to provide suggestions for further investigations, to raise new questions, to promote further developments and open new horizons." If we compare his model to McAdams's New Big Five framework discussed earlier (Chapters 1 & 2; see also Chapter 8), we can see that Gardner's construct had definite forward-pointing capabilities in that it foregrounded several layers of situatedness, from the biologically determined antecedents (cf. McAdams's 'dispositional traits'), to variables subject to learner-specific and contextual variation (cf. McAdams's 'characteristic adaptations').

Gardner's theory was highly acclaimed among L2 researchers and practitioners alike, but it is fair to say that the popular interpretation was rather different from the actual theory, largely because L2 scholars tended to pay attention only to two prominent motivational components, an *interpersonal/affective dimension* (labeled *integrative orientation/motivation*), associated with positive feelings toward the L2-speaking community, and a *practical/utilitarian dimension* (labeled *instrumental orientation/motivation*), associated with the concrete benefits that language proficiency might bring about, such as career opportunities or increased salary. The reductive misrepresentation of Gardner's theory as the sum of integrative and instrumental motivation was pervasive but perhaps understandable in an era when most applied linguists had linguistic or educational expertise as their professional background and therefore were attracted to a simplified perception of the highly complex psychological notion of motivation.

Other Concepts in the Social Psychological Tradition

It is important to point out that there was more to the social psychological approach to L2 motivation than Gardner's socio-educational model. Several other important strands of research were also subsumed within this tradition, most notably Richard Clément's (1980) *social context model,* which was concerned with the motivation of individuals in multi-ethnic settings and their efforts to learn and use the language of the other speech community. An important concept emerging from this line of inquiry was *linguistic self-confidence,* which in Clément's view was primarily *socially* determined, in contrast to the cognitive nature of its counterpart in the motivational psychological literature, *self-efficacy* (for a recent discussion, see Sampasivam & Clément, 2014). A further social psychological contribution to understanding how individuals acquire and use language in multicultural settings was Giles and Byrne's (1982) *intergroup model,* which posited as key factors in acquiring an L2 the individuals' sense of *identification*

with their own ethnic group, their perceptions of this group's *ethnolinguistic vitality,* and *in-group boundaries*. In a similar vein, Schumann (1978, 1986) looked at multicultural settings through the lens of what became known as *acculturation theory,* whose novelty was the introduction of the notions of *social* and *psychological distance* and how these impeded language acquisition.

Even from this brief overview it becomes clear that the social psychological approach offered a colorful palette of insights and that its proponents were innovative in their theoretical explorations. However, what they all shared in common was an interest in the *macro-level* analysis of interrelationships between social groups and contextual variables, with little attention placed on the individual L2 learner or the micro-context of the L2 classroom. As we shall see below, it was this aspect of their work that eventually turned practitioners and practical-minded scholars away from this approach.

The Methodology of the Social Psychological Approach

A crucial factor underpinning the rise to prominence of the social psychological approach was the methodological rigor of the research. For example, an essential part of Gardner's theory development was the Attitude/Motivation Test Battery (AMTB; reprinted in the appendix of Gardner, 1985), a multicomponential motivation questionnaire made up of over 130 items. The AMTB as well as the advanced quantitative data processing techniques that Gardner introduced (after all, he was an expert in statistics; see e.g., Gardner, 2001b) set high research standards for the field. The AMTB's design—though not without issues (e.g., Dörnyei, 1994b)—followed the psychometric principles governing questionnaire theory, resulting in a scientific assessment tool both in terms of its presentation and its content. The influence of the AMTB was not limited to research methodology; in quantitative inquiries the research questions that scholars can ask are constrained by the instruments they use, and given that the AMTB was by far the most commonly employed motivation battery in the 1980s and '90s, its design—with the specific macro-perspective concerns of the social psychologist in mind—left a mark on the field.

The Changed Status of 'Integrativeness'

One huge difference between the L2 motivation research landscape of 2005 and the present day is the status of the concept of *integrativeness.* The need to reinterpret integrativeness dominated the 2005 version of this chapter, and the act of reviewing the literature in preparation for the revision of this text brought home to us both the scale and the speed of recent changes in thinking about L2 motivation: In the original version, integrativeness was described as "without any doubt the most researched and most talked about notion in L2 motivation studies" and it was also referred to as a 'classic' or 'untouchable' concept. However, when

we consulted the latest (at the time of writing) anthology on L2 motivation (Dörnyei *et al.,* 2015), which is the closest we have to a state-of-the-art commentary, we find references to 'integrativeness' in only 3 of the 23 chapters covering over 400 pages, and 2 of those are merely brief references describing integrativeness in historical terms. In a relatively short span of time, therefore, the concept of integrativeness has moved from 'untouchable' and 'most talked about' to hardly touched or talked about at all.

The reinterpretation of integrativeness was a crucial step in paving the way to newer approaches to the conceptualization of L2 motivation. In 2005, the concept of integrativeness was regarded as an 'enigma' because numerous studies had found it to be an empirically significant factor in the motivation to learn an L2, yet many others found the concept theoretically problematic. Not long after the publication of the original version of our book, Coetzee-Van Rooy (2006) declared integrativeness 'untenable' as an explanation for the motivation of learners in World Englishes contexts, and it was this growing interest in the global spread of English that eventually forced integrativeness off the research agenda. For example, investigating language learning in Japan, McClelland (2000) called for a definition of 'integrativeness' that focuses on "integration with the global community rather than assimilation with native speakers" (p. 109), highlighting a "need to reappraise Gardner's concept of integrativeness to fit a perception of English as an international language" (p. 109). Based on a qualitative study of learners of English in Indonesia, Lamb (2004) drew a similar conclusion:

> Moreover, we have seen that an integrative and instrumental orientation are difficult to distinguish as separate concepts. Meeting with westerners, using computers, understanding pop songs, studying and traveling abroad, pursuing a desirable career—all these aspirations are associated with each other and with English as an integral part of the globalization processes that are transforming their society and will profoundly affect their own lives.
>
> (p. 15)

Such concerns were not confined to Asian contexts. In a large-scale longitudinal study of Hungarian foreign language learners (N > 13,000; see Dörnyei, Csizér, & Németh, 2006), the data did not confirm the traditional content validity of the integrative concept either. In fact, this empirical research provided the specific trigger for a major reconsideration of the concept of integrativeness: Gardner's (2001a) original conceptualization related to a sense of *identification* with the L2 community (i.e., identifying with the speakers of the target language), but in the absence of a salient L2 group in the learners' environment—as is often the case in foreign language learning contexts in which the L2 is primarily learned as a school subject—such an identification did not make sense. Yet, the multivariate statistical analysis of Hungarian schoolchildren's generalized motivational dispositions revealed that a latent factor that would have been traditionally identified as 'integrativeness'

played a key role in mediating the effects of all the other attitudinal/motivational variables on criterion measures related to motivated learning.

The explanation Csizér and Dörnyei (2005) gave was that many of the empirical studies that produced a strong integrativeness factor were tapping into something very real and important, but something rather different from integrativeness in the Gardnerian sense, or in any widely understood meaning of the verb 'to integrate.' What these studies were encountering was a much broader form of psychological and emotional identification, a sort of a virtual or metaphorical identification with the sociocultural loading of a language, and in the case of the undisputed world language, English, this identification would be associated with a non-parochial, cosmopolitan, globalized world-citizen identity. Indeed, as a valuable contribution of this discussion, Yashima (2000; Yashima, Zenuk-Nishide, & Shimizu, 2004) introduced the notion of an *international posture,* referring to a complex trait that includes an "interest in foreign or international affairs, willingness to go overseas to study or work, readiness to interact with intercultural partners and . . . a non-ethnocentric attitude toward different cultures" (Yashima, 2000, p. 57).

The conceptualization of this global language identity was in line with psychological research on the effects of globalization in general: Lamb (2004) drew attention to Arnett's (2002) summary of the psychology of globalization, in which the author argues that "most people now develop a bicultural identity, in which part of their identity is rooted in their local culture while another part stems from an awareness of their relation to the global culture" (p. 777). A concept of motivation rooted in geographically static language communities seemed incompatible with the more fluid notions of linguistic identity associated with the global spread of English. Without clearly defined language communities, the traditional Canadian approach no longer made sense, and the growing need to understand the motivation of language learners, especially learners of English, within the context of globalization marked the end of the social psychological approach as an engine powering L2 motivation theory and research. This paradigmatic shift was summarized by Ushioda and Dörnyei (2009) as follows:

> Over the past decades the world traversed by the L2 learner has changed dramatically—it is now increasingly characterized by linguistic and sociocultural diversity and fluidity, where language use, ethnicity, identity and hybridity have become complex topical issues and the subject of significant attention in sociolinguistic research. Yet, surprisingly perhaps, it is only within the last few years that those of us working in the L2 motivation field have really begun to examine what this changing global reality might mean for how we theorize the motivation to learn another language, and how we theorize the motivation to learn Global English as target language for people aspiring to acquire global identity in particular. Put simply, L2 motivation is currently in the process of being radically

> reconceptualized and re-theorized in the context of contemporary notions of self and identity.
>
> (p. 1)

The Cognitive-Situated Period: Realignment with Educational Psychology

By the 1990s, there was a growing awareness of the conceptual gap between motivational thinking in the second language field and in educational psychology. The time was ripe for new approaches to L2 motivation research and the ensuing, remarkably productive period has been referred to as a 'motivational renaissance' (Gardner & Tremblay, 1994). The mood of this time was captured by MacIntyre, Mackinnon, and Clément (2009) when they observed that the various and diverse calls to expand the research agenda were "returning the field to a pre-paradigmatic state" (p. 45). We cannot possibly capture the whole range of that diversity here; instead we will limit our discussion to those contributions that we feel have the most to say to a present-day audience.

Although the prevailing orthodoxy is that Graham Crookes and Richard Schmidt's (1991) influential article on 'reopening the motivation research agenda' marks the starting point of the *cognitive-situated period* in motivation research, the need for a change had been 'in the air' since the turn of the late 1980s and several other publications from around the same time voiced a similar view (e.g., Brown, 1990; Julkunen, 1989; Skehan, 1989, 1991). However, we need to take care not to portray researchers in the cognitive-situated tradition as part of a coordinated, focused movement, when it was more the case of various diverse concerns emerging at a similar time. Nevertheless, the cognitive-situated period was by and large characterized by the intertwining influence of two broad trends:

(a) The desire to catch up with advances in motivational psychology and to extend our understanding of L2 motivation by importing some of the most influential non-L2-specific motivational concepts of the 1980s. These concepts were almost entirely cognitive in nature, which reflected the effect of the ongoing cognitive revolution in psychology. Motivational psychologists representing a cognitive perspective argued convincingly that how one thinks about one's abilities, possibilities, potentials, limitations, and past performance, as well as various aspects of the tasks to achieve or goals to attain (e.g., values, benefits, difficulties), is a crucial aspect of motivation.
(b) The desire to narrow down the macro-perspective of L2 motivation (i.e., the broad view focusing on the motivational disposition of whole communities, typically taken by the proponents of the social psychological approach) to a more fine-tuned and situated analysis of motivation as it operates in actual learning situations (such as language classrooms), characterized by a micro-perspective.

To start with the second concern, a growing amount of research examined the motivational impact of the main components of the classroom learning situation, such as the teacher, the curriculum, and the learner group (cf. Dörnyei, 1994a; Williams & Burden, 1997). This emerging situated approach was summarized by McGroarty (2001) as follows:

> Existing research on L2 motivation, like much research in educational psychology, has begun to rediscover the multiple and mutually influential connections between individuals and their many social contexts, contexts that can play a facilitative, neutral, or inhibitory role with respect to further learning, including L2 learning.
>
> (p. 86)

This process of linking motivation to contextual factors was fruitful: Researchers (e.g., Donitsa-Schmidt, Inbar, & Shohamy, 2004; Nikolov, 2001; Inbar, Donitsa-Schmidt, & Shohamy, 2001) repeatedly found that variables related to the language course explained a significant portion of the variance in the students' motivation, indicating that "classroom L2 learning motivation is not a static construct as often measured in a quantitative manner, but a compound and relative phenomenon situated in various resources and tools in a dynamic classroom context" (Kimura, 2003, p. 78).

Regarding the application of cognitive theories of motivation that had originally been developed in educational psychology, we shall consider two such theories—*self-determination theory* in L2 learning and the analysis of *attribution theory*—not only because their adaptation offers good illustrations of the zeitgeist but also with a view to highlighting their significance for the future development of L2 motivation theory.

Self-Determination Theory

Self-determination theory (Deci & Ryan, 1985, 2009; Ryan & Deci, 2002) focuses on how individuals pursue three core psychological needs: *autonomy* (the feeling of being in control of one's own actions), *relatedness* (the feeling of belonging or being connected to other people), and *competence* (the feeling that one is capable or accomplished). Over the years the theory—and particularly its two linchpins, *intrinsic* and *extrinsic motivation*—has become one of the most influential constructs in motivational psychology, and several attempts have been made in the L2 field to incorporate elements of self-determination to understand L2 motivation better. The most sustained and systematic of these has been the body of work led by Kim Noels (Noels, 2003, 2009; Noels, Clément, & Pelletier, 1999, 2001; Noels, Pelletier, Clément, & Vallerand, 2000), whose interest was inspired by coming into contact with two leading international experts of self-determination theory, Luc Pelletier and Robert Vallerand. Similar to the AMTB's role in the perception of

Gardner's motivation theory, the influence of the L2 self-determination approach was also strengthened by the free availability of a scientific assessment instrument that other researchers could employ in their own studies: Noels, Pelletier, Clément, and Vallerand's (2000) Language Learning Orientations Scale.

In line with the general thrust of the cognitive-situated period, followers of self-determination theory pursued two parallel objectives. The first was to relate the various intrinsic/extrinsic components established in motivational psychology to orientations developed in L2 research, and here they found that Gardner's integrative orientation was most strongly associated with the more self-determined forms of motivation (for a review, see Noels, 2001b). The second objective was to examine how learners' levels of self-determination were affected by their cognitive perception of various situated, classroom-specific practices—for example, the teacher's support of autonomy and provision of informative feedback, and more generally, the characteristics of his/her communicative/instructional style (see Noels, 2001a). Self-determination theory thus functioned as a bridge linking two paradigms of L2 motivation research, once again reflecting the 'one foot in the past and the other in the future' phenomenon: On the one hand, we see Noels and colleagues seeking to establish continuity with established concepts within the socio-educational model of L2 motivation; on the other hand, the approach was forward-looking by shifting the focus onto motivation coming from within the learner as well as from the micro-contextual determinants. The nature of the tension in L2 motivation research's relationship with its own past has been explicitly explored in a recent study by Sugita McEown, Noels, and Chaffee (2014)—"At the Interface of the Socio-Educational Model, Self-Determination Theory and the L2 Motivational Self System Model"—offering an insightful and balanced discussion of both continuities and discontinuities, and concluding as follows:

> If we happen to find ourselves at the stone garden at Ryoanji Temple in Japan [famous for having 15 stones that are positioned in a way that it is impossible to see all of them at the same time from any vantage point], we might choose a particular point of view to experience the garden, but this choice limits the range of what can be seen. If we know which stones we want to look at, we can make an informed choice about what perspective to take while remaining aware of what information we are missing. Therefore, researchers need to identify what aspect of L2 motivation they want to look at—that is, which theory or theories work best based on their respective research contexts, targeted populations and outcome variables of interest.
>
> (pp. 35–36)

Attribution Theory

Attribution theory has achieved a special status among contemporary motivation theories in psychology because this had been the first theory to successfully

challenge Atkinson's classic achievement motivation theory in the 1970s (for a recent review, see Dörnyei & Ushioda, 2011). Subsequently, it became the dominant educational psychological model in research on student motivation in the 1980s. The essence of the theory is, as its main proponent Bernard Weiner (1992, 2010) argues, the recognition that the subjective reasons to which we attribute our past successes and failures considerably shape our motivational disposition underlying future action. If, for example, we ascribe past failure in a particular task to low ability on our part, the chances are that we will not try the activity ever again, whereas if we believe that the problem lay in our insufficient effort or the unsuitable learning strategies that we had employed, we are more likely to give it another try.

Because of the generally high frequency of language learning failure worldwide, attributional processes are likely to play an important motivational role in language studies, which was indeed demonstrated by Ushioda's (1996, 1998, 2001) interview study of Irish learners of French. In accordance with Weiner's theory, Ushioda found that positive motivational thinking involved two attributional patterns: (a) attributing positive L2 outcomes to personal ability or other internal factors (e.g., effort, perfectionist approach), and (b) attributing negative L2 outcomes or lack of success to temporary (i.e., unstable) shortcomings that might be overcome (e.g., lack of effort, lack of opportunity to spend time in the L2 environment).

Attribution theory has influenced the development of L2 motivation theory in two important directions. First, it highlighted the temporal nature of motivation, since "the interpretation of the past, that is, the perceived causes of prior events, determines what will be done in the future" (Weiner, 2010, p. 29); in other words, people's past experiences are linked with their future achievement efforts by means of causal attributions as the mediating link. Second, given that there is a limit to which survey methodology can be applied to the assessment of causal explanations in varied idiosyncratic situations, the study of L2 attributions widened the door to qualitative inquiry into L2 motivation that had been opened by the Ushioda studies mentioned above (e.g., Tse, 2000; Williams & Burden, 1999; Williams, Burden, & Al-Baharna, 2001; Williams, Burden, Poulet, & Maun, 2004). This is important because as we have already observed, the L2 motivation research agenda could not successfully negotiate pathways away from the Canadian social psychological framework while it was tied to its research methods, and the qualitative methodology adopted by attribution researchers helped to establish a more diverse methodological base.

Summary

In summary, we can now regard the cognitive-situated period of L2 motivation research as an "interim 'catching up' phase" (Ushioda, 2012, p. 61), characterized by the general desire to move toward a realignment with mainstream

educational psychology. This was a flourishing period in which the field was receptive to, and encouraging of, new ideas typically drawn from cognitive psychology, and in which researchers shifted their attention from studying macro- to micro-contexts. The conceptual themes introduced during this period served not only to "expand the theoretical framework" (Oxford & Shearin, 1994), but also to pave the way for the forthcoming paradigm shift of the early 21st century.

The Shift to Socio-dynamic Perspectives

In the 2005 version of this chapter, the period following the cognitive-situated period was referred to as the *process-oriented period,* reflecting a prominent interest in motivation as a process. However, with hindsight we can now regard this interest as an early manifestation—or a precursor—of an even broader approach that has defined early 21st-century thinking on L2 motivation, highlighting the concept's *dynamic character* and *temporal variation*. This shift started with the examination of specific learner behaviors and classroom processes in a situated manner, a practice that inevitably led to the realization of the significance of *time* when trying to account for the daily ups and downs of the motivation to learn: Even during a single language class, one can notice that L2 motivation shows a certain amount of changeability, and in the context of learning an L2 for several months or years, or over a lifetime, motivation is expected to go through rather diverse phases. From this perspective, motivation is not seen as a static attribute of the individual but rather as a dynamic factor that displays continuous fluctuation as it is adapted to the ever-changing parameters of the context (see e.g., Dörnyei, 2000; Ryan & Dörnyei, 2013).

The Dörnyei and Ottó (1998) Process Model

An early attempt to integrate a temporal dimension into the theorization of L2 motivation was Dörnyei and Ottó's (1998) process model of L2 motivation, which, in contrast to other L2 motivation constructs of the time, emphasized that for most individuals motivation involves a complex, evolutionary development. Levels and intensity of motivation rise and fall over time, and the model represented this movement by breaking down the motivational process into several discrete temporal segments, organized along a progression that describes how initial *wishes* and *desires* are first transformed into *goals* and *intentions,* and how these intentions are *enacted,* leading (hopefully) to the accomplishment of the goal and concluded by the final *evaluation* of the process. Three main phases of the process were highlighted: First individuals make choices before embarking on an activity *(pre-actional stage);* then they act upon these choices *(actional stage);* and finally they assess their performance of the activity for future reference *(post-actional stage)*. The post-actional appraisal, in turn, serves to inform

subsequent behavioral choices, thereby restarting the cycle and creating motivational movement.

A key tenet of the process-oriented approach was that the three motivational phases are associated with largely different motives: People are influenced by a set of factors while they are still contemplating actions that are different from the motives that influence them once they have embarked on the activity; and similarly, when they look back at what they have achieved and evaluate it, again a new set of motivational components will become relevant. The impulse to separate these actional stages into discrete components was indicative of the prevailing orthodoxy of the time, in which understanding was obtained by reducing complex phenomena into small constituent units of analysis, and then proposing linear relationships between these units. However, the Dörnyei-Ottó model had multiple, parallel, and interacting cause–effect relationships, accompanied by several circular feedback loops, thereby making the validity of the overall linear nature highly questionable. Indeed, it is noteworthy, that over the past 15+ years there have not been any empirical studies that would have validated the whole model, and looking back we can see that it was only a matter of time before it had to be accepted that no patchwork of interwoven cause–effect relationships would be able to do the complexity of the motivation system justice, thus warranting a more radical reformulation.

Ushioda's Person-in-Context Relational View

The question of how individuals incorporate ongoing behaviors within their identities as language learners was pursued by Ema Ushioda (2009, 2012) in her influential person-in-context relational view of L2 motivation. Emerging out of her qualitative study of 20 Irish young adult learners of French (mentioned above), Ushioda's perspective on L2 motivation challenged conventional linear descriptions and argued for

> a focus on real persons, rather than on learners as theoretical abstractions; a focus on the agency of the individual person as a thinking, feeling human being, with an identity, a personality, a unique history and background, a person with goals, motives and intention; a focus on the interaction between this self-reflective intentional agent, and the fluid and complex system of social relations, activities, experiences and multiple micro- and macro-contexts in which the person is embedded, moves, and is inherently part of.
>
> (Ushioda, 2009, p. 220)

Central to this relational view of motivation, as Ushioda (2015) explains, was an emphasis on moving away from models that regarded context merely as a static backdrop, and on assuming instead a dynamically evolving relationship

between learner and context, as each responds and adapts to the other. In this way, the learner necessarily becomes an integral part of the unfolding context of the interaction. The resultant wish to conceptualize motivation in a more fluid and integrated way exposes—or perhaps we should say, releases—fundamental tensions within the field between cognitive and social agendas, tensions that extend to the wider domain of L2 learner psychology (and even to the study of SLA as a whole; for discussions of the cognitive–social debate in applied linguistics, see e.g., Larsen-Freeman, 2007, and Zuengler & Miller, 2006). This tension raises the question of continuity anew: Can a line of inquiry in which the agent cannot be meaningfully separated from the social environment within which he/she operates be accommodated within existing paradigms?

The L2 Motivational Self System

Earlier in this chapter we described the cognitive-situated period as a 'catching up' phase; evidence that L2 motivation had finally 'caught up' came when the concerns of L2 motivation theory became broadly concurrent with those of mainstream educational psychology around the turn of the century. As Pajares (2001) observed, research on academic motivation in education at this time was dominated by concepts of 'self,' such as self-determination (which we have already discussed), self-efficacy, self-esteem, and self-regulation (for an overview, see Leary, 2007), and such concepts also began to inform research into L2 motivation. However, as several commentators (e.g., MacIntyre *et al.,* 2009; Mercer, 2012b) have observed, conceptualizations and definitions of the self have been numerous and diverse, reflecting interest from different disciplines and perspectives. The most influential self-specific motivation construct in SLA, the L2 Motivational Self System, which was first proposed by Zoltán in the 2005 version of this book, drew on a specific aspect of self theory—'possible selves,' introduced by Markus and Nurius (1986).

The origins of possible selves as motivational components go back to personality psychology's success in the second half of the 20th century in understanding the structural basis of the main dimensions of personality (see Chapter 2). According to Cantor (1990), this development paved the way for paying more attention to questions about *how* these individual differences are translated into behavioral characteristics, examining the "'doing' sides of personality" (p. 735). Thus, self theorists became increasingly interested in the active, dynamic nature of the self system; as Markus and Ruvolo (1989) summarized, the traditionally static concept of self-representations was gradually replaced with a self system that mediates and controls ongoing behavior; and various mechanisms, including 'self-regulation,' have been put forward to link the self with action. As a result, certain dynamic representations of the self system in psychology have placed the self right at the heart of motivation and action, creating an intriguing interface between personality and motivational psychology.

Possible selves denote a powerful and at the same time versatile motivational self-mechanism, representing individuals' ideas of what they *might* become, what they *would like* to become, and what they are *afraid of* becoming (for an overview, see Dunkel & Kerpelman, 2006). Oyserman and James (2009) offer the following definition:

> Possible selves are the future-oriented aspects of self-concept, the positive and negative selves that one expects to become or hopes to avoid becoming. They are the desired and feared images of the self already in a future state—the "clever" self who passed the algebra test, the "unhealthy" self who failed to lose weight or quit smoking, and the "off-track" self who became pregnant. Individuals possess multiple positive and negative possible selves.
>
> (p. 373)

Thus, possible selves are specific representations of one's self in future states, involving thoughts, images, and senses, and are in many ways the manifestations, or personalized carriers, of one's goals and aspirations (or fears, of course). This being the case, possible selves incite and direct purposeful behavior, and the more vivid and elaborate the self-image is, the more motivationally effective it is expected to be. Regarding any academic implications, Higgins's (1987) *self-discrepancy theory* offered a particularly useful explanation of how possible selves regulate motivation. The theory proposes two core self-guides: the *ideal self* and the *ought self*. The ideal self is a representation of the attributes that someone would ideally like to possess (i.e., representation of hopes, aspirations, or wishes), while the ought self refers to the attributes that one believes one ought to possess (i.e., a representation of someone's sense of duty, obligations, or responsibilities) and which therefore may be at odds with one's own desires or wishes. According to Higgins, people are motivated to reach a condition where their self-concept matches their personally relevant self-guides; in other words, motivation in this sense involves the desire to reduce the discrepancy between one's actual and ideal or ought selves.

The L2 Motivational Self System, introduced in the 2005 version of this book, synthesized Markus and Nurius's (1986) concept of possible selves and Higgins's (1987) self-discrepancy theory with the main findings of the cognitive-situated period in L2 motivation research. The theory offers a broad construct consisting of three dimensions: the Ideal L2 Self, the Ought-to L2 Self, and the L2 Learning Experience. As the key concept, the Ideal L2 Self concerns a desirable self-image of the kind of L2 user that one would ideally like to be in the future. If people see a discrepancy between this and their current state, they may be motivated to learn a new language or further develop their proficiency in an existing one. The Ought-to L2 Self reflects the attributes that one believes one ought to possess to meet expectations and to avoid possible negative outcomes in the process

of L2 learning. It may bear little resemblance to one's own hopes or desires since these represent someone else's vision for the L2 learner in question and thus they concern an 'imported' image of the future that the learner will then internalize to some extent. The third component, the L2 Learning Experience, is different from the first two in that it focuses on the learner's present experience, covering a range of situated, 'executive' motives related to the immediate learning environment (e.g., the impact of the L2 teacher, the curriculum, the peer group, and the experience of success).

The reframing of L2 motivation as a self system marks the point where the 2005 chapter on motivation ended. At that time the proposed construct constituted something altogether new in the field of L2 motivation theory, but in the intervening years discussions and descriptions of possible selves have become commonplace, almost obligatory, in the literature (see e.g., the various chapters in Dörnyei & Ushioda, 2009; Csizér & Magid, 2014). In the rest of this chapter we consider how the field has reacted to this proposal, how this reaction led to further innovations, and how the new emerging perception fits into the wider domain of the psychology of the language learner as a whole.

The Changing Face of L2 Motivation Research

With at least nine authored books (Dörnyei, 2012; Dörnyei, Csizér, & Németh, 2006; Dörnyei & Ushioda, 2011; Dörnyei & Kubanyiova, 2014; Gardner, 2010; Gu, 2009; Hadfield & Dörnyei, 2013; Heinzmann, 2013; Nakata, 2006), seven edited volumes (as listed at the beginning of the chapter), and well over 100 other research studies appearing on motivational issues, the last 10 years have seen the field expand in a way that would have been unimaginable in 2005. This requires us to pause, to take stock, and to change the way we offer a summary: Given the amount of recent output, we cannot possibly hope to provide a detailed review of everything that has been written; instead, we will first aim to identify and summarize the principal trends that have emerged, and then use these as a platform for further discussion. In order to take a representative sample of the relevant publications, we searched the Linguistics and Language Behavior Abstracts (LLBA) database for scholarly articles on the topic of L2 motivation published since 2005. After screening the abstracts, we arrived at a total of 127 journal articles, to which we added 113 individual chapters included in the seven motivation-related edited volumes mentioned earlier. We make no claims to this being a definitive collection, as the sampling did not involve, for example, chapters appearing in other anthologies, proceedings, handbooks, or encyclopedias, but we believe that the robust dataset of 200+ papers does reflect the main movements in the field.

In order to offer a broad categorization, we coded each selected work for the following properties: (a) *Type*—was it a conceptual paper or an empirical study? (b) *Focus*—was the paper concerned with exploring and understanding the nature of motivatION, or rather looking at more practical applications of

motivatING theory? (c) *Methodology*—were the empirical papers quantitative, qualitative, of mixed methods? (d) *Theoretical strand*—what was the dominant motivation theory underlying the paper? As professionals in contact with L2 motivation research on a day-to-day basis, we had certain 'hunches' as to how the field was developing and our aim in this broad qualitative meta-analysis was to verify these hunches in the data.

Surge in Research Output

Our first objective in this respect was a straightforward one: We wished to confirm the significant growth of the research output. In 2005, our dataset contained only five articles published on the topic of L2 motivation—and four of those emerged from the same large-scale research project in Hungary. This suggests a relatively small, specialized area, and as can be seen in Figure 4.2, which presents frequency statistics between 2005 and 2014, a similar rate of output continues until 2009, when we suddenly witness a dramatic surge, and the output has remained steady at this high level ever since. In effect, what has happened in the past 10 years is that an area of research that used to be 'owned' by a small research community has opened up and expanded to a scale where it can almost be considered a field in its own right. So what explains this surge?

To start with, a general reason for the popularity of L2 motivation research is likely to be the fact that motivation represents an attractive point of intersection between theory and practice in the psychology of language learning: The concept

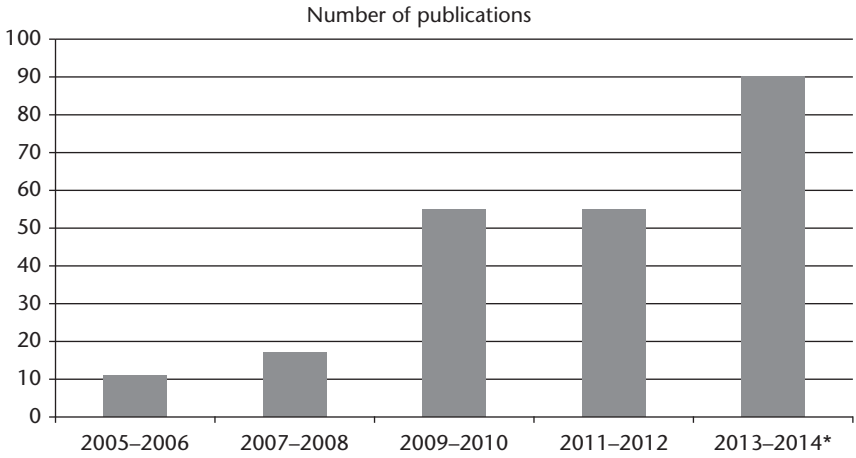

FIGURE 4.2 Frequency statistics of publications on L2 motivation between 2005 and 2014

*Until October 2014; includes the chapters in Dörnyei, MacIntyre, & Henry (2015), published in October 2014.

of motivation contains enough academic substance to excite even the most theoretically minded researchers, yet it also offers potential solutions to the problems of classroom-oriented practitioners. The increase in attention, then, indicates that the broadening of the research agenda in the last decade, as well as the accompanying practical implications, appears to have become a powerful magnet attracting a wider range of researchers with an interest in the psychology of the L2 learner. This might also be one explanation for the relative neglect of other learner characteristics such as language aptitude (as discussed in the previous chapter).

A second consideration might concern the coincidence of the surge with the appearance of the L2 Motivational Self System in the field. Indeed, we find that roughly one-third of the empirical papers are related to this theoretical approach. After 2005, the first of these studies was conducted by Kormos and Csizér (2008), but the real breakthrough came with the publication of Dörnyei and Ushioda's (2009) *Motivation, Language Identity and the L2 Self,* which established the L2 self as a key concept within L2 motivation studies. The new approach has undoubtedly stimulated the overall research activity, but L2-self-oriented research still only represented less than half of the total research output. So, what other concerns have occupied L2 motivation researchers? Gardner's socio-educational model no longer occupies its former preeminent position, but it has not been totally abandoned and still continues to attract interest (e.g., Atay & Kurt, 2010; Bernaus & Gardner, 2008; Hernández, 2008; Yu, 2013). A further paradigm that has been consistent in attracting scholarly attention over the years is self-determination theory, which has maintained a steady rate of output across the 10 years covered by our survey (e.g., Busse & Walter, 2013; Carreira, 2011; Comanaru & Noels, 2009; Jones, Llacer-Arrastia, & Newbill, 2009; Yashima *et al.,* 2009). However, especially since around 2010, the two areas that seem to have attracted the most attention besides self-related issues are explorations of the role of the imagination and vision in L2 motivation as well as the study of motivational dynamics. We shall discuss these themes in more detail below.

A third likely reason for the proliferation of research output is the widening of the research methodological base of L2 motivation research. Earlier in this chapter we explained how the quantitative methods and instruments of social psychologists had shaped early approaches to L2 motivation research, and we mentioned that the quantitative hegemony was gradually broken by an increasing number of qualitative studies contributing to the discussion. In 2005, all the empirical studies we analyzed were resolutely quantitative, and before 2009 our dataset contains only three qualitative and three mixed methods studies. However, after 2009 there is a substantial growth in this area, so much so that in the total 2005–2014 dataset the proportion of qualitative and mixed methods studies reaches 50%. As we saw above, this shift in the methodology of L2 motivation research has occurred in tandem with changing theoretical priorities, which suggests that explorations of the self in L2 motivation were both enabling of and enabled by the move to more qualitative research methods.

Finally, the diversification of the field's theoretical scope and methodological base went hand in hand with an increase of papers focusing on the practical motivating capacity of the underlying theory. Of the total output in our dataset, almost 20% of the work concerns ways of motivating learners, and the vast majority (83%) of these publications are from after 2009. Thus, we may conclude that what was once a relatively narrow field characterized by quantitative studies within a social psychological paradigm not only has now embraced a number of theoretical frameworks and become methodologically innovative, but has established a balance between focusing on the theoretical and practical aspects of the motivation concept. Let us have a closer look at some of the key issues mentioned above.

Consolidation of the L2 Motivational Self System

When first outlined in the 2005 version of this chapter, the L2 Motivational Self System merely represented a proposal for reconceptualizing L2 learner motivation. In the years since, this proposal has facilitated an exceptional wave of interest with literally hundreds of studies appearing worldwide focusing on or mentioning the topic (as evidenced even by a cursory Google Scholars search for the term). In a certain sense, the construct represents the culmination of the conventional approach to L2 motivation research: It has clear roots in the social psychological tradition, as much of the impetus for its development came from the need to reinterpret a core social psychological concept—integrativeness (for a discussion of the transformation, see Dörnyei, 2010)—and then to integrate this revised conception with the findings of the educational shift of the cognitive-situated period.

In order to gain broad acceptance, the concept needed to be first tested within the confines of the conventional research paradigm. With this objective in mind, several large-scale surveys have been conducted to validate the theory in diverse, though mainly EFL, learning environments such as Germany (Busse, 2013); Hungary (Csizér & Lukács, 2010; Kormos & Csizér, 2008); Indonesia (Lamb, 2012); Japan, China, and Iran (Ryan, 2009; Taguchi, Magid, & Papi, 2009); Pakistan (Islam, Lamb, & Chambers, 2013); Saudi Arabia (Al-Shehri, 2009); and Sweden (Henry, 2009, 2010). Virtually all the validation studies reported in the literature found the L2 Motivation Self System providing a good fit for the data, and those investigations that included both the Ideal L2 Self and Integrativeness typically presented a strong correlation of over 0.50 between the two variables, confirming that the two concepts are closely related. Furthermore, in these studies the Ideal L2 Self was a consistently more reliable predictor of motivated learning behavior than Integrativeness, generally explaining more than 40% of the variance in the criterion measures, which is an unusually high figure in motivation studies.

Looking back, it appears that these validation studies represented an essential step in substantiating the new framework, bestowing it with legitimacy, and giving the field the confidence to move on; and once researchers had ascertained

the soundness of the new approach by means of the methods and language of established quantitative research, other approaches have been available to elaborate on and refine the theory. A central question in this respect has concerned what distinguishes effective future self-guides from other possible self-images, since not all self-images lead to motivated behavior. Dörnyei (2009a) outlined a number of conditions necessary for self-images to energize motivation and thus have behavioral consequences, thereby moving the L2 Motivational Self System from a tripartite framework toward a system proper:

- A desired future self-image must be *available* to the learner: Although this may seem to be a statement of the obvious, not everybody has clear ideal or ought-to self-guides.
- The future self must *differ* from the current self: Put simply, if the future self-image is too close to the current self, the individual is unlikely to feel any great need to make efforts to realize the vision.
- The future self-image must be *elaborate* and *vivid:* More elaborate and detailed future images are more likely to be effective motivators, and similarly, images with insufficient specificity and detail may fail to evoke a significant motivational response.
- The future self-image must be perceived by the individual as *plausible:* Possible selves must be both realistic and perceived to be within the individual's competence. Plausibility is an essential prerequisite for motivation since implausible self-images are likely to remain at the level of unregulated fantasy without any motivational response.
- The future self-image must be in *harmony* with the learner's social environment: Future self-guides must be compatible with other ongoing social identities and social norms. In order to be motivationally effective, the various future self-guides—that is, the ideal and ought-to selves—should complement each other.
- The future self-image should *not* be regarded as comfortably *within reach:* The learner must believe that the possible self will not be realized without a marked increase in exerted effort.
- The future self-image should be regularly *activated* in the learner's working self-concept: Even where future self-images are both vivid and plausible, they only become relevant for behavior when they are primed, for example by various reminders and self-relevant stimuli.
- The future self-image should be accompanied by relevant and effective *procedural strategies*. These strategies, often in the guise of proximal subgoals or specific action plans, serve as a *roadmap* towards the future state and distinguish between motivationally relevant future self-images and empty daydreams or fantasies.
- A desired future self-image should be offset by a *counteracting feared possible self* in the same domain: Vivid imagery relating to the negative consequences

of failing to achieve the desired end-state can reinforce positive future self-images, making them even more motivationally effective.

The move to reframe L2 motivation as part of the self system was testament to the extent to which L2 motivation had 'caught up' with mainstream educational psychology. The new framework presented the motivation to learn an L2 as part of an individual's identity formation and need for self-actualization, and this offered the potential for a richer, more complete model of language learner motivation. However, the other side of the coin has been that much discussion in this area, in Henry's (2015) words, "has tended to 'freeze' current and ideal selves, presenting them as photographic stills rather than moving pictures" (p. 126). Indeed, with the acceptance of the L2 Motivational Self System, the field of L2 motivation research had reached an intriguing juncture—either to keep moving forward in new directions that aim to capture the motivational highs and lows that are an inevitable part of learning a language, or to settle at a deceptive stand-still, that is, a new orthodoxy in which new terminology is merely superimposed onto what are essentially existing static concepts. It is against this backdrop that the second important research orientation of the past decade, a complex dynamic systems approach in L2 motivation research, assumes particular significance.

Complex Dynamics Systems Perspectives

The challenge of portraying ideal L2 selves as 'moving pictures' was first taken up in a further modification of the L2 Motivational Self System theory, whereby motivation was described in terms of complex dynamic systems (CDS) theory (Dörnyei, 2009b). This readjustment has been, in fact, part of a wider trend within applied linguistics, following examples in the social sciences as a whole. Several scholars have turned away from investigating distinct variables in isolation and typically establishing cause–effect relationships between them, and instead have come to take a greater interest in the operation of the system as a whole, examining the dynamic, often nonlinear interactions between its components. As a result, the field of applied linguistics has been undergoing what is sometimes referred to as a 'dynamic turn' (e.g., de Bot, Lowie, & Verspoor, 2007; Dörnyei, 2009b; Ellis & Larsen-Freeman, 2006; Larsen-Freeman & Cameron, 2008; van Geert, 2008; Verspoor, de Bot, & Lowie, 2011).

In the introduction of a special issue of *Applied Linguistics* heralding the new CDS perspective, Ellis and Larsen-Freeman (2006) specifically mentioned L2 motivation as an inherently dynamic, emergent construct: "Motivation is less a trait than fluid play, an ever-changing one that emerges from the processes of interaction of many agents, internal and external, in the ever-changing complex world of the learner" (p. 563). Indeed, with its ups and downs and ebbs and flows, L2 motivation lends itself to the application of dynamically informed research designs, and this recognition has led Dörnyei, MacIntyre, and Henry

(2015) to edit an ambitious collection of 23 conceptual and empirical studies exploring motivational dynamics. As Dörnyei, MacIntyre, and Henry (2015) summarize in the concluding chapter of the book, the dynamic perspective presented in the volume foregrounds concepts and subject matter rarely encountered elsewhere in SLA research in such an explicit manner, such as, the question of free will, the significance of timescales, the nature of equilibrium and attractor states, the organism's sensitivity to initial conditions, as well as different types of self-organizing processes within the system, such as emergence, coupling, or realignment. Thus, with its explicit agenda of applying a CDS perspective to L2 motivation research, their volume has thrown out a clear challenge to current and future scholars, and at the point of writing the current chapter, we are waiting to see how the field will respond.

Two chapters in the volume—Henry (2015) and You and Chan (2015)—specifically highlight the fact that the 'static target' understanding of future self-guides hides the dynamic nature of these concepts, because these structures are affected by at least three primary processes:

(a) the up- and downward revisions of the ideal and ought-to self-dimensions,
(b) changes triggered by their interaction with other self-concepts, and
(c) qualitative and quantitative changes in the imagery underlying possible L2 selves.

Perceiving future self-guides as being dynamic constructs rather than fixed 'targets' or 'goalposts' that learners strive to reach for places Higgins's (1987) self-discrepancy theory in a new light, in the sense that it suggests that the size and nature of the gap between the actual and the future self also interact with the process: In some cases the gap is reduced by forward movement—that is, by the learner making progress and thus approximating the target in accordance with the principles of self-discrepancy theory—but in other cases the gap can be reduced by bringing the goalpost nearer.

Imagination and Vision

A further theoretical strand identified in our meta-analysis of the recent L2 motivation literature is related to learners' *imagination* and *vision*. As we shall see, this new perspective has roots in past motivation research, but over the last few years it has reappeared with a renewed scientific base associated with the concept of *imagery,* and it is at the heart of a recent, novel line of inquiry focusing on *directed motivational currents* (DMCs).

Imagination

The importance of *imagination* in the learning of a language had already been flagged in the 2005 version of this book when discussing Bonny Norton's work.

Norton (2001) adapted Wenger's (1998) concept of communities of practice, and in particular his three modes of belonging to a community: *engagement, imagination,* and *alignment*. The notion of belonging to a community through the use of the 'imagination' was presented as an attractive explanation of the identity struggles of some language learners. Traditionally, imagination had had a 'bad reputation' (Murray, 2013, p. 378) in the field of education, often regarded as a distraction or impediment to the serious business of learning, but the notion of imagination described by Wenger (1998) is an altogether more dynamic, facilitative construct, offering a bridge between our current actual states and desired future states:

> My use of the concept of imagination refers to a process of expanding our self by transcending our time and space and creating new images of the world and ourselves. Imagination in this sense is looking at an apple seed and seeing a tree. It is playing scales on a piano, and envisioning a concert hall.
> (p. 176)

Fusing Wenger's communities of practice with Benedict Anderson's (1991) terminology, Norton (2013) conceptualizes language learners' 'imagined communities' as "groups of people not immediately tangible and accessible, with whom we connect through the power of the imagination" (p. 8). The idea of belonging to a community through the imagination has a special relevance for the field of language learning since "the learning of another language, perhaps more than any other educational activity, reflects the desire of learners to expand their range of identities and to reach out to wider worlds" (Pavlenko & Norton, 2007, p. 670). Accordingly, the concept has been enthusiastically welcomed by researchers in contexts where learners have little opportunity for actual contact with speakers of the target language (e.g., Gu, 2010; Murray, 2011, 2013; Ryan, 2006; Yashima, 2013; Yashima & Zenuk-Nishide, 2008). In such learning environments, scholars were looking for ways to explain how learners were able to feel a sense of belonging and participation in speech communities distant from their actual, everyday lives, and the concept of imagined communities offered a promising way forward. Norton (2001) has conceptualized the concept of 'communities of imagination' as being constructed by a combination of personal experiences and factual knowledge (derived from the past) with imagined elements related to the future. The notion lends itself to be used with regard to international identities concerning membership in virtual language communities associated with globalization, and Norton explicitly states that a learner's imagined community invites an "imagined identity" (p. 166).

Vision

A key aspect of future self-guides—one that has already been mentioned when introducing the concept of possible selves—is that they involve *images* and *senses;*

as Markus and Nurius (1986) have stated, possible selves are represented in the same imaginary and semantic way as the here-and-now self; that is, they are a reality for the individual: People can 'see' and 'hear' their possible future self (see also Ruvolo & Markus, 1992). This means that, in many ways, possible selves are similar to dreams and visions about oneself; indeed, Markus and Nurius (1987, p. 159) confirm, "Possible selves encompass within their scope visions of desired and undesired end states." Thus, possible selves can be seen as the 'vision of what might be,' a conception that also rests on firm neurobiological grounds: In a review of neuroimagery studies, Decety and Grèzes (2006) concluded that "a simulated action can elicit perceptual activity that resembles the activity that would have occurred if the action had actually been performed" (p. 5). Building on the recognition that imagined events can appear very 'real' to the human mind, Dörnyei and Kubanyiova (2014) introduce vision as a central motivational construct in their recent book-length summary of the topic, expressing the belief that "vision is one of the single most important factors within the domain of language learning: where there is a vision, there is a way" (p. 2). This, however, raises the question: How does vision relate to the notion of motivation in general?

The plurality of motivational constructs in the psychological literature has to do with the multifaceted nature of human behavior and with the various levels of abstraction that we can approach human behavior from. Motivation by definition subsumes every factor that has an impact on human behavior, and the range of potential motives that can initiate or modify our actions is vast. The attraction of using 'vision' in thinking of motivation is that it represents one of the highest-order motivational forces, one that is particularly fitting to explain the long-term, and often lifelong, process of mastering a second language. While the day-to-day realities of one's L2 Learning Experience are the function of multiple factors related to diverse aspects of the learning environment and the learner's personal life, the concept of vision offers a useful, broad lens to focus on the bigger picture, the overall persistence that is necessary to lead one to ultimate language attainment.

Recently, there has been a growing body of research on various aspects of language learning vision, mainly examining quantitatively the relationships among distinct future L2 self-guides, learning styles, imagery capacity, and motivated L2 behavior (e.g., Al-Shehri, 2009; Dörnyei & Chan, 2013; Kim, 2009; Kim & Kim, 2011). The findings indicate consistently that L2 motivation is associated with salient imagery/visualization aspects (such as visual/auditory sensory styles, imagination, and imagery capacity/skills), which points to the conclusion that motivational factors related to imagery and visualization can act as a strong driving force during the long-term process of L2 learning. The imagery dimension is the key factor that distinguishes 'motivation-conceived-as-vision' from the cognitively constructed notion of 'motivation-conceived-as-goals,' and as Dörnyei (2014) summarizes, the capacity of mental imagery to simulate reality is at the heart of the concept's motivational potency: Learners with a vivid and

detailed ideal self-image that has a substantial L2 component are more likely to be motivated to take action in pursuing language studies than their peers without such a self-image. The validity of this belief has received confirmation from imagery training experiments (e.g., Chan, 2014; Fukada, Fukuda, Falout, & Murphey, 2011; Mackay, 2014; Magid, 2014; Sampson, 2012) that have consistently reported that increased visualization after the interventions resulted in improved motivation.

Vision-Inspired Motivational Strategies

The conceptualization of L2 motivation in terms of future self-guides and vision has considerable practical implications because mental imagery is an important internal resource that can be intentionally harnessed (Sheikh, Sheikh, & Moleski, 2002; Taylor, Pham, Rivkin, & Armor, 1998). In mainstream educational psychology, one illustration of the practical application of a vision-based approach is provided by Hock, Deshler, and Schumaker (2006), who report on a 'Possible Selves' program used with university and middle-school students in the U.S. This is a six-step program based around the following learning activities: *discovering, thinking, sketching, reflecting, growing,* and *performing.* Experienced language educators may immediately identify similarities between these activities and learning tasks—such as eliciting vocabulary, describing past events, and sharing reflections—that are already an integral part of L2 classes. This suggests that tailoring elements of this approach to the specific needs of the language classroom is a viable proposition, one that utilizes skills language teachers already possess. This has been confirmed by Dörnyei and Kubanyiova (2014), who provide evidence that it is possible to devise varied classroom activities to train students in imagery skills, thereby helping them to generate personal visions supported by vivid and lively images and then to sustain this vision during the often challenging everyday reality of the language learning process. There are also two practical resource books available containing vision-enhancing classroom activities (Arnold, Puchta, & Rinvolucri, 2007; Hadfield & Dörnyei, 2013).

Earlier in this chapter, we identified some of the key enabling characteristics that provide self-guides with the capacity to motivate action, and a new avenue for motivating L2 learners can involve creating or enhancing these conditions. Table 4.1 outlines a six-phase visionary training approach designed in this vein, indicating how each proposed motivational strategy corresponds to one of the main conditions for the effectiveness of future self-guides. Dörnyei and Kubanyiova (2014) emphasize, however, that this outline should not be seen as a linear, step-by-step program that requires each principle to be fully implemented before moving on to the next, because different learners or learner groups might have different needs and priorities. Also, in reality there is often a blurred line between where one motivational facet ends and another begins (e.g., guided

TABLE 4.1 Outline of a six-phase visionary training program (Dörnyei & Kubanyiova, 2014)

Motivational conditions of future self-guides		*Key facets of a vision-inspired motivational practice*
The learner has a vision.	→	*Construction of the desired future selves: Creating the vision*
The vision is elaborate and vivid.	→	*Imagery enhancement: Strengthening the vision*
The vision is perceived as plausible.	→	*Making the desired future selves plausible: Substantiating the vision*
The vision is accompanied by effective procedural strategies.	→	*Developing an action plan: Transforming the vision into action*
The vision is regularly activated.	→	*Activating the desired future selves: Keeping the vision alive*
The learner is also aware of the negative consequences of not achieving the vision.	→	*Considering failure: Counterbalancing the vision*

imagery exercises can be used to create the vision but they also function as imagery enhancers). A brief rationale for the six motivational dimensions is as follows:

1. *Creating the vision:* The logical first step in a visionary motivational program is to help learners to create desired future selves, that is, construct visions of who they could become as L2 users and what knowing an L2 could add to their lives.
2. *Strengthening the vision:* The more intensive the imagery accompanying the vision, the more powerful the vision; therefore, we need to help students to see their desired language selves with more clarity and, consequently, with more urgency for action.
3. *Substantiating the vision:* Possible selves are only effective insomuch as learners perceive them as plausible (hence the term, 'possible' self); therefore, students need to anchor their ideal L2 self-images in a sense of realistic expectations.
4. *Transforming the vision into action:* Vision without action is daydream: Future self-guides are only productive if they are accompanied by a set of concrete action plans, that is, by a blueprint of concrete pathways that will lead to them.
5. *Keeping the vision alive:* Everybody has several distinct possible selves that are stored in their memory and compete for attention in the person's limited 'working self-concept'; therefore, in order to keep our vision alive we need to activate it regularly so that it does not get squeezed out by other life concerns.
6. *Counterbalancing the vision:* A classic principle in possible selves theory is that for maximum effectiveness as a motivational resource, a desired future self should be offset by a corresponding feared self.

Directed Motivational Currents (DMCs)

A final vision-based concept that we would like to consider is directed motivational currents (DMCs). This notion has recently been proposed (Dörnyei, Henry, & Muir, in press; Dörnyei, Ibrahim, & Muir, 2015; Dörnyei, Muir, & Ibrahim, 2014; Muir & Dörnyei, 2013) and seeks to describe "a prolonged process of engagement in a series of tasks which are rewarding primarily because they transport the individual towards a highly valued end" (Dörnyei, Ibrahim, & Muir, 2015, p. 132). This intense engagement is fueled by a vision-directed drive that is capable of both generating and sustaining long-term behavior, such as learning an L2. At a superficial level, DMCs are reminiscent of another intriguing concept in motivational psychology, *flow* (e.g., Csikszentmihalyi, 1990, 1997; Rheinberg, 2008), which involves a particularly intense focus and involvement in an activity, to the extent that we may even lose self-consciousness and track of time while absorbed in this activity. However, a DMC differs from this state of total absorption in several key features, most notably in that flow focuses on a person's involvement in a single task that is intrinsically rewarding (autotelic), whereas, the positive emotional loading in a DMC does not necessarily stem from the enjoyment in the activity per se, but rather from the awareness that the targeted goal is being approached. Furthermore, the duration of a DMC spans longer periods of time than the flow experience, and thus the notion can be seen as the temporal expansion of the flow mechanism through the addition of a sustainable temporal and behavioral structure to the one-off flow experience.

The unique feature of the concept of a DMC is that the vision that gives it direction is matched by a fitting *behavioral structure,* which is a made-to-measure pathway that augments and sustains exerted effort. The ensuing fusion between vision and complementary action, in turn, releases a motivational jetstream that is almost self-propelling and thus carries the individual towards the target the same way an ocean current carries fish and other life forms (cf. the film *Finding Nemo*). The novel DMC conceptualization of integrating the initial motive and the behavioral outworking of that motive in a unified construct is a good illustration of just how far the field of L2 motivation has come in 10 years, and it represents one of the directions in which we may be proceeding in the future.

Other Motivational Themes

Perhaps the most telling measure of just how much the field of L2 motivation has expanded in recent years is the amount of material that was originally part of the 2005 discussion but had to be omitted from this revision because the study of the particular topics in question had not produced sufficiently stimulating new results over the past decade relative to other, more fruitful areas. These themes include a number of intriguing corollaries to student motivation, such as group dynamics, the neurobiology of motivation, teacher motivation, and

demotivation; let us consider these areas briefly because the lack of recent interest can be rather revealing in itself.

- *Group dynamics and motivation:* Despite a few isolated studies (e.g., Chang, 2010; Dörnyei, 2007a), there has been little activity recently reported in this area. Although both theoreticians and practitioners agree that the "social unit of the classroom is clearly instrumental in developing and supporting the motivation of the individual" (Ushioda, 2003, p. 93), it seems that the recent shift away from group-based investigations toward focusing on the dynamics of individual development has not created a favorable research climate for this topic, particularly because there have been no obvious links to connect group dynamics with the various questions thrown up by the 2005 emergence of the L2 Motivational Self System.
- *Neurobiology of motivation:* The lack of recent activity following Schumann's original contributions (e.g., Schumann, 1998, 2001; Schumann *et al.,* 2004) can be explained by a combination of insufficient expertise in the area (as neurobiological investigations require special training and neuroimaging facilities that are rarely available within applied linguistics institutions) and a degree of uncertainty in the broader field of cognitive neuroscience about how to examine ID issues in relation to the variability of brain function. For example, the main message of a recent paper titled "The Neurobiology of Individuality" in *The Scientist* magazine (Cossins, 2013) was that virtually nothing is known yet about the neurobiological mechanisms underlying individuality, and while in a review article in the *Annual Review of Neuroscience* Hariri (2009, p. 238) highlights the potential of an "informed and integrated research strategy to identify the neurobiology of individual differences in complex behavioral traits," his overall summary is that "much work is left to be done." Regarding motivation, in the *Handbook of Individual Differences in Cognition* Braver *et al.* (2010, p. 176) affirm the generally gloomy picture in this area by concluding, "The study of such [motivational] questions using cognitive neuroscience techniques is still in its infancy, but we view this as one of the most promising areas of research to open up in recent years."
- *Demotivation:* The study of demotivation continues to be an important area in L2 motivation research because of the high level of language learning failure worldwide, and there has been a regular flow of relevant papers over the years on the topic (e.g., Falout, 2012; Falout, Elwood, & Hood, 2009; Kikuchi, 2013; Kim & Kim, 2013; Sakai & Kikuchi, 2009). However, the underlying theoretical basis of the issue has hardly changed since Dörnyei's (2001) first summary, as most of the subsequent discussion has been primarily descriptive in nature, focusing on the mapping, ranking, and clustering of the various demotivational antecedents. What would be needed to revitalize the domain is a new emphasis on the *dynamics* of demotivation, exploring how certain demotivational causes interact with personal and situational

characteristics, leading to a decrease in motivation in some cases but not in others. Also, there would be considerable practical significance in understanding why some learners can bounce back after a demotivating episode, while others completely lose interest.

- *Teacher motivation:* In the introduction to their book *Motivating Learners, Motivating Teachers,* Dörnyei and Kubanyiova (2014) explain the inclusion of the topic of teacher motivation as follows: "A transformation of classroom practice has to begin with the teachers . . . teachers *can* become transformational leaders, and the engine of this transformational drive is the teacher's vision for change and improvement" (p. 3). Therefore, they conclude, "The rationale for combining the topics of teacher and student motivation in one book is actually quite simple: the two are inextricably linked because the former is needed for the latter to blossom" (p. 3). While most scholars and practitioners would probably agree with this statement, a summary of teacher motivation by Dörnyei and Ushioda (2011; see also Chapter 7, this volume) identified only a few studies specifically focusing on the issue, with most of them actually published before 2005. Unlike the three neglected themes above, we believe that in this case the limited output has been a consequence not so much of insufficient links between the subject and theoretical advancements in the field, because teacher motivation has been successfully studied from the perspectives of possible selves (Kubanyiova, 2009, 2012; Hiver, 2013), complex dynamic systems (Hiver, 2015; Kimura, 2014), Vygotskian activity theory (Zhang & Kim, 2013), and vision (Dörnyei & Kubanyiova, 2014). Instead, it is the *indirect* link of the concept to student achievement that has dampened the interest in this area: The ultimate aim of motivation research is always to explain student learning, and in order to associate the latter meaningfully with the motivation of teachers, we need to show first that an increase in teacher motivation leads to improved motivational practice on their behalf, which in turn promotes student motivation, which eventually results in enhanced student performance. While the chain is intuitively convincing, it is difficult to get empirical confirmation for it because of the manifold confounding variables at each connection level.

Research Methodological Transformation

We have argued earlier that the surge of motivational publications over the past decade has been partly because of the research methodological diversification of the field. Qualitative methods started to appear alongside the initially dominating quantitative paradigm at the turn of the century, and a real breakthrough occurred when the social psychological approach was successfully challenged and complemented by a new wave of self-related research. Ironically, as we have seen, the initial validation of the new theoretical frameworks typically utilized conventional, large-scale questionnaire surveys, but the disappearance of

a single governing orthodoxy liberated and broadened the approaches used by researchers to examine different situated and temporal aspects of motivation. For example, Guilloteaux and Dörnyei (2008) proposed a structured classroom observation scheme (the 'MOLT' [Motivational Orientation of Language Teaching]) to assess the interaction of L2 teachers' actual motivational behaviors with students' level of engagement in specific language tasks, thereby adding a behavioral data source to L2 motivational research paradigms that had until that point almost entirely utilized self-reported data.

The embrace of complex dynamic systems perspectives by several scholars in the field proved to be a further catalyst for a wave of methodological innovation. Admittedly, the shift from 'freeze frame/snapshot' (Schumann, 2015) conceptualizations of motivation to dynamic constructs did not go without considerable challenges for prospective researchers, because, as Schumann (2015) argues, the new research environment "compels us to eschew notions of single causes, linear causality, immutable categories, and highly specified endpoints" (p. 10). Thus, since the 'dynamic turn' in SLA, scholars have "found themselves not only without any templates or traditions they could rely on in producing workable and productive research designs, but also without a coherent set of new research metaphors to use" (Dörnyei, MacIntyre, & Henry, 2015, p. 10). Consequently, at the time of writing this chapter, we are witnessing an auspicious wave of methodological experimentation and innovation in the field as researchers have taken up the challenge of developing alternative methodologies. A prime illustration of this development can be found in the various studies in Dörnyei, MacIntyre, and Henry's (2015) anthology on motivational dynamics; to give readers some flavor of this methodological diversity, the approaches new to L2 motivational studies presented in the volume include:

- change point analysis,
- idiodynamics,
- latent growth modeling,
- Q methodology,
- qualitative comparative analysis (QCA),
- retrodictive qualitative modeling,
- trajectory equifinality approach, and
- variability analysis.

Although it is highly unlikely that all of the above will take root and flourish as research methods for L2 motivation studies, the mood of enthusiasm and openness to innovation that is reflected by this diversity promises an exciting and hopefully productive research environment for the next decade. On the other hand, this diversification and expansion also pose the risk that motivation researchers will no longer speak the same language and that the emerging methodological multilingualism might introduce a degree of fragmentation.

A good way to demonstrate the extent of the recent changes in the research climate is through the nature of the *research questions* being asked by scholars. A typical research question in a conventional study would have asked, "What is the correlation between certain motivational dimensions and selected criterion measures, for example scores on a standardized test?" However, in a research climate that eschews linear predictability, researchers are now more interested in motivational processes, changes, and interactions in specific contexts, as illustrated for example by the research question that was driving Piniel and Csizér's (2015, p. 168) recent study: "How can we characterize changes concerning motivation, anxiety, and self-efficacy throughout an academic writing course?" Another sign of the transformation of the research culture is the changing *unit of analysis*. While earlier L2 motivation research used to involve large samples, Schumann (2015) is right to point out that in the new climate "the individual is the entity of concern, and case studies become recognized as the appropriate level of granularity for understanding motivation trajectories" (p. 11). The influential qualitative investigations by Ushioda and Norton mentioned earlier have paved the way for this change, and more recent illustrations include Mercer's (2011b) work on self-concept or Lamb's (2009) study of the motivation of two school-age learners in Indonesia.

Conclusion

In the late 1980s, all the world's researchers specializing in L2 motivation could probably have sat around a single table—and it would have made sense to put that table in Canada as that was where the vast majority of them were located. By 2014, a conference in Nottingham dedicated to the single theme of motivational dynamics attracted over 170 scholars and research students from literally all around the world—with Japan represented by the largest contingent!—and we have seen earlier that the rate of publications on motivational issues has also displayed a substantial increase. How do we explain this surge? We have argued earlier that one reason has been the ability of the concept of motivation to offer sufficient substance—and also scope for diversification—for both theoreticians and classroom practitioners, a point that becomes particularly clear if we contrast motivation with the four other grand themes addressed in this book: personality, aptitude, styles, and strategies. As we have seen in the previous chapters, the first two of these have largely been shunned by practitioners, while—as we shall see later—styles and strategies have been dismissed by many theorists. Motivation appears to be the learner characteristic where theory and practice intersect most comfortably, and accordingly the bulk of the research on the psychology of language learning has focused on this area.

Has this keen interest acted to the detriment of the development of other aspects of language learner psychology? Without any doubt, yes: Motivation has been a potent attractor both in the everyday and dynamic systems senses of the

word, and given the traditionally limited research resources—both human and financial—available in the field of SLA, a surge in one area will have inevitable implications on others. It is likely, however, that at some point we shall see some form of recalibration or reconsideration of where motivation fits into the overall psychology of the L2 learner, and thus the balance will be readjusted. A second issue in this respect is that the expansion of the field also carries the attendant risk of it becoming large enough to be self-contained and inward-looking, with motivation scholars talking exclusively or primarily to each other. This may result in an inward-looking tendency toward problematizing and over-theorizing issues in a way that they lose their appeal for practitioners, which in turn would upset the current theoretician/practitioner balance.

Putting these concerns aside, we can say in retrospect that the past 10 years have been an exciting time to be involved in L2 motivation research. Interest in the field has risen dramatically and this has been accompanied by an invigorating openness to new ideas and perspectives. In fact, the pace of change has been so fast that it becomes risky to offer any definitive conclusions here, since there is a good chance that the field may move in an unforeseen direction in the near future. Indeed, one of the prominent themes of recent theory has been the need to avoid automatic assumptions of linearity, and we ought to apply this to the field of L2 motivation itself: We should not take it for granted that current high levels of interest and activity will carry into the future, or that even if they do, this will necessarily happen in the areas that seem particularly forward-pointing at present. Having said that, we can predict with some confidence that the motivation landscape of the next decade will be characterized by a mixture of coexisting directions, with no single approach dominating the field. Existing strands will evolve into new ideas by combining themes from various paradigms, not unlike how 'directed motivational currents' have grown out of the study of vision, which in turn has emerged from possible selves theory and the L2 Motivational Self System. We believe that there will be a strong dynamic flavor to many of the new mixtures, but in all likelihood they will vary considerably in terms of how closely they will adhere to the principles and terminology of complex dynamic systems theory. However, despite this variation in its impact, the dynamic turn of the current decade will probably be influential enough to prevent the field from freezing into a new kind of orthodoxy— for example, replacing the traditional dichotomy of instrumental versus integrative motivation with the new trichotomy of Ideal L2 Self, Ought-to L2 Self, and L2 Learning Experience.

To summarize, the field of L2 motivation studies has responded to many of the challenges and future directions that were identified in the 2005 edition of this book, and the route it has taken has brought it closer to the mainstream of the field of SLA. Recent conceptualizations, supported by a huge body of research, tend to regard language learner motivation as a highly situated, composite construct, with a strong developmental character. Such a conception

allows for forging further links with the study of L2 development in concrete learning environments, and it is also fully compatible with McAdams's notion of 'characteristic adaptation,' discussed in the first chapters of this book (to be revisited in Chapter 8). Regarding the continuity with the past, for a very long time the field of L2 motivation developed with 'one foot in the past and one foot in the future'; however, in this chapter, we have shown that much of the L2 motivation theory and research of 2015 bears little or only indirect relation to the pre-2005 state of affairs. In this sense it is fair to conclude that of all the ID facets in SLA, motivation has best demonstrated the viability of researching learner characteristics beyond the classic ID paradigm.

5

LEARNING STYLES AND COGNITIVE STYLES

This chapter offers a real contrast to what we observed in the previous chapter on motivation: As we saw there, over the past 10 years the field of L2 motivation theory and research has been transformed by a surge of activity; as we will see in the current chapter, with regard to the concepts of learning and cognitive styles time seems to have frozen and the topic has hardly attracted any serious scholarly attention over the same period. Theoretically, we are very much 'as you were' when looking back to the 2005 account, and in terms of research output, styles have slipped off the radar of the current agenda. Nevertheless, despite the limited interest or new thinking in the area, we do feel there is an important lesson buried beneath the headline; the story of how and why styles have failed to excite interest is one that may help us understand how our field is developing and the directions we may be going in the future.

The concept of *learning styles* attempts to explain how people learn in different ways and how we all have our own preferred, thus more effective, ways of learning. Over the years, the concept of learning styles steadily gained influence and acceptance, not only among educators but also among the general public. Unsurprisingly, this interest extended to the field of SLA, where the concept has been treated with respect, as an important, although somewhat under-researched topic. In this chapter we look at main conceptual issues related to learning styles, including some of the controversies surrounding the concept, and as will become clear, these controversies are not confined to L2 studies but reflect a similar picture in the field of educational psychology. Despite the broad mainstream acceptance of the importance of learning styles, the academic consensus has been much less favorable, with even one of the main authorities in cognitive styles research conceding that "the area of style research generally has a poor reputation" (Riding, 2000a, p. 316). As Riding explains, this is because this research

area has suffered from a number of serious problems, particularly with respect to four key aspects:

> Workers in this area have been remiss in that they have: generated a large and bewildering array of labels purporting to being different styles, used ineffective and questionable assessment methods, not made a clear distinction between style and other constructs such as intelligence and personality, and have been slow to demonstrate the practical utility of style.
>
> (Riding, 2000b, p. 368)

Coffield (2005) is even more disparaging of the concept: "The field of learning styles suffers from almost fatal flaws of theoretical incoherence and conceptual confusion" (p. 21), which raises the question: Why discuss learning styles at all? The simple answer is that there is something genuinely appealing about the notion and, what is more, this intuitive appeal tends to resonate strongly with the classroom experience of educational practitioners. The powerful attraction of styles as a concept is summed up by Griffiths (2012), who contends that the concept has

> the potential to greatly enhance learning and to make learning more enjoyable and successful. It is a concept that acknowledges individual differences, rather than seeing all learners as similar. For teachers, it presents an opportunity to offer students methodologies and materials appropriate to their own learning style preferences. For learners, it allows them the freedom to learn in ways which are enjoyable and can help them to become the best that they are capable of.
>
> (p. 151)

Who could fail to be enticed by such promise? The hope underpinning much research into styles is that the current state of confusion is merely due to our insufficient knowledge rather than the scientific inadequacy of the concept, and that further inquiry will reveal a more robust concept enabling both educators and learners to realize its potential. The 2005 view of styles research and theory was that it was a field based more on hope than substance, and this evaluation still stands, although in 2015 we would suggest that the hope of building up sufficient knowledge to eliminate the theoretical confusion has begun to fade.

A further illuminating issue that emerges from a consideration of learning styles is the tension the topic reveals between academic theory and pedagogic practice. Seasoned classroom practitioners are likely to argue that styles are indeed very real and are a key aspect of successful learning, whereas a rigorous theorist is more likely to take the view that the concept of styles falls apart under any form of scientific scrutiny. In this sense cognitive/learning styles are not dissimilar to ID factors in general in terms of the uncertainty of their exact definition as well as the 'I can live neither with you, nor without you' attitude that many experts share toward them.

What Are Learning Styles?

As is the case with many ID variables, *learning styles,* though initially seemingly straightforward and intuitively convincing, turn out to be problematic under close scrutiny. According to the standard definition, they refer to "an individual's natural, habitual, and preferred way(s) of absorbing, processing, and retaining new information and skills" (Reid, 1995, p. viii); thus, they are "broad preferences for going about the business of learning" (Ehrman, 1996, p. 49). As such, the concept represents a profile of the individual's approach to learning, a blueprint of the habitual or preferred way the individual perceives, interacts with, and responds to the learning environment. These definitions make intuitive sense: Few would question that different learners can approach the same learning task in quite different ways and it is also a logical assumption that this variation in approach is not infinite but is characterized by systematic patterns. These patterns, then, can be rightfully called 'learning styles.'

Thus, at this intuitive level, the concept of styles is relatively uncontroversial. It is only when we attempt to analyze its theoretical underpinnings that the concept becomes problematic, since "learning style is often used as a metaphor for considering the range of individual differences in learning" (Price, 2004, p. 681). There is a confusing plethora of labels and style dimensions (e.g., Peterson, DeCato, & Kolb, 2014, suggest a figure of around 100 established styles frameworks and assessments); there is a shortage of valid and reliable measurement instruments; there is confusion in the underlying theory; and the practical implications put forward in the literature are scarce and rather mixed, and quite frankly rarely helpful. In a particularly thorough (and rather critical) review of the literature, Coffield, Moseley, Hall, and Ecclestone (2004) found a total of 71 different learning style models, which they subdivided into 13 major models and 58 minor, and then further categorized these into five principal families, which we summarize in Table 5.1.

It is not our intention to discuss all of these models of learning styles, but we need to give some indication of the diversity of perspectives encountered in the styles literature, for this has been such a persistent criticism of the field.

TABLE 5.1 Major families of learning styles and the main scholars associated with them (adapted from Coffield *et al*., 2004)

- *Physiologically based learning styles* (including the four modalities: visual, auditory, kinesthetic, tactile): Dunn, Dunn, and Price (1975), Gregorc (1979)
- *Learning styles based on cognitive structure:* Riding (2000a)
- *Personality-based learning styles:* Apter (1976), Myers and Briggs (1976)
- *Flexibly stable learning preferences:* Allinson and Hayes (1988), Herrmann (1989), Honey and Mumford (1992), Kolb (1984)
- *Learning styles as approaches, strategies, or orientations:* Entwistle (1990), Sternberg (1999), Vermunt (1998)

For example, Ivie (2009, p. 178) amusingly refers to a "Humpty Dumpty model of education" and as the author goes on to argue, the term styles has become so vague and imprecise that advocates of learning styles are reminiscent of the character from *Alice Through the Looking Glass* who declared, "When I use a word, it means just what I choose it to mean." Nevertheless, despite the bewildering range of models and conceptualizations, learning styles remain an appealing concept for educationalists because—unlike abilities and aptitudes—they do not reflect an innate endowment that automatically leads to success. That is, styles are not yet another metaphor for distinguishing the gifted from the untalented, but rather they refer to *personal preferences*. These preferences are typically bipolar, representing a continuum from one extreme to another (e.g., being more global vs. being more particular), and no value judgment is made about where a learner falls on the continuum: One can be successful in every style position—only in a different way. In Chapter 3, we observed how the concept of aptitude had fallen out of favor with the advent of more communicative approaches to language education; in contrast, the concept of learning styles offers a more democratic stance that is in tune with the spirit of the times, a "value-neutral approach for understanding individual differences among linguistically and culturally diverse students" (Kinsella, 1995, p. 171).

The continuing appeal and popularity of the concept of learning styles tells us a lot—not all of it good—about the nature of education in the 21st century. In a scholarly review of the popular appeal of learning styles, Pashler, McDaniel, Rohrer, and Bjork (2009) identify several key factors behind its rise. One of these factors is that the concept of styles is essentially a 'type theory' and there seems to be some enduring popular appeal in finding out 'what is my type'—people find such theories very difficult to resist. Additionally, people in consumer-oriented societies can be attracted to the idea that they, and their children, are unique, and that learning should be tailored to their own individual requirements. Related to this is the fact that styles provide a ready-made excuse for any failure to learn: "Rather than attribute one's lack of success to any lack of ability or effort on one's part, it may be more appealing to think that the fault lies with instruction being inadequately tailored to one's learning style" (p. 108). Furthermore, we cannot ignore the commercial realities of education and recognize that promoting learning styles in various forms (e.g., in-service courses, publications, inventories) has become a thriving commercial area, with powerful entrepreneurial forces endorsing the concept. With these sobering thoughts in mind, let us consider some fundamental conceptual issues relating to learning styles.

Basic Conceptual Issues

It is useful to start the discussion by addressing what the relationship is between learning styles and learning strategies. In the SLA literature, there has been a

considerable amount of overlap ever since Stern (1975) positioned a 'personal learning style' at the top of his list of strategies employed by good language learners. The two concepts are thematically related since they both denote specific ways learners go about carrying out learning tasks. This has been well reflected by a recent attempt to establish consensus on the definitions of cognitive style and learning style within the international styles research community: After a four-phase process of iterative fine-tuning of views obtained from a substantial group of scholars (N = 65), Armstrong, Peterson, and Rayner (2012) produced the following ultimate definition of learning style:

> Learning styles are individuals' preferred ways of *responding (cognitively and behaviorally) to learning tasks* which change depending on the environment or context. They can affect a person's motivation and attitude to learning, and shape their performance.
>
> (p. 451; emphasis added)

According to Snow *et al.* (1996), the main difference between the two concepts—learning styles and strategies—lies in their breadth and stability, with a style being a "strategy used consistently across a class of tasks" (p. 281). Referring back to Table 5.1, some of the leading models envisage a physiological basis (Dunn *et al.,* 1975; Gregorc, 1979; Riding, 2000a) and regard styles as being fixed within the individual—"We can no sooner change our styles than permanently change the color of our eyes, hair, or skin" (DeBello, 1990, p. 218)—whereas strategies may be learned and developed in order to cope with situations and tasks. Sternberg and Grigorenko (2001) further highlight the difference between the degree of consciousness involved in applying styles and strategies: Styles operate without individual awareness, whereas strategies involve a conscious choice of alternatives. As the authors conclude, although the two terms are often mixed up, "strategy is used for task- or context-dependent situations, whereas style implies a higher degree of stability falling midway between ability and strategy" (p. 3). In specific reference to the field of language learning, Bailey, Onwuegbuzie, and Daley (2000, p. 118) concur: "Learning styles are not the same as learning strategies. . . . Whereas learning styles represent unintentional, or automatic individual characteristics, learning strategies are actions chosen by students that are intended to facilitate learning."

On the whole, the argument that styles are stable and have a cross-situational impact sounds convincing, but if we take a closer look we find that there is a definite interaction between styles and situations; as Ehrman (1996, p. 53) has put it succinctly, "Just as situations determine which hand to use (write with one hand, grip jars to open with the other), so they also have considerable influence on choice of learning strategies associated with one learning style or another." This observation has also been borne out by research, and in a review of the relevant literature, Kozhevnikov (2007, p. 477) concludes that "cognitive styles are

not simply inborn structures, dependent only on an individual's internal characteristics, but, rather, are interactive constructs that develop in response to social, educational, professional, and other environmental requirements." Furthermore, the stability aspect of styles has also been questioned when researchers found that early educational experiences shape one's individual learning styles by instilling positive attitudes toward certain sets of learning skills and, more generally, by teaching students how to learn (Kolb, Boyatzis, & Mainemelis, 2001). Indeed, Mandelman and Grigorenko (2012) conclude that heritability estimates for styles tend to be lower than those for either intelligence or personality (from 0% to ~ 30%), indicating the larger influence of nongenetic, situational factors.

We also hit shaky ground when we try to analyze what exactly the term 'preference' means when we talk about styles being 'broad learning preferences.' How much do these 'preferences' determine our functioning? Ehrman (1996) suggested a relatively soft interpretation of 'preference' by equating it with 'comfort zones': "For most of us, a preference is just that—something we find more comfortable but can do another way if circumstances require it" (p. 54). As she explained, however, for a minority, learning styles are more firmly set and are therefore more than mere preferences. These individuals do not have the flexibility to change or shift their employed style according to the demands of the situation, and this may land them in trouble. According to Ehrman, a learning style, then, can range from a mild preference to a strong need. The stable-yet-flexible quality of learning styles has been further emphasized by Oxford (2011, p. 40), who argues that "although the learner may have some strong style tendencies, they are not set in stone."

How do learning styles relate to other core individual differences such as personality and cognitive abilities? This, again, is a source of considerable controversy—usually referred to as the 'style overlap' (Zhang, Steinberg, & Rayner, 2012)—because certain well-known psychological constructs are sometimes referred to as learning styles and sometimes as personality dimensions. The extraversion–introversion dimension is a good example, as this popular dichotomy, first brought into wide use by Swiss psychologist Carl Jung, can be found in almost every personality and learning style taxonomy. Similarly, as we will see later in this chapter, there are conceptualizations of learning styles that appear to be very closely connected to cognitive abilities. In fact, in their discussion of styles, Sternberg, Grigorenko, and Zhang (2008) argue that there are two primary categories of learning styles: 'personality-based learning styles,' and 'ability-based learning styles'—if this is the case, then is it really possible to consider styles as individual differences in their own right?

In sum, the above outline of various style issues conveys well the general impression one gains when dealing with learning styles, namely that they are elusive, 'halfway' products: They refer to preferences, but these can be of varying degree; they are related to learning strategies but are somewhat different from them as they fall midway between innate abilities and strategies; they

appear to be situation-independent but they are not entirely free of situational influences; and some style dimensions are also listed as major components of personality. Indeed, learning styles appear to have very soft boundaries, making the category rather open-ended, regardless of which perspective we approach it from. The 2005 version of this section concluded by quoting Ehrman, Leaver, and Oxford, (2003) summary, and that summary is, regrettably, still valid today: "The literature on learning styles uses the terms learning style, cognitive style, personality type, sensory preference, modality, and others rather loosely and often interchangeably" (p. 314). Such a lack of uniformity inevitably raises doubts about the concept of learning styles: Is it really more than a convenient way of referring to certain patterns of information processing and learning behaviors whose antecedents lie in a wide range of diverse factors, such as varying degrees of acquired abilities and skills, idiosyncratic personality features, and different exposures to past learning experiences? In order to bring some clarity to the issue, let us start by making a distinction between learning styles and cognitive styles.

Cognitive Styles

As Rayner (2000) summarized, if learning style is represented as a profile of the individual's approach to learning, this profile can be seen to comprise two fundamental levels of functioning: The first is cognitive, referring to a stable and internalized dimension related to the way a person thinks or processes information; the second is the level of the learning activity, which is more external and embraces less stable functions that relate to the learner's continuing adaptation to the environment. From this perspective, therefore, the core of a learning style is the 'cognitive style,' which can be seen as a partially biologically determined and pervasive way of responding to information and situations; and when such cognitive styles are specifically related to an educational context and are intermingled with a number of affective, physiological, and behavioral factors, they are usually more generally referred to as learning styles (Brown, 2000). In our quest to understand the nature of learning styles, therefore, we need to take a step back and start with the analysis of cognitive styles.

Cognitive styles are usually defined as an individual's preferred and habitual modes of perceiving, remembering, organizing, processing, and representing information. In their attempt to achieve a consensus in definition (mentioned above), Armstrong and his colleagues (2012) produced the following ultimate definition:

> Cognitive styles refer to individual differences in people's preferred way of processing (perceiving, organizing and analyzing) information using cognitive brain-based mechanisms and structures. They are assumed to be relatively stable and possibly innate. Whilst cognitive styles can influence

> a person's behavior, other processing strategies may at times be employed depending on task demands—this is because they are only preferences.
>
> (p. 451)

The advantage of focusing on cognitive styles prior to learning styles is that the former are devoid of any educational and situational/environmental interferences, thereby allowing for a 'purer' definition. Yet, as we will see next, this is still only a partial solution to the style ambiguity because we find an unspecified or 'fluid' relationship between cognitive styles and personality on the one hand, and between cognitive styles and cognitive abilities on the other. Thus, cognitive styles are typically characterized as being in a "conceptual gray area" (Hampson & Colman, 1994, p. x) between personality and intelligence, and are expected to explain variance beyond both of these variables.

Research on cognitive styles goes back to the end of the 19th century when scholars noticed that some people had a predominantly verbal way of representing information in thought, whereas others were more visual or imaginal (cf. Riding, 2000a; for a recent historical review, see Nielsen, 2012). There have been ongoing investigations on styles ever since, but styles research took off in the 1940s and 1950s, when Witkin and his colleagues initiated work on the study of *field dependence–independence* (see later in detail). During the subsequent decades, scholars identified an ever-increasing number of cognitive style dimensions, but the validity of such an extensive range of styles became the subject of a great deal of debate toward the end of the 20th century, with some scholars claiming that the different style labels did not reflect genuine differences and therefore most identified styles could be grouped into far fewer principal cognitive style dimensions (Riding, 2000a).

Problems with the Notion of Cognitive Style

The scope of the problem with cognitive styles becomes obvious when we consider the long list of cognitive style dichotomies in Table 5.2, identified by Coffield *et al.*'s (2004) systematic survey. As these researchers concluded,

> The sheer number of dichotomies betokens a serious failure of accumulated theoretical coherence . . . there is some overlap among the concepts used, but no direct or easy comparability between approaches; there is no agreed 'core' technical vocabulary. The outcome—the constant generation of new approaches, each with its own language—is both bewildering and off-putting to practitioners and to other academics who do not specialize in this field.
>
> (p. 136)

Although the theoretical basis of cognitive styles is more solid than that of learning styles, even cognitive styles have been subject to a lot of criticism,

TABLE 5.2 Cognitive style dichotomies identified by Coffield *et al.*'s (2004, p. 136) systematic survey of learning styles

- convergers vs. divergers
- verbalizers vs. imagers
- holists vs. serialists
- deep vs. surface learning
- activists vs. reflectors
- pragmatists vs. theorists
- adaptors vs. innovators
- assimilators vs. explorers
- field dependent vs. field independent
- globalists vs. analysts
- assimilators vs. accommodators
- imaginative vs. analytic learners
- non-committers vs. plungers
- common-sense vs. dynamic learners
- concrete vs. abstract learners
- random vs. sequential learners
- initiators vs. reasoners
- intuitionists vs. analysts
- extroverts vs. introverts
- sensing vs. intuition
- thinking vs. feeling
- judging vs. perceiving
- left brainers vs. right brainers
- meaning-directed vs. undirected
- theorists vs. humanitarians
- activists vs. theorists
- pragmatists vs. reflectors
- organizers vs. innovators
- lefts/analytics/inductives/ successive processors vs. rights/ globals/deductives/ simultaneous processors
- executive, hierarchic, conservative vs. legislative, anarchic, liberal

which never allowed for the concept to take a substantial place in mainstream cognitive psychology. The crux of the problem is that styles research in the past has not been able to demonstrate sufficiently that the notion of cognitive style is a theoretical construct in its own right, and thus the concept has become, in Sternberg and Grigorenko's (2001) words, too "instrument-bound." That is, a style was what a particular style questionnaire measured, which is a recurring issue in ID research, as we have found the same phenomenon in the domain of language aptitude research. And since most researchers produced their own idiosyncratic instruments, resulting in their own idiosyncratic style conceptualizations, these overlapping concepts could not converge sufficiently, thereby creating a rather confused and confusing overall picture. This was coupled with the fact that many of the actually identified and measured style dimensions were not sufficiently separate from certain ability and personality characteristics; for example, the MBTI personality types tend also to be listed as cognitive style dichotomies (as in Table 5.3), and the problem of overlap even led to the fall of the most famous cognitive style dimension, field dependence–independence, as it was found to correlate excessively with spatial intelligence.

Leading Models of Styles and Their Assessment

Having argued that the proliferation of conceptualizations of styles has been both confusing and unhelpful, we will refrain from presenting a comprehensive, thus confusing and unhelpful, account of these various theories. Instead, we will

concentrate on just two leading models—Riding's and Kolb's—with the aim of illustrating some of the key characteristics, both in terms of strengths and flaws, associated with styles theory and research.

Riding's System

Richard Riding has been one of the main international proponents of cognitive styles research. Aware of the manifold problems that have undermined this research domain, he proposed a powerful and parsimonious system of cognitive styles that, in his and his followers' view, remedied the shortcomings of past styles research while maintaining the attractive features of the concept. The proposed taxonomy postulates only two superordinate style dimensions that subsume most of the previously proposed constructs (for a summary, see Table 5.3):

- *Wholist–Analytic Style* dimension, determining whether individuals tend to organize information as an integrated whole or in discrete parts of that whole (i.e., take a whole view or see things in parts).
- *Verbal–Imagery Style* dimension, determining whether individuals are outgoing and inclined to represent information during thinking verbally or whether they are more inward and tend to think in mental pictures or images; in other words, *verbalizers* are superior at working with verbal information, whereas *imagers* are better at working with visual or spatial information.

According to Riding (2002), *wholists* tend to see a situation as a whole (hence the label), have an overall perspective, and appreciate the total context. Wholists therefore are 'big picture people' and therefore they can also easily lose sight of the details. When presented with a prose passage for recall, for example, wholists will do best when the title of the passage is given before rather than after the passage is presented because this title will provide them with an overall thematic orientation. *Analytics,* on the other hand, see a situation as a collection of parts, often focusing on one or two aspects only, and therefore providing the title of the reading passage will not enhance their performance substantially. Their strength is that they can separate out a situation into its parts, which allows them to come quickly to the heart of any problem. They are also good at seeing similarities and detecting differences. The danger for analytics, on the other hand, is that they may get the particular aspects that they focus on out of proportion, and thus may not get a balanced view.

The *verbal–imagery* style dimension concerns the way information is represented as well as the external and internal focus of attention. The former aspect refers to the extent to which one constructs mental pictures when reading or thinking, rather than thinking in words. The latter aspect has implications for social relationships: *Verbalizers* tend to focus outward and prefer a stimulating environment,

TABLE 5.3 List of the major cognitive style constructs that Riding's two fundamental style dimensions subsume (adapted from Riding & Rayner, 1998)

The wholist–analytic dimension	
Field dependence–Independence	Individual dependence on a perceptual field when analyzing a structure or form that is part of the field.
Leveling–Sharpening	A tendency to assimilate detail rapidly and lose detail or emphasize detail and changes in new information.
Impulsivity–Reflectiveness	Tendency for a quick vs. deliberate response.
Converging–Diverging Thinking	Narrow, focused, logical, deductive thinking rather than broad, open-ended, associational thinking to solve problems.
Holist–Serialist Thinking	The tendency to work through learning tasks or problem-solving incrementally or globally and assimilate detail.
Concrete Sequential/ Concrete Random/ Abstract Sequential/ Abstract Random	The tendency to learn through concrete experience and abstraction either randomly or sequentially.
Assimilator–Explorer	Individual preferences for seeking familiarity or novelty in the processes of problem-solving and creativity.
Adaptors–Innovators	Adaptors prefer conventional, established procedures, whereas innovators favor restructuring or new perspectives in problem-solving.
Reasoning–Intuitive/ Active–Contemplative	Preference for developing understanding through reasoning or by spontaneity/insight and learning activities that allow active participation or passive reflection.
The verbal–imagery dimension	
Abstract vs. Concrete Thinker	Preferred level and capacity of abstraction.
Verbalizer–Visualizer	The extent to which verbal or visual strategies are used in thinking and to represent knowledge.

whereas *imagers* tend to be more passive with an inward focus, content with a static environment. Of course, most people are somewhere in between the two extremes with regard to the two style dimensions, often being able to benefit from the advantages of both. And, to complicate things further, the two style dimensions interact with each other, resulting in various combination patterns.

In spite of these reservations, Riding's approach of creating a hierarchy of multiple levels of styles represents one of the most promising directions out of the theoretical style-maze. Kozhevnikov (2007, p. 477) has referred to such higher-order styles as "metastyles" and describes them as "superordinate styles governing an individual's flexibility in the use of subordinate styles, depending on the requirements of a task." As she continues, research has "empirically confirmed that cognitive styles are based on neither a single underlying dimension nor operation in isolation but rather that there is a structural relation among them."

The two superordinate style dimensions in Riding's theory are fully compatible with these research findings.

Kolb's Model of Learning Styles

Having reviewed briefly a 'pure' cognitive style system, let us now return to the broader issue of learning styles. Although there are a number of competing models in the literature (see Table 5.1), we have chosen to focus on the theory proposed by Kolb (1984; Kolb, Boyatzis, & Mainemelis, 2001; Kolb & Kolb, 2005a) as part of his broader experiential learning theory because (a) it is a theory that has been widely endorsed by both researchers and practitioners, with Kolb and Kolb (1999) reporting 1,004 separate studies based on his model; (b) it is a theory that highlights both the potentials and the limitations of learning styles; and (c) it is connected to an influential assessment instrument, which we examine later in the chapter.

According to Kolb (1984), "Learning is the process whereby knowledge is created through the transformation of experience. Knowledge results from the combination of grasping experience and transforming it" (p. 41), and Kolb's classic learning style construct was based on the permutation of two main dimensions, *concrete* vs. *abstract thinking* and *active* vs. *reflective information processing*. An orientation toward *concrete thinking* focuses on being involved in experiences and dealing with immediate human situations in a personal way, emphasizing feeling as opposed to thinking. An orientation toward *abstract conceptualization* focuses on using logic, ideas, and concepts, emphasizing thinking as opposed to feeling. An orientation toward *active experimentation* focuses on actively influencing people and changing situations; it emphasizes practical applications as opposed to reflective understanding. An orientation toward *reflective observation* focuses on understanding the meaning of ideas and situations by carefully observing and impartially describing them; it emphasizes understanding as opposed to practical application. Based on the combination of the two style continua, four basic learner types, or learning style patterns, emerge:

- *Divergers* (concrete & reflective) have received their label because they prefer concrete situations that call for the generation of ideas, such as a brainstorming session. This does not mean they are abstract thinkers; just the opposite, they are down-to-earth people who learn best through concrete experience and like to look at concrete situations from many points of view in a reflective manner. They are also interested in other people and are fairly emotional in their dealings with them. They have broad cultural interests and often specialize in the arts. In classroom situations they prefer to work in groups.
- *Convergers* (abstract & active) are abstract thinkers who generate ideas and theories. They are, however, not detached from reality, as they are interested in active experimentation to find practical uses for their schemes. They are good at solving specific problems, especially if the tasks are technical rather than interpersonal or social in nature. In formal learning situations, people

with this style prefer experiments and simulations, laboratory assignments, and practical applications.

- *Assimilators* (abstract & reflective) are also abstract thinkers but their strength is not in dreaming up ideas and then actively trying to put them to test, like that of *convergers,* but rather, as the name suggests, assimilating disparate observations in a reflective manner, that is, understanding a wide range of information and putting it into a concise and logical form. People with this style embody best the stereotype of the 'aloof academic,' as they are less interested in people than in abstract concepts and find it more important that a theory has logical soundness than practical value.
- *Accommodators* (concrete & active) are the most hands-on learners: They like concrete experience and active experimentation, and they are stimulated by challenging experiences even to the extent of taking risks. They often follow their 'gut' feelings rather than logical analysis. No wonder that this learning style is effective in action-oriented careers such as marketing or sales. In formal learning situations they like to work with others on active projects and enjoy field work.

A brief consideration of Kolb's classic four-style typology reveals both some of the appeal and some of the weaknesses of the learning styles concept as an ID. As you read through the above summaries of the main facets of Kolb's four learning styles/types, you may have caught yourself thinking *'Yes, that's me!'* This suggests that the concept is tapping into something very real that profoundly resonates with people. However, you may also have found yourself, as we both did, having the '*that's me!*' feeling for more than one (or even all) of the above types; you may have been able to envisage yourself as, say, a diverger in certain contexts or situations, and a converger in others. This suggests a certain lack of clarity or precision.

In response to dissatisfaction with the limitations of the four-style typology together with a growing awareness that a learning style "is not a fixed trait but is a dynamic state resulting from continual learning experiences" (Peterson *et al.,* 2014), a new nine-type typology has very recently been proposed (Kolb & Kolb, 2013). A brief description of the proposed nine styles is provided below:

- *Initiating*—a person who enjoys leading others and taking action
- *Experiencing*—a person who is accepting and sensitive or open to emotions and intuitions
- *Imagining*—someone who can create vision through the gathering of information from diverse sources
- *Reflecting*—someone who needs time to absorb and process information
- *Analyzing*—a person who is thoughtful and capable of expressing abstract concepts logically and concisely
- *Thinking*—a person who tends to enjoy working alone making plans or being involved in rational decision making

- *Deciding*—someone with a clear goal and focused on outcomes
- *Acting*—someone committed to a course of action with a reduced concern for risk or potential negative consequences
- *Balancing*—someone considering the various possibilities, weighing up the pros and cons of the other style modes

The nine-style typology is still very new (see Peterson *et al.,* 2014) and has yet to be subjected to serious academic scrutiny, but what is immediately apparent from our brief outline is that this is an altogether more dynamic conceptualization of learning styles. At the core of this approach is the notion of learning flexibility (Sharma & Kolb, 2010), which concerns the individual's capacity to adapt preferred styles to contextual demands; people have their own preferred styles but are also able to navigate between these styles. We return to a discussion of the potential of an adaptive conceptualization of learning styles in the conclusion to this chapter.

A further issue suggested by our '*that's me!*' reactions mentioned above is one of assessment. When reading the various descriptors there is a tendency to focus on those aspects most applicable to oneself, paying less attention to other aspects that may seem less relevant. This may lead to individuals identifying with a particular style that may not match their learning approach as a whole. Therefore, learning styles need to be operationalized in a measurable way and not merely through descriptors of the style categories; meaningful style assessment requires more than merely matching descriptors with our self-image. Thus, the existence of accurate measuring tools is a prerequisite to the recognition of the validity of various style theories, and this is where cognitive and learning styles so often fall short of the mark. Let us next look at the assessment issue in some detail.

Assessing Cognitive and Learning Styles

The assessment of cognitive and learning styles is undoubtedly the Achilles' heel of the concept. In a review of the area, Irvine (2001) stated rather disappointedly that "the enforced conclusion one may have to accept with reluctance is that the means of pursuing, in operational form, the elusive pimpernel of an acceptable measurement protocol for style is not available" (p. 274). He found this all the more disconcerting as in their everyday lives people do not seem to have any trouble identifying various style characteristics. As he pointed out, "The notion of style is so intuitively certain in ordinary people untrammeled by psychologists' preoccupations with measurement, that professional entertainers make a good living by mimicking styles among the great, the good, the bad, and the ugly" (p. 274). So, if this claim is true and style is relatively easy to capture and imitate, why is it so difficult to measure?

When it comes to cognitive and learning styles, currently we know only of two established ways of assessment: either by relying on learners' own self-reports

on how they perceive their cognitive functioning, or by asking learners to perform mini-information-processing tasks and then making inferences from their performances. Kolb's *Learning Style Inventory* (LSI) is a good example of the first type and Riding's *Cognitive Styles Analysis* (CSA) of the second.

Kolb's Learning Style Inventory (LSI)

The original LSI instrument was a nine-item self-description questionnaire. Each item asked the respondent to rank-order four words in a way that best described their learning style. One word in each item corresponded to one of the four learning modes—concrete experience (e.g., "feeling"), reflective observation (e.g., "watching"), abstract conceptualization (e.g., "thinking"), and active experimentation (e.g., "doing"). The latest version of the LSI is Version 4 (Kolb & Kolb, 2013), which has only very recently been developed to account for the new nine-style typology. However, since this latest version is neither widely used nor have the details of the instrument been extensively published at the time of writing, we focus on the most recent version of the instrument freely available in the public domain, Version 3.1 (Kolb & Kolb, 2005b). This is the version that has had the most practical influence and as such it represents the most appropriate platform from which to discuss this approach to the assessment of learning styles.

Version 3.1 of the LSI was extended to 12 items and the actual wording was changed from the single words of the original to a short-statement format, as illustrated in Table 5.4.

The initial validation of the LSI scales was carried out with a sample of 1,933 participants. As Kolb (1984) reports, the theoretical assumption that the 'abstract' and 'concrete thinking' categories were opposite ends of a continuum was borne out by significant negative correlation (-0.57) between the two orientations.

TABLE 5.4 Sample items from Kolb's (2005b) Learning Style Inventory (Version: LSI 3.1)

The four statements in both sample items need to be rank-ordered according to how they refer to the respondents. Thus, four marks are to be given to the statement that is most true and one to the one that is least appropriate.

When I learn:

_____ I like to deal with my feelings
_____ I like to watch and listen
_____ I like to think about ideas
_____ I like to be doing things

I learn best from:

_____ Observation
_____ Personal relationships
_____ Rational theories
_____ A chance to try out and practice

Similarly, there was also a significant negative correlation (-0.50) between 'active' and 'reflective' information processing orientations. On the other hand, there was no substantial intercorrelation between the components associated with the two different dimensions. However, others have raised questions about the instrument, with Coffield *et al.* (2004) concluding that "problems about reliability, validity and the learning cycle continue to dog this model" (p. 70). One particular issue has been test and re-test reliability, with some studies (e.g., Ruble & Stout, 1993; Loo, 1996) finding individuals dramatically changing their learning style upon re-taking the test, and another recurring issue was the test's limited construct validity (see e.g., Metallidou & Platsidou, 2008). It was largely these criticisms that led to subsequent revisions and refinements of the instrument; Kolb (1999) was able to remedy some of the issues by increasing the number of items, and others have proposed further revisions (see e.g., Manolis, Burns, Assudani, & Chinta, 2013, which proposed a shorter version, the 'Reduced Learning-Style Inventory').

Even if we leave aside the psychometric issues, a fundamental question still remains: Are the attributes that the scales measure indices of learning styles or something else? Kolb, Boyatzis, and Mainemelis (2001) offered some evidence of the ambiguous nature of this issue because, as they summarized, the main dimensions of the LSI correlate significantly with certain components of the Myers-Briggs Type Indicator (MBTI), which is primarily a personality type inventory, although as was pointed out earlier, various psychological types display a strong link with certain learning styles and therefore the MBTI is often cited when discussing learning styles. This brings us back to the earlier issue that styles appear to be 'halfway products' somewhere between personality, intelligence, and strategies. We shall come back to this issue at the end of this chapter.

A final point we need to consider is how we interpret the results of an instrument such as the LSI, and what do we do with the data it provides? The Coffield team's (2004) review offers a pragmatic and balanced view:

> When it is used in the simple, straightforward, and open way intended, the LSI usually provides an interesting self-examination and discussion that recognizes the uniqueness, complexity and variability in individual approaches to learning. The danger lies in the reification of learning styles into fixed traits, such that learning styles become stereotypes used to pigeonhole individuals and their behavior.
>
> (p. 64)

This observation points to a deeper contradiction inherent in the concept of learning styles because "the actual nature of what is being measured is constantly shifting from 'flexible' to 'stable'" (Garner, 2000, p. 346). This issue is often discussed under the broader question of the *malleability* of cognitive/learning styles (see Zhang, Sternberg, & Rayner, 2012), and this question will have a special relevance to the discussion on the practical implications of the concept.

Riding's Cognitive Styles Analysis (CSA)

Riding's CSA (Riding, 1991) represents the other main approach to styles measurement available to scholars: It does not utilize the introspective self-report format that the LSI is an example of, but rather it tests respondent performance directly. This instrument focuses on cognitive styles rather than learning styles, which allows it to target a narrower and more precisely definable domain. Another feature of the instrument is that it is computer-based and involves reaction time measures for the assessment. The CSA comprises three subtests to assess both ends of the *wholist–analytic* and *verbal–imagery* dimensions:

- *Subtest 1, Verbal–Imagery dimension:* Students are presented a number of statements (48 in total), one at a time, which require a simple true or false response by pressing a button on the keyboard. Half of the statements are about conceptual categories (e.g., "table and chair are the same type"); the other half describe the appearance of objects ("snow and chalk are the same color"). Half of the statements of each type are true, the other half false. This subtest is based on the assumption that *imagers* respond more quickly to visual items because they find it easier to represent the information in terms of visual images, whereas *verbalizers* are at an advantage with the conceptual items because the conceptual category membership is verbally abstract in nature and cannot be represented in visual form. The computer automatically records the response time to each statement and uses this information to calculate a ratio of verbal response time to visual response time. A low ratio corresponds to a *verbalizer* and a high ratio to an *imager,* with the intermediate position being described as *bimodal.* Because both types of items require reading, factors such as reading speed and ability are inherently controlled for by the calculation of the ratio.
- *Subtest 2, Wholist dimension:* Students are presented pairs of complex geometrical figures side by side on the screen (a total of 20 pairs) and they have to decide about each pair whether they are identical or not. *Wholists* are assumed to respond more quickly because their natural tendency to focus on the whole picture corresponds to the task of absorbing the whole shapes.
- *Subtest 3, Analytic dimension:* This subtest is similar to the previous one in presenting a pair of geometrical shapes at a time (20 times), but this time the question is whether the first figure, which is a relatively simple geometrical shape (e.g., a square or a triangle), is contained within the second, more complex figure. *Analytics,* who are more inclined to focus on details, respond more quickly because the task requires the larger shape to be broken down into its constituent parts. Once again, the computer records the response times and calculates the wholist–analytic ratio.

Riding and Rayner (1998) emphasized several positive features of the CSA: (a) It is an objective test in the sense that it is objectively scored and the respondents

are not aware of the real focus of the assessment; (b) both ends of the style continuum are assessed, which makes it distinct from measuring abilities; (c) because of the limited and simple language it involves, its use is versatile across age and proficiency groups; and (d) the computerized format creates a context-free character, which allows it to be used across situations and cultures. Furthermore, Riding (2001) reported statistical evidence that the two dimensions are unrelated to one another and show no age or gender differences. What is just as important, the scales appear to be unrelated to intelligence, which supports the fact that the styles measured are not simply subtypes of ability. Finally, although correlations of some magnitude were found between certain personality dimensions and the CSA scales, the overall pattern appeared to point to a model in which physiologically based personality sources are independent of cognitive style but are moderated by style in their effect on behavior.

The reliability of the CSA was called into question by Peterson, Deary, and Austin (2003, 2007), who compared performance on the original CSA test and a parallel version. They concluded that the test was neither sufficiently reliable nor internally consistent. However, the authors added that when the CSA was doubled in length, the wholist–analytic dimension of cognitive style preference became a more stable and reliable measure. Not surprisingly, Riding (2003) questioned these findings because he claimed that Peterson *et al.*'s study was not executed properly. Nevertheless, the concerns raised by Peterson *et al.* led Coffield *et al.* (2004) to conclude in their review that "the simplicity and potential value of Riding's model are not well served by an unreliable instrument" (p. 44). This last comment seems to capture an inherent problem with the concept of styles; when styles are theorized in a parsimonious and comprehensive fashion, they become difficult, perhaps impossible, to measure reliably. This may also be a significant factor behind the relative slowdown in recent activity in this area: Learning styles assessment instruments have shown very little development since 2005.

Cognitive and Learning Styles in L2 Studies

Given the variability in both the rate of learning and the ultimate level of attainment observed among language learners, the field of learning styles—that is, the study of how learners prefer to learn—would seem to be a pertinent area of inquiry for L2 studies. Indeed, over the years, there has been a long-standing research interest in language learning styles, and several instruments have been developed and used to understand the role of learning styles in SLA. However, despite the levels of interest and perceived importance of the concept, hardly any attempt has been made to address the issue of the various conceptual ambiguities and difficulties associated with the notion of learning styles in the psychological literature. This problem has been augmented by the fact that empirical studies conducted on L2 learning styles have typically produced weak, mixed, or at best

moderate results; as a consequence, there has been a gradual loss of interest in language learning styles research.

In the following discussion, we first address two style concepts adapted from mainstream educational psychology to the field of L2 education—field dependence–independence and sensory preferences—that have received the most L2 research attention (for an exception, see Andreou, Andreou, & Vlachos, 2008, which applied Kolb's model), followed by an overview of the best-known batteries and constructs used to assess language learning styles. Finally, the chapter concludes by looking at the controversial issue as to whether the notion of learning styles has any practical relevance to classroom practitioners.

Field Dependence–Independence in L2 Studies

The initial momentum in L2 styles research was generated by the conceptualization of *field dependence–independence* (FD/I). Psychological research on FD/I was initiated by Herman Witkin over 50 years ago and was originally associated with visual perception: It was noticed that people could be categorized in terms of the degree to which they were dependent on the structure of the prevailing visual field. Some people are highly dependent on this field, which in practical terms means that they cannot see inconspicuous things right in front of their nose—for example, they are hopeless when looking for some small object (such as a nail) dropped on the floor. Field-independent people on the other hand are free—or independent—of the influence of the whole field when they look at the parts and therefore can notice details that their field-dependent counterparts simply cannot 'see.' Thus, field-independent people make perfect scouts, for example, as they can notice an enemy's camouflage against its natural background. Perhaps the best illustration of FD/I comes in the various visual puzzles that appear in magazines or online, in which readers must find figures or shapes concealed within another picture; in fact, this forms the basis for the main assessment instrument for FD/I, the Embedded Figures Test (EFT).

The FD/I style distinction, however, is more than a mere perceptional characteristic, as it is assumed to affect the individual's whole behavior in a similar way to Riding's wholist–analytic style (which is thought to subsume FD/I). Sternberg and Grigorenko (2001) argued that field independence is almost always the preferable style, and indeed, as Johnson, Prior, and Artuso (2000) summarized, much of the literature on the construct reports that field independents tend to outperform field dependents on cognitive tasks. This makes intuitive sense because field independents, by definition, are better at focusing on some aspect of an experience or a stimulus, separating it from the background, and analyzing it unaffected by distractions. However, it has also been proposed that when the target of our attention is a complex domain—such as language with its prominent cognitive, affective, and social dimensions—being able to focus on the background, that is, the whole situation, can have its advantages (Chapelle,

1995): Field dependents are more responsive, as they interact with the environment and, thus, tend to have a stronger interpersonal orientation and greater alertness to social cues than field independents.

Thus, in L2 studies field dependence may not necessarily be a disadvantage because the accompanying social sensitivity can be a real asset in certain tasks; for example, in Johnson *et al.*'s (2000) study, the researchers found that field dependents, as opposed to field independents, performed better on L2 tasks that emphasized communicative rather than formal aspects of language proficiency. Other researchers, however, found that field independents had an overall advantage in various aspects of SLA (for reviews, see Brown, 2000; Chapelle, 1995; Hoffman, 1997), which could be related to their ability to separate the essential from the inessential, as well as a greater capacity to channel attention selectively and to notice important aspects of language. In a relatively recent review of the literature, Nel (2008) concluded that field-independent (FI) language learners tend to be more successful at deductive tasks, whereas field-dependent (FD) language learners perform better at inductive tasks. In practical terms this suggests that the FI individual benefits from the way he or she processes information but tends to avoid situations in which language is actually going to be used for communication. FD individuals, while comfortable and sensitive in communication situations, tend not to be effective information processors, and so, although provided with more information to work with, will exploit it less. From this, one can infer that FI individuals should do better on non-communicative, more cerebral tests, while FD individuals should excel in more communicative situations, when what is assessed is language use rather than language-like use.

We should note, however, that this clear-cut and seemingly straightforward, logical pattern is partly the result of speculation and wishful thinking, because the actual research results are far from being strong, and are often non-significant or conflicting (cf. Ellis, N. C., 1994). This led Griffiths and Sheen (1992) to dismiss the whole line of FD/I research in SLA, claiming that "field dependence/independence does not have, and never has had, any relevance for second-language learning" (p. 131).

A final issue concerning FD/I is to what extent this cognitive style is independent of other cognitive factors. Over the years, studies have consistently reported high correlations with verbal and performance aspects of intelligence and, consequently, Sternberg and Grigorenko's (2001) summary was rather grim: "Thus, the preponderance of evidence at this point suggests that field independence is tantamount to fluid intelligence" (p. 7). This correlation, however, might be because of measurement deficiency: The Embedded Figures Test (EFT) and its group version, the GEFT, are paper-and-pencil instruments that require students to attempt to discern simple geometric figures from more complicated patterns. As Riding (2000a) argued, it was assumed in these tests that FI individuals would be able to complete tasks more quickly than FD ones; however, the tests do not include any subtests on which the FD individuals are

likely to outperform the FI ones, and therefore the overall test score is more like an ability score, ranging from bad to good, than a bipolar cognitive style score. Thus, as with other cognitive and learning styles, the validity of a style concept and the psychometric qualities of the instrument that measures this concept are inextricably bound.

Sensory Preferences

The learning style dimension that most language teachers, and even many language students, would be familiar with is the categorization of *sensory preferences* into 'visual,' 'auditory,' 'kinesthetic,' and sometimes 'tactile' types (often referred to as VAKT). This dimension concerns the perceptual modes or learning channels through which students take in information. Let us look at the preference types:

- *Visual learners* outnumber all the other three groups; Oxford (1995) reported that in her experience as many as 50% to 80% of people in any class would say they are predominantly visual. As the term suggests, these learners absorb information most effectively if it is provided through the visual channel. Thus, they tend to prefer reading tasks and often use colorful highlighting schemes to make certain information visually more salient. In general, visual learners like visual stimulation such as films, and if some large chunk of information is presented orally (e.g., in a lecture), their understanding is considerably enhanced by a handout and various visual aids, as well as by taking extensive notes.
- *Auditory learners* use most effectively auditory input such as lectures. They also like to 'talk the material through' by engaging in discussions and group work. They benefit from written passages to be read out loud and they often find that reciting out loud what they want to remember (even telephone numbers or dates) is helpful.
- *Kinesthetic* and *tactile learners* are often grouped together under the 'haptic' style category and this is understandable because the two style preferences are somewhat related although not identical. The kinesthetic style refers to learning most effectively through complete body experience (e.g., whole-body movement), whereas tactile learners like a hands-on, touching learning approach. The key issue for the former group is movement, while for the latter the manipulation of objects. Kinesthetic learners thus require frequent breaks or else they become fidgety—sitting motionless for hours is a real challenge for them. They often find that walking around while trying to memorize something helps. Tactile learners enjoy making posters, collages, and other types of visuals, and building models; they also happily engage in creating various forms of artwork. For them conducting a lab experiment may be a real treat.

The different sensory preferences do not exclude each other. For example, successful learners often use both visual and auditory input, but they are said to display slight preferences, or *modality strengths,* one way or the other. As students grow older, those with mixed modality strengths are believed to have a decidedly better chance of success than do those with a single modality strength because they can process information in whatever way it is presented (Kinsella, 1995).

The notion of sensory preferences encapsulates so much of the debate surrounding learning styles. The observation that sensory preferences affect our learning is an intuitively appealing and personalized explanation of human behavior, but the actual evidence that such preferences impact learning is threadbare (Willingham, 2005). In this respect some interesting results have been reported by Dörnyei and Chan (2013): As they argued, while in the learning styles literature visual and auditory style preferences have typically been discussed as forming a visual–auditory continuum, the actual measurement of these styles usually involves separate numeric rating scales for both the visual and the audio components (rather than a comparison or a forced choice between them). Therefore, these scales are measured by *graded* response options (e.g., marking one's response on a 1–5 scale), thereby not so much indicating preference as strength (e.g., marking "5" indicates a stronger relevance than marking "3"). Consequently, a high score on these scales indicates, in effect, highly developed *sensory processing skills* in L2 learning as reported by the student. This not only explains the common observation in the past that learners can be equally high or low in both style dimensions, but it also links these style measures to the imagery aspect of motivation as conceptualized by the L2 Motivational Self System (see Chapter 4). Indeed, Dörnyei and Chan present significant correlations between sensory preferences and both the ideal and ought-to self-guides, suggesting that the link between sensory styles and learning behavior might be mediated by motivation.

Assessing Language Learning Styles

There have been a number of published instruments available for teachers and researchers to measure L2 learning styles. They all follow a self-report format in which respondents are to indicate their answers by marking one of the options on a rating scale. The tests vary in how much reliability and validity data have been reported about them by the authors, but it is fair to say that most of them have been developed for practical rather than research purposes, that is, to raise language learners' awareness of style issues in general and of their own style preferences in particular. Thus, these batteries have normally not been fine-tuned for scientific measurement purposes by submitting them to the kind of rigorous standardization process that is a requirement in psychology for an instrument to become admissible. The following section presents a sample of the best-known tests. Describing their components also offers a good opportunity for introducing the various style dimensions they cover.

Perceptual Learning Style Preference Questionnaire (PLSPQ)

Joy Reid's (1995) Perceptual Learning Style Preference Questionnaire (PLSPQ; originally developed in 1984) was the first learning style measure widely known in the L2 field. Although the author is an L2 researcher and the instrument has been used with L2 learners, it is in fact not L2-specific, as the items do not mention any subject matter. Based loosely on the VAKT model, it consists of 30 randomly ordered statements for six learning style preferences: *visual, auditory, kinesthetic, tactile, group learning,* and *individual learning.* It uses 5-point Likert-scale items ranging from 'strongly agree' to 'strongly disagree,' focusing on behavioral preferences (e.g., "I learn more by reading textbooks than by listening to others."). The instrument is very user-friendly, with an accompanying self-scoring sheet and a short explanation of learning style preferences that also contains practical suggestions for learners. Table 5.5 presents a sample item from each scale.

Style Analysis Survey (SAS)

Rebecca Oxford's (1993; Reid, 1995) *Style Analysis Survey* (SAS) is similar to the PLSPQ in that although it has been devised by an L2 expert and has primarily been used with L2 learners, the items themselves are not subject-specific. The similarities do not end here: Both tests consist of five parts, but the SAS is more complex and with its 110 items is considerably longer than the PLSPQ. Section 1 of the SAS targets sensory preferences similarly to the PLSPQ, but the other four sections focus on other established personality/style characteristics: extraversion vs. introversion, intuitive vs. concrete/sequential, closure-oriented vs. open, global vs. analytic. Table 5.6 provides a brief description and a sample item for each style dimension. Respondents give their answers on 4-point rating scales with 'never' and 'always' as the two poles. The SAS is also a user-friendly test, with a self-scoring sheet, explanations about the results, and some practical tips and suggestions.

TABLE 5.5 Sample items from Joy Reid's Perceptual Learning Style Preference Questionnaire (Reid, 1995, pp. 202–207)

- *Visual preference*
  I learn more by reading textbooks than by listening to others.
- *Auditory preference*
  I learn better in class when the teacher gives a lecture.
- *Kinesthetic preference*
  When I do things in class, I learn better.
- *Tactile preference*
  I enjoy making something for a class project.
- *Group preference*
  I learn more when I study with a group.
- *Individual preference*
  When I study alone, I remember things better.

TABLE 5.6 Description of Oxford's (1993) Style Analysis Survey

I. How I use my physical senses to study or work (30 items)	
• Visual, auditory, hands-on	This section is similar to the corresponding parts of the PLSPQ.
II. How I deal with other people (20 items)	
• Extroverted	Turning outward and gaining energy from the external world. E.g., "*Wherever I go, I develop personal contacts.*"
• Introverted	Turning inward for our sense of wholeness and self-esteem. E.g., "*In a large group, I tend to keep silent.*"
III. How I handle possibilities (20 items)	
• Intuitive-random	Thinking in an abstract, future-oriented way, willing to rely on hunches, inspiration, and imagination for perceiving reality. E.g., "*I have a vivid imagination.*"
• Concrete sequential	Being concerned with facts and preferring them to be presented in a step-by-step, organized fashion. E.g., "*I behave in a down-to-earth way.*"
IV. How I approach tasks (20 items)	
• Closure-oriented	Having a need for clarity and preferring to plan ahead and follow instructions without any improvisation. E.g., "*I make lists of things I need to do.*"
• Open	Preferring spontaneity, flexible situations without concern for deadlines. E.g., "*I like to just let things happen, not plan them.*"
V. How I deal with ideas (20 items)	
• Global	Focusing on the big picture and following instincts or guesswork in distilling the main principles of a certain material. E.g., "*I can summarize information rather easily.*"
• Analytic	Preferring to work our way through the material systematically and breaking units apart to understand them. E.g., "*I use logical analysis to solve problems.*"

The SAS proved to be a popular and widely used instrument, particularly in classrooms. It also influenced the development of other instruments, such as Cohen, Oxford, and Chi's (2001) Learning Style Survey (LSS), which was, in effect, an expansion and refinement of the SAS. The SAS, and the various instruments that followed in its wake, were determinedly classroom-oriented and do a satisfactory job of raising learner awareness of learning styles.

The Ehrman and Leaver Learning Styles Questionnaire

In contrast to the SAS approach, the E&L Construct, as Madeline Ehrman and Betty Lou Leaver (2003; Ehrman, 2001) named their system, represented an attempt to reconceptualize cognitive styles in language learning. It is similar to

Riding's theory in that it reorganizes a number of established style dimensions under a new, comprehensive, and parsimonious superordinate construct. However, unlike Riding's taxonomy, here only one superordinate style dimension—or metastyle—is provided, with the two poles labeled *ectasis* and *synopsis*. The main difference between the two extremes is that an *ectenic* learner wants or needs conscious control over the learning process, whereas a *synoptic* learner leaves more to preconscious or unconscious processing (see Figure 5.1 for a summary).

The complete system is made up of 10 sub-dimensions, and Ehrman and Leaver (2003) provided a detailed rationale and theoretical explanation of the E&L Construct in which they point out that all 10 subscales of the E&L Construct represent established style dimensions with a body of relevant literature available for each, although one dichotomy, the *analogue–digital dimension,* had not been applied to learning contexts before. Let us briefly consider each subscale (for more details, see Ehrman & Leaver, 2003; Leaver *et al.,* 2005):

- *Field dependent–independent* and *field sensitive–insensitive (2 subscales):* Field dependence–independence has been discussed in a separate section before; although the terms *(in)dependence* and *(in)sensitivity* have often been used in the literature in an interchangeable manner, Ehrman and Leaver distinguish them to the extent that they constitute two different scales in the overall construct. Based on Ehrman (1998), field dependence–independence refers to the preference for selection and prioritization vs. treating the whole context as the same, whereas field sensitivity–insensitivity concerns the preference for considering materials in a situated manner and being aware of their position in their broader context. Thus, field sensitivity relates to foreground and background together whereas field dependence treats the foreground and the background as the same. Field-sensitive learners prefer to address material as part of the context in contrast to their field-insensitive counterparts, who make little or no use of the context.
- *Random (nonlinear)* vs. *sequential (linear):* This dimension relates to how the learner processes information. Random learners follow their own, internally developed and idiosyncratic order of processing (which may seem random to others), whereas sequential learners prefer a step-by-step, externally provided order of processing (such as the units in a syllabus).
- *Global–particular:* This dimension is well encapsulated by the top-down vs. bottom-up processing metaphor.
- *Inductive–deductive:* Inductive learners start with the details and facts, then form hypotheses, and finally test them; deductive learners start out with rules or theories and then try to apply them to examples.
- *Synthetic–analytic:* Synthetic learners like to use pieces to build new wholes, whereas analytic students like to disassemble wholes into parts to understand their componential structure.

- *Analogue–digital:* Analogue learners prefer to use metaphors, analogies, and conceptual links among units and their meanings, whereas digital learners take a more surface approach, characterized by a literal and logical understanding of what they can hear or see.
- *Concrete–abstract:* Concrete learners prefer a relationship with direct experience to the extent of sensory contact, whereas abstract learners may have more interest in the system underlying language than in the actual language of communication.
- *Leveling–sharpening:* This dimension concerns how people perceive, store, and retrieve information. Levelers often blur things together and form a generalized image, whereas sharpeners notice small differences and store them as salient attributes in their memories.
- *Impulsive–reflective:* Impulsive learners tend to respond rapidly, often acting on gut, whereas reflective learners prefer to think things through before they respond. Ehrman and Leaver emphasized that this is a real style dimension—rather than an ability continuum in which impulsive is inefficient and reflective efficient—in the sense that both poles can be beneficial or dysfunctional.

The E&L Construct was operationalized by the creation of the Ehrman & Leaver Learning Style Questionnaire. This instrument contains 30 items using a 9-point semantic differential scale format and provides a rich set of data about an individual in the form of an emerging profile, which has the advantage both of generality and specificity. Table 5.7 presents 10 sample items from the test and Figure 5.1 contains a sample scoring grid. As Ehrman and Leaver (2003) explained, the synoptic–ectenic construct level can be used when a learner has a clear set of preferences tending to the right or the left of the chart (as is the case in the sample grid), which allows for a concise description. At the same time, the profile can also yield a more elaborate portrayal of an individual through the interplay of the 10 subscales. However, because of the intercorrelation of the subscales, the multiplicity of profiles still falls within the same relatively standardized system.

At the time of writing the original version of this chapter, the E&L Construct, and the associated questionnaire, represented a highly promising attempt to conceptualize language learning styles in a systematic and principled fashion. Unfortunately, perhaps because of the limited availability of the instrument or because of the complexity of interpreting the resultant profile, the instrument has not been widely used in the years since its publication. As Ehrman (personal communication, 13 October 2014) explains, one reason for not placing the test in the public domain has been a concern about publishing it without protection against misuse, as "there's something of a clinical element to getting the most out of it (discussion of hypotheses and apparent contradictions with the respondent)."

TABLE 5.7 Sample items from the Ehrman & Leaver Learning Style Questionnaire

1.	When I work with new material in context, in stories or articles or at least sentences, I often pick up new words, ideas, etc. that way, without planning in advance. You could say I make a lot of use of a floodlight to learn.	I don't usually get much from the context unless I pay close attention to what I'm doing. I certainly wouldn't describe myself as someone who learns by osmosis. It usually has to be out there in black and white.
	Most like this ___ ___ ___ ___ ___ ___ ___ ___ ___ Most like this 1 2 3 4 5 6 7 8 9	
2.	When working with new material with additional subject matter around it, I comfortably find and use what is most important. I also like out-of-context material like grammar rules. You could say I make a lot of use of a spotlight to learn.	When there is a lot of information that comes with what I need to learn, it's hard to tell what's most important. It all seems to fall together sometimes, and it's hard work to sort things out.
	Most like this ___ ___ ___ ___ ___ ___ ___ ___ ___ Most like this 1 2 3 4 5 6 7 8 9	
3.	I like to reduce differences and look for similarities. I notice mostly how things are similar, and I level out differences.	I like to explore differences and disparities among things and tend to notice them quickly.
	Most like this ___ ___ ___ ___ ___ ___ ___ ___ ___ Most like this 1 2 3 4 5 6 7 8 9	
4.	I tend to be most aware of and interested in the big picture; I notice the forest before the trees; I start with the main points and work down to the details.	I notice specifics and details quickly; I tend to be aware of the trees before the forest. I begin with the details to work up to the main points.
	Most like this ___ ___ ___ ___ ___ ___ ___ ___ ___ Most like this 1 2 3 4 5 6 7 8 9	
5.	I react quickly, often acting or speaking without thinking about it.	I tend to think about things before I do or say them.
	Most like this ___ ___ ___ ___ ___ ___ ___ ___ ___ Most like this 1 2 3 4 5 6 7 8 9	
6.	I understand best by assembling what I'm learning into a whole, synthesizing information.	I understand best by disassembly of learning into its component parts, analyzing information.
	Most like this ___ ___ ___ ___ ___ ___ ___ ___ ___ Most like this 1 2 3 4 5 6 7 8 9	
7.	I tend to learn things through metaphors and associations with other things. I often learn through stories or example cases.	I like things that can be counted and that say what they mean directly. I take things at face value.
	Most like this ___ ___ ___ ___ ___ ___ ___ ___ ___ Most like this 1 2 3 4 5 6 7 8 9	
8.	To learn, I like to interact with the world and learn through application of knowledge, especially when I can touch, see, or hear it.	I like to learn through concepts and ideas and from formal renditions of knowledge like theories and models.
	Most like this ___ ___ ___ ___ ___ ___ ___ ___ ___ Most like this 1 2 3 4 5 6 7 8 9	

(*Continued*)

TABLE 5.7 (Continued)

9.	I learn best when I can work out for myself the best sequence to use, even if it's different from the one in the book or lesson.	I learn best when there is a sequence of steps provided, so I can do things in order. Textbooks and lesson plans really help me.
	Most like this ___ ___ ___ ___ ___ ___ ___ ___ ___ Most like this 1 2 3 4 5 6 7 8 9	
10.	When I learn, I mostly start with examples or my experience and make generalizations or rules.	When I learn, I mostly start with rules and generalizations and apply them to my experience to learn.
	Most like this ___ ___ ___ ___ ___ ___ ___ ___ ___ Most like this 1 2 3 4 5 6 7 8 9	

1: Field (in)sensitivity,
2: Field (in)dependence,
3: Leveling–sharpening,
4: Global–particular,
5: Impulsive–reflective,
6: Synthetic–analytic,
7: Analogue–digital,
8: Concrete–abstract,
9: Random–sequential,
10: Inductive–deductive.

Name: XY
ID Code: 0000

- **Synoptic**

Ectenic

	1	2	3	4	5	6	7	8	9	
Field Sensitive						X				Field Insens.
Field Indep.		X								Field Dep.
Random				X						Sequential
Global						X				Particular
Inductive						X				Deductive
Synthetic						X				Analytic
Analogue				X						Digital
Concrete		X								Abstract
Leveling			X							Sharpening
Impulsive			X							Reflective
	5	4	3	2	1	2	3	4	5	

FIGURE 5.1 Sample scoring grid for the E&L Construct (Ehrman & Leaver, 2003)

Griffiths's Inventory of Language Learning Styles (ILLS)

As mentioned earlier, there has been little recent development of instruments to assess language learning styles, which is a reflection of how scholarly interest in the area has waned. One exception to this generalization has been Carol Griffiths's (2012) Inventory of Language Learning Styles (ILLS), and taking a closer look at it will illustrate the shifting attitudes toward the concept of learning styles within L2 studies. What is revealing about this inventory is that it makes no claims of theoretical purity, nor does it seek to reconceptualize language learning styles in any grand fashion. Instead, this is a down-to-earth, pragmatic instrument with a singularly pedagogic focus. It brings together a mixed selection of items from various assessment instruments, from both inside and outside L2 studies, in a compact and easy-to-administer format. In doing so, the ILLS seems to suggest a need to take stock as well as a sense of the end of the line for a serious research-based approach to the study of styles in L2 learning. This instrument implies an acknowledgement that such instruments (which measure learning styles) need to address the immediate, practical concerns of the classroom. This theme of a general scaling down of ambition is one we return to below when we look at some of the classroom applications of learning styles.

Practical Implications

The discussion so far has revealed the concepts of cognitive and learning styles to be somewhat vague and elusive from both theoretical and research perspectives. However, one may ask whether the potential practical value of styles may compensate for the theoretical limitations. That is, can the concept be used in any way to promote the effectiveness of learning? The answer that the field of education has given is a qualified yes; in fact, Coffield *et al.* (2004) point out that much of the styles-related activity and development has been driven by the needs of practitioners rather than by learning theorists. The essence of the learning styles hypothesis is that learning can become more effective when instruction is tailored to meet individual needs in a way that it takes into account the individual's learning style. As we discussed in the introduction to this chapter, this is an attractive and intuitively appealing notion for all involved in learning, as it promises not only improved learning outcomes but also a more pleasant learning experience. Unfortunately, intuitively appealing notions do not always stand up to rigorous scientific investigation, and in an exhaustive review of the learning styles literature, Pashler *et al.* (2009, p. 105) surmise that "there is no adequate evidence base to justify incorporating learning styles assessments into general educational practice." However, the authors also emphasize that given the lack of methodologically sound studies of learning styles, it would be an error to conclude that all possible educational avenues in this respect have been

tested and found wanting. Bearing these thoughts in mind, let us consider some of the positive contributions that an understanding of the concept can potentially offer.

In her book on understanding second language learning difficulties, Ehrman (1996) justified the extensive treatment of learning styles by claiming that "learning style mismatches are at the root of many learning difficulties" (p. 50). What kind of mismatches are we talking about? We can conceive of at least six types of possible style conflict:

1. Mismatch between the student's learning style and the teacher's teaching style, a conflict that has been dramatically termed a 'style war' by Oxford *et al.* (1991).
2. Mismatch between the student's learning style and the syllabus, for example when the latter does not cover grammar systematically, although analytic learners would need that.
3. Mismatch between the student's learning style and the language task, for example when a visual student participates in a task that involves receiving auditory input.
4. Mismatch between the student's learning style and his or her beliefs about learning, for example when an analysis-oriented learner believes that rote learning is the most effective learning method (whereas that method would suit a memory-oriented learner better).
5. Mismatch between the student's learning style and the learning strategies applied, for example when a field-independent learner tries to apply social strategies, or a global learner uses bottom-up reading strategies.
6. We can even conceive of a mismatch between the student's learning style and his or her abilities, for example when an ectenic learner has underdeveloped grammatical sensitivity.

So, most experts would agree that some sort of *style harmony* might be beneficial in many respects for teachers and learners alike. The question, then, is whether this is feasible. There are some reasons to doubt the viability of establishing some form of style-based instruction that may facilitate this harmony. One significant factor that applies to many of the constructs discussed in this book is a simple lack of resources; in many educational contexts, language instruction takes the form of large classes, and teachers are limited in how they are able to personalize language learning in a way that takes an individual learner's styles into account. A further issue concerns most classroom practitioners' ill-preparedness to deal with styles in a meaningful way: In an ideal world, teacher training would include a more prominent psychological component, but, since this is generally not the case, requiring teachers to negotiate the complicated and fragmented area of learning styles, with its proliferation of often overlapping terminology, may lead to confusion. Thus, in a

refreshingly down-to-earth analysis of the possible educational applications of learning styles, Yates (2000) warns us that the idea that we can create instructional programs or plan curriculum variations to match our students' cognitive style characteristics reflects a "visionary position that, unfortunately, is neither viable nor justified. It is unrealistic for a classroom teacher to classify students into cognitive style categories to be used to prescribe differential educational experience" (p. 359).

Not prescribing "differential educational experiences" does not mean, however, that an awareness of the style issue may not be beneficial. In this respect Gregersen and MacIntyre (2014, pp. 180–183) offer a practical set of guidelines in the form of five basic 'principles' (summarized in Table 5.8). These principles provide a sturdy and realistic pedagogic platform for incorporating an understanding of learning styles into classroom practice: a platform based upon an awareness of and sensitivity to the various styles that exist in a classroom, the provision of a variety of instructional styles, and the need for both teachers and learners to reflect on their own style preferences. A further common-sense suggestion comes from Peacock (2001), who recommends a greater role for learners in planning lessons and tasks as a way of minimizing style conflicts.

In a recent review of the educational applications of cognitive styles, Kozhevnikov, Evans, and Kosslyn (2014) point out that research over recent decades has highlighted the importance of helping students to become sensitive and proficient in a variety of strategies and approaches in tackling different educational tasks, and therefore there has been an increased focus in educational research on helping students "to self-regulate their learning and flexibly switch between styles, according to situational requirements" (p. 12). Indeed, "style flexibility" has recently been foregrounded in educational psychology as an emerging new theme of significance, along with the recommendation that teachers should help students to develop appropriate cognitive styles in relation to the needs of the tasks. This approach reverses, in effect, the original recommendation of adjusting the instruction to the students' style characteristics by focusing on how students can modify their *own* style preferences to suit different learning contexts and tasks. Gregersen and MacIntyre's (2014) principles fully embrace the spirit of this move.

Finally, although styles may have limited applications in mainstream classrooms, what about other forms of instruction? One of the fastest growing areas of education is *online learning,* and since this implies a different learning dynamic to that of face-to-face instruction, there has been some scholarly interest in how established concepts from the styles literature may be employed to enhance the provision of online education (e.g., Richmond & Cummings, 2005). Indeed, Kozhevnikov *et al.* (2014) point out that there is growing backing for the idea that online learning environments can support multiple cognitive styles, provided that the relevant technologies are available. This being the case, style

TABLE 5.8 Gregersen and MacIntyre's (2014) five principles for the practical classroom application of styles

Principle 1: *Effective teachers are aware of their own instructional styles.*

Teachers often teach in the way they were taught, or the way that they learned best. A teacher's own learning experiences are a major influence on a whole range of decisions, from the design of specific learning tasks to the overall teaching style. Of course, it is impractical for teachers to match their teaching style to the individual preferences of everybody in the classroom, but teachers need to develop an awareness of their own style and the potential for mismatch.

Principle 2: *Self-aware learners identify their preferred approaches to language learning for themselves and for their teachers.*

Perhaps the most direct, and important, application of learning styles is in developing learner awareness of their own learning styles. This may be achieved by getting students to take a learning style questionnaire and by discussing the results. Understanding their own learning styles can make learning more effective, not least because this knowledge enables teachers to orient their teaching to the styles of their learners and to offer more stylistic variety (Nel, 2008).

Principle 3: *Through a "mixed and many" approach, teachers and learners together can explore ways to balance their styles.*

In any situation that involves a group of people learning together over an extended period of time, style conflicts are bound to occur. These style conflicts can be mitigated by teachers varying the style of instruction. In practice, this means a more balanced mixture of instructional input, with the materials presented visually as well as verbally, and reinforced through writing, drawing, or speaking activities.

Principle 4: *By agreeing to occasionally "stretch" and sometimes "match," teachers and learners together can resolve learning style conflicts.*

So far our discussion has concentrated on the benefits of avoiding style mismatches and matching instruction to the preferred styles of the learner. However, there are occasions when these style preferences represent nothing more than familiar 'comfort zones' (Ehrman, 1996). There are times when learners can benefit from exposure to unfamiliar styles, from operating outside their preferred styles, a phenomenon that is often referred to as style stretching.

Principle 5: *Reflective learners consider how their beliefs, strategies, and abilities connect to their individual learning styles.*

In addition to the possibility of external style mismatches, there is also a risk of internal conflict. For example, an individual learner may hold certain beliefs about the nature of language learning but find these beliefs conflict with a preferred learning style. Learners may benefit from opportunities to reflect upon these internal conflicts and to discuss them with both peers and teachers.

flexibility becomes a salient issue here because of the belief that students can adapt their styles to the requirements of *e-learning,* as this method, by definition, offers students greater control and flexibility in how they learn.

Related to the growth of online learning, recent years have also seen *self-directed learning* become an increasingly prominent feature of some language education

programs (see Pemberton & Cooker, 2012). Self-directed learning demands that learners have a knowledge and understanding of their own learning, and we can envisage a more explicit focus on developing an awareness of stylistic preferences and their impact on learning as a part of learning training programs. A further offshoot of these new directions in language education is the developing area of 'Advising in Language Learning' (ALL) (Carson & Mynard, 2012; Mynard, 2012). The practice of advising centers around the idea of a dialogue—both a dialogue between the learner and an advisor, and an internal dialogue within the learner—as a tool to enable learners to understand and direct their own learning; an explicit consideration of the issue of personal learning styles and preferences may fit well into this framework of learning. Indeed, Coffield *et al.* (2004) argue that an instrument that measures some aspect of learning styles in a reliable manner could be used as a tool to encourage self-development, not so much by accurately diagnosing how people learn as by showing them how to enhance their learning. Such a metacognitive approach could help individuals "to play to their strengths or to develop as all-round learners (or both)" (p. 132).

Conclusion

Research into language learning styles began in earnest in the wake of the 'good language learner' studies of the 1970s, and in particular Stern's (1975) highlighting of a 'personal learning style' as a key characteristic of a good language learner. Activity peaked in the early 1990s, only to tail off in the second half of that decade to settle in its current 'vegetative state': Although the concept of language learning styles remains alive, it is largely dependent on a life-support system powered by wishful thinking. The 2005 version of this chapter referred to the field of learning styles as a 'quagmire' and this was a metaphor adopted by Griffiths (2012) in her recent review of the styles literature, in which she presents the challenge for researchers as one of 'traversing the quagmire.' By way of redressing the generally pessimistic tone of this chapter, we would like to revisit that quagmire and consider the possibility that rather than a lifeless, inhospitable terrain, this may in fact be a rich, biodiverse marsh landscape teeming with life and ripe for exploration.

By looking at learning styles from the classic, modular ID perspective and seeking to define and operationalize them in a scientific manner, we are surely condemned to the quagmire. However, if we consider the curious halfway position of styles between personality, strategies, and ability, we might reconsider our view and see 'style' as exactly the kind of dynamic concept that the new, situated, and interactive conceptualization of learner characteristics (such as McAdams's New Big Five) has been calling for. Instead of problematizing instability, overlap, and interaction, researchers may benefit from exploring these style features, looking at how various aspects of language learner psychology, such as personality and cognitive abilities, work together to form learning preferences. If researchers take up this challenge, then learning styles may come to be regarded as one of the key characteristic adaptations of the second language learner.

Recent conceptualizations of language learner psychology—along the lines of McAdams's model described in the first two chapters—suggest a research environment in which styles may at last develop and thrive. After all, as Kozhevnikov (2007) summarizes,

> Cognitive styles have an *adaptive* function: They mediate the relation between an individual and his or her environment. Although styles are generally stable individual characteristics, they may also change or develop in response to specific environmental circumstances (education or profession, for instance). . . . [C]ognitive styles can be viewed as distinctive patterns of adjustment to the world that develop slowly and experientially as a result of the interplay between basic individual characteristics (i.e., general intelligence, personality) and long-lasting external requirements (i.e., education, formal–informal training, professional requirements, and cultural and social environment).
>
> (p. 477; emphasis added)

Currently, there are virtually no studies that examine the development of different cognitive styles in interaction with features of a real-world context, even though—as we have seen earlier—there is growing agreement about the fact that styles can be seen as parts of an adaptive system of interacting processes that are shaped by the requirements of the external environment. As Kozhevnikov *et al.* (2014, p. 22) conclude, "Cognitive style is an adaptive system that moderates the effects of both an individual's predispositions and the external environment," a conception that turns the 'halfway' position of styles from a shortcoming into an asset. Such an environmentally sensitive cognitive ID factor has a prime position in McAdams's New Big Five construct, as one of the key characteristic adaptations. There is, therefore, sufficient intellectual space for cognitive and learning styles to fill, which allows us to conclude this chapter exactly the same way as the 2005 version ended: Learning styles constitute an as yet unrealized potential.

6

LEARNING STRATEGIES AND SELF-REGULATION

Language learning strategies bring to the fore more than any other learner characteristic the prevailing inconsistency surrounding ID factors in L2 learning. The 2005 version of this chapter ended with an uneasy trade-off in which strategies were regarded as a useful concept for classroom practitioners but largely unfit for purpose in research contexts. Although intended as a compromise, this was a highly controversial position at the time and one that has provoked considerable reaction. This is fully understandable, since—as outlined in Chapter 1—strategies have traditionally been considered an integral part of the canonical taxonomy of L2 IDs and have generated a great deal of theoretical and practical interest in the past. They deal with issues of *how proactively* and *in what way* L2 learners engage in the learning process, and they have been found a salient feature of 'the good language learner.' On the other hand, the concept of 'language learning strategy' has always sat uneasily within the ID taxonomy; after all, these strategies appear to constitute an aspect of the *learning process* rather than being learner attributes proper. This is clearly expressed in Cohen's (1998) classic, succinct definition, according to which learning strategies are "learning processes which are consciously selected by the learner" (p. 4), and it is also reflected in virtually all other definitions of the concept which equate learning strategies with the learners' actions/behaviors and thoughts aiming at facilitating learning. Since actions and thoughts are not individual differences, the ultimate question we need to address in this chapter is where learning strategies fit into an account of the psychology of the language learner.

The original version of this chapter was considered by some to be an attempt to 'dismiss' strategies as an ID variable, but the publication of a number of high-profile works on the topic over the past decade is testament to the vitality and enduring appeal of these ambiguous yet ambitious phenomena: Learning strategies

are alive and kicking in 2015 and continue to attract scholarly attention; as Griffiths (2013) puts it, "The slippery strategy concept hangs on tenaciously and refuses to be so easily dismissed" (p. 6). So, does that mean that the 2005 evaluation was incorrect? The answer is yes-and-no. No, because we believe that the chapter was posing legitimate questions and—as we shall see—the doubts about the value of the construct for conducting in-depth analyses of the antecedents and ingredients of strategic learning have been borne out by the marginalization of the concept within the educational psychological literature over the past two decades. Yes, because what was considered a clear-cut diagnosis from the perspective of the classic ID paradigm is far less straightforward from the new period that the research of learner characteristics has entered—it is as if suddenly many of the criticisms had lost their moral high ground because similar issues have also been raised about the more 'respectable' ID counterparts of the concept (such as aptitude and motivation) and, in fact, about the whole domain of ID research in general.

Thus, in the new ID landscape, strategies appear to sit much more comfortably than they did a decade ago, and therefore the question of learning strategies is an area that continues to demand our attention and compels us to offer a considered re-examination. Let us start this process by addressing the key question of the 2005 version of this chapter head-on: Do learning strategies exist?

Do Learning Strategies Exist?

We have seen in earlier chapters that the analysis of learner characteristics has always occurred on two interrelated levels: theory and assessment. The original 2005 chapter raised concerns on both fronts, and a follow-up study by Tseng, Dörnyei, and Schmitt (2006) further elaborated on the second aspect by not only questioning the psychometric basis of typical language learning strategy assessment, but also providing an alternative approach (to be discussed later). In 2007, partly in response to the undeniable unease toward the theoretical underpinnings of the strategy research that had been around in the profession for a while and which was most explicitly expressed in the 2005 chapter, two of the leading proponents of language learning strategies, Andrew Cohen and Ernesto Macaro (2007), edited a high-profile anthology that had contributions from virtually all the active scholars in the 'strategy camp.' In the first chapter, "Claims and Critiques," Grenfell and Macaro (2007) provided a fair and accurate summary of the points raised by Dörnyei:

> In his most recent writing on the topic, Dörnyei (2005) in fact asks whether LLS [language learning strategies] actually exist as a psychological construct given their persistent ambiguity. For Dörnyei, the most fundamental problem is the literature's inability to explain the difference between "engaging in an ordinary learning activity and a strategic learning activity" (2005, p. 164). He concludes on this point that it is this lack of

> watertight definition which has led a number of scholars to leave the field and switch to the broader and more versatile notion of "self-regulation."
>
> (p. 25)

Regarding the issue of assessment, Grenfell and Macaro (2007) sum up the criticism accurately by explaining that according to Dörnyei (2005, p. 182),

> The most used strategy inventory (the SILL, Oxford 1990) is seriously flawed in its design. The design problems include the adoption of frequency-of-use scales with highly specific items of a different nature. These items, rather than tapping into a general trend, attempt to reveal actual specific behaviors whereby a linear relationship between item scores and total scale scores becomes invalid. In other words, the scales in the SILL are not cumulative and computing mean scores "is psychometrically not justifiable."
>
> (Grenfell and Macaro, 2007, pp. 25–26)

Grenfell and Macaro (2007), then, conclude their appraisal as follows:

> The above critiques by Dörnyei are certainly pertinent to the ongoing debate about whether or not strategy research is a worthwhile enterprise. Whilst acknowledging their significance for future strategy research, it is clearly not within the scope of this chapter to refute them—even were that possible.
>
> (p. 26)

In the light of the above summary, it is noteworthy that none of the subsequent 11 chapters in the volume, nor Cohen and Macaro's (2007) conclusion, respond to—or even revisit—these points, and the Tseng *et al.* (2006) paper is not cited in any of the studies in the volume. In an overview of a special issue of *The Language Learning Journal* devoted to language learning strategies, Macaro (2007) concludes that definitional concerns have "been addressed to some extent but not fully" (p. 239). We find exactly the same pattern continuing into two recent book-length summaries of the subject, by Griffiths (2013) and Oxford (2011), which do not address the critical questions, and a brief response in Cohen's latest book on the topic states that Grenfell and Macaro (2007) "[provide] the most direct reply to the criticism at both a theoretical and a practical level" (Cohen, 2011, p. 374). Thus, the curious situation is that although the theoretical concerns raised by the 2005 chapter were noted, leading experts in the field appear to have sidestepped those and carried on without an explicit response. This is noteworthy, particularly given the fact that several scholars involved in strategy research have been high-profile and highly respected members of the applied linguistics community, with substantial track records of valuable scientific work. What their reaction seems to suggest, then, is not that the criticisms did not have any

basis, but rather that these experts believed that it is worth pursuing the topic *in spite* of these criticisms. This view was expressed by Gu (2012) as follows:

> Part of this decline in interest came from the repeated and yet unsuccessful attempts at clarifying the concept of "learning strategies," so much so that some scholars have called for the concept to be abandoned and replaced with "self-regulation" (e.g., Dörnyei, 2005). I contend that this is not a healthy sign, because the definition quibble is going beyond the advancement of knowledge in delineating conceptual boundaries, and because teachers and learners on the ground are not getting the practical guidance needed from the experts.
>
> (p. 330)

As a preliminary to the following discussion, we admit that we have a certain amount of sympathy with the persistence of strategy scholars, particularly in the light of the similarity between their position and our current attempt to write a book on IDs in spite of the manifold theoretical issues with the concept.

Definitional Issues

What has enabled the above scholars to continue believing that learning strategies exist? In order to answer this question, we first need some agreement upon what we mean by the term 'learning strategy,' and for this purpose we must recap briefly the main theoretical issue underlying the strategy controversy. The age-old problem in strategy research has been a lack of clarity regarding fundamental definitional matters. By means of illustration, let us turn to a standard definition from educational psychology (Weinstein, Husman, & Dierking 2000, p. 727): "Learning strategies include any thoughts, behaviors, beliefs, or emotions that facilitate the acquisition, understanding, or later transfer of new knowledge and skills." Although this definition appears to be logical and exhaustive, it leaves several issues open. The most fundamental one is this: What exactly is the difference between engaging in an ordinary learning activity and a strategic learning activity? That is, what is the difference between the processes of 'learning'—and perhaps 'effective learning'—and 'learning strategy use'? Can someone be a successful learner without using strategies? To take an example, if a language learner memorizes vocabulary by simply looking at a bilingual vocabulary list, most people would say that this is an example of learning; but if the same person applies some color marking code to highlight the words in the list that he or she still does not know, suddenly we can start talking about strategic learning. But what is the difference? The color code?

One way of distinguishing between normal learning activities and learning strategy use was proposed by Riding and Rayner (1998). They argued that an activity becomes strategic when it is particularly *appropriate* for the individual

learner, in contrast to general learning activities, which a student may find less helpful. Accordingly, learners engage in strategic learning if they exert purposeful effort to select and then pursue learning procedures that they believe will increase their individual learning effectiveness. The same idea was expressed more technically, from an information-processing perspective, by Winne (2001), who distinguished between *tactics* and *strategies*. A tactic, according to Winne, is a "particular form of schema that is represented as a rule in IF-THEN form, sometimes called a condition-action rule" (p. 159). A strategy is a broader design or plan for approaching a high-level goal and it coordinates a set of tactics. Winne argued that the actual student response only becomes strategic if it matches the IF condition in the pursuit of a goal, that is, if it is appropriate for the particular purpose.

This approach of defining strategies in terms of *appropriateness* appears to be simple but comprehensive. It does, however, raise two new problems: First, the term 'appropriate' is rather fluid and it is not easy to imagine how it can be operationalized in an actual research design. Second, and more importantly, learning strategies conceptualized in this vein can only be defined relative to a particular agent because a specific learning technique may be strategic for one and non-strategic for another depending on the person's IF condition and how the specific tactic or strategy offers a personally effective response to that.

Thus, the essential question of what marks a particular activity as being strategic is one that has eluded a satisfactory resolution in educational psychology, which has undoubtedly contributed to the sidelining of the concept in psychological research. In this sense, although never stated explicitly, educational psychology's answer to our question of whether learning strategies exist was that the concept could not be defined at the rigorous scientific level that was necessary to qualify for ongoing research consideration in the field. We shall come back to this matter later in this chapter when we examine the alternative concept proposed in psychology, 'self-regulation.' Before that, however, let us first examine how L2 scholars have treated the subject.

Learning Strategies in L2 Studies

As is the case with several of the concepts discussed in this book, the initial phase of strategy research focused primarily on what could be learned from the 'good language learner,' that is, what characteristics made some learners more successful than others when it came to learning an L2 (e.g., Naiman *et al.,* 1978; Rubin, 1975; Stern, 1975; Wong-Fillmore, 1979; for a retrospective review, see Griffiths, 2008). Right from its introduction into L2 research in the late 1970s, the notion of learning strategy was intuitively appealing to researchers, and it was also embraced with enthusiasm by language educators. A significant part of that attraction came from the general consensus achieved within these early studies, which indicated in a fairly consistent manner that it was not merely a high degree of language aptitude and motivation that caused some learners to

excel, but also the students' own active and creative participation in the learning process through the application of individualized learning techniques.

Following this early research, the study of language learning strategies was taken up by a number of scholars in the 1980s, and by 1987 Wenden and Rubin were able to compile a rich collection of research studies on learner strategies, which underlined the important role these strategies played in the acquisition of an L2. The publication of three highly influential books (O'Malley & Chamot, 1990; Oxford, 1990; Wenden, 1991) at roughly the same time further added to the general momentum, so that in an article describing a social psychological model of strategy use published in the mid-1990s, MacIntyre (1994) started his discussion by stating: "One of the most fertile areas of research in language learning in recent years is the topic of language learning strategies" (p. 185).

Although the theoretical inconsistencies surrounding the learning strategy literature in general had been known since the early days, it was not at all unreasonable that the L2 field showed remarkable tolerance of these shortcomings. After all, research studies that included language learning strategies as either dependent or independent variables tended to produce interesting results (for reviews, see Chamot, 2001; Cohen, 1998; retrospectively, see Griffiths & Oxford, 2014; Oxford, 2011). There was an increasing body of research evidence that learning strategies played an important role in L2 attainment (e.g., Dreyer & Oxford, 1996; Park, 1997), offering a glimpse into the subtle mechanisms that constituted the complex process of learning. This was a particularly welcome development for many in the field because up to that point the complex of learning in the brain had been seen as a metaphorical 'black box': We could describe what went in (input) and measure what came out (output) without having much of an understanding of what was going on inside. Learning strategies offered the potential of becoming a searchlight (or at least a torch) into this box. The significance of this recognition was also augmented by practical considerations because the emerging view was that learning strategies could be specifically taught to language learners (we discuss this aspect later in the chapter).

Thus, strategy research flourished in this period and several high-profile researchers invested time and energy in its pursuit; as a result, this line of investigation became well represented at international conferences and in academic journals, and before long it had reached a critical mass, which, to a certain extent, 'justified itself.' Any doubts about the validity of the construct were easily shrugged off by researchers who indicated that significant developments are often accompanied by a theoretical muddle—one that would eventually be cleared away by the subsequent restructuring of our existing knowledge. Peter Skehan's (1989) summary of early learning strategy research illustrated this ambivalent but optimistic research climate well:

> A lot of useful and suggestive research has now been reported. There are the beginnings of systematicity in the categorization schemes for strategies,

> so that new investigators need not gather information blindly. . . . This suggests that we are ready for the first attempts at theorizing within the learner-strategies field.
>
> (p. 98)

Defining Language Learning Strategies

Given the lack of agreement concerning what distinguishes strategic activities from ordinary learning activities within the mainstream psychology literature, it is unsurprising that the various definitions of L2 learning strategies offered in the L2 literature were also rather inconsistent and elusive. In a relatively early review of the field, O'Malley *et al.* (1985, p. 22) had already concluded that "there is no consensus on what constitutes a learning strategy in second language learning" and this became a recurrent theme of the literature of this era; for example, Ellis (Ellis, R., 1994) surmised in his overview that "definitions of learning strategies have tended to be ad hoc and atheoretical" (p. 533).

One early, very broad definition was proposed by Rubin (1975, p. 43), describing learning strategies as "the techniques or devices which a learner may use to acquire knowledge." Oxford (1989) offered a similarly straightforward, functional definition for language learning strategies, referring to "behaviors or actions which learners use to make language learning more successful, self-directed, and enjoyable" (p. 235). A further alternative definition was provided by O'Malley and Chamot (1990), according to which these strategies involved "special thoughts or behaviors that individuals use to help them comprehend, learn, or retain new information" (p. 1). This conceptualization differed from Oxford's functional definition in that it highlighted the cognitive aspects of strategy use, in an attempt to ground learning strategy research in Anderson's (1983, 1985) general cognitive psychological theory. Cohen (1998) later highlighted a further aspect of learning strategies, the *element of choice*. He argued that an essential feature of these strategies is that they are voluntarily employed by the learner. Although this is clearly important in distinguishing learning strategies from creative teacher-owned tasks that the learner engages in, choice alone is still not enough to distinguish strategies from non-strategies because students tend to make several choices concerning their learning process that are not strategic in the strict sense, that is, which do not necessarily involve appropriate and purposeful behavior to enhance the effectiveness of learning. Examples of such behavior include choosing the time to do homework assignments; selecting a pen for doing a writing task; choosing a partner whom one likes for pairwork; performing a classroom task in a way that it will impress one's girlfriend or boyfriend; and so on—the point is that while these acts *can* be strategic, the learner can also engage in them *without* necessarily wanting to improve the effectiveness of his/her learning.

Similar to conceptualizations in psychology, later attempts at defining language learning strategies highlighted the criterion of *appropriateness;* as Ehrman, Leaver, and Oxford (2003) argued,

> A given learning strategy is neither good nor bad; it is essentially neutral until it is considered in context. A strategy is useful under these conditions: (a) the strategy relates well to the L2 task at hand, (b) the strategy fits the particular student's learning style preferences to one degree or another, and (c) the student employs the strategy effectively and links it with other relevant strategies. (p. 315)

This definition underlines the shift away from the field's 'good language learner' origins. As mentioned earlier, the impetus for early research into language learning strategies came from the notion that we had much to learn from observing good language learners, with the implication that others should imitate their 'good' strategies. However, over time researchers became more interested in the appropriate use and management of strategies; as Macaro (2006) commented, "Successful learning is no longer linked to the individual learner's frequency of strategy use, but to his or her orchestration of strategies available to him or her" (p. 332). While this approach was consistent with thinking in mainstream educational psychology, the similarity also included the failure to resolve the core issue of what separates strategic activity from normal learning activities, and as a result, in the conclusion of their 2007 book, Cohen and Macaro affirmed:

> It is unlikely that complete consensus will ever be reached on the unit of analysis (a strategy) even though we should continue to strive for such a consensus and towards a definitive model of a strategy within a cognitive framework. In the absence of a consensus, researchers should state clearly the theoretical framework on which they are basing their research and why there might be a need to use different terminology rather than building on established terminology. (p. 283)

Recent Moves to Strengthen the Theoretical Basis of Language Learning Strategies

Not having a consensus does not mean that no efforts have been made to solidify the theoretical basis of the learning strategy field. Soon after the publication of the original version of our book, Macaro (2006, p. 320) also bemoaned "a lack of theoretical rigor," and proposed an alternative framework that avoided a comprehensive definition but identified instead key *characteristics* of learning strategies. According to Macaro, these key characteristics are as follows:

1. The *location* of strategies—in Macaro's framework, strategies are seen as conscious mental activities located in working memory;

2. The *size, abstractness, and relationship to other strategies*—Macaro argues that a strategy should be described at the lowest level of conscious cognition and that it "should not be possible to describe a strategy by referring to a number of relevant subordinate strategies" (p. 327);
3. The *goals*—strategies are mental actions that incorporate explicit learning goals;
4. The *tasks*—strategies must be both appropriate to a particular situation and transferable to other learning tasks.

Griffiths (2013) has followed a similar approach and confidently asserted that "it is possible to identify the essential characteristics of language learning strategies and to incorporate them into a workable definition" (p. 6). A brief description of her defining characteristics of language learning strategies is presented in Table 6.1.

While Macaro's and Griffiths's key characteristics remind us of just how broad and therefore elusive the task is to define the concept, they do contribute to a more precise delineation of *what* is covered by strategic behavior. Such tightening of the theoretical criteria of the concept was instrumental in turning the tide in relevant scholarly activity, which had by the first decade of the 21st century waned to such an extent that there was talk of 'the end' of language learning strategy research (e.g., Gao, 2007). Subsequently, however, a new wave of serious publications dedicated to the task of reinterpreting language learning strategies emerged as part of the 'second wind' of strategy research (see Cohen, 2011, 2012; Cohen & Macaro, 2007; Gao, 2008; Griffiths, 2013; Griffiths & Oxford, 2014; Oxford, 2011; Oxford, Griffiths, Longhini, Cohen, Macaro, & Harris, 2014). This has been a welcome development, although at the basic definitional level no breakthrough has occurred; for example, Cohen (2012) has offered what he refers to as a 'working definition' of language learning strategies, which takes several of the above characterizations on board but which still allows for a wide range of "thoughts and actions" to be subsumed by the term: "Thoughts and actions, consciously chosen and operationalized by language learners, to assist

TABLE 6.1 Griffiths's (2013) definitional characteristics of language learning strategies

Characteristic	*Description*
Activity	strategies are active in nature
Consciousness	strategies are used consciously by learners
Choice	strategies are chosen with the learner's active involvement
Goal Orientation	strategies are goal-oriented and purposeful
Regulation	strategies are used by learners to regulate learning and make learners active participants in that learning
Learning Focus	strategies are employed with learning in mind as opposed to communication

them in carrying out a multiplicity of tasks from the very onset of learning to the most advanced levels of target-language performance" (Cohen, 2012, p. 136).

Taxonomies of Language Learning Strategies

The initial wave of research in the 1980s generated two well-known taxonomies of language learning strategies proposed by Oxford (1990) and O'Malley and Chamot (1990). Oxford's taxonomy was made up of six strategy classes: *cognitive, memory, metacognitive, compensation, affective,* and *social strategies.* Although coming from a different theoretical perspective, the taxonomy of O'Malley and Chamot (1990) was similar to the one proposed by Oxford (1990). They identified three main classes of strategy: *cognitive strategies* (that correspond to Oxford's 'cognitive' and 'memory' categories), *metacognitive strategies* (that have a direct equivalent in Oxford's system), and *social/affective strategies* (that correspond roughly to Oxford's 'social,' 'affective,' and 'compensation' categories). The odd one out in O'Malley and Chamot's taxonomy was clearly the last group, 'social/affective strategies,' which included diverse behaviors such as 'cooperation,' 'questioning and clarification,' and 'self-talk.' These strategies are not related to the cognitive theoretical basis outlined by the authors, and they admittedly represent a "broad grouping" (p. 45), a miscellaneous category that appears to have been introduced simply to accommodate all the strategies that did not fit into the first two types but which could not be left out either. It is fair to say that the Oxford taxonomy 'overshadowed' the work of O'Malley and Chamot (Rose, 2012) and that at the present time "it remains the most widely applied classification system of strategic learning research" (p. 93).

The strategy frameworks proposed by Oxford (1990) and O'Malley and Chamot (1990) were in fact highly compatible (for detailed comparisons, see Gao, 2010; Hsiao & Oxford, 2002). If we make some slight adjustments on the basis of the arguments just outlined—(a) exclude communication strategies from the scope of learning strategies, (b) combine Oxford's memory and cognitive strategies, and (c) separate O'Malley and Chamot's social/affective strategies—the resulting typology comprises the following four main components:

1. *Cognitive strategies,* involving the manipulation or transformation of the learning materials/input (e.g., repetition, summarizing, using images).
2. *Metacognitive strategies,* involving higher-order strategies aimed at analyzing, monitoring, evaluating, planning, and organizing one's own learning process.
3. *Social strategies,* involving interpersonal behaviors aimed at increasing the amount of L2 communication and practice the learner undertakes (e.g., initiating interaction with native speakers, cooperating with peers).
4. *Affective strategies,* involving taking control of the emotional (affective) conditions and experiences that shape one's subjective involvement in learning.

Oxford (2011) later recognized elements of overlap in her earlier taxonomy and the need for greater parsimony and coherence, and this led her to propose a categorization similar to the one outlined above. In her new taxonomy—which she labeled the Strategic Self-Regulation Model—Oxford suggests three core strategy categories: *cognitive, affective,* and *sociocultural-interactive,* which are equivalent to three of the four components described above. The new feature of her model is that she extends the fourth, and missing, component—metacognitive strategies—into a whole layer of three *metastrategies: metacognitive, meta-affective,* and *meta-sociocultural-interactive.* These metastrategies function as guides in their respective strategy category, and draw on six types of underlying *metaknowledge*: *person knowledge, group/culture knowledge, task knowledge, whole-process knowledge, strategy knowledge,* and *conditional knowledge.* This new model therefore reflects a move toward integrating some of the principles of self-regulation (to be discussed later) into a model of learning strategies, which is in line with several calls in the SLA literature (e.g., Gao, 2007; Rose, 2012) to combine the two perspectives. Trying to achieve such a combination is undoubtedly a worthwhile effort, but in order to do so, Oxford's (2011) new definition of "self-regulated L2 learning strategies" provides a very broad framework:

> Self-regulated L2 learning strategies are defined as deliberate, goal-directed attempts to manage and control efforts to learn the L2. These strategies are broad, teachable actions that learners choose from among alternatives and employ for L2 learning purposes (e.g., constructing, internalizing, storing, retrieving, and using information; completing short-term tasks; and/or developing L2 proficiency and self-efficacy in the long term).
>
> (p. 12)

This framework allows for the inclusion of constructs that are not usually considered part of the learning strategy domain; indeed, in a list of examples following this definition, Oxford (2011, p. 12) mentions "Generating and Maintaining Motivation" and "Overcoming Knowledge Gaps in Communicating," (i.e., motivational and communication strategies). We believe that broadening the conception of learning strategies to the extent that it can accommodate these components raises more questions than it answers.

Variation in Strategy Use

Before moving on to look in detail at how strategies have contributed to the development of language teaching methodology, let us pause to consider some of the concrete achievements of strategy research. One of the most fruitful directions of the early phase was building a greater awareness of difference and variation in the use of language learning strategies. Although the theoretical ambiguities surrounding the concept make it difficult to understand what a particular

strategy score might imply with regard to SLA, if we compare the mean scores of two groups of learners and we find significant differences between them, we can draw conclusions about the *difference* in the scores. Proceeding in this vein, several grouping variables have been applied over the years, with gender and cultural/ethnic background being the most extensively researched. For illustration, here is a sample of the work conducted in this area:

Learning strategies across cultures. In the preface of a book entirely devoted to the study of cross-cultural perspectives of language learning strategies, Oxford (1996) argued that because language learning is fully situated within a given cultural context, various cultural beliefs, perceptions, and values significantly affect the strategies students adopt. This may be partly because of ethnicity-based variation in the students' learning styles as well as differences in their formal and informal educational experiences. This claim received strong support in numerous studies conducted in various educational contexts, for example, Israel (Levine, Reves, & Leaver, 1996), China (Rao, 2006), Japan (Takeuchi, 2003), and in the broader context of East Asia (Griffiths *et al.,* 2014). Accordingly, Bedell and Oxford (1996) concluded that learners often—although not always—behave in certain culturally approved and socially encouraged ways as they learn. However, the authors also emphasized that culture should not be seen as a straitjacket that binds students to a particular set of learning strategies all their lives: Through focused strategy instruction students can be made aware of the value in strategies that are not necessarily within the limits of their cultural norms.

Gender-variation in learning strategy use. Gender differences regularly show up in studies on L2 learning and therefore they were expected to characterize the use of language learning strategies as well. Indeed, as Oxford (1996) states, gender often influences strategy use, with females typically reporting more strategy use than males in many different cultures; and we can find several empirical studies in the literature arriving at the same conclusion (Kaylani, 1996; Peacock & Ho, 2003). For example, Kaylani's study in Jordan confirmed the existence of significant sex differences, with female students using significantly more memory, cognitive, compensation, and affective strategies than male students. At the same time, however, the differences in strategy use resulting from the influence of gender were not as great as differences resulting from proficiency: Successful female students' language learning strategy profiles resembled those of successful males more than they did those of unsuccessful females.

Further variation. Other background factors, such as career and study choices (Gao, 2010), have also been shown to affect strategy use. For example, Peacock and Ho (2003) compared learning strategy use among students learning English for academic purposes across eight disciplines in higher education: building, business, computing, engineering, English, math, primary education, and science. They found sharp disciplinary differences in strategy use, with English majors employing the most and computing students the fewest strategies. In a study examining Greek learners, Psaltou-Joycey and Kantaridou (2009) found

that trilingual students used strategies more frequently than bilinguals, especially those that promote metalinguistic awareness, whereas more advanced trilinguals made more frequent use of strategies, which mainly came from the cognitive and metacognitive categories. These examples illustrate the sensitivity of learning strategy use to a range of external and context-specific factors.

Relating learning strategies to other ID factors. The connections between strategy use and other ID factors, most notably *motivation,* have also been investigated. Assuming such a link makes sense: Learning strategies are, by definition, examples of motivated learning behavior; therefore, meaningful links with motivation are expected to exist (cf. Cohen, 1998, 2012; Cohen & Dörnyei, 2002). Conscious strategy use is also logically linked to *learner beliefs,* since learners will obviously select the most appropriate strategies for themselves on the basis of what they believe is the most appropriate approach toward mastering an L2. This issue is further discussed in the section on beliefs in Chapter 7.

Strategy Training

Perhaps the area where strategies research has made the deepest impression is language teaching methodology. The proverb 'Give a man a fish and he eats for a day. Teach him how to fish and he eats for a lifetime' is often invoked (e.g., Griffiths, 2013) to suggest some of the potential of strategy training. When it comes to how to train learners in the more effective use of strategic learning, there is a healthy supply of summaries, policy papers, and various training materials. In spite of expressing reservations about the validity of the learning strategy concept, the 2005 version of this chapter welcomed this productivity, to which Grenfell and Macaro (2007) replied,

> Surprisingly, Dörnyei brushes all these doubts aside when it comes to the issue of strategy instruction. Whilst having a highly skeptical attitude to the value of LLS [language learning strategy] research, he roundly supports continuing with teaching about strategies in the classroom, thus marginalizing the whole field to an area of acceptable but unproven pedagogical activity—a sort of "it can't do any harm" approach.
>
> (p. 26)

Put this way, we can see how the 2005 message could have been perceived as patronizing, but this was not at all the intention of the chapter—the positive appraisal of the educational use of learning strategies was genuinely meant. Having said that, was it not a contradiction to commend the training of something whose very existence had been previously questioned? A decade later, with the clear-cut categories of the classic ID paradigm left behind, the twofold approach represented in the original version of this chapter can be better explained. It is becoming increasingly clear that strategy training represents more than merely

the promotion of creative and personalized learning behaviors, that is, the teaching of ways in which learners may improve their study skills and thus can learn better. While strategy training can indeed achieve these goals, the success of such an enterprise also offers an important theoretical insight in that it can be understood as the *contextualization* of the underlying *learner capacity.* In this way, the trainability of learning strategies is a testimony to the existence of some form of learner-internal *strategic capacity,* which justifies the listing of learning strategies under the 'characteristic adaptations' category in McAdams's New Big Five personality model: After all, the training element is, in effect, the facilitation of the *adaptation* of the strategic intent.

Looking at it this way, the notion of learning strategies represents a dynamic concept that has a place in the new understanding of situated learner characteristics, and it is interesting how similar strategies are to some other learner characteristics—such as motivation or learning styles—in that the conceptual issues fade into the background as soon as it comes to educational application: Even in educational psychology, learning strategy training constitutes a legitimate instructional engagement, and even well-known experts who have opted to use self-regulatory frameworks instead of learning strategies for research purposes (see later) are comfortable with the idea of strategy training, as illustrated by publications such as *Motivation and Learning Strategies for College Success: A Focus on Self-Regulated Learning* (Dembo & Seli, 2012) or *Learning to Learn: The Skill and Will of College Success* (VanderStoep & Pintrich, 2008).

In the specific field of L2 studies, the notion of 'learning to learn' has a long and distinguished history, starting with Ellis and Sinclair's (1989) famous coursebook, *Learning to Learn English: A Course in Learner Training* and continuing through to Andrew Cohen's (2002, 2011) styles- and strategies-based instruction (SSBI), which entails a learner-focused approach that combines strategy training with awareness-raising whereby learners can become more cognizant of the fit between their style preferences and the strategies that they select for language learning and language use tasks. SSBI thus combines style stretching and matching with and strategy instruction in a complementary manner in order to empower learners to be more effective L2 learners in partnership with the teacher.

Over the years, several other models of strategy training have been proposed (e.g., Anderson, 2003; Grenfell & Harris, 1999; O'Malley & Chamot, 1990) and in a comparative summary of the various training approaches, Harris (2003) argues that the various schemes share the same underlying principles. Figure 6.1 presents the schematic representation of Macaro's (2001) "learner strategies training cycle," and the characteristics of this model are broadly representative of the main aspects of the different existing models.

Although the available strategy training materials and schemes are generally creative and impressive, it is not clear whether the benefits of their explicit employment warrant the time and effort spent on them in comparison to spending

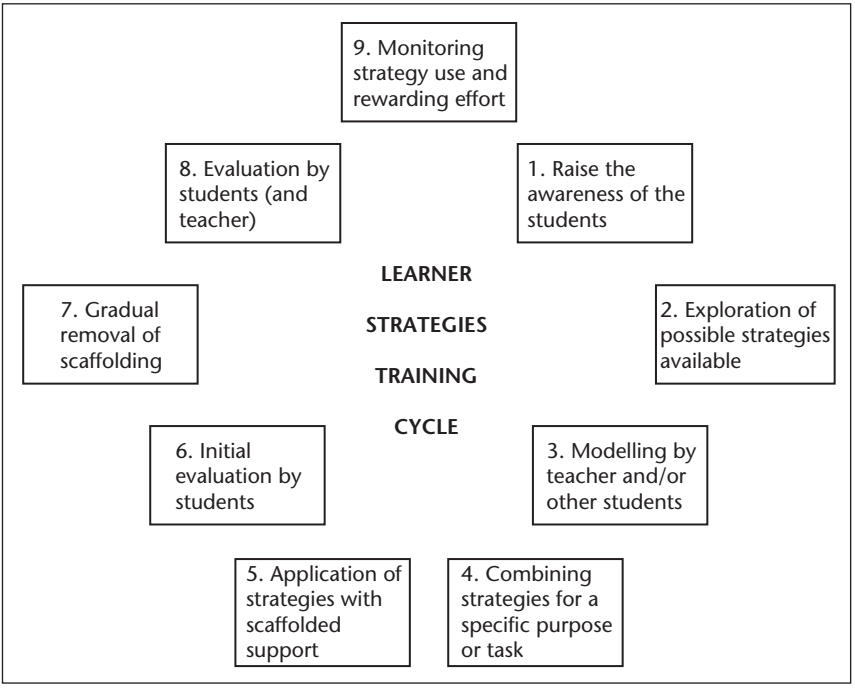

FIGURE 6.1 Macaro's (2001, p. 176) Learner Strategies Training Cycle (cited with permission)

the same amount of creative energy designing 'ordinary' learning activities; as Macaro and Erler (2008, p. 91) summarize, the question is whether "teachers would be better off spending time on teaching the language rather than wasting time on strategy instruction." In their overview of critical observations of strategy research, Macaro and Erler also noted the lack of evidence for any causal relationship between strategy use and language learning achievement, thereby echoing the findings of an earlier comprehensive review of learner strategies, in which McDonough (1999) concluded: "The relationship between strategy use and proficiency is very complicated: Issues such as frequency and quality of strategy use do not bear a simple linear relationship to achievement in a second language" (p. 13).

Thus, scholars' overall attitude toward the desirability of strategy instruction largely depends on their own personal disposition (for L2 reviews, see Chamot & Rubin, 1994; Chamot *et al.,* 1999; Cohen & Macaro, 2007; Griffiths & Oxford, 2014; McDonough, 1995, 1999). Skeptics (e.g., Rees-Miller, 1993; Rossiter, 2003) caution teachers against investing too much effort into strategy training as this is not likely to be cost-effective, whereas proponents of strategy training claim that past research has accumulated enough positive evidence to justify further work in this area with the aim of fine-tuning both the methodology and the

assessment procedures. McDonough's (1999) conclusion provides a temperate 'middle-of-the-road' summary: "Teaching strategies is not universally successful, but the latest research is showing that, in certain circumstances and modes, particularly when incorporated into the teacher's normal classroom behavior, and thus involving teacher training as well as learner training, success is demonstrable" (p. 13).

The Assessment of Learning Strategies

Learning strategy use and, more generally, self-regulated learning, have typically been measured by self-report questionnaires. These instruments are based on the assumption that strategy use and strategic learning are related to an underlying attribute because questionnaire items typically ask respondents to generalize their actions across situations rather than referencing singular and specific learning events (Winne & Perry, 2000). In the following section we describe three major questionnaires that represent somewhat different approaches: (a) The Motivated Strategies for Learning Questionnaire (MSLQ), which is the best-known instrument in this area in educational psychology, (b) Rebecca Oxford's Strategy Inventory for Language Learning (SILL), which has been the most influential questionnaire in L2 studies, and (c) Tseng, Dörnyei, and Schmitt's Self-Regulatory Capacity in Vocabulary Learning scale (SRCvoc), which has adopted a radically different approach to assessing strategic language learning.

Motivated Strategies for Learning Questionnaire (MSLQ)

The MSLQ was developed around a social cognitive view of motivation and self-regulated learning (see, for example, Pintrich, 2003) at the University of Michigan by Paul Pintrich and his colleagues (Pintrich & DeGroot, 1990; Pintrich, Smith, Garcia, & McKeachie, 1991). The development of the inventory took approximately three years, during which time items were tried and revised based on the results of factor analyses, reliability analyses, and correlations with achievement measures (Duncan & McKeachie, 2005).

The MSLQ has been translated into several languages and used by numerous researchers throughout the world. The instrument is aimed at college students and, as its name indicates, the items cover two broad areas, motivation and learning strategies; in this chapter only the latter part is discussed (for a description of the subscales and sample items, see Table 6.2). The learning strategies category includes 50 items, each using a 7-point scale anchored by 'not at all true of me' (1) and 'very true of me' (7), and is divided into two sections: (a) cognitive and metacognitive strategies, comprising subscales labeled rehearsal, elaboration, organization, critical thinking, and metacognitive self-regulation; (b) resource management strategies, comprising the subscales of time and study environment,

TABLE 6.2 Description of the learning strategies that are part of Pintrich *et al.*'s (1991) Motivated Strategies for Learning Questionnaire (MSLQ)

I. Cognitive and metacognitive strategies (31 items)	
Rehearsal	The cognitive activity of repeating facts or definitions. E.g., *"When studying for this class, I read my class notes and the course readings over and over."*
Elaboration	The process by which one can achieve sophisticated understanding of a topic by building connections to related topics. E.g., *"When I study for this class, I pull together information from different sources, such as lectures, readings, and discussions."*
Organization	The extent to which one's study behavior is organized. E.g., *"I make simple charts, diagrams, or tables to help me organize course material."*
Critical thinking	The ability to use the knowledge one has acquired in flexible and meaningful ways. E.g., *"I often find myself questioning things I hear or read in this course to decide if I find them convincing."*
Metacognitive self-regulation	The awareness and control one has over one's own cognition, involving planning, goal setting, and monitoring. E.g., *"When I study for this class, I set goals for myself in order to direct my activities in each study period."*
II. Resource management strategies (19 items)	
Time and study environment	How well one manages one's time and chooses good places to study. E.g., *"I usually study in a place where I can concentrate on my course work."*
Effort regulation	Persistence in the face of difficulty or boredom. E.g., *"Even when course materials are dull and uninteresting, I manage to keep working until I finish."*
Peer (group) learning	How well one can work effectively in groups. E.g., *"When studying for this course, I often set aside time to discuss the course material with a group of students from the class."*
Help seeking	How well one uses the resources of more competent people who are available. E.g., *"I ask the instructor to clarify concepts I don't understand well."*

effort regulation, peer learning, and help seeking. These subscales are cumulative in the sense that subscale scores are formed by computing the means of the individual item scores in a subscale.

With regard to the psychometric properties of the instrument, Pintrich *et al.* (1991) stated in the MSLQ manual that the goodness of fit indices of the test were not "stellar" but—as they argued—"reasonable" (pp. 78–80). In a more detailed

analysis of the reliability and predictive validity of the MSLQ, Pintrich, Smith, Garcia, and McKeachie (1993) also gave a cautious 'go-ahead' by concluding that the questionnaire had "relatively good" reliability and the theoretical framework and the scales that measure it "seem to be valid" (p. 811). In an article looking back over the construction and use of the MSLQ, Duncan and McKeachie (2005) conclude that "the MSLQ has proven to be a reliable and useful tool that can be adapted for a number of different purposes for researchers, instructors, and students" (p. 118).

Strategy Inventory for Language Learning (SILL)

The SILL (see Table 6.3) has been the most widely used instrument for assessing language learning strategy use. It was developed by Rebecca Oxford (1990) and is based on Oxford's initial strategy taxonomy described earlier. Thus, the questionnaire consists of six scales: (a) remembering more effectively (memory strategies), (b) using your mental processes (cognitive strategies), (c) compensating for missing knowledge (compensation strategies), (d) organizing and evaluating your learning (metacognitive strategies), (e) managing your emotions (affective strategies), and (f) learning with others (social strategies). Scale scores are obtained, similarly to the MSLQ, by computing the average of the item scores within a scale, and there is a very user-friendly worksheet attached to the battery for testtakers that enables them to calculate their own score profile. The instrument has been used in numerous studies around the world and has been translated into several languages.

The items on the SILL all involve 5-point rating scales ranging from 'never or almost never true of me' to 'always or almost always true of me.' At first sight, these scales are similar to the scales used in the MSLQ discussed above, but a closer look reveals two fundamental differences. First, although both scale types use the term 'true of me,' the MSLQ scales range from 'not at all' to 'very,'

TABLE 6.3 Sample items for Oxford's (1990) Strategy Inventory for Language Learning (SILL)

Memory strategies	"I use a combination of sounds and images to remember the new word."
Cognitive strategies	"I look for patterns in the new language."
Compensation strategies	"I make up new words if I do not know the right one."
Metacognitive strategies	"I arrange my schedule to study and practice the new language consistently, not just when there is the pressure of a test."
Affective strategies	"I try to relax whenever I feel anxious about using the new language."
Social strategies	"I work with other language learners to practice, review, or share information."

whereas the SILL scales range from 'never or almost never' to 'always or almost always.' Second, the items themselves are of a different nature. As Table 6.2 illustrates, the items in the MSLQ are general declarations or conditional relations focusing on general and prominent facets of the learning process (i.e., when doing this . . . I try to . . .). The SILL items, on the other hand, are more specific, each one more or less corresponding to a language learning strategy. These two changes result in a major difference in the psychometric character of the two inventories. The items in the MSLQ tap into some general trends and inclinations, and are assumed to be in a linear relationship with corresponding underlying learner traits. This is further enhanced by the rating scales asking about the extent of the correspondence between the item and the learner, answered by marking a point on a continuum between 'not at all' and 'very.' Thus, every attempt has been made to make the items cumulative, which is why scale scores can be computed by pooling all the scale items (i.e., calculating the mean scores of the items belonging to a scale). The SILL, on the other hand, focuses on specific strategic behaviors, and the scale descriptors indicate frequencies of strategy use (ranging between 'never' and 'always'). These items are, therefore, behavioral items, which means that we cannot assume a linear relationship between the individual item scores and the total scale scores; for example, one can be a generally good memory strategy user while scoring low on some of the items in the memory scale (e.g., "acting out a new word or using flashcards").

Thus, the scales in the SILL are not cumulative, and therefore computing mean scale scores is psychometrically not justifiable. A high score on the SILL is achieved by a learner using as many different strategies as possible and therefore it is largely the quantity that matters. This is in contradiction with strategy theory, which has indicated clearly that in strategy use it is not necessarily the quantity but the *quality* of the employed strategies that is important (cf. the discussion above about 'appropriateness' as a critical feature of learning strategies). As an extreme, one can go a long way by using only one strategy that perfectly suits the particular learner's personality and learning style; and even if someone uses several strategies, it does not necessarily mean that the person is an able strategy user because, as Ehrman *et al.* (2003) also found, "less able learners often use strategies in a random, unconnected, and uncontrolled manner" (p. 315). It is interesting to note that Oxford and her colleagues' reappraisal of this issue is in accordance with this argument:

> Low reported strategy use is not always a sign of ineffective learning. Also, reportedly high-frequency use of strategies does not guarantee that the learning is successful. In a casual class observation, one might see some learners working eagerly and using many strategies, but . . . [they] do not employ those strategies effectively. Studies relying solely on frequency data may miss this point. Because frequency results alone do not explain everything about strategy use, it is necessary to include other indices of learners'

> behaviors that reflect their decision making. "The more, the better" is not always the case in strategy use.
>
> (Yamamori *et al.,* 2003, p. 384)

All this means that although the SILL is a useful instrument for raising student awareness of L2 learning strategies and for initiating class discussions, its use for research purposes is questionable. The SILL tried to achieve a compromise by combining practical and psychometric considerations; the main question facing post-SILL researchers has been to decide in which direction they wanted to move in the future. For example, Cohen and Chi (2002) unequivocally decided on the former, practical, route as they explicitly stated in the introduction to their instrument, the Language Strategy Use Inventory (LSUI): "The purpose of this inventory is to find out more about yourself as a language learner and to help you discover strategies that can help you master a new language" (p. 16). Since we have already described a classroom-oriented instrument of this period, we will not go into detail regarding the LSUI; instead we will simply note that the instrument was significant in identifying a highly practical focus for strategy assessment instruments.

A later criticism of the SILL came as a consequence of its success in being widely applied in diverse educational settings. As discussed earlier, considerable variation has been found in the use of strategies across cultural contexts, and this led Woodrow (2005, p. 96) to conclude that "with so many contextual influences on strategy choice, it seems that a single instrument could not possibly be applicable and useful to all possible groups of language learners." Subsequently, Oxford (2011, p. 162) acknowledged this point and encouraged researchers to "make cultural adaptations and re-assess reliability and validity in each study and each sociocultural context."

Self-Regulating Capacity in Vocabulary Learning Scale (SRCvoc)

Tseng, Dörnyei, and Schmitt's (2006) SRCvoc responded to the practical vs. psychometric use dilemma by turning in the opposite direction to the LSUI. The SRCvoc took the psychometric route. According to Tseng *et al.,* the two main objectives guiding the test construction process were as follows:

1. To devise items that tap into general learner traits rather than survey specific behavioral habits. The items were similar to the MSLQ items in that they involved general declarations or conditional relations rather than descriptions of specific strategic behaviors. Accordingly, the SRCvoc does not measure strategy use but rather the learner's underlying self-regulatory capacity that will result in strategy use.
2. To base the structure of the instrument on a theoretical construct. Existing learning strategy taxonomies have been beset by theoretical problems, so it was decided to draw on Dörnyei's (2001) system of self-regulatory strategies,

> which in turn was based on Kuhl's (1987) and Corno and Kanfer's (1993) taxonomies of action control strategies. To further increase the validity of the construct, it was applied to one particular learning domain only, vocabulary learning—it is believed, however, that this situated construct can serve as a model for the assessment of other aspects of strategic learning as well, such as the other main language areas covered by the LSUI.

Thus, the SRCvoc focuses on five broad aspects of self-regulation in vocabulary learning (for the whole questionnaire, see Table 6.4): *commitment control, metacognitive control, satiation control, emotion control,* and *environment control*. Tseng *et al.* (2006) reported empirical data indicating that the instrument has good psychometric properties and that the five subscales load onto one higher-order factor termed *self-regulating capacity in vocabulary learning* (hence the name of the instrument).

At the time of the publication of the original version of this book, the SRCvoc was still a very new instrument. In the years since, the instrument appears to have attracted the most interest in Asian contexts, with, for example, an adaption by Rose (2010) and Mizumoto and Takeuchi (2012) investigating self-directed learning among tertiary-level learners in Japan; Huang (2010) using the SRCvoc instrument in Taiwan; and Hamedani (2013) in Iran.

Recent Developments in Strategy Assessment

It is very tempting to simply gloss over this section with a brief sentence pointing out that very little has happened in recent years. However, this lack of activity is in itself worthy of reflection. At the time of writing, Tseng *et al.*'s (2006) SRCvoc appears to be the last occasion that anybody has undertaken the design and construction of a major learning strategy assessment instrument. This tendency is suggestive not only of how approaches to research into strategies have changed, but also of how approaches to the wider investigation of the psychology of the language learner are shifting. One way in which the field has recently reinvented itself is through the adoption of a more qualitative approach to data collection. Such an approach was already called for by Woodrow (2005), who argued:

> With so many contextual influences on strategy choice, it seems that a single instrument could not possibly be applicable and useful to all possible groups of language learners. What is required is an analysis of the effective strategy use in given contexts. In the area of LLS [language learning strategies] research, there is a need for richer rather than more generalizable descriptions of LLS use. This can be achieved by using more qualitative methods such as case studies and, particularly, action research.
>
> (p. 96)

TABLE 6.4 The 20 items of Tseng *et al.*'s (2006) Self-Regulating Capacity in Vocabulary Learning scale (SRCvoc)

Commitment control

- When learning vocabulary, I have my special techniques to achieve my learning goals.
- When learning vocabulary, I believe I can achieve my goals more quickly than expected.
- When learning vocabulary, I persist until I reach the goals that I make for myself.
- I believe I can overcome all the difficulties related to achieving my vocabulary learning goals.

Metacognitive control

- When learning vocabulary, I have my special techniques to keep my concentration focused.
- When learning vocabulary, I think my methods of controlling my concentration are effective.
- When it comes to learning vocabulary, I have my special techniques to prevent procrastination.
- When it comes to learning vocabulary, I think my methods of controlling procrastination are effective.

Satiation control

- Once the novelty of learning vocabulary is gone, I easily become impatient with it. [Reversed score]
- During the process of learning vocabulary, I feel satisfied with the ways I eliminate boredom.
- During the process of learning vocabulary, I am confident that I can overcome any sense of boredom.
- When feeling bored with learning vocabulary, I know how to regulate my mood in order to invigorate the learning process.

Emotion control

- When I feel stressed about vocabulary learning, I know how to reduce this stress.
- I feel satisfied with the methods I use to reduce the stress of vocabulary learning.
- When I feel stressed about vocabulary learning, I simply want to give up. [Reversed score]
- When I feel stressed about my vocabulary learning, I cope with this problem immediately.

Environment control

- When I am studying vocabulary and the learning environment becomes unsuitable, I try to sort out the problem.
- When learning vocabulary, I know how to arrange the environment to make learning more efficient.
- When learning vocabulary, I am aware that the learning environment matters.
- When I study vocabulary, I look for a good learning environment.

Clear evidence of this qualitative shift has been provided by a recent special issue of the journal *System* (Vol 43), focusing on 21st-century understandings of strategies. The range of research methods and the various innovative approaches—such as narrative studies (Griffiths *et al.,* 2014), think-aloud protocols (Gu, 2014), and diary studies (Ma & Oxford, 2014)—encountered in this collection of papers offers a remarkable contrast to studies found in earlier research into language learning strategies. We can expect this trend to continue in the coming years, with an accompanying focus on contextually situated investigations of strategy use and a drift away from large-scale quantitative assessment instruments.

Learning Strategies and Self-Regulation in Educational Psychology

We have seen in the previous sections that although the concept of learning strategies has been influential in raising learner awareness about learning effectiveness within the domain of language teaching methodology, the unresolved theoretical problems surrounding the concept and its measurement have hampered its use for research purposes. How did the field of educational psychology deal with this matter? As Weinstein *et al.* (2000) described, the origins of learning strategy research go back to the late 1960s when information-processing theories were applied in the area of memory strategies to be used in educational settings. Various mnemonic strategies were developed to improve students' paired-associate learning and, as a result, the conception of the 'learner' shifted from a passive receptacle for knowledge to an active, self-determined individual who processes information in complex ways. This shift led to the broader conceptualization of self-directed *cognitive strategies,* and subsequently, learning strategies became one of the 'hottest' issues in educational psychology in the 1980s for the very reasons that also inspired L2 researchers to embrace the concept: Learning strategies offered a unique insight into the mechanisms of the learning process in general, and they also represented a significant mutable factor in promoting academic achievement for students.

Following the identification of learning strategies, several attempts were made in the 1980s to theorize the concept, but this turned out to be a challenging task. Recall, for example, that according to Weinstein *et al.*'s (2000, p. 727) definition, learning strategies include "any thoughts, behaviors, beliefs, or emotions that facilitate the acquisition, understanding, or later transfer of new knowledge and skills." How can something be either a thought or a behavior or an emotion? These issues have been traditionally seen as distinct aspects of human functioning in psychology and it is difficult to accept the existence of an entity that simply cuts across them. And how do knowledge systems, emotional states/processes, cognitive operations, and motor skills interplay in producing action? In fact, a more recent definition by Weinstein, Acee, and Jung (2011) amplifies

this conceptual uncertainty further by broadening the scope of learning strategies even more: "Learning strategies involve the use of cognition, metacognition, motivation, affect, and behavior to increase the probability of succeeding in learning, creating meaningful and retrievable memories, and performing higher-order cognitive tasks, such as problem-solving" (p. 45).

Although such broad definitions are expressive in conveying self-regulatory intent, they fail to specify the exact nature of 'learning strategies' in a scientifically rigorous sense, a concern we have already raised when considering strategy definitions in SLA. In the absence of more concrete specifications, it is nigh impossible to identify in a systematic manner those features of learning that would qualify for "learning strategy use." Can, for example, any form of motivated learning be seen as strategic by definition? The broad remit of learning strategies would suggest so, yet by accepting this we would simply equate motivated learning with strategic learning. Weinstein and her colleagues (2011) were clearly aware of this definitional issue because they submitted that "learning strategies are a bit difficult to define since the nomenclatures used in cognitive educational psychology as well as in strategic and self-regulated learning have not yet been standardized across and within these fields of study" (p. 45). Looking at the educational psychological literature, however, we may conclude that over the past 15 years the necessary standardization *has* taken place, but a casualty of this process was the notion of "learning strategy" itself: The amount of educational psychological research that targeted learning strategies had dropped dramatically by the turn of the century as researchers increasingly turned to a related concept, *self-regulation*.

As an illustration of just how far the concept of strategies has shifted from the center of the educational psychology research agenda, the index to Vohs and Baumeister's (2011) second edition of the *Handbook of Self-Regulation* has no entry for 'learning strategies' and only one entry for 'strategies'—referring to a single page—across the almost 600 pages and 30 studies that make up the volume, and even this occurrence does not involve 'learning strategy' but rather 'goal pursuit strategy'; a subsequent search of the phrase "learning strategy" in the digital version of the text yielded no results. Interestingly, the shifting perspective from learning strategies to self-regulation is reflected even in Weinstein *et al.*'s (2011) paper cited above, because the authors affirm that "self-regulation is both the glue and the engine that helps students manage their strategic learning on both a global and real-time levels" (p. 47).

Self-Regulatory Capacity

Macaro (2001) describes a widely held view about learning effectiveness when he states, "One thing seems to be increasingly clear and that is that, across learning contexts, those learners who are proactive in their pursuit of language learning

appear to learn best" (p. 264). In other words, there exists a consequential ID element in the use of learning strategies—some kind of strategic potential—that impacts upon the success of L2 attainment. It was argued earlier that the usefulness of specific learning strategies is not absolute but depends on how they suit the individual agent who employs them: A certain learning technique/procedure can be 'strategic' for one learner and 'non-strategic' for another. Therefore, the essence of the individual difference in strategic learning does not reside at the level of the actual strategies applied but rather within the learner's internal proactiveness in choosing to use and creatively adapt learning techniques to foster the language acquisition process. That is, the crucial thing about successful strategy users is not necessarily the exact nature of the learning strategies, tactics, or techniques they apply, but rather the fact that they *do* apply them. This notion has been confirmed in a review of the psychology of self-regulation by Forgas, Baumeister, and Tice (2009), who considered the *capacity for change* as one of the key ingredients of self-regulation.

The concept of learner proactiveness has received theoretical elaboration in a study by Winne and Perry (2000), who argued that self-regulatory learning—a term they used to refer to learning characterized by effective strategy employment—displays properties of an *aptitude,* which comprises two main dimensions, *metacognitive knowledge* and *metacognitive monitoring.* Each dimension is broken down to further components: Metacognitive knowledge is associated with the knowledge of cognitive tactics (defined as fine-grained cognitive operations), procedural knowledge to enact these, conditional knowledge about occasions to enact these, as well as knowledge of task parameters and self-parameters. Metacognitive monitoring concerns processes such as monitoring task difficulty and matching achievements to standards, as well as the confidence about one's accuracy of monitoring. This is a complex understanding of self-regulatory aptitude or capacity, and it has clearly impacted Oxford's Strategic Self-Regulation Model discussed earlier. In educational psychology, centering self-regulation around such a capacity has been at the heart of the shift from focusing on the manifestations of strategic learning behavior—that is, learning strategies—toward concentrating on self-regulation as a process that originates in the learner's relevant aptitude and intent.

Regardless of the elaborate characterizations, one still might feel that the change has been hardly more than a mere face-lift that did not resolve the underlying issues; as Rose (2012), for example argued, this reconceptualization might be "a matter of throwing the baby out with the bathwater, in that it throws out a problematic taxonomy and replaces it with another one, which is also problematic—including the same 'definitional fuzziness' for which previous taxonomies have been criticized" (p. 92). This is a valid point and we may also add another danger, namely that ongoing research on self-regulation might involve doing by and large the same kind of investigations as before by simply replacing the term 'learning strategy use' with a new metaphor. Although for some scholars this may have indeed been the case, and they merely jumped from one bandwagon onto another

at the beginning of the 1990s; there are at least two aspects of this orientational shift that we believe had real transformational potential:

(a) The self-regulation perspective offered a far broader perspective than the previous focus on learning strategies, allowing scholars to make links with aspects of self-regulation that are not confined to the area of learning but concern other types of cognitive and behavioral processes (e.g., in clinical, health, and organizational psychology).
(b) By shifting the focus from the *product* (strategies) to the *process* (self-regulation), researchers have created more leeway for themselves: Although the outcome of the process, the 'self-regulatory mechanisms,' are not unlike 'learning strategies' and carry the same problems, these mechanisms are not the only important elements within the self-regulatory process and therefore insufficient understanding of these does not necessarily prevent researchers from making headway in understanding other aspects of self-regulation.

The Rise of Self-Regulation

As a result of the paradigm shift described above, by the beginning of the 1990s the study of self-regulation had come of age, causing a "virtual explosion of work in this area" (Boekaerts, Pintrich, & Zeidner, 2000a, p. 750), and becoming a "natural and organic part of the landscape of psychology and education" (p. 749). Just to give some indication of the scale of this 'explosion,' the 2000 publication of the *Handbook of Self-Regulation* (Zeidner, Boekaerts, & Pintrich, 2000) was followed by a separate, but similarly titled, handbook in 2004 edited by Vohs and Baumeister, and the second edition to this 2004 handbook was published in 2011, with large chunks in the text being barely recognizable from the first edition. This latest version fulfills the promise of broadening the scope of the paradigm beyond learning by bringing in relevant matter from a variety of psychological domains including research on emotions, aging, personal health, temptation, and addiction among others. Accordingly, in the second edition of the *Handbook of Self-Regulation,* Vohs and Baumeister (2011) describe how the concept of self-regulation "emerged from obscurity and uncertain beginnings to become one of the most centrally important concepts in all of psychology" (p. xi).

Let us now examine the connection between 'self-regulation' and learning in a bit more detail. The origins of the concept of *self-regulation of academic learning* can be found in a 1990 special issue of the journal *Educational Psychologist* edited by Barry Zimmerman, and it is presented there as a multidimensional construct, including cognitive, metacognitive, motivational, behavioral, and environmental processes that learners can apply to enhance academic achievement. Thus, self-regulation refers to the degree to which individuals are active participants in their own learning and as such, it is a more dynamic concept than learning strategy as it highlights the learners' own "strategic efforts to manage their own

achievement through specific beliefs and processes" (Zimmerman & Risemberg, 1997, p. 105). Nevertheless, we face a similarly blurry situation to that of learning strategies, namely that a particular concept overarches virtually all the main aspects of psychology. However, because in this case we are working with a process-oriented construct, it may be sufficient to identify the core dynamic energizer of the process, which is more manageable than defining and categorizing the outcome. This shift in emphasis was explicitly expressed by Zimmerman (2001): "Neither a mental ability nor an academic performance skill, self-regulation refers instead to the self-directive *process* through which learners transform their mental abilities into task-related academic skills" (p. 1).

As would be expected from such a broad, multidimensional construct, self-regulated learning has been conceptualized from several perspectives. Zimmerman and Schunk (2001) provide a useful outline of some of the principal theoretical approaches, which we summarize in Table 6.5 (for a recent discussion from an SLA perspective, see Ranalli, 2012). This theoretical scope and definitional diversity is summed up by Boekaerts *et al.* (2000b) in the introduction to their *Handbook of Self-Regulation* as follows:

> It is clear from the diversity of the chapters in this handbook that self-regulation is a very difficult construct to define theoretically as well as

TABLE 6.5 Summary of principal theories of self-regulated learning, adapted from Zimmerman and Schunk (2001)

Theories of self-regulated learning	*Summary*
Operant	Operant theories explore the ways in which delayed gratification can regulate learning.
Phenomenological	These theories regard self-regulated learning in terms of self-identities and how they affect the shaping of goals and approaches to learning.
Information processing	Information-processing theories describe self-regulation in terms of feedback loops and self-monitoring.
Social cognitive	These theories consider self-regulation in connection to goal setting, expectancies, and self-efficacy.
Volitional	Volitional theories see self-regulation in terms persistence and maintaining attention in the face of distractions.
Vygotskian	Vygotskian theories view self-regulation through the lens of sociocultural theory.
Constructivist	These theories construe self-regulation as a function of the various strategies and theories learners construct in order to tackle learning challenges.

> to operationalize empirically. Nevertheless, the several years we worked together on the handbook have strengthened our conviction that self-regulation is an important topic that is highly relevant to the science of the mind and human behavior. At the same time, we are convinced that significant future progress is going to depend on our ability to clearly define the construct theoretically and to empirically distinguish it from other similar constructs. In this handbook many different definitions of self-regulation have been provided and a variety of explanations have been advanced to account for the observed effects of self-regulation on various outcome measures.
>
> (p. 4)

Indeed, self-regulation has often been used synonymously with concepts such as self-management, self-control, action control, volition, self-change, self-directed behavior, coping behavior, and even metacognition and problem-solving. Yet, although there are many fuzzy boundaries and distinctions, as well as numerous unresolved issues ranging from the conceptual to the methodological, scholars appear to be keen to invest energy in researching the topic because the stakes have been raised considerably since the time when the target of research was learning strategies only.

Conclusion

In any applied discipline there is an inbuilt tension between the needs of researchers, who are looking to develop robust, precise theory, and the demands of practitioners, who would like to keep that theory sufficiently imprecise to meet the requirements of actual practice in varied environments. At times that tension can be a productive one; at other times, the competing and conflicting aims can be inhibitive. The controversy surrounding learning strategies and self-regulation has exposed both sides of this tension. On the one hand, the theoretical challenge has identified areas that needed future research and suggested new terminology, thereby playing a constructive role by intention. On the other hand, the resulting conflict dramatically reduced any ongoing engagement with learning strategies, and the momentum could only be restored by disregarding the conceptual problems. Ranalli (2012) offers a useful insight into the motivation behind this move:

> Despite legitimate concerns about definition and measurement, L2 researchers are unlikely to abandon interest in specific learning behaviors any time soon, because they are the raw material of learner agency and a key to understanding achievement, or the lack thereof.
>
> (p. 373)

One factor that further exacerbated the ensuing tension between research-oriented and practical applications was the perceived need in the 2005 version of

this chapter to work within the classic ID paradigm, which categorized strategies as a stable learner characteristic. The solution offered by the chapter—and reiterated in the previous sections—was the recommendation that the stable element in strategic learning should be captured by focusing on the volitional roots of learning strategy use within the learner. This solution followed well-rehearsed arguments in educational psychology, and we still believe that it makes sense to start the examination of strategic learning with its antecedents in the human mind. However, by highlighting the significance of *adaptations* in general (as in McAdams's New Big Five), the current era reestablishes the importance of also studying the actual *manifestations* of strategic intent, that is, the learning strategies proper. Ranalli (2012) makes this point forcefully:

> Dörnyei and colleagues have proposed a volitional, trait-based model, which they position as a necessary antecedent to the creative search for and use of individualized learning mechanisms, and which they suggest could allow us to circumvent the problematic study of such mechanisms themselves. My counter argument is that such a model will be insufficient for explaining phenomena of primary interest to L2 strategy researchers, in contrast to models that view self-regulation as an adaptive process and allow learners' specific strategic choices, as well as other important individual-difference factors, to be contextualized and related to each other.
>
> (pp. 372–373)

The conflict described above bears a resemblance to the classic variance between Noam Chomsky's and Dell Hymes's views about how much importance to attach to the specific language manifestations of the underlying linguistic competence in actual communication. Using this analogy, what the strategy domain needs is a superordinate concept such as 'communicative competence,' which successfully accommodated both the linguistic and the sociolinguistic competencies within a unified framework. It is our view that the changing ID climate, coupled by recent advances in learning strategy research (e.g., Oxford, 2011; Ranalli, 2012; Rose, 2012), may have created a real potential for pushing beyond the 'surface manifestation' stage and linking up learning strategies meaningfully with the broader self-regulation concept. Left to perish in the modular view of classic IDs, the concept of self-regulation represents little more than a shift in terminology; set free to flourish in an approach looking to explore interconnections, it can play a vital role in helping us develop an integrated framework for understanding the psychology of the second language learner.

In conclusion, the past 10 years have witnessed a great deal of activity in strategy research as scholars have sought to come up with creative ways of countering the challenges that were summarized in the 2005 version of this chapter. Although we do not think that a fully satisfactory solution has been achieved yet, by building on the solid foundation that the successful adaptation of learning

strategies can provide, it may be possible to trace back the link from strategy to agent, thereby illuminating self-regulatory capacity within the process. In this way, neither self-regulation nor learning strategy has to become a casualty of the strategies controversy, caught in the crossfire of the various arguments concerning strategic learning. Within a framework of situated learner characteristics, self-regulation might be perceived as a dynamic construct that connects strategic capacity, intent, and learning behavior within the self-regulatory learner.

7

OTHER LEARNER CHARACTERISTICS

At the core of our revisitation of *The Psychology of the Language Learner* is the question of progress: To what extent can the field maintain continuity with past theory, and at what point does a break become necessary (if at all)? So far we have looked at the four canonical language learner IDs and considered the various pressures to change from within the established ID framework. In this chapter, we turn our attention outside that canonical framework and examine five concepts that were assigned to the catch-all category of 'other learner characteristics' in the 2005 version of our book. These were the 'outsiders,' the awkward pieces that did not quite fit the classic modular framework upon which that book was based. Nonetheless, all five constructs have been regarded as key features of learner psychology, and in some ways these 'other characteristics' may turn out to be particularly intriguing and instructive in the context of our revisitation.

Following the overall practice of this volume, we maintain the original structure of the 2005 version in this chapter by centering the discussion around the same five learner characteristics: *creativity, anxiety, willingness to communicate, self-esteem,* and *learner beliefs.* As we shall see, what emerges from these overviews are five very different story lines; when looked at in isolation, each story provides an up-to-date account of how thinking about the particular concept has developed in recent years; when considered together, the combined narrative tells us a great deal about some of the ways in which the field as a whole is developing.

Creativity

The first of the 'other characteristics' we discuss is *creativity.* It refers to one of those grand psychological constructs that both professionals and laypeople seem to understand but which no one can unambiguously define. Although creativity

overlaps traditional ID categories, it has long been associated with intelligence in particular, as one of its major constituents; for example, we saw in Chapter 3 that Sternberg's (2002) theory of successful intelligence posits creative intelligence as one of three core factors. However, creativity extends beyond the intellectual domain; as Sternberg explains, "Sources of individual and developmental differences in creative performance include not only process aspects, but aspects of knowledge, thinking styles, personality, motivation, and the environmental context in which the individual operates" (p. 29). Indeed, many personality theories include a prominent creativity component (for a review, see Kaufman & Sternberg, 2006).

So what exactly is creativity? In a review of the literature, Simonton (2008) suggests two key prerequisites: *originality* and *adaptiveness*. Feldhausen and Westby (2003) define the originality dimension as follows:

> Creativity is the production of ideas, problem solutions, plans, works of art, musical compositions, sculptures, dance routines, poems, novels, essays, designs, theories, or devices that at the lowest level are new and of value to the creator and at the highest level are recognized, embraced, honored, or valued by all or large segments of society. Between the lowest and highest levels is a continuum of more or less recognized and useful creative productions, but always the production is new, novel, or unique relative to some definable context.
>
> (p. 95)

Adaptiveness is concerned with the capacity to "provide the solution to some significant problem or achieve some important goal" (Simonton, 2008, p. 680), and it refers to the capacity to adjust behavior to a particular situation. Adaptiveness is also what enables us to distinguish between, say, an avant-garde piano composition—a creative endeavor—and the noise made by an infant aimlessly hitting the keys of a piano.

Creativity and Learning

Chamorro-Premuzic (2011) explains that within the increasingly complex contemporary world, characterized by rapid technological advances, adaptation to the constantly changing environments is crucial, and creativity has been found to contribute to the required flexibility in this respect. It is therefore a prerequisite to lifelong learning, which, combined with the fact that the concept is also related to the ability to find original solutions to problems and to come up with new ways to achieve goals, would appear to make creativity a key concern of educational psychology. However, as Plucker, Beghetto, and Dow (2004) argued in a paper aptly entitled "Why isn't creativity more important to educational psychologists?," the study of creativity in education has not been nearly as

productive as one would expect. One reason for this state of affairs is a lack of agreement as to the appropriate focus of the study of creativity. Simonton (2008) identifies three core approaches:

(a) The study of creativity as a *mental process*—the approach favored by cognitive psychologists interested in problem-solving skills, primarily using laboratory experiments.
(b) Creativity as *product*—looking at the qualities of products that meet the criteria of originality and adaptiveness, such as musical compositions, writing, or inventions.
(c) Creativity and the *person*—usually the interest of personality psychologists concerned with creativity as a trait that differs across individuals.

Of course, there is overlap between these areas of inquiry, as we might assume that creative products result from the creative mental processes of a creative person, but researchers tend to have their own primary interest in one of these three areas. The lack of a singular research paradigm and the crossing of traditional disciplinary boundaries have long been seen as inhibiting the development of the study of creativity (Sternberg, Kaufman, & Pretz, 2002): When a topic straddles several subareas, a 'you-first' mindset can develop wherein specialists in each area see that topic as belonging more to some other field. Indeed, without the foundations of any definitional consensus or any clear-cut link to student performance, educational psychologists have been reluctant to take the initiative for explorations of the role of creativity in learning.

Measuring Creativity

Several tests have been developed to operationalize creativity in specific measurable terms. Reflecting the variability in the understanding of the subject mentioned above, some of these instruments focus on the cognitive processes associated with creative thinking (e.g., the Remote Associations Test), others look at the person behind the creativity (e.g., the Creative Persons Scale; Gough, 1979), and some examine the products of creativity (e.g., the Consensual Assessment Technique; Baer, Kaufman, & Gentile, 2004). However, the best-known and most widely used measure of creativity have been the Torrance Tests of Creative Thinking (see Plucker & Makel, 2010), which involve a series of tasks that can be scored for *originality* of the responses (how unique and unusual they are), *flexibility* (how varied they are), and *fluency* (how many unusual responses there are). Runco (2003) emphasized that none of the three indices are all-important in themselves but should be used in concert to describe the individual's ideational profile: "Some examinees are very fluent with ideas but relatively unoriginal or inflexible. Others are high in originality, flexibility, or both, but only moderately fluent" (p. 34).

As Simonton (2012) points out, the assessment of creativity has tended to be very domain specific and the field has lacked a measurement that cuts across all domains in the same way IQ is said to work for intelligence. One promising move in this direction is the Creative Achievement Questionnaire (CAQ; Carson, Peterson, & Higgins, 2005), which assesses creativity in a number of domains as diverse as scientific inquiry, creative writing, humor, music, and culinary arts. Although the instrument is essentially product-oriented, scores on this questionnaire positively correlate both with various cognitive and person measures of creativity. Thus, the CAQ represents an instrument based on the belief that it is possible to identify and isolate some core aspect of creativity. However, Sternberg (2012) describes a very different approach to the study of creativity, an investment-based theory, which suggests that no such core aspect of creativity exists:

> Creativity requires a confluence of six distinct, but interrelated, resources: intellectual abilities, knowledge, styles of thinking, personality, motivation, and environment. Although levels of these resources are sources of individual differences, often the decision to use the resources is the more important source of individual differences. Ultimately, creativity is not about one thing, but about a system of things.
>
> (p. 5)

Creativity in SLA

The 2005 discussion of creativity was influenced by the changing nature of the provision of much language education occurring at the time. The shift toward more student-centered, interaction-based, and open-ended language teaching methodologies suggested a greater role for creative learner thinking and behavior. At a similar time, Runco (2004) was reporting on studies that found significant differences between classrooms within schools in terms of the level of creative thinking characterizing the students, highlighting the link between the immediate classroom environment and the emerging divergent thinking. These findings also indicated that student creativity is inhibited by certain common classroom conditions and tasks (e.g., test-like activities), whereas activities that are presented in a "permissive and gamelike fashion" (p. 671) appear to release creativity. The overall tone of the 2005 discussion of creativity was positive, and a heightened interest in individual differences in learner creativity was anticipated based upon the requirements for creative thinking implicit in communicative L2 learning activities.

In spite of the positive appraisal of the concept, however, the original chapter was only able to report on two empirical studies of creativity in L2 learning (Ottó, 1998) and (Albert & Kormos, 2004). The assumption underpinning the 2005 discussion was that these studies and their findings of a significant

positive relationship between creativity and L2 learner performance would mark the beginning of a productive line of future research. Let us review those two pioneering investigations.

Ottó's (1998) study was concerned with how students' creative abilities affected learning outcomes; he adapted five subtasks from the Torrance Tests of Creative Thinking (discussed earlier):

(a) *Consequences*—presenting students with improbable situations and asking them to provide as many consequences as they could think of.
(b) *Unusual uses*—asking students to list possible unusual uses for common objects such as a book or a pencil.
(c) *Common problems*—asking students to list a number of problems that might occur in one of the following two everyday situations: going to school in the morning or making a sandwich.
(d) *Categories*—asking students to list as many things as they could think of that belonged to a given category such as 'things that are red or more often red than not.'
(e) *Associations*—presenting participants with two words, for example, 'mirror' and 'rain,' and asking them to supply a third one that could be semantically associated with these.

Students were encouraged to provide as many responses as they could think of for each task in their L1. The scores of the five subtests were correlated separately, and also as a composite, with the students' English grades. The scores of the five subtests were correlated separately, and, as a composite, with the students' English grades. All the intercorrelations between the subtests were significant, but the correlation between total test score and English grade was the highest (r = .63), explaining roughly 40% of the variance in the students' grades.

Albert and Kormos's (2004) study followed a task-based approach. Their participants carried out an oral narrative task and then filled in a standardized creativity test developed for use in Hungary, examining how three standard aspects of creativity—*originality, flexibility,* and *fluency*—influenced a variety of measures of task performance. The findings of Albert and Kormos (2004) showed that two components of creativity, *originality* and *creative fluency,* were associated with some measures of task performance, but no significant correlations were found between task-related variables and *flexibility* or the *total creativity score.* Although even the significant correlations were moderate at best (with the highest being 0.39), explaining approximately 10%–16% of the variance in linguistic measures, and only six of the several correlations computed reached statistical significance, Albert and Kormos emphasized that except for complexity and accuracy, all the characteristics of task performance investigated in their study were influenced by certain components of creativity. Thus, on the basis of the results, the authors argued that the ability to produce original, novel ideas in

general does moderately affect how students perform on a particular language learning task.

Summary

The 2005 discussion of creativity reflected an anticipation in the field of more research and theoretical clarification of the concept in terms of which aspects of creativity affect which aspects of L2 learning, and it optimistically concluded that "creativity is certainly an ID variable to be aware of in future L2 studies." However, this growing awareness has not been realized; in a recent review, Albert (2012) concluded that "creativity has been almost entirely neglected in the SLA field" (p. 145). What explains this neglect? Albert mainly attributes the lack of scholarly interest to definitional and measurement difficulties, and as we have seen above, it is certainly true that creativity is a concept that has eluded precise definition and which has been difficult to operationalize for research purposes. Nevertheless, we have also observed in other parts of this book—most notably in the discussion of strategies in Chapter 6—that definitionally imprecise concepts can still attract great interest. It seems that the study of creativity in SLA has been a victim of the shift in thinking about the psychology of language learning, a shift that moved away from the classic, modular ID paradigm. The study of creativity—conceptualized as a distinct ID factor—emerged precisely at a time when researchers were looking for a new and different understanding of learner characteristics, and the peculiar concept of creativity did not seem to fit into any of the emerging new patterns and paradigms. This is unfortunate because the underlying thesis of the 2005 discussion of creativity—namely that changes in language teaching methodology have increased the relevance of creativity and thus made it a rewarding area for research—remains valid. The main conclusion in 2005 was that more research was required focusing on how creativity interacted with other ID variables. Reframing this point in the light of McAdams's New Big Five approach, what is needed is paying greater attention to the interface between an individual's inherent creativity as a predisposition and the external environment, as well as to the specific creative adaptations people make in response to this interaction.

Anxiety

In stark contrast to creativity, *anxiety* is a concept that has consistently attracted attention in L2 studies, and continues to do so. It was relegated to the 'other learner characteristics' chapter in 2005 primarily because of its lack of distinct disciplinary identity, as it cuts across traditional ID boundaries: We have already encountered the concept in Chapter 2 as a key constituent of the Neuroticism/Emotional Stability dimension of the Big Five personality model, and we came across it again in Chapter 4, this time as a component of Gardner's

socio-educational model. Besides these perceptions of facets of personality and motivation, the concept has also been seen as a primary emotion (see Dewaele, 2010); indeed most scholars would still agree with Gray's (1982) statement made more than three decades ago: "Whatever else anxiety is, it is undoubtedly an emotion; sometimes, reading the work of psychologists, one is tempted to think that it is the only emotion" (p. 5).

There is no doubt that anxiety affects L2 performance—most of us will have had the experience that in an anxiety-provoking climate our L2 performance deteriorates: We forget things that we otherwise know and also make silly mistakes. Indeed, few experts would argue with Arnold and Brown's (1999, p. 8) conclusion that "anxiety is quite possibly the affective factor that most pervasively obstructs the learning process"; MacIntyre and Gregersen (2012a) concur: "One of the most consistent findings in the SLA literature is that higher levels of language anxiety are associated with lower levels of language achievement" (p. 103). The negative effects of anxiety can appear at various stages of language use, from input through language processing to output (MacIntyre & Gardner, 1991a, 1991b; MacIntyre & Gregersen, 2012b; Onwuegbuzie, Bailey, & Daley, 2000), as the brain allocates finite cognitive resources to coping with the anxiety instead of attending to immediate communicative needs. Anxiety can manifest itself in many forms of fear—a fear of speaking; a fear of misunderstanding others, and a fear of being misunderstood; a fear of being laughed at—and it can also induce other negative feelings, such as worry, embarrassment, and self-consciousness. All of the above can lead to maladaptive learning behavior (Gregersen, 2003), such as procrastination or a tendency toward perfectionism. In the longer term, anxiety can lead to individuals giving up altogether and dropping out of their language courses (Dewaele & Thirtle, 2009).

With such potentially damaging consequences, it is little wonder that anxiety has been a priority for researchers and practitioners alike. Accordingly, anxiety has been in the limelight of L2 research for several decades (see e.g., Dewaele, 2007; Horwitz, 2001; Horwitz, Horwitz, & Cope, 1986; Lu & Liu, 2011; MacIntyre, 1999; MacIntyre & Gardner, 1991a; Saito, Horwitz, & Garza, 1999; Spielmann & Radnofsky, 2001; for a recent review, see Dewaele & MacIntyre, 2014) and, in fact, it is possible to regard the concept as a kind of bellwether of various theoretical and methodological changes occurring in the field of L2 individual differences.

Approaches to research are always dependent on how a particular construct is operationalized in measurement terms, and although there are several well-established research instruments available in the field that have been used extensively in research studies (see e.g., Cheng, 2002; Elkhafaifi, 2005; Horwitz *et al.,* 1986; MacIntyre & Gardner, 1991b, 1994; Young, 1999), the conceptualization of anxiety has been ambiguous, with an overall uncertainty about the basic category: Is it a motivational component? A personality trait? Or an emotion? Furthermore, anxiety is usually not seen as a unitary factor but a complex made up

of constituents that have different characteristics. In this respect, two important anxiety distinctions are usually mentioned:

- *Beneficial/facilitating* vs. *inhibitory/debilitating anxiety:* It has been observed that anxiety does not necessarily inhibit performance but in some cases can actually promote it. 'Worry,' which is considered the cognitive component of anxiety has been shown to have a negative impact on performance, whereas the affective component, emotionality, does not necessarily have detrimental effects.
- *Trait* vs. *state anxiety:* Trait anxiety refers to a stable predisposition to become anxious in a cross-section of situations; state anxiety is the transient, moment-to-moment experience of anxiety as an emotional reaction to the current situation.

Thus, anxiety is a complex construct with several different facets. However, as Scovel (2001) described, in contrast to this multifaceted view, non-specialists tend to equate anxiety simply with fear or phobia, and in language teaching methodological texts the variable is considered to be an archenemy that needs to be eliminated at all costs. This perception, according to Scovel and several others is simply erroneous and confirms Scovel's belief that anxiety is the most misunderstood affective variable of all. Indeed, MacIntyre (2002) concluded that because an increase in effort is a frequent response to anxiety, especially at milder levels, the overall consequence of being anxious may indeed be positive. We return to consider the one-dimensional approach to the conceptualization of anxiety in language learning below.

Language Anxiety

In a seminal paper, Horwitz *et al.* (1986) conceptualized a situation-specific anxiety construct that they called *foreign language anxiety,* stemming from the inherent linguistic deficit of L2 learners. In order to make this construct researchable, the authors also presented a 33-item, 5-point Likert-scale type instrument, the Foreign Language Classroom Anxiety Scale (FLCAS). As Horwitz (2001) summarized, language anxiety turned out to be a relatively independent factor, displaying only low correlations with general trait anxiety, and MacIntyre (1999) defined the construct as the "worry and negative emotional reaction aroused when learning or using a second language" (p. 27). Since its introduction, the concept of foreign language anxiety has been treated as a potent learner characteristic that is stable across a range of language learning/use situations (Horwitz, 2010), and as such has been the subject of several interesting lines of inquiry. Let us have a look at the most important ones:

- *Anxiety as a symptom of cognitive deficit:* The notion of a specific form of anxiety related to language use has been challenged by the research lab

of Richard Sparks and Leonore Ganschow (e.g., Sparks & Ganschow, 1995, 2007; Sparks, Patton, Ganschow, & Humbach, 2009). In their Linguistic Coding Difference Hypothesis (LCDH)—discussed in Chapter 3—they regarded language anxiety merely as a *consequence* of learners' cognitive deficits, suggesting therefore that anxiety was not a core construct worthy of research but a mere byproduct; that is, the LCDH assigns "mere epiphenomenal status to affective variables in general and language anxiety in particular" (MacIntyre, 1995a, p. 90). Unsurprisingly, the view that language anxiety is merely a symptom rather than a cause was strongly contested (Horwitz, 2000; MacIntyre, 1995a, 1995b, 1999), leading MacIntyre and Gregersen (2012a) to conclude that anxiety can be "both a cause and effect, part of a non-linear, ongoing learning and performance process" (p. 106).

- *Anxiety and multilingualism:* A characteristic of language anxiety, uncovered during the past decade, is that multilinguals tend to experience lower levels of it (Dewaele, 2007, 2010, 2013; Dewaele, Petrides, & Furnham, 2008), with Thompson and Lee (2013) suggesting that "multilinguals have a heightened sense of metalinguistic awareness, which could arguably decrease their language learning anxiety" (p. 732). Accordingly, language anxiety levels have been linked to *how many* languages a person knows, and related to this point, even the *order* of acquisition of languages has been found to be a modifying factor, with the more recently acquired languages producing more anxiety. This strand of research therefore suggests that in order to better understand the concept of 'foreign language anxiety,' one needs to start by specifying the exact meaning of the 'foreign language' part of the term.
- *Anxiety and personality:* As we discussed in Chapter 2, anxiety has been connected to personality type and we saw how the concept functions at the facet level of the Neuroticism/Emotional Stability personality dimension of the Big Five model. An ongoing line of inquiry into the relationships between anxiety and personality has concerned how introverts and extraverts may differ with respect to anxiety. Dewaele (2002, 2013) found, for example, that high anxiety, especially when linked with high introversion, can lead to breakdowns in automatic processing and can therefore seriously hinder L2 fluency. However, as we also observed in Chapter 2, because the pedagogic value of research into the effects of personality has not been immediately apparent, researchers have been reluctant to explore the links between personality, anxiety, and language learning any further.
- *Anxiety and idiodynamic variation:* In line with the growing openness toward complex dynamic systems perspectives (discussed in Chapter 1 and explored further in Chapter 4), research into language anxiety has also experienced a 'dynamic turn' (see e.g., Piniel & Csizér's [2015] investigation of the fluctuation of anxiety across an academic semester). One interesting new approach to researching anxiety in this vein—Peter MacIntyre's *idiodynamic method*—has involved adjusting the timescale of the inquiry (for a discussion of timescales,

see de Bot, 2015). MacIntyre, together with various associates (Gregersen, MacIntyre, & Meza, 2014; MacIntyre, 2012; MacIntyre & Gregersen, 2012b; MacIntyre & Legatto, 2011; MacIntyre & Serroul, 2015) have begun looking at moment-by-moment fluctuations in anxiety, focusing attention on how anxiety changes. As MacIntyre and Serroul (2015) explain, the 'per second' timescale they have applied opens a window on the specific cognitive processes underlying communication, something largely absent from the SLA literature. In their study of learners of French in Canada, they analyzed how difficulties in vocabulary retrieval in real time were linked to anxiety experiences during communication, and using the same methodology, Gregersen, MacIntyre, and Meza (2014) also included physiological aspects of anxiety in their paradigm by looking at links between perceived anxiety and fluctuations in heart rate.

- *Positive aspects of anxiety:* An example of approaching anxiety from a new angle is found in a recent study by Jean-Marc Dewaele and Peter MacIntyre (2014), in which they have examined how anxiety interacts with *enjoyment* in the L2 learning process. Based on a web-based questionnaire administered to 1,746 multilinguals, the researchers employed the newly developed Foreign Language Enjoyment (FLE) scale to explore the various associations between anxiety and enjoyment. Interestingly, they found that a lack of anxiety does not necessarily imply high levels of enjoyment, nor do high levels of enjoyment equate to low anxiety; instead, adaptive learning behavior is likely to result from a *productive interaction* of these two emotions. Dewaele and MacIntyre's data showed that more successful and active learners tended to have higher levels of enjoyment but these were interspersed with some degree of anxiety; accordingly, they concluded, "Enjoyment and anxiety will cooperate from time to time, enjoyment encouraging playful exploration and anxiety generating focus on the need to take specific action from time to time" (p. 262). This finding echoes Oxford's (1999a) observation that anxious students tend to listen to the instructions more carefully than their non-anxious peers during the language tasks, but Horwitz (2010) warns of the danger of misinterpreting such results as suggesting that teachers should generate some anxiety in their learners to elicit better performance.

Summary

Although anxiety has been one of the most extensively researched affective variables within SLA, it has been typically presented as a component of what Aneta Pavlenko (2005) terms an 'affective factors' paradigm, which, she argues, "reduce[s] emotions to a laundry list of decontextualized and oftentimes poorly defined sociopsychological constructs, such as attitudes, motivation, anxiety, self-esteem, empathy, risk-taking, and tolerance of ambiguity" (p. 34). This view accords with the somewhat one-dimensional account of anxiety that was offered in the 2005 chapter, and it also explains why Pavlenko (2013) believes that this

"'affective factors' paradigm has exhausted its limited explanatory potential" (p. 6). Although one might feel that this view is overly strident, its main thrust is consistent with recent moves to rethink and open up conceptualizations of the affective dimension to language learning. The ongoing interest in language anxiety gives some indication of the importance that both researchers and practitioners attach to the concept, but in order to fully exploit its potential, future research will need to foreground a more dynamic conception of anxiety, highlighting aspects of change as well as types of adaptations that can lead the behavioral outcomes of anxiety both in the positive and the negative direction.

Willingness to Communicate

Willingness to communicate in a second language (L2 WTC) has originally grown out of the concept of 'communication apprehension' within L1 communication studies (for a review, see McCroskey, 2009), and is therefore closely related to the concept of anxiety discussed above. L2 WTC describes how a number of factors interact to influence an individual's likelihood of initiating communication in a specific situation, and in the 2005 book the concept was described in a positive light, suggesting that it was likely to be a productive area for research in future years (which has indeed been the case). As MacIntyre, Clément, Dörnyei, and Noels (1998) argued in the paper that introduced WTC into the field of SLA, while the purpose of communicative language teaching is to promote learners' communicative competence in a target language, most experienced language educators will have encountered people who tend to avoid entering L2 communication situations even though they possess a high level of communicative competence. This implies a further layer of mediating factors between having the competence to communicate and putting this competence into practice, a substrate that constitutes the immediate antecedent of the actual initiation of L2 communication.

In one's first language—to which WTC was originally applied in communication studies (e.g., McCroskey & Baer, 1985; McCroskey & Richmond, 1987, 1991)—WTC is considered a fairly stable personality trait, representing a "global, personality-based orientation toward talking" (MacIntyre, Baker, Clément, & Donovan, 2003, p. 591). However, the situation is less straightforward with regard to L2 use, because here a host of psychological, linguistic, and contextual variables interfere with one's inherent predisposition. Thus, MacIntyre *et al.* (1998) have argued that L2 WTC needs to be conceptualized as a complex, situated construct that includes both state and trait characteristics, and a relatively recent definition positions the concept as the "probability of initiating communication given choice and opportunity (MacIntyre, 2007, p. 567).

The 1998 article proposed a multilayered 'pyramid' model, subsuming a range of linguistic and psychological variables, including linguistic self-confidence (both state and trait); the desire to affiliate with a person; interpersonal motivation;

intergroup attitudes, motivation, and climate; parameters of the social situation; communicative competence and experience; and various personality traits. In many respects, this pyramid model now seems prescient, proposing a multilevel framework exploring the interactions between factors that have been well established as influences on second language acquisition and use, resulting in a construct in which psychological and linguistic factors are integrated in an organic manner. As outlined in Chapter 1, a key aim of this book is to explore how learners' various dispositions interact with their environment through characteristic adaptations. The pyramid model of L2 WTC offers a pertinent conceptualization of stable traits interacting with situational factors, and as such, the construct of L2 WTC can be seen to act as one of the first exemplifications of this situated phenomenon.

Theoretical Developments

Early attempts to validate this intricate construct empirically (cf. Clément, Baker, & MacIntyre, 2003) revealed L2 WTC to be closely related to language anxiety, although when MacIntyre and Legatto (2011) extended the idiodynamic method (discussed above) to the study of WTC, they found that the ongoing association between language anxiety and WTC was complex, with the two variables relating to each other at times positively, while at other times negatively or not at all. In another investigation, MacIntyre, Baker, Clément, & Conrod (2001) linked WTC to Ajzen's (1988) 'theory of planned behavior,' which states that in situations where people do not have complete control over their behavioral outcomes, their *perceived behavioral control* plays an important role in facilitating or impeding performance of the behavior. This variable is a composite of one's control beliefs concerning the perceived ease or difficulty of performing the behavior (e.g., perceptions of the presence of required resources or potential impediments and obstacles). Thus, MacIntyre *et al.* have argued that 'learner beliefs,' which we discuss later in the chapter, are inherently linked to WTC.

At the time of preparing and writing the 2005 version of our book, L2 WTC was an emerging, 'hot' area of research, but it would be fair to say that the concept has not really seen much in the way of major theoretical innovation in the past 10 years. What we have witnessed, instead, is a greater emphasis on situated, classroom-based specifications of L2 WTC. A useful illustration of the shift in focus to the situated nature of L2 WTC comes in the series of studies carried out by Jian-E. Peng in the Chinese EFL context (Peng, 2007, 2012; Peng & Woodrow, 2010). The impetus for these studies, which eventually contributed to the first full book-length account of L2 WTC (Peng, 2014), came from a pedagogic need to understand certain "'secret elements' going on in a classroom setting which regulate the extent of student involvement" (Peng, 2014, p. 3)—indeed, the question of why certain learners decide to either talk or to hold back when the time comes to communicate is a central concern of many

classroom practitioners. Peng's studies are also illustrative of a developed interest in L2 WTC within *instructed second language acquisition,* which can be traced back to Yashima's (2002; Yashima *et al.,* 2004) pioneering work in learning contexts where the target language functions primarily as a school subject. This strand of research has also highlighted some of the cultural dimensions to L2 WTC (see also Gallagher's [2013] study of Chinese students attending English universities) and the need to adapt WTC, a concept originally developed in North America, to local cultural values and practices.

Research Developments

Early research into L2 WTC was dominated by a quantitative paradigm with survey instruments adapted from personality and social psychology, but the recent shift to explorations of L2 WTC as a situated variable, subject to change across time and context, has seen studies adopting a more qualitative approach (Cao, 2011; Cao & Philp, 2006; de Saint Léger & Storch, 2009; Kang, 2005; MacIntyre, Burns, & Jessome, 2011). At the time of writing the original version of this chapter, Kang's pioneering investigation of L2 WTC in this vein was still in press, and represented the only example of qualitative inquiry in this area. In that study, Kang followed four male Korean students at an American university for a period of eight months and found that the degree of their L2 WTC was determined by the interaction of the psychological conditions of excitement, responsibility, and security, as well as situational variables such as the topic, the interlocutors, and the conversational context of the communication. Similarly, Cao and Philp (2006), in a comparison of English learners' self-report of WTC and their actual classroom behavior, found that interactional settings—whole class, small groups, or dyads—were a significant influence on WTC. Quantitative approaches have not been abandoned by L2 WTC researchers (e.g., Gallagher, 2013), but in her review of recent L2 WTC research, Yashima (2012) plots the broad course as one moving from macro-level quantitative analyses of stable trait-like variables in the direction of micro-level qualitative investigations of momentary volition, and goes on to suggest that the future challenge for WTC researchers is to innovate in ways that reconcile the two approaches.

Summary

With its situated nature and its integrative character subsuming diverse variables, L2 WTC is a prime example of the 'new style' learner characteristics that help us to understand individual variation as characteristic adaptations. Our brief overview has shown that the course of development in the study of WTC has paralleled that of ID factors in general, moving from a conception of a stable and distinct modular ID exhibiting trait-like tendencies to a situated construct that incorporates components of diverse nature and that is characterized by

dynamic interactions both internally and also with the external environment. The understanding of these interactions is helped by framing WTC as a *volitional process* of making choices between specific approach and avoidance impulses (see MacIntyre, 2007; MacIntyre & Doucette, 2010; Yashima, 2012).

Regarding any future directions, one suggestion by MacIntyre (2007)—that is consistent with his focus on WTC as a volitional process—has been to return to the origins of WTC: As Yashima (2012) points out, WTC research originated in scholars' interest in *unwillingness* to communicate, and thus MacIntyre recommends that future research in SLA should focus "on the momentary restraining forces that come into play when a speaker is choosing whether or not to initiate communication" (MacIntyre, 2007, p. 572). As Gregersen and MacIntyre (2014) have recently demonstrated, such an emphasis allows for drawing up practical strategies to promote WTC by reducing restraining forces, exploring learners' ambivalence, and encouraging them to plan for hesitation. Finally, Yashima also reminds us that we must bear in mind that it takes at least two people to communicate, and therefore future conceptualizations of WTC will need to harmonize its perception as an individual's attribute with the social nature of the concept: "It takes two to tango. Yet, each person needs to be willing to dance" (Yashima, 2012, p. 132). Therefore, WTC is best understood as the outcome of a dynamic interaction between individual propensities and the positive or negative reinforcements that arise during the realization of the volitional process in communication.

Self-Esteem

Like so many learner characteristics, *self-esteem* has been conceptualized both in a global (trait-like), and in a situational (state-like) manner. As Carver *et al.* (1994) summarized, self-esteem is the evaluative quality of the self-image or self-concept, and therefore global self-esteem refers to "individuals' overall evaluation or appraisal of themselves, whether they approve or disapprove of themselves, like or dislike themselves" (Higgins, 1996, p. 1073). Self-esteem shares with self-confidence (and also self-efficacy) a common emphasis on the individual's beliefs about his or her attributes and abilities as a person, and various measures of self-esteem and self-confidence/efficacy were found to correlate with each other highly.

A considerable amount of research into self-esteem regarded the concept as an underlying deep-seated, trait-like disposition, and indeed, as Baumeister (1999) asserted, trait self-esteem was one of the most studied individual differences in personality in the 1990s. The focal issue in this research effort was to examine how people with low self-esteem differed from those with high self-esteem and how this difference was reflected in their behavior and learning. According to Baumeister's summary, high self-esteem is generally associated with greater persistence in the face of failure, whereas people with low self-esteem are more

vulnerable to the psychological impact of everyday events (e.g., experience wider mood swings) and are also more malleable and therefore more strongly affected by persuasion and influence; although they want success and approval, they are often skeptical about their chances of achieving it.

Self-esteem soon became an established concept within educational psychology and a whole industry developed, especially in the U.S., offering ways of promoting children's (and also adults' to a lesser extent) self-esteem, with numerous books written about practical strategies designed to achieve this. The 2005 edition of this book reports on a quick search on Amazon.com that revealed over 1,000 titles focusing explicitly on self-esteem, most of which fell into the *100-Ways-to-Build-Your-Self-Esteem* category. We performed the same search in the preparation of this new edition and found over 4,000 books whose titles actually contained the phrase 'self-esteem.' This is surely an indication of the enduring popular appeal of the concept.

Self-Esteem in L2 Studies

Despite high levels of interest within mainstream educational psychology, as Ushioda (2009) observes, the study of self-esteem has not really taken off in L2 studies. The concept is of course closely related to Clément's (1980) notion of linguistic self-confidence and it has also featured in investigations of L2 WTC (Fonseca Mora & Toscano Fuentes, 2007), but apart from a pedagogical publication containing self-esteem-boosting activities for the L2 classroom (de Andrés & Arnold, 2009), it has not really been explored in its own right. In a rare edited collection of papers focusing on self-esteem in language learning (Rubio, 2007), the point is repeatedly made that self-esteem warrants far more attention than it has received, with the various authors identifying potential connections between self-esteem and other aspects of language learner psychology, such as motivation, beliefs, and anxiety. These calls, however, have mostly been ignored as SLA researchers have by and large eschewed self-esteem as a viable area of research.

Admittedly, even the 2005 version of this chapter was guarded in its embrace of self-esteem, arguing that other self-evaluative concepts such as the established self-confidence construct and the then-emerging notion of possible selves had more direct theoretical links with learning behavior and, as such, represented more constructive ways of incorporating notions of the self into understandings of the psychology of the language learner. This caution has certainly been borne out by subsequent developments, but what the chapter did not anticipate was the escalation of interest in other aspects of the self. In Chapter 4, we discussed how self perspectives have completely transformed the way in which motivation is now theorized and researched, and in hindsight it now seems logical that once introduced into the field of SLA, interest in the self would not be contained within the relatively narrow realm of possible selves.

We started this section stating that self-esteem can be defined as the evaluative quality of the *self-concept,* and in contrast to the specific self-esteem perspective, this broader notion has proved highly attractive to researchers in recent years. A measure of that attraction can be found in the two edited volumes entirely dedicated to the self-concept in language learning published in 2014 (Csizér & Magid, 2014; Mercer & Williams, 2014). A comparison of the contents pages of these books adds another layer to the story of the growth of interest in the self-concept; ordinarily we would anticipate some overlap when two books come out at similar times addressing similar topics, but across the 33 chapters and over 600 pages of these combined publications, there are only two authors with a contribution in both books. This gives some indication of the scope of inquiry this domain offers. Thus, although self-esteem might remain a primarily pedagogic concept in L2 studies, it appears that the broader and value-neutral framework of self-concept will be utilized to good effect.

Self-Concept

We saw in Chapter 4 how facets of the self, such as possible selves, self-efficacy, self-regulation, and self-worth, had come to dominate educational psychology by the end of the 1990s and how this emerging perspective profoundly influenced the reconsideration of motivation within the L2 Motivational Self System. The significance of self-concept becomes obvious against this backdrop, as it represents the most global of all self-related constructs; in Mercer's (2012b) words, "Self-concept is a powerful construct that lies at the center of an individual's psychology connecting various dimensions such as motivation, affective attitudes, goals and strategic behaviors" (p. 10). Arguably the most developed conceptualization of the L2 self-concept is currently found in Sarah Mercer's (2011a, 2011b) adaptation of Marsh and Shavelson's (1985) hierarchical model of self-concept. Within this framework, self-concept is regarded as being both multidimensional and domain specific. This means that an individual holds a range of independent self-concepts connected to specific domains, which are at the same time dynamically interrelated within a wider global self-concept. Interestingly, Mercer found evidence to support the idea of self-concepts relating to the subdomains of specific language skills (e.g., people's speaking self-concept may differ considerably from their writing self-concept). What is particularly important from the perspective of the current discussion is that the L2 self-concept as outlined by Mercer is not simply a cognitive belief system, but has an integral emotional dimension, based upon how the individual feels about his or her self. With this appraisal element, however, we have completed a full circle and arrived back to a broader form of self-esteem (see below).

Summary

To sum up, self-esteem conceived in the traditional self has largely fallen by the wayside as an area of investigation within L2 studies—and as Bosson and Swann

(2009) summarize, it has developed a checkered reputation also in personality psychology—but the related construct of the L2 self-concept has taken off in a way not anticipated 10 years ago. What does this tell us of the development of the field as a whole? One factor behind the demise of self-esteem seems to be that it represented the classic, modular ID approach: It was one of many components within learner psychology, and the assumption behind any research in this area was that measuring self-esteem within an individual would enable us to predict specific behavioral outcomes. In contrast, self-concept has been perceived as an altogether more holistic, dynamic perspective, offering a potential organizational framework that the field appears to have found attractive. The growth in interest in language learner self-concept has been dramatic: Prior to 2010, there was hardly any explicit discussion of the construct, yet in 2014 alone, two edited volumes were published on the topic.

The interesting twist of the story is that if we assign an evaluative angle to the broad self-concept construct, we arrive back at an even broader conception of self-esteem. This is in line with Bosson and Swann's (2009, p. 529) approach, who defined self-esteem "as a global view of the self" and self-concept "as relatively specific views of the self along various dimensions (e.g., honest, clumsy, mathematically inclined)." Thus, the two concepts represent different levels of specificity within the same category. Ironically, although self-esteem has been widely abandoned in the research literature because of its more constrained nature relative to self-concept, as an evaluative dimension it is bouncing back now as the overall qualitative appraisal of the self. This being the case, however, Bosson and Swann argue that the new 'global' self-esteem should not be used as a predictor of specific behavioral outcomes in the traditional modular ID sense (e.g., self-esteem predicting course grades), but should be seen as a general tendency that is then manifested in various characteristic adaptations. Put this way, self-esteem reflects many of the principal themes of our revisitation of the 2005 volume, and in the coming years the study of the synergy of self-concept and self-esteem may grow to become a valuable counterbalance to the current dominance of motivation within the broader field of language learner psychology.

Learner Beliefs

We conclude this chapter by discussing a concept—*learner beliefs*—that is barely recognizable from its 2005 conceptualization. At that time, learner beliefs were not regarded as a proper ID variable in the conventional sense because it was difficult to conceive of a belief as an enduring, trait-like factor: Consistent with the prevailing view of the time, beliefs were viewed in the original version of this chapter as being based on strong factual support and open to change through rational explanation or persuasion. Regarding their prominence in SLA, learner beliefs have traditionally attracted steady—though not exceptional—attention, mainly because of the considerable influence they were found to exert on some

learning behaviors (e.g., when someone believes in a particular learning method and therefore resists another, perhaps more appropriate, approach); this ongoing work on the topic has recently resulted in a transformational impact on its conceptualization. It is useful to examine this process in two parts, first by looking at the 2005 state of the art in the area and then at recent developments, to be concluded by considering various theoretical implications.

Traditional Understanding of Learner Beliefs

Beliefs were introduced into the L2 literature by Elaine Horwitz (1985, 1987, 1988), who identified them as significant learner characteristics to take into account when explaining learning outcomes. Horwitz presented empirical data obtained from American learners of German, French, and Spanish, which confirmed that certain belief systems are quite common among learners and are consistent across different language groups. That is, she argued, there was a certain amount of stability about beliefs that would justify their classification as ID variables. The best-known and most widely used assessment instrument for learner beliefs has been Horwitz's (1988) questionnaire, the Beliefs About Language Learning Inventory (BALLI), which consists of 34 self-report items and which assesses student beliefs in five major areas: (a) difficulty of language learning, (b) foreign language aptitude, (c) the nature of language learning, (d) learning and communication strategies, and (e) motivation and expectations. We can regard the period centered around the BALLI as the first phase of language learner beliefs research.

The next phase of research emerged from a special issue of the journal *System* on metacognitive knowledge and beliefs, edited by Anita Wenden. In the introduction to this thematic issue, Wenden (1999) established an important link between *metacognitive knowledge* and learner beliefs. She argued that metacognitive knowledge was the specialized portion of a learner's acquired knowledge base, consisting of what learners know *about* learning. The term learner beliefs, Wenden concluded, appeared to be interchangeable with the term metacognitive knowledge, although beliefs are distinct in that they are value-related and are held more tenaciously. Wenden (2001) further elaborated on the importance of metacognitive knowledge in L2 learning, also linking it to the ability to self-regulate one's learning.

Although the educational psychological research tradition on *epistemological beliefs* (i.e., beliefs about the nature of knowledge and learning) was not analyzed in the 1999 special issue of *System,* an article by Mori (1999) from the same year explicitly addressed this link. The objective of integrating the two research traditions was clearly reflected in Mori's research design because the questionnaire that the participants were asked to fill in contained a section on non-L2-specific epistemological beliefs and another one on language learning beliefs. Separate factor analyses of the two sets of items revealed somewhat different

belief structures. With regard to beliefs about learning in general, Mori's results were compatible with Schommer's (1990) pioneering findings in this area, as she identified five relatively independent belief dimensions about the nature of knowledge and knowledge acquisition: (a) *the structure of knowledge,* (b) *the attainability of knowledge,* (c) *the source of knowledge,* (d) *the controllability of the ability to acquire knowledge,* and (e) *the speed of knowledge acquisition.*

Regarding language learning beliefs, Mori (1999) submitted an extensive number of belief dimensions to factor analysis and found that these could be reduced to three main dimensions, comprising six factors and accounting for three-quarters of the variance: (a) *perception of the difficulty of language learning* (e.g., Kanji is difficult, Japanese is easy); (b) *the effectiveness of approaches to or strategies for language learning* (risk taking, analytic approach, avoid ambiguity); and (c) *the source of linguistic knowledge* (reliance on L1). It is apparent that the two taxonomies (i.e., focusing on general vs. L2-specific learner beliefs) are qualitatively different, which Mori explained by the different degree of abstractness of the beliefs in question.

Recent Developments

The publication of Paula Kalaja and Ana Maria Barcelos's (2003) volume, *Beliefs about SLA: New Research Approaches,* opened a new chapter in the study of learner beliefs. In the introduction, the authors explained that despite the relatively short history of the field of learner beliefs, the literature of the time had already developed a confusing proliferation of terms, such as (meta)cognitions, personal theories, philosophies, and perceptions. Furthermore, and highly interestingly from our current perspective, Kalaja and Barcelos argued that one of the main problems of the early research tradition on L2 beliefs was that all the conceptualizations shared the view that beliefs were "stable mental representations that are fixed a-priori constructs" (p. 2), which was in fact the very reason why the concept was considered to qualify for being an ID proper within the classic ID paradigm.

Thus, ironically, while the 2005 version of our book rejected learner beliefs because they fell short of the mark in this respect and did *not* meet the stable and modular ID criteria, Kalaja and Barcelos (2003) regarded the fact that our approach *aspired* to satisfy these requirements as a problem and as a mark of an outdated "positivist research paradigm" in which the cognitive framework of beliefs had been developed. The explicit aim of their anthology was therefore to explore new conceptualizations of learner beliefs that accounted for the dynamic, situated, and often paradoxical nature of the concept. In light of our earlier discussion of the transformation of ID research (in Chapter 1), Kalaja and Barcelos's assumption that people are not necessarily consistent in their beliefs across domains and situations can be seen as a forward-pointing notion in that it is consistent with the substrate of characteristic adaptations in McAdams's New Big Five construct.

Dynamic Perspective on Beliefs

A central issue raised by the emerging new conceptualizations of learner beliefs concerns the relationship between belief and action. Early theories proposed a clear-cut framework in which beliefs were constructed through individuals' interpretations of events and experiences, and then served to inform subsequent behavior. However, this unidirectional relationship was challenged by researchers who observed a more complex connection between beliefs and action: Put simply, just as our beliefs are not always consistent with each other, our actions are not always consistent with those beliefs. These 'proto-dynamic' insights prepared the ground for another landmark issue of *System* on learner beliefs, this time edited by Kalaja and Barcelos, which ushered beliefs into the dynamic systems era. In their introduction, Barcelos and Kalaja (2011, pp. 285–286) summarized the key characteristics of the new conception of beliefs as follows:

- *Fluctuating:* The same individual may hold different, even contradictory, beliefs about the same aspect of SLA at different times, influenced by diverse personal and contextual factors.
- *Complex:* Beliefs can be paradoxical in nature, being both stable and dynamic; social but personally significant; situated and yet generalizable.
- *Ideologically determined:* Beliefs are social, historical, and political products.
- *Intrinsically related to other affective constructs such as emotions and self-concept:* Beliefs are mediated by their affective dimensions in leading to action.
- *Other-oriented:* The construction of beliefs, both the incorporation of new beliefs and the consolidation of older ones, is influenced by interaction with other people.
- *Influenced by reflection:* Beliefs may be refined or even changed as people have the chance to reflect on them.
- *Related to action in complex ways:* The relationship between beliefs and actions is not simple and causal but dynamic, mediated by interpretations of one's own actions, emotions, and self-concept.

Implicit Beliefs and Mindsets

A distinction of huge potential significance has been made in the literature between *explicit* and *implicit beliefs*. Explicit beliefs are those that we are aware of and that we can articulate reasonably effectively; implicit beliefs are no less powerful, despite the fact that we are not always aware of them nor able to articulate them. In the educational psychology literature, implicit beliefs have been most closely associated with the work of Carol Dweck and various associates (Blackwell, Trzesniewski, & Dweck, 2007; Dweck, 1999, 2006; Dweck, Chiu, & Hong, 1995; Dweck & Molden, 2007). Dweck was particularly interested in how implicit beliefs, or *implicit theories* as she terms them, relating to the nature of knowledge and learning influence individuals' approaches to learning. She

proposed two core sets of beliefs about learning, an *entity theory* and an *incremental theory:*

- People holding an *entity theory* tend to believe that human qualities, including intelligence and the capacity to learn, are *fixed* within an individual; essentially, they believe that we are allotted certain talents at birth and there is little we can do to change this.
- In contrast, people subscribing to an *incremental theory* believe that the human condition is malleable, and this means that people are capable of developing their intelligence and talents through focused practice and effort.

Later, in her more popular writing, Dweck (2006, 2012) has adopted the more accessible term 'mindsets' to refer to these implicit theories: A *fixed mindset* corresponds to an entity theory, and a *growth mindset* is equivalent to an incremental theory. In the field of L2 learning, Ryan and Mercer (2012; Mercer & Ryan, 2010) have adapted Dweck's ideas and applied them initially to beliefs about how some people are 'born linguists' (Mercer, 2012a) and find learning a language 'natural,' while others, lacking this 'natural gift,' are forever doomed to struggle.

Not only is the term 'mindset' more accessible, but it also hints at the all-encompassing nature of the concept, implying links with other facets of learner psychology, such as attributions, self-efficacy, and motivation. Dweck herself (2006) claims: "Mindsets frame the running account that's taking place in people's heads. They guide the whole interpretation process" (p. 209). This connection between beliefs and the 'whole interpretation process' is especially important in that it suggests a framework for connecting beliefs to the wider language learner psychology in order to understand how they interact to shape approaches to learning. Thus, mindsets are concerned with the adaptive nature of beliefs; how learners are able to process a range of beliefs about themselves and the nature of learning; and how they are able to adjust those beliefs in response to ongoing learning situations.

Beliefs and Emotions

An interesting fact relating to the etymology of 'belief' concerns its connections to the word 'love.' The origins of the word 'belief' are rooted in a meaning of deep love, usually in a religious sense, and it was only around the 16th century that the word took on its current sense of a rational acknowledgment of the truth of something, with the word 'faith' taking on the more emotionally loaded, irrational aspects of belief. The point here is that belief has long had an emotional dimension, an aspect that was largely absent from the initial conceptualizations of learner beliefs. Expressing a belief in something can often mean taking a position with attendant threats to the self, and as Frijda, Manstead, and Bem (2000) observe, "When it comes to issues of emotional importance, convincing

someone to change his or her beliefs appears to be a virtually hopeless undertaking" (p. 3). A belief becomes more than a simple rational interpretation of the world once it is entwined with issues of personal identity, social context, and emotional attachment (Barcelos, in press). Thus, those beliefs that are deeply entrenched, to which we feel some form of emotional attachment, and which we consider central to our self-concept, are less susceptible to change. They also tend to have the greatest impact on how we approach tasks. Conceptualizations of learner beliefs that contain a substantial emotional dimension are far removed from the rational, cognitive version of beliefs described in the 2005 chapter.

Summary

The discussion of learner beliefs in the 2005 version of this book concluded that although the concept was considered to have made a significant contribution to our understanding of SLA and also has clear pedagogic value, theoretical ambiguity and overlap with other constructs prevent beliefs from being regarded as learner IDs proper. Since our essential position in this book is that the notion of a 'learner ID proper' is in itself problematic, we now need to reassess how beliefs fit into the overall psychology of the language learner. What we find is that within the emerging new perspective on learner characteristics, learner beliefs are compatible with McAdams's idea of 'characteristic adaptations,' and as such, they have a legitimate place in this book.

The story, however, does not end here; it has become clear over the past decade that the rubric 'learner belief' subsumes several constructs that are in dynamic interaction with each other and with other personal and contextual factors. Although the defining criterion of the mental belief constructs has traditionally been their cognitive nature characterized by rational understanding, recent investigations have also identified influential implicit beliefs or mindsets, as well as various emotional attachments to certain belief constructs that change their originally malleable nature. Thus, beliefs may well become the most versatile of all the learner characteristics, potentially entering into combined characteristic adaptations with most other factors discussed in this book (e.g., motivational beliefs, beliefs about aptitude, or affective beliefs). There is no doubt, therefore, that our understanding of learner beliefs is far from complete, and that the next decade is likely to bring further breakthroughs in this area.

Conclusion

The 2005 version of our book was organized around five primary ID dimensions—*personality* and the four canonical L2 ID factors: *aptitude, motivation, styles,* and *strategies*—with a single, additional chapter covering 'other learner characteristics' that did not quite fit the modular ID paradigm upon which the book was premised. In this chapter, we have considered how theory and research into these

'other characteristics' have evolved and shed new light on their nature over the past decade. As mentioned in the introduction to this chapter, each of the five constructs had their own unique stories, with some faring better than others over the years. The study of creativity never took off the ground, which is regrettable because the adaptive dimension of creativity would seem to be a likely factor in explaining how individuals adjust to new situations within the language learning experience. The long-established affective factor of anxiety managed to stay current and relevant by adapting to the changing research climate. With its trait-like dimension and state-like adaptations, it offers an interface with McAdams's model at multiple levels, and it has also been successfully incorporated into dynamic research paradigms.

The concept of willingness to communicate benefited from a marked methodological shift: Consistent with the trends observed in most of the other chapters of this book, but perhaps most pronounced in the discussion of motivation, L2 WTC, which had previously been dominated by quantitative research approaches, has opened itself up in recent years to qualitative inquiry with the aim of more detailed exploration of its situated nature. Self-esteem, on the other hand, has largely faded from the research agenda, eclipsed by other self-related concepts, in particular the notions of possible selves and language learner self-concept. According to the traditional understanding, self-esteem offered a narrow, trait-like explanation of how self-evaluative beliefs link to language learning; however, if we view it as the qualitative appraisal of the global and dynamic construct of self-concept, self-esteem has again obtained some legitimate space to occupy. In fact, we have suggested that the synergy of self-concept and self-esteem may emerge as a useful counterweight to mitigate the dominance of motivation within accounts of language learner psychology.

Finally, with the shift toward a more dynamic and nonlinear perspective, learner beliefs clearly reflect one of the central lines of evolution in the study of learner characteristics. They also form links with other psychological constructs, and they are no longer regarded as established, rational mental representations with consistent links to action. An interesting feature of beliefs is their malleable character in response to persuasive arguments, and in this sense they are closely related to the narrative dimension of McAdams's New Big Five model, which will be further discussed in the concluding chapter of this book. Indeed, we can perceive L2 learner beliefs as personal convictions about various facets of SLA, a view which fits easily into the narrative accounts that people create about themselves to organize and understand their L2 Learning Experiences. In this sense, we can potentially conceive of a set of beliefs accompanying each learner characteristic and thus having a stabilizing effect by 'sealing' the dispositional trait underlying the propensity in question into certain characteristic adaptations. An example of this function is Dweck's notion of fixed versus growth mindsets, which largely determine what role one's perceived language aptitude will play in the process of SLA.

In conclusion, the 'other learner characteristics' discussed in this chapter display a wide range of adaptations and transformations, both in terms of content and research methodology; indeed, as we saw with creativity, a lack of adaptation has resulted in temporary marginalization. Taking the five individual stories together is instructive, as we can see the ease by which these 'outsiders'—that is, concepts that did not quite fit the classic modular ID framework—found their places in the emerging new paradigm of learner psychology. In this sense, their renewed validity serves as a confirmation of the legitimacy of the direction that the study of learner characteristics is taking.

8

CONCLUSION

Looking Back and Forward

In this final chapter, we reflect on the principal themes emerging from our revisitation of the 2005 version of this book and what they tell us about the directions in which the field is moving. At the heart of this discussion are the two questions that have been interwoven throughout the previous chapters: (1) With the modular, trait-like ID paradigm largely belonging to a bygone era, how can we best capture the essence of learner characteristics and any systematic variation in these? (2) To what extent can current and future theory and research maintain continuity with the past? In the first part of the chapter, we take stock of the general themes we have found, to be followed by the description of a number of novel approaches and principles that may contribute to the genesis of a new theoretical paradigm. Then, in light of these, we cast our vision forward in an attempt to plot a future research agenda, so that when someone does another revisitation of the field in a decade or so, they will have some material to muse about.

Looking Back

Revisiting *The Psychology of the Language Learner: Individual Differences in Second Language Acquisition* has been an intriguing journey. In some of the places we visited, the 2005 book felt like stepping back into another era from the distant past, while at others it felt as if very little had changed over the years. In some of the chapters, such as the one addressing motivation, we witnessed an astonishing amount of recent activity that has left the field in a state barely recognizable from a decade ago. In others, such as learning styles, we have encountered an almost complete absence of research activity over the same period. And at times, admittedly, the journey has taken us to some unexpected places and in directions we had not planned to travel.

One of the most interesting parts of the 2005 book to revisit was its conclusion; there is always an element of curiosity in seeing just how well ideas survive the test of time, and in this case there was a real sense of 'so close but yet so far.' The 2005 text concluded with three core observations:

1. All of the concepts under discussion in the book were ripe for reconceptualization.
2. More attention needed to be given to context and the situated nature of language learning.
3. The previous two observations had profound methodological implications, suggesting a greater role for approaches that go beyond the traditional quantitative research paradigm.

Do those conclusions still stand up 10 years later? Moving in reverse order, if we look at research methodology over the past decade, we can see that one of the constant themes across all the chapters in this book is a slow-down, or even a standstill, in the development of new large-scale quantitative assessment instruments, and at the same time a growing interest in qualitative and mixed methods inquiry—as well as experimenting with various novel techniques and idiographic approaches. Although some advocates of qualitative research may argue that things have not yet moved far enough and that there is still a long way to go to establish a proper balance between psychometric and interpretive methods, we have witnessed a huge shift in the methodological base of research into the psychology of the language learner. This has been best illustrated by the area with the largest amount of recent research activity, the study of L2 motivation, in which a whole new arsenal of empirical research methods has been trialed recently. In this respect, therefore, the prognosis offered in the 2005 conclusion appears gratifyingly accurate.

Similarly, the call for a greater awareness of context has been borne out by developments over the last decade. Across all the chapters of the current book, we have witnessed a general willingness, and even an enthusiasm, to acknowledge the importance of the situated nature of language learning. We have made the recurring argument that most learner characteristics we have addressed proved compatible with two tiers of McAdams's New Big Five model, *dispositional traits* (referring to relatively stable propensities) and *characteristic adaptations* (denoting highly contextualized aspects of individuality); we shall discuss the third tier, *integrative life narratives,* in a separate section below. While the classic, modular ID paradigm imposed a metaphorical straitjacket onto the latter substrate, once this constraint had been removed, the emerging new research made it abundantly clear that the various learner attributes happily occupy both spheres of the model at the same time; that is, they usually have *both* trait-like and situated state-like manifestations.

If that were the whole story then we could declare the 2005 book remarkably prescient. However, there was one key issue absent from that conclusion. Even

though the book called for an extensive reconceptualization of the various constructs under discussion, it said nothing of the ID paradigm itself in which the whole discussion was rooted. If we put together the various conclusions of the original text—the need to reconceptualize specific ID factors through a greater awareness of context and interactions between multicomponential constructs, as well as through reforming the relevant research methodology—we can see that the underlying theme in effect questioned the view that the psychology of the language learner can be best understood through the exploration of a series of modular IDs conceptualized as discrete, measurable traits that remain stable across situations. Yet, the book did not cross the Rubicon in this respect and did not challenge the underlying approach itself.

Of course, the accumulated lessons were instrumental for Zoltán's rethinking of the matter first in a plenary talk at the 2008 convention of the American Association of Applied Linguistics ("Are individual differences really individual?") and then in Chapter 5 of his 2009 volume, *The Psychology of Second Language Acquisition* ("The dynamic interplay of learner characteristics and the learning environment"), but the 2005 book revealed little of these fundamental doubts. Instead, in accordance with the prevailing orthodoxy of the day, it conveyed what we might refer to as a 'positivist' approach, which involves breaking psychological constructs down into small constituent parts, identifying those parts, and assessing their specific effects against selected criterion measures. Ten years on, we can see that this traditional approach alone is insufficient, for, as Schumann (2015) warns us, it rests on several core assumptions:

> One is the assumption that truth is found in the study of inter-individual variability among large numbers of subjects. Another is that causal effects are either singular or few in number and that they operate linearly. An additional assumption is that categories and their labels refer to clearly identifiable entities in the world.
>
> (p. 10)

Complex dynamic systems perspectives, which we have observed growing in influence in the whole field of SLA, teach us that in an activity as situationally dependent as instructed second language acquisition, the first of these assumptions is clearly problematic: We cannot always extrapolate the findings obtained from a group of individuals to any specific individual within that group, and this is a point that has been stressed by those with an interest in the dynamic nature of the language learning experience (e.g., de Bot, Lowie, & Verspoor, 2007; Larsen-Freeman & Cameron, 2008; for a recent overview, see Part 1 of Dörnyei, MacIntyre, & Henry, 2015). Traditionally conceived IDs actually say very little about individuals, but do they explain differences? Again, this becomes problematic as long as we insist on describing variation in terms of causality and linearity; we cannot really understand how any single psychological construct accounts for differences between individuals without also taking into account

how it interacts with other aspects of an individual's psychology, nor can we ignore contextual or temporal variations. Finally, Schumann's third assumption is perhaps the most problematic of all; in effect, he is challenging the existence of IDs, consistent with the argument of the 'ID myth' (Dörnyei, 2009b). The canonical IDs discussed in this book represent convenient umbrella terms rather than 'clearly identifiable entities,' yet the modular approach typified by the 2005 book is one that insists we ignore this inconvenience and treat them as real-world entities with distinct causal effects on learning achievement.

These considerations answer, in effect, the question regarding the sustainability of the modular ID framework: If IDs do not describe individuals, if they do not account for difference, and if they do not refer to actual real-world entities, then it becomes very difficult to justify persisting with this approach. The sole justification becomes "That's the way it has always been done." However, before we too quickly reject such a rationalization, we should note that this defense of the existing paradigm is not without merits, especially in the absence of any convincing alternatives and also in view of the fact that the ID approach has been successful on many counts, advancing our knowledge of the psychology of the language learner considerably. However, one of the most gratifying findings of our revisitation has been the observation of just how much the field has grown in recent years *despite* these unresolved dilemmas, and as we highlighted in most chapters, the nature of the advances typically went against the grain of at least some tenets of the classic ID paradigm. This was most recognizable in the area of learning strategies, where an explicit challenge has been simply sidestepped so that researchers in the field could proceed 'as you were.' Accordingly, the question we are facing now is no longer simply one of continuity or how the field relates to its own past; rather, we have entered a crucial transitional phase where the key concern becomes how to maintain and exploit current levels of dynamism and growth, and we believe that in order to expand even further, the field needs to accept, and therefore theorize, a certain degree of discontinuity with the past paradigm.

New Approaches

With the classic ID paradigm in shatters, the field of L2 learner psychology is at a crossroads, trying to decide on the best way forward. In mainstream and educational psychology, besides the ever-popular study of personality, the driving force of developments has traditionally been within the cognitive domain, involving constructs such as intelligence, attention, working memory, spatial abilities, and the like (see e.g., two recent handbooks of individual differences by Gruszka, Matthews, and Szymura, 2010, and Chamorro-Premuzic *et al.,* 2011, which clearly reflect these priorities). In the field of L2 research, however, the domain that has drawn the most scholarly interest and has therefore best mirrored the ongoing progression of the field has been the study of motivation and the related issue of self-concept. This is reasonable given that language-related issues are at the heart of the social sciences and thus the acquisition of an additional language concerns a

very broad spectrum of the learner's personal and social identity. So, let us start our exploration of the new emerging principles by citing John Schumann's reflection on this issue, because it encapsulates and illuminates several relevant themes:

> We are not doing science, we are doing the difficult stuff. Science was developed for the physical world. We deal with the symbolic world of abstract conceptualizations such as motivation, intention, goals, rewards, wishes, imagined futures. So we don't do science; we explore phenomena of interest. Sometimes we use techniques that are also employed in scientific investigation, and sometimes we listen carefully to the stories that learners tell us about their second language learning. And we realize the stories are complex and fascinating and can't be constrained by experimental procedures.
>
> (personal communication, April 22, 2014)

Indeed, for most of its relatively short history, our field has employed methods and techniques developed for the study of the physical world (i.e., the 'scientific method'; see Dörnyei, 2007b) in order to investigate a 'symbolic world of abstract conceptualizations.' In several respects, the psychometric techniques have served us well and have carried us a long way in a relatively short time, but Schumann's insight brings to mind the oft-cited aphorism of the celebrated physicist Richard Feynman, who remarked that "science is imagination in a straitjacket." The implied challenge is to free ourselves from any unnecessary constraints without throwing out the baby with the bathwater, which is consistent with the 'having our cake and eating it' approach we alluded to in our preface. Rephrasing this in more academic terms, we can say that we are attempting to negotiate a route between two epistemologies, and this can be a hazardous course to embark upon.

It is often the case that a controversy we encounter in the field of L2 studies has already played out in mainstream psychology, and if this is so, it can be instructional to observe such a debate. For example, in a discussion of psychological theories of self-knowledge, Adler (2012) refers to the "nexus of epistemological traditions." Drawing on the ideas of Jerome Bruner (1986), he outlines two fundamental modes of human thought: (1) the 'paradigmatic mode' and (2) the 'narrative mode.' The paradigmatic mode is "concerned with the construction of rational arguments, striving toward an idealized system of description and categorization" (p. 327), thereby seeking to make empirically replicable assertions about behavior. This mode of thought—used extensively by trait psychologists in the past—is consistent with Byrne and Callaghan's (2013) description of "constant attempts to impose a reductionist framework on the social sciences" (p. 253); and although it is often unhelpful to use terms such as 'reductionist'—after all, research is to some degree always reductionist—we do concur that the paradigmatic mode now exerts a constraining influence on the development of understanding the psychology of the L2 learner.

The narrative mode of thought seeks to explain the dynamic ways in which people attempt to understand events, the meanings they ascribe to various experiences, and the ways by which they organize and structure them through storied arcs. By placing a premium on the subjective interpretation of narratives of lived experiences, this mode is ideal for examining the *integrative life narrative* substrate of McAdams's New Big Five model. As it is in stark contrast with the psychometric tradition of the paradigmatic mode, it presents an opportunity to circumvent the constraints of existing psychometric approaches. Crucially, according to Bruner (1986), the two modes of thought are believed to be complementary and we will adopt this position as the starting point for our reframing of the psychology of the second language learner (for further analysis of this question, see McAdams *et al.*'s [2004] discussion, "Traits and Stories: Links Between Dispositional and Narrative Features of Personality").

Toward an Integrated Framework

Working from the premise that the paradigmatic and narrative modes are complementary, we can now look at ways in which to integrate new avenues of thinking with more established approaches. Adler (2012) refers to this as 'walking the epistemological line' and that is what we intend to attempt in our proposal for an integrated framework for understanding the psychology of the language learner. In order to walk this line, we first need to consider the narrative mode in a little more detail; the paradigmatic mode and its various limitations are well known, but in proposing an integrated framework we have to be more explicit about what the narrative mode has to offer.

Perhaps the first point we need to stress here is that narratives in themselves are nothing new in the field of SLA. For certainly more than a decade, narrative inquiry as a research method has had its advocates (e.g., Barkhuizen, 2013; Barkhuizen, Benson, & Chik, 2014; Bell, 2002; Benson & Nunan, 2004; Mercer, 2013; Pavlenko, 2003), and the value of narratives and stories as efficient classroom tools for language learning and teaching has also been recognized (e.g., Kalaja, Menezes, & Barcelos, 2008; Wright, 2009). In the social sciences as a whole, we can speak of a 'narrative turn' or even 'narrative turns' (see e.g., Hyvärinen, 2010); according to Hyvärinen, the principal characteristics of these turns have been a growing interest in and recognition of narrative theory; a willingness to use narrative inquiry as a tool of investigation; and the development of narrative as an explicit identity concept. Our interest here is with the idea of narrative as an explicit *identity* concept.

Narrative Identity

Narrative identity is essentially concerned with the ways in which people organize and understand their experiences and memories in the form of various

narratives, such as stories, excuses, myths, or explanations, and in this way, their autobiographical stories become the foundations of their self-concept. A pioneer in this area was American psychologist Jerome Bruner (1987), who in a seminal paper argued that "in the end, we *become* the autobiographical narratives by which we 'tell about' our lives" (p. 15). This was an idea so powerful that an increasing number of scholars have now come to view narratives as the 'root metaphor' of psychology (for a recent discussion, see Singer, Blagov, Berry, & Oost, 2012).

Narrative identity has been described as "a person's internalized and evolving life story, integrating the reconstructed past and imagined future to provide life with some degree of unity and purpose" (McAdams & McLean, 2013, p. 233). To provide this unity and purpose, a personal narrative must be believable, and in order to be believable it needs to meet certain criteria of coherence. Perhaps the most obvious form of narrative coherence is *temporal coherence;* within a personal narrative, events must occur in a consistent and logical sequence. In addition to temporal coherence, Habermas and Bluck (2000) identified three other forms of coherence within personal narratives:

1. First, narratives must be *causally coherent*. This allows the individual to explain variations and connections within the ongoing narrative, how and why various events are linked to each other. Causal coherence also helps explain how narratives dynamically evolve over time; when faced with events that appear incompatible with an ongoing narrative, the need for causal coherence presents the individual with the choice of either revising the interpretation of that event to fit the narrative or adjusting the narrative to fit the interpretation of events.
2. A second form of coherence relates to the *cultural basis* of personal narratives. An individual's personal narrative is constructed according to certain templates available within a given culture, and any individual narrative must not deviate too far from these cultural norms if it is to remain coherent.
3. A final aspect of coherence is *thematic coherence*. When considered holistically, a personal narrative is likely to contain certain themes that repeat over time and across situations; these themes imply judgments about the character of the narrator. So, for example, individuals who see themselves as particularly artistic or creative will tend to shape their interpretations of various past experiences and future paths to be consistent with this creative self.

An Illustration: The Redemptive Self

In order to illustrate how we can incorporate narrative identity as a primary organizational component of the psychology of the second language learner, we offer an example of narrative identity from personality psychology. The most

developed account of a thematic narrative identity is Dan McAdams's description of a *redemptive self* (2006, 2012; McAdams & Adler, 2010; McAdams & Bowman, 2001), which is based on extensive research into the well-being of midlife adults in the United States. What McAdams, along with various colleagues, found was that a core theme in the autobiographical accounts of many of the participants was the notion of *redemption*. Within these narratives, redemption functions as the central organizing principle for the individual to shape life experiences into a meaningful storied form, and this narrative account facilitates psychological growth, development, coping, and well-being. Typical redemptive self-narratives might include story arcs such as:

- recovery from an unsuccessful marriage and bitter divorce to become a devoted, loving parent and/or spouse;
- the death of a family member as bringing the family closer together;
- the loneliness of childhood as forming a more resilient adult;
- severe criticism at work as making someone a better employee; or
- poor early life academic performance being overcome and thus contributing to later achievements.

This particular narrative is firmly rooted in a specific context—midlife adults in the United States—and may not apply to other cultural settings or stages of the life span. This narrative is also dynamic, developing in response to changing social contexts, social roles, life experiences, and life expectations. The narrative is simultaneously shaping interpretations of past events and being shaped by those same interpretations, and, in the same way, an operational self-narrative opens up possible futures and is further developed by the perceived availability of those futures. According to McAdams and Adler (2010) these narratives involve

> [a] patterning of the self that integrates disparate psychological elements—talents, needs, beliefs, goals, important memories, important roles—in such a way as to provide a person with a sense that his or her life is more or less unified over time and across life contexts.
>
> (p. 36)

With these considerations and illustrations in mind, let us now consider how this conceptualization of narrative identity can be reframed to fit the particular context of language learning.

Narrative Identity Within the Personality Structure of the L2 Learner

Figure 8.1 presents a schematic representation of narrative identity within the personality structure of the L2 learner. As can be seen, the figure is based on

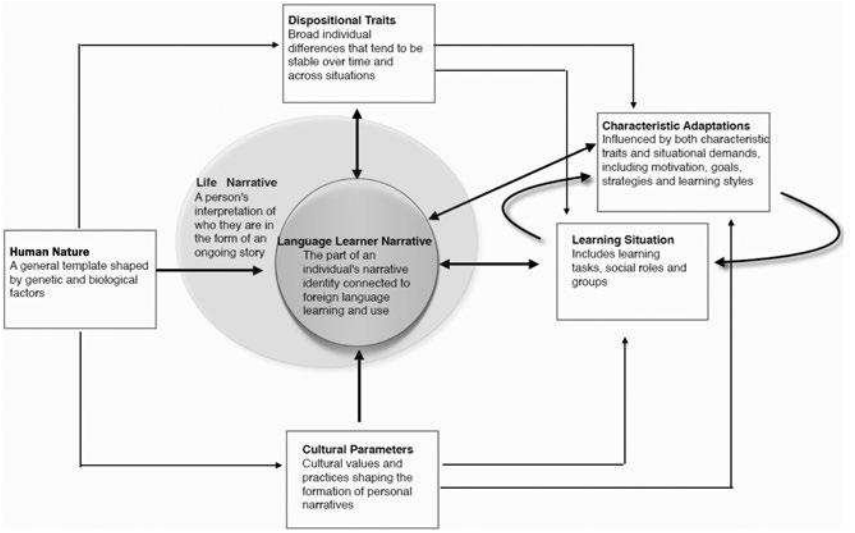

FIGURE 8.1 A narrative-based representation of the psychology of the language learner

McAdams's New Big Five construct described in Chapter 2; we placed at the core of this framework the L2 learner's narrative identity because we see it as the main organizational mechanism—or cohesive device—for the whole system. We define L2 narrative identity as the specific aspect of an individual's ongoing internal narrative that relates to learning and using a second/foreign language. As shown in the figure, it is an integral part of the individual's overall life narrative, responsible for processing past L2-related experiences and constructing future goals. Originally, we were somewhat hesitant to develop such a display because of the risk that visual representations of dynamic entities can unintentionally freeze the picture and impose static structures on our understanding, with boxes and arrows also implying causality and linearity. Nevertheless, visual illustrations can often be an effective way of describing intricate phenomena, especially in the formative stages of conceptualizing a system.

We would like to reiterate that our intention with the figure is not to present a definitive model of L2 learner personality—the representation is too simplistic and far from comprehensive—but merely to denote the position of the narrative identity embedded within some other key personality components. The latter include the genetically/biologically determined basic human nature as well as the broad context—both cultural and learning situational—which interact dynamically with the learner's evolving life narrative and the other two substrates of the New Big Five model: dispositional traits and characteristic adaptations. Placing narrative identity in the center indicates that it is exposed to the effects of all the other components, and is therefore the most volatile element of personality. However, it is also the element that is most under human control, and because its relationship with the system is bidirectional, it not only holds the

system together as a cohesive core but can also exert a formative influence on it. That is, the way people shape their life narrative will shape their whole mindset.

The dispositional traits represent the most recognizable psychological aspects of individuality, attributes that tend to remain consistent across tasks and situations. Their impact on learning is largely mediated through the learner's characteristic adaptations, which can thus be seen as interfaces between stable, trait-like dispositions and the learning situation. This is the aspect of L2 learner psychology that has the most direct impact on learning behaviors and outcomes, and as such represents the main concern for both researchers and practitioners. This is the reason why past ID research has tended to focus primarily on this area, as reflected in our book, in which the bulk of the discussion concerns various facets of these adaptations. However, McAdams and Pals (2006) remind us that "the distinction between dispositional trait and characteristic adaptation may not be perfectly clear in every case" (p. 208), because certain learner characteristics have interlinked trait-like and state-like dimensions (e.g., someone's inherent anxious tendencies develop special forms of anxieties in recurring situations within the person's life). Furthermore, certain situational conditions may blend together a number of different characteristic adaptations, resulting in 'complexes' of learner characteristics (adapting Ackerman's [2003] terminology as discussed in Chapter 3).

As mentioned above, we see narrative identity as the central organizational mechanism in individuality. It connects to all parts of the learner's psychology, and both drives and regulates change. For L2 learners, their understanding of the interactions between their various characteristic adaptations and the learning situation influence the development of their language learning narrative, and this narrative then feeds back into future adaptations. For researchers, it may be possible to identify and measure the changes in the various constituent elements of learner psychology; for theoreticians, it may be possible to describe them; for classroom practitioners, it may be possible to work with these changes in a pedagogically meaningful way; however, without a clear grasp of the narrative trajectory informing these changes, it will always be impossible to understand them.

To summarize, we can recap the key aspects of our framework of individuality as follows:

- We all represent some minor variation on a general human design.
- Each of us has certain cultural affiliations that distinguish us from others outside our own cultural groupings.
- We all have certain dispositional traits, which are both biologically/genetically and culturally based.
- We also have certain characteristic tendencies in the ways we adapt to the demands of particular situations.
- Finally, we make sense of all the above by generating an ongoing narrative that connects the disparate elements of our psychology and which also guides future development; our L2 narrative identity is a subset of this central life narrative.

Looking Forward

In this revisitation of our 2005 book, we have looked at how the field has evolved over the past 10 years, and we will conclude by proposing a research agenda that may guide us into the next 10 years. Earlier we declared our intention to 'walk the epistemological line,' that is, to steer a course between research in the currently dominant quantitative/psychometric paradigm and newer, narrative approaches. Since the literature on the scientific side of our epistemological line is already well developed, our discussion will lean toward the narrative side. However, this should not be interpreted as a rejection of scientific techniques, which we believe offer a complementary and compatible approach; for example, in Chapter 3 we mentioned intriguing recent research being conducted by Granena (2012, 2014) into the implicit and explicit dimensions of language aptitude, and while this research is situated firmly in the scientific paradigm, it also explores links to other aspects of learner psychology, such as learning styles. Our concluding thoughts will be organized around three core areas of challenge: *conceptual, methodological,* and *pedagogic,* and the proposed 'agenda' takes the form of a number of leading questions that we hope the next version of this book in 2025 will be able to address.

Conceptual Challenges

In this chapter, we have proposed narrative identity as the central organizational mechanism within language learner psychology, but we have to hold up our hands and admit that our current knowledge of this area is sparse. The established body of narrative-oriented research within L2 studies that we mentioned earlier has not really pursued the question of identity conceived as a dynamically interacting personality facet. Accordingly, we would see it as a priority to identify and describe a number of archetypal autobiographical narratives on learner characteristics. A working knowledge of actual L2 narrative identities appears to be a prerequisite to operationalize our theoretical framework, and three questions might be of particular significance in guiding us:

1. What typical language learner narrative trajectories can we identify?
2. How do these language learner narratives differ across cultural contexts?
3. How do these language learner narratives differ according to stages of the life span or proficiency?

Using the example of redemptive identity discussed earlier as a template, it should be possible to work toward building a *typology* of language learner narrative identities. One aim in creating this typology is to highlight *patterns of change,* which we may then use as contingencies supporting further theoretical

development and classroom practice. A useful theoretical concept in such an exploration of the dynamics in individuality is multilevel nested systems (Davis & Sumara, 2006; for an SLA perspective, see Mercer, 2015), which looks at how a number of self-organizing systems can interact as part of a wider system. As an illustration, with reference to our proposed framework, we may want to look at how the individual characteristic adaptations of a learner interact to form a broader system of adaptations, and then at another level we may analyze the interactions between these characteristic adaptations and other components of the framework. Questions we might consider in relation to the specific links and subprocesses include:

1. How do constituent elements of the various personality substrates interact with other elements within the broader framework?
2. How do the components of the framework interact with elements at other tiers?
3. What signature properties emerge from these interactions?

A further conceptual issue to address is where emotions fit into our framework. In the introduction of this book we expressed some regret at the field's inability to accommodate emotions sufficiently, resulting in primarily cognitive descriptions of learner characteristics. A specific emotional component is also conspicuously absent from the theoretical framework we have presented in this chapter (and the same point applies to McAdams's personality constructs). However, a narrative-based approach offers some hope in this direction; as Swain (2013, p. 196) points out, "It is in narratives—anecdotes and stories of learners' experiences—that the centrality of emotion and its connections to cognition becomes evident." In our discussion of anxiety in Chapter 7 we mentioned briefly some concerns with the 'affective paradigm' treatment of emotions in SLA (e.g., Pavlenko, 2013), which reflects the challenge of uniting the cognitive and emotional dimensions of learner psychology without offering an impoverished and decontextualized representation of the latter. This issue raises the following questions:

1. How do we best move away from the dominant 'affective factors' paradigm?
2. How do we describe and measure emotions in a systematic way?
3. How can we accommodate *positive* emotions more effectively into our descriptions of learner psychology?

Methodological Challenges

A consistent theme throughout this book has been the general shift toward complementing quantitative research techniques with qualitative inquiry and other

idiographic approaches, and this was most pronounced in Chapter 4, where we witnessed a 'methodological transformation.' As our field expands both in output volume and theoretical scope, we are likely to witness even further methodological innovation. In order to facilitate this process but at the same time maintain some form of methodological coherence, the following questions gain significance:

1. Which methods and techniques are currently being used successfully?
2. How do we develop a 'common language' to be shared by researchers coming from different directions?
3. How do we accommodate the use of psychometric techniques within a narrative-based framework?

A shift toward narrative methodologies also raises the question of "what makes a 'good' narrative" (Adler, 2012, p. 328). While the quality criteria for established types of quantitative and qualitative methods have long been developed (e.g., aspects of validity, reliability, and generalizability), the narrative as a research tool comes with some new questions concerning the *temporal, causal, thematic,* and *cultural coherence* of stories (discussed earlier), as well as what 'accuracy' and 'credibility' mean in narrative terms:

1. Are some life narratives better than others? If so, in what way?
2. Can we set specific criteria to ensure quality standards in narrative research?
3. How can we measure or evaluate the cohesive function of L2 life narratives?

Pedagogic Challenges

Working in an applied discipline, we must not forget the practical dimension to our research. In Chapter 4 we argued that it was partly the balance between theoretical development and practical classroom relevance that had energized the field of motivation, leading to the surge we have witnessed in recent years. We also saw in Chapter 6 that the primary driving force behind the perseverance of learning strategy research has been the highly successful educational use of learning strategies. Thus, it might be well advised to consider how we may extend this sense of pedagogic relevance to other areas of learner psychology, without oversimplifying issues or suggesting linear, causal relationships with learning outcomes. The possible range of questions relating to the pedagogic applications of our framework is almost boundless, so we will simply focus on the narrative component here. In Chapter 4, we saw how new directions in motivation theory were beginning to have a noticeable impact on classroom practice and much of this was because of the pedagogic versatility of the concept of vision (e.g., Dörnyei & Kubanyiova, 2014). In order to make our narrative-based framework more meaningful for practitioners we will utilize

these advances relating to the use of vision in the classroom and consider the following questions:

1. How do learner narratives inform imagery and visions that lead to directed learning effort?
2. How can an understanding of learner narratives be incorporated into the design of learning tasks?
3. How can we intervene in cases where a learner narrative is leading to maladaptive learning behavior?

Final Thoughts

The classic, modular ID paradigm upon which the original version of this book was based offered a neat way of exploring the psychology of the L2 learner: By identifying small and discrete components of learner psychology and by measuring them within well-selected learner samples, one should be able to predict the effectiveness of SLA. Unfortunately, while yielding valuable insights, this seemingly logical approach proved to be an illusion as a whole. The new perspective we have described in this volume as an alternative is admittedly less tidy but, we believe, more robust and adaptable to the demands of researchers and practitioners.

We said in the preface that the 2005 version of this book now appears to represent a turning point in our field, the point at which we seriously started to question the 'individual difference myth' and the binds of the 'scientific straitjacket' it entailed. By 2015 we have reached another point of transition; we have largely worked our way out of this straitjacket but, since we are not yet accustomed to such levels of freedom, we are neither sure of what clothes to put on for the journey nor where we want to go next. Although we could not provide a fully fledged tourist guide in the previous chapters, our hope is that the various reviews and discussions may offer some form of guidance to those looking to take the field forward to exciting new destinations.

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DEFINITIONS INDEX

A book of this comprehensive nature requires a glossary to summarize and briefly explain the great number of technical terms introduced in the different chapters. However, glossaries can be problematic since the need to offer succinct definitions inevitably simplifies complex meanings. For some concepts this may work well whereas with some others we may lose the essence of the term or metaphor. Consistent with the original version of *The Psychology of the Language Learner*, we list all the important technical terms introduced in the book but instead of providing a definition for them we indicate the exact page number(s) where the concept in question is introduced and explained. Further references to the concepts can be found in the Subject Index.

AUTHOR INDEX

SUBJECT INDEX