

Individual differences in second language acquisition

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Ever since the early days of its existence, the field of psychology has been trying to achieve two different and somewhat contradictory objectives: to understand the *general principles* of the human mind and to explore the *uniqueness* of the individual mind. The latter direction has formed an independent subdiscipline within the field, usually referred to as *individual difference* (ID) research. IDs are a prominent feature of SLA because a great deal of the variation in language learning outcomes is attributable, either directly or indirectly, to various learner characteristics. This paper first provides an overview of the five most important ID variables (personality, aptitude, motivation, learning styles and learning strategies) and then concludes by describing certain common themes in contemporary ID research.

Individual differences (IDs) refer to dimensions of enduring personal characteristics that are assumed to apply to everybody and on which people differ by degree. In other words, they concern stable and systematic deviations from a normative blueprint. IDs are important: In psychology there is a whole subdiscipline, traditionally termed *differential psychology* but recently more frequently referred to as *individual difference research*, with a focus on exploring the uniqueness of the individual mind. There is a plethora of studies to show that IDs significantly affect human thinking and behaviour (for reviews, see e.g. Cooper 2002; De Raad 2000; Eysenck 1994) and this impact has been well documented in educational contexts as well (e.g. Snow, Corno and Jackson 1996). IDs have also been found to be consistent predictors of success in second language acquisition (SLA), yielding multiple correlations with language attainment in instructed settings within the range of .50 and above (see Dörnyei and Skehan 2003; Sawyer and Ranta 2001). However, in a recent comprehensive overview of the field (Dörnyei 2005), I was surprised to find that each main ID area is currently undergoing a fundamental transition/restructuring in second language (L2) research. In this article I address this transformation process with regard to the five most important L2 ID domains, *personality*, *aptitude*, *motivation*, *learning styles* and *learning strategies*. The following discussion will be based on Dörnyei (2005) and readers are referred to this summary for further details.

Personality traits

Personality is the most individual characteristic of a human being and therefore it may be surprising that from an educational perspective personality factors appear to play a far less important role than some other ID variables such as aptitude and motivation. In accordance with this, the amount of research targeting personality in L2 studies has also been minimal compared to the study of most other ID variables and, as we will see below in more detail, the available results are typically weak or non-conclusive. One reason for the ambiguous position of personality in educational research lies in the fact that personality has traditionally been conceptualised in diverse ways: Personality is such a crucial aspect of psychology that every main branch of psychology has attempted to contribute to the existing knowledge in this area and thus the scope of theorising can be as broad as the differences among the various paradigms in psychology.

The good news, however, is that over the past 15 years personality psychology has reached a growing consensus in the conceptualisation of the main dimensions of human personality. Current research in the field is dominated by only two taxonomies focusing on personality traits, Eysenck's three-component construct (e.g. Eysenck and Eysenck 1985) and the 'Big Five' model (e.g. Goldberg 1992, 1993; McCrae and Costa 2003). Furthermore, the two models overlap considerably: Eysenck's model identifies three principal personality dimensions, contrasting (1) *extraversion* with *introversion*, (2) *neuroticism* and *emotionality* with *emotional stability*, and (3) *psychoticism* and *toughmindedness* with *tender-mindedness*. The Big Five construct retains Eysenck's first two dimensions, but replaces psychoticism with three additional dimensions: *conscientiousness*, *agreeableness* and *openness to experience*. This convergence in categorisation makes the use of personality factors as independent variables in research studies easier and more reliable for non-psychologists.

In educational psychology several studies have attempted to identify the personality correlates of academic achievement but the emerging overall picture is rather mixed, if not bleak: Although past research has provided evidence that personality factors are implicated in educational achievement, including success in SLA, no coherent picture has emerged. There are at least four reasons to account for this ambiguity:

(1) *Interaction with situation-specific variables*. There is some evidence that personality factors interact with various variables inherent to the social context of the learning situation, which prevents generalised linear associations (such as correlations) from reaching overall significance. Several studies have shown that the nature of the actual tasks students engage in imposes a personality bias. For example, extraverts tend to perform well under conditions of high stimulation or arousal, whereas the same task might impair introverts' performance (Matthews et al. 2000), and students relatively high on Openness to Experience should thrive in educational settings that promote and reward critical and original thought (Farsides and Woodfield 2003). Thus, it appears that the relationship between personality factors and learning achievement is often not direct and linear but rather indirect, mediated by various situation-specific variables.

(2) *Need for less simplistic models.* In spite of the often non-linear nature of the relationship between personality factors and learning achievement, the typical research design reported in the literature is still correlational, testing for simple personality–learning outcome relationships. An example of a more complex model that includes a featured personality component in the L2 field is the Willingness to Communicate (WTC) construct by MacIntyre, Clément, Dörnyei and Noels (1998), in which personality forms an important part of the basic layer of the construct, with four further layers of variables conceptualized between personality traits and communicative behaviour.

(3) *Supertraits or primary traits.* The Big Five construct consists of five main dimensions, or ‘supertraits,’ which are further broken down to 30 facets, or ‘primary traits.’ Although the rationale for clustering the primary traits into supertraits was that the facets in one 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. For example, Matthews et al. (2000) highlighted that some of the strongest links between personality and performance had been obtained at the primary trait level (notably between anxiety and performance). Such intra-trait differences obviously reduce the supertraits’ predictive capacity, but the alternative, that is, to examine the personality–learning relation at the primary trait level, would in effect mean giving up the Big Five construct with all its merits.

(4) *Methodological issues.* The inconclusive results in the literature are also partly due to various methodological limitations or inconsistencies. Different studies have used different criteria for academic success (ranging from exam marks, grade point average and final degree results to situated course-specific evaluations such as course grades), have permitted considerably different time lapses between the collection of predictor and criterion data (with a range of a few weeks to several years) and have employed convenience samples (the most typical being psychology majors at the university of the researchers) in which 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.

Personality factors in SLA research

The most researched personality aspect in language studies has been the extraversion–introversion dimension, which is understandable because this trait is fundamental to a number of personality theories, from the MBTI typology to Eysenck’s model and the Big Five construct. Furthermore, as Furnham (1990) points out, it is relatively easy to produce a reliable measure of this trait and there are also several obvious commonsense relationships between extraversion and language use. Yet, the emerging picture about the role of extraversion–introversion in SLA has been rather negative, with scholars either concluding that the relationship between this trait and learning was insignificant or mixed. Dewaele and Furnham (1990) argued that this bad reputation is partly due to not distinguishing properly between written and oral language criteria and in studies where extraversion scores are correlated with linguistic variables

extracted from complex verbal tasks (i.e. conversation), 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 characterised by interpersonal stress. Dewaele (2004) also found that extraverted L2 speakers tended to use colloquial words freely whereas introverts tended to avoid them. This is in accordance with Skehan's (1989) proposal that within SLA we should be able to observe a more prominent positive effect of extraversion than in other educational domains, where introverts have usually been found to have an advantage. On the other hand, Skehan also pointed out that SLA involves many learning tasks and processes which go beyond learning-by-doing or talking-to-learn (e.g. memorising vocabulary or preparing written assignments), and these aspects of learning would seem to relate more easily to the introvert.

Space limitations do not allow us to look at the L2 impact of other personality factors; instead, let me conclude this section by describing briefly Verhoeven and Vermeer's (2002) investigation because, to my knowledge, this study has been 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). Communicative competence was operationalized in terms of three main constituents: *organisational competence* (measured by standardised 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 behaviour 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 the three competencies (with a mean correlation of 0.43). Extraversion was associated only with strategic competence ($r = 0.51$) and Conscientiousness had a moderate correlation with organisational competence ($r = 0.28$). 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.

Language aptitude

The concept of *language aptitude* is related to the broader concept of *human abilities*, or *intelligence*, covering a variety of cognitively-based learner differences. Ever since the beginnings of ID research at the end of the 19th century, intelligence has been closely associated with learning success — explaining, according to Sternberg (2002) as much as 25% of individual-difference variation in school performance — and therefore it was only a question of time that attempts were made to conceptualise 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’ or ‘knack’ for languages. Indeed, language aptitude is one of those psychological concepts that are readily recognisable for researchers and laypeople alike, and nobody would question that the innate ability to learn a language other than one’s mother tongue varies significantly from individual to individual. Yet, when we give the concept a 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, similarly to their colleagues in mainstream psychology, scholars specialising in language aptitude research display considerable diversity in the conceptualisation 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 and Sapon 1959: 14). 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,’ makes it questionable as to whether it is still useful to use the umbrella-term of ‘language aptitude’ and, in fact, several recent studies on cognitive abilities have abandoned using the term (e.g. Ellis 2001; Robinson 2003). However, because standard measures of language aptitude remain relatively good indicators of learning success, the concept is still widely used in the general sense.

Although language aptitude tests were constructed in the US as early as the 1920s, the ‘golden age’ of scientific language aptitude testing took place in the 1950s and 1960s, heralded by two systematic test development programmes by John Carroll and Stanley Sapon on the one hand and by Paul Pimsleur on the other. Two commercial aptitude batteries for use with adolescents and adults stem from this early work: the *Modern Language Aptitude Test* (MLAT; Carroll and Sapon 1959), and the *Pimsleur Language Aptitude Battery* (PLAB; Pimsleur 1966). Ever since the MLAT and the PLAB were introduced, language aptitude has been equated in most research studies with the scores of one of these (or some other, similar) tests and the tacit understanding in the L2 research community has been that language aptitude is what language aptitude tests measure.

Based on results obtained by the MLAT, Carroll (1981: 105) proposed a theoretical construct of language aptitude that 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”. (2) *Grammatical sensitivity*, which is “the ability to recognize the grammatical functions of words (or other linguistic entities) in sentence structures”. (3) *Rote learning ability*, which is the “ability to learn associations between sounds and meaning rapidly and efficiently, and to retain these associations”. (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's (1962, 1981) aptitude theory dominated the field for three decades but the past 15 years brought a new boom in language aptitude research. The 1990s started with the publication of an ambitious anthology entitled *'Language Aptitude Reconsidered,'* edited by Thomas Parry and Charles Stansfield (1990) and including a contribution by Carroll (1990), and as if this volume had given the field some fresh momentum, there followed a renewed interest in the concept (for reviews, see Dörnyei 2005; Robinson, in press; Skehan 2002; Sparks and Ganschow 2001; Spolsky 1995) 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 aptitudes that make up the composite language learning ability. Second, scholars started to explore ways of linking language aptitude to a number of important issues in SLA research. Thus, the common theme in the various post-Carroll research directions has been the examination of the SLA-specific impact of specific cognitive factors and subprocesses, going beyond the use of the language aptitude metaphor as an umbrella term. By way of illustration, let me highlight four particularly interesting lines of research.

Grigorenko, Sternberg and Ehrman's research

Perhaps the most traditional in the new approaches has been the development of a novel language aptitude test — the *Cognitive Ability for Novelty in Acquisition of Language as applied to foreign language test* (CANAL-FT) — by Grigorenko, Sternberg and Ehrman (2000) in the sense that these authors still focused on the composite aptitude concept, although conceptualized it rather differently from the Carroll-tradition. In contrast to the MLAT or the PLAB, which had emerged from the tradition of psychometric test development, the CANAL-FT has been theory driven, drawing on Sternberg's triarchic theory of human intelligence (Sternberg 2002). The main emphasis in the CANAL-FT is on measuring how people cope with novelty and ambiguity in their learning. This is done in a naturalistic context by gradually introducing an artificial language, Ursulu, and testtakers are to perform a number of mini-learning tasks so that by the end of the test they have mastered enough lexical, morphological, semantic and syntactic knowledge to cope with a small story in Ursulu.

Research on L1 literacy

A systematic line of research by Richard Sparks, Leonore Ganschow and their associates has focused on what they have labelled the Linguistic Coding Differences Hypothesis (LCDH; e.g. Sparks and Ganschow 1991, 2001; Sparks et al. 1998). According to the hypothesis, 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 native language difficulties. The central cognitive factor the theory focuses 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. The significance of L1 literacy skills in L2 studies has also been 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’ — see below) in terms of their impact on learning English as a foreign language. The authors found that both L1 literacy and phonological memory had positive effects on L2 learning, together explaining as much as 58% of the variance in English proficiency. Thus, in agreement with Sparks and Ganschow (2001), Dufva and Voeten (1999) concluded that native language word recognition formed the basis of learning an L2. Finally, the importance of L1 skills have also been emphasised recently by Tarone and Bigelow’s (2005; Bigelow and Tarone 2004) research on literacy. These scholars present evidence that alphabetic literacy has a significant impact on oral language processing tasks that require an awareness of linguistic segments. The authors argue that the acquisition of the ability to decode an alphabetic script changes the way in which the individual processes oral language in certain kinds of cognitive tasks, which supports the claim that literacy should be seen as a human capacity central to SLA.

Working memory and language aptitude

Research into the relationship between *working memory* and SLA appears to be one of the most promising current directions in language aptitude studies, and as Miyaki and Friedman (1998: 339) conclude, “working memory for language may be one (if not the) central component of this language aptitude.” Working memory involves the “temporary storage and manipulation of information that is assumed to be necessary for a wide range of complex cognitive activities” (Baddeley 2003: 189); thus, it underpins our capacity for thinking and has important specific implications for language processing. It appears to be an ideally suited memory construct for SLA purposes because besides its phonological short-term memory constituent it also comprises a featured ‘attention’ component, and the role of attention and attentional capacity has been a key research target in recent SLA research (see Robinson 2003). For this reason, Ellis (2001) emphasised that the concept deserves much more consideration than it has been thus far given in L2 studies, a conclusion also echoed by others (see Sawyer and Ranta 2001).

Miyake and Friedman (1998) also emphasised that although working memory plays a central role in all forms of higher-level cognition, its role is particularly featured in language processing because both the production and the comprehension of language requires the processing of sequences of symbols over time in a linear manner. This linearity inherently necessitates a temporal storing capacity and the ability

to integrate information from the stream of successive discourse. According to the current conceptualisation, working memory matches these simultaneous processing and storage requirements perfectly. The authors therefore conclude that individual differences in L1 working memory capacity for language are 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.

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 as to whether there are any optimal combinations of ID variables that are especially conducive to efficient learning. One researcher in particular, Richard Snow, was influential in highlighting the potential importance of such ID variable clusters, or as he called them, *aptitude complexes*. His initiative has been taken up by several of his colleagues and students (see 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: 92). Furthermore, 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, resulting in a powerful situated ID paradigm for learning. This is the theoretical foundation that Peter Robinson (e.g. 2001 2002, in press) drew on when he launched his pioneering research program on language aptitude-treatment interaction.

The significance of Robinson's aptitude research lies in the fact that this was 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 conceptualized language aptitude as the sum of lower level abilities (e.g. pattern recognition or processing speed), which can be grouped into higher-order cognitive factors (e.g. noticing the gap, or metalinguistic rule rehearsal), which differentially support learning in various learning situations/conditions. Thus, Robinson has been the first scholar to create viable links between ID research and aspects of SLA, and his suggestions and initial framework will hopefully inspire much future research in this direction.

Skehan's conception of language aptitude and SLA

The fourth line of research that has great potential for future developments is Peter Skehan's (1998, 2002; Dörnyei and Skehan 2003) attempt to relate various aptitude components to the different phases of the SLA process. Not unlike Robinson, Skehan argued that by taking a componential approach to analysing 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 1 presents Skehan's proposal of theoretical matches between stages of SLA and aptitude

Table 1. Skehan's proposal of SLA stages and aptitude constructs

SLA Stage	Corresponding Aptitude Constructs
Input processing strategies, such as segmentation	<i>Attentional control</i> <i>Working memory</i>
Noticing	Phonetic coding ability <i>Working memory</i>
Pattern identification	Phonetic coding ability <i>Working memory</i> Grammatical sensitivity Inductive language learning ability
Pattern restructuring and manipulation	Grammatical sensitivity Inductive language learning ability
Pattern control	<i>Automatization</i> <i>Integrative memory</i>
Pattern integration	<i>Chunking</i> <i>Retrieval memory</i>

components. In the aptitude column 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 therefore the table also suggests a research agenda regarding areas where new aptitude sub-tests could beneficially be developed.

Language learning motivation

It is universally accepted that *motivation* plays a vital role in academic learning in general, and this is particularly true of the sustained process of mastering a second language. L2 motivation has been conceptualized as a multi-faceted construct that comprises a number of more general, trait-like and more situation-specific, state-like components that direct and energise learning behaviour (for reviews, see Dörnyei 2001, 2005; Gardner 1985, 2001; Clément and Gardner 2001; MacIntyre 2002; Noels 2003; Ushioda 2003).

Research on language learning motivation was first initiated and then consistently pursued by Robert Gardner and his associates in Canada (e.g. Clément and Gardner 2001; Gardner and Lambert 1972; Gardner and MacIntyre 1991, 1993; Masgoret and Gardner 2003; Tremblay and Gardner 1995). These researchers have adopted a social-psychological perspective and developed a motivational theory that was centred around language attitudinal variables and was firmly grounded in empirical data obtained through scientific research procedures using standardised assessment instruments. The key component of Gardner's (1985) motivation theory was the *integrative motive*, which concerns a positive interpersonal/affective disposition toward the L2

group and the desire to interact with and even become similar to valued members of that community. It implies an openness to and respect for other cultural groups and ways of life; in the extreme, it might involve complete identification with the community and possibly even withdrawal from one's original group.

In the 1990's there was a broadening of perspectives in L2 motivational research, exploring a number of different motivational dimensions originally introduced in educational psychological research (for a review, see Dörnyei 2001). This 'cross-fertilisation' led to an unprecedented boom in L2 motivation studies and a variety of new models and approaches were put forward in the literature, resulting in what Gardner and Tremblay (1994) have called a "motivational renaissance". A common feature of these new research attempts was the move toward a more *situated approach* to the study of motivation, examining how the immediate learning context influences the learners' overall disposition and how motivation, in turn, effects concrete learning processes within a classroom context. It was argued by several researchers (e.g. Brown 1990; Crookes and Schmidt 1991; Dörnyei 1994; Julkunen 1989; Oxford and Shearin 1994) that the classroom environment had a much stronger motivational impact than had been proposed before, highlighting the significance of motives associated with the L2 course, the L2 teacher and the learner group. It is interesting to note that this change in thinking in the L2 field was parallel to a similar shift in educational psychology toward a more grounded and contextualised approach to motivation research (e.g. Hickey 1997; Wentzel 1999).

Thus, by the end of the 1990s motivation research was characterised by a colourful variety of various approaches and constructs and scholars often followed a 'pick-and-mix' method in conceptualising motivation for their particular research purposes. This eclectic background provided fertile ground for theoretical developments, of which I consider three particularly forward-pointing: the process-oriented conceptualisation of motivation, the reinterpretation of the integrative motive and finally the reframing of L2 motivation as part of the self system.

Motivation and time

The situated approach emerging in the 1990s soon drew attention to a rather neglected aspect of motivation: its *dynamic character* and *temporal variation*. As I have argued elsewhere (Dörnyei, 2000, 2001), when motivation is examined in its relationship to specific learner behaviours and classroom processes, there is a need to adopt a *process-oriented approach* that can account for the daily 'ups and downs' of motivation to learn, that is, the ongoing changes of motivation over time. Looking at it from this perspective, motivation is not seen as a static attribute but rather as a dynamic system that displays continuous fluctuation, going through certain ebbs and flows. Indeed, even during a single L2 course one can notice that language-learning motivation shows a certain amount of changeability, and in the context of learning a language for several years, or over a lifetime, motivation is expected to go through very diverse phases.

The most elaborate conceptualisation of the motivational process to date has been offered by Dörnyei and Ottó's (1998) process model (see also Dörnyei 2000, 2001). This model synthesises a number of different lines of research in a unified framework, detailing how initial wishes and desires are first transformed into goals and then into operationalized intentions, and how these intentions are enacted, leading (hopefully) to the accomplishment of the goal and concluded by the final evaluation of the process. Within this process we can distinguish at least three distinct phases: (1) *Preactional Stage*, concerning the selection of the goal or task that the individual will pursue; (2) *Actional Stage*, concerning learning-situation-specific 'executive' motives related to the L2 course, the L2 teacher and the learner group; (3) *Postactional Stage*, concerning the learners' *retrospective evaluation* of how things went.

There have been few studies to date specifically conducted to examine the temporal dimension of motivation. Motivational changes have been empirically documented in the past by studies investigating how motivation loses its intensity in school contexts over sustained periods (e.g. Chambers 1999; Gardner, Masgoret, Tennant and Mihic 2004; Williams, Burden and Lanvers 2002) and how learners' motivational orientation undergoes changes during the learners' lifespan (e.g. Lim 2002; Shedivy 2004). Two studies — by Ushioda (2001) and Shoaib and Dörnyei (2005) — have specifically addressed aspects of motivational change within a process-oriented paradigm. An interesting result of the latter study was the identification of a number of salient recurring temporal patterns and *motivational transformation episodes* in the learners' lives that resulted in the profound restructuring of their motivational disposition.

The reinterpretation of the integrative motive

Recently Gardner's (1985) classic concept of '*integrative motivation*' has been questioned because of its lack of applicability to several learning contexts. In situations where an L2 is used as an international language, and especially in the case of 'Global English', it is less and less clear who 'owns' the L2 and this absence of a well-specified target language community undermines the attitudinal base of Gardner's theory of L2 motivation (see Dörnyei, Csizér and Németh 2006). 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" (ibid), a view that has been echoed by several other scholars (e.g. Chen, Warden and Chang 2005; Csizér and Dörnyei 2005; Irie 2003; Lamb 2004; Ryan 2006; Yashima 2000).

In broad terms, an integrative motivational orientation concerns some sort of a psychological and emotional *identification* with the L2 community. One way of extending the concept is to talk about some sort of a virtual or metaphorical identification with the sociocultural loading of a language rather than with the actual L2 community (Dörnyei 1990), and in the case of the undisputed world language, English, this identification would be associated with a non-parochial, cosmopolitan, globalized

world citizen identity. In several parts of the world there is a clear indication that such a 'global identity' exists, and it is merely a terminological issue as to whether we label this a modified version of integrativeness or in some other way. Besides integrativeness, the Global English identity is also related to instrumental aspects because the English-speaking world coincides with several of the technically most developed industrialised nations and therefore English has become the language associated with technological advances, for example computing and the Internet. This may explain the frequently observed blending of integrative and instrumental motives.

At this stage it is important to introduce the intriguing concept of the '*imagined community*' proposed by Bonny Norton (2001). Based on Wenger's (1998) notion of 'imagination' as a mode of belonging to a community, Norton conceptualises 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. It appears that the notion of 'imagined community' lends itself to be used with regard to the international or Global English identity described above as this identity concerns membership in a virtual language community. Indeed, Norton explicitly states that a learner's imagined community invites an "imagined identity" (p. 166). Looking at integrative motivation from this perspective, it can be viewed as the desired integration into an imagined L2 community.

The L2 Motivational Self System

While the concept of extended or metaphorical or imaginary integration does help to explain findings that are in many ways similar to the Canadian 'integrative' results but have been obtained in contexts without any realistic opportunity for direct integration, I would suggest that we can get an even more coherent picture if we leave the term 'integrative' completely behind and focus more on the identification aspects and on the learner's self-concept. I have recently proposed a new approach to the understanding of L2 motivation (Dörnyei 2005), conceived within an '*L2 Motivational Self System*', which attempts to integrate a number of influential theoretical L2 approaches (e.g. Gardner 1985; Noels 2003; Norton 2001; Ushioda 2001) with findings in 'self'-research in psychology. The central theme of this new conception is the equation of the motivational dimension that has traditionally been interpreted as 'integrativeness/integrative motivation' with the '*Ideal L2 Self*'. The latter refers to the L2-specific facet of one's 'ideal self', which is the representation of all the attributes that a person would like to possess (e.g. hopes, aspirations, desires): If one's ideal self is associated with the mastery of an L2, that is, if the person that we would like to become is proficient in the L2, he/she can be described — using Gardner's terminology — as having an 'integrative' disposition.

Following the work of Higgins (1987, 1998), we can postulate another self dimension, the '*Ought-to L2 Self*', which concerns the more extrinsic (i.e. less internalised) types of instrumental motives: This self guide refers to the attributes that one believes one *ought to* possess (i.e. various duties, obligations or responsibilities) and which

therefore may bear little resemblance to the person's own desires or wishes. Although the ideal and the ought-to selves are similar to each other in that they are both related to the attainment of a desired end-state, Higgins (1998) emphasises that the predilections associated with the two types of future selves are motivationally distinct from each other: Ideal self-guides have a *promotion* focus, concerned with hopes, aspirations, advancements growth and accomplishments; whereas ought-to self-guides have a *prevention* focus, regulating the absence or presence of negative outcomes, concerned with safety, responsibilities and obligations. Thus, from a self perspective, L2 motivation can be seen as the desire to reduce the perceived discrepancies between the learner's actual self and his/her ideal or ought-to L2 selves.

The L2 Motivational Self System also contains a third major dimension of the L2 motivation complex labelled '*L2 Learning Experience*', which concerns situated 'executive' motives related to the immediate learning environment and experience, corresponding to the motives activated in the actional stage of the process model of motivation described earlier.

An important future research task with regard to the L2 Motivational Self System is to establish its compatibility with the process-oriented conception of L2 motivation described earlier. As we have seen, the L2 Learning Experience dimension is related to executive motives associated with the actional stage of motivated behaviour, and the Ideal and Ought-to L2 Selves are by definition involved in pre-actional deliberation. It needs to be specified, however, how the latter two components relate to motivational processing occurring during the actional and post-actional phases of the motivational process. That is, it is not clear how our Ideal and Ought-to L2 Selves affect the actual learning process. Ushioda (2001) suggests that motivational change entails the evolving nature of goal-orientation, that is, achieving a clearer definition of L2-related personal goals. Within a self framework this would correspond to the elaboration of the Ideal L2 Self and perhaps the internalisation of the Ought-to L2 Self.

A possible promising inroad into understanding the interface of the Ideal L2 Self and the actional phase of motivation opens up if we consider Norton's (2001) concept of 'imagined communities' mentioned earlier. Norton highlighted Wenger's (1998) proposal of three modes of belonging to a community: *engagement*, *imagination* and *alignment*. The conceptualisation of imagination and alignment can lead us to a better understanding of how ideal self images are realised in concrete situations, because, as Norton explained, "imagination does not necessarily result in the coordination of action. It is here that the notion of alignment becomes central, because it is through alignment that learners do what they have to do to take part in a larger community" (p. 164). The author further argued that the concept of 'investment' deserves special attention in this respect because this can capture the learner's active process of promoting belonging to the imagined community (see also Pittaway 2004).

Language Learning Styles

There is a considerable body of literature discussing the role of *learning styles* in SLA and most of these studies treat the concept as an important, although somewhat underresearched, topic. However, the uninitiated reader would find only very few clues in the published L2 literature pointing out the fact that the area is a real quagmire: There is a confusing plethora of labels and style dimensions; there is a shortage of valid and reliable measurement instruments; there is a confusion in the underlying theory; and the practical implications put forward in the literature are scarce and rather mixed, and rarely helpful. Furthermore, this situation is not confined to L2 research only but a similar picture emerges in the field of educational psychology; as Snow, Corno and Jackson (1996) concluded in their summary of individual differences in the *Handbook of Educational Psychology*, “No category we have covered contains a more voluminous, complex, and controversy-laced literature than that of personal styles” (p. 281). The reason why researchers have not given up on learning styles is that there is something genuinely appealing about the notion and what scholars are hoping is that the current confusion is merely due to our insufficient knowledge rather than the scientific inadequacy of the concept.

According to the standard definition, *learning styles* refer to “an individual’s natural, habitual and preferred way(s) of absorbing, processing and retaining new information and skills” (Reid 1995a: viii); thus, they are “broad preferences for going about the business of learning” (Ehrman 1996: 49). In other words, 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. This sounds straightforward, yet subsequent research has uncovered at least three areas of theoretical ambiguity with regard to the notion:

The first problem area concerns the relationship between learning styles and learning strategies. The two concepts are thematically related since they both denote specific ways learners go about carrying out learning tasks. According to Snow et al. (1996), the main difference between the two concepts lies in their breadth and stability, with a style being a “strategy used consistently across a class of tasks” (p. 281). In agreement with this claim, Riding (2000) added that styles probably have a physiological basis and are fairly fixed for the individual, whereas strategies may be learned and developed in order to cope with situations and tasks. 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 (Ehrman 1996). The stability aspect of styles has also been questioned when researchers observed that early educational experiences do 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 and Mainemelis 2001).

Second, we also get on shaky ground when we try to analyse 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.’ As she explained, however, for a minority learning styles are more firmly set and are therefore more than mere preferences: They 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. Accordingly, a learning style can range from a mild preference to a strong need.

The third source of controversy concerns the relationship between learning styles and personality, as reflected by the fact that some well-known psychological constructs are sometimes referred to as learning styles and sometimes as personality dimensions. The dimension of extraversion–introversion 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. In fact, Ehrman (1996) has characterised certain learning styles as ‘personality-based learning styles,’ which are personality dimensions that have cognitive style correlates. While this may be a subtle and precise definition, the popular perception often mixes up personality and styles, as manifested in the use of the Myers-Briggs Type Indicator (MBTI), which is the most widely employed personality test in the world, but which has been often used in L2 learning styles studies as the main research instrument.

Thus, learning styles 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. (For a critical summary of learning styles in educational psychological research, with a special focus on assessment, see Coffield, Moseley, Hall and Ecclestone 2004.)

Learning styles in second language research

Styles research in the L2 field offers a mixture of good and bad news. On the positive side is the fact that there has been a longstanding research interest in language learning styles and several instruments have been developed and used to understand the role of learning styles in SLA (for reviews, see Ehrman and Leaver 2003; Leaver, Ehrman and Shekhtman 2005; Reid 1995b, 1998). The negative aspect is that hardly any attempt has been made to address the issue of the various conceptual ambiguities and difficulties associated with the notion, as if authors had been oblivious to the problematic nature of the concept. Furthermore, empirical studies conducted on L2 learning have typically produced weak, mixed or at best moderate results, as a consequence of which there has been a gradual loss of interest in language learning style research in the second half of the 1990s. However, this situation may be changing for the better because there has been a renewed interest since the late 1990s in designing learning style constructs in several parts of the world.

Two instruments in particular are noteworthy: Cohen, Oxford and Chi's (2001) *Learning Style Survey* and the *Ehrman and Leaver Learning Style Questionnaire* (Ehrman and Leaver 2003). The latter was based on a novel theoretical construct put forward by Ehrman and Leaver, the *E&L Construct*, which offers a systematic and comprehensive summary of the state of the art in language learning style research. It reorganises 10 established style dimensions under a new, comprehensive and parsimonious construct along one superordinate style dimension, with the two poles labelled *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. The style dimensions range from the classic concept of *field dependence-independence to impulsiveness-reflectiveness*, but do not include sensory preferences (e.g. visual vs. aural styles) even though these have constituted the best established learning style dimension in L2 research (see e.g. Reid 1995b, 1998).

Language Learning Strategies

Intuitively, I have always believed in the existence and significance of learning strategies and yet I became increasingly puzzled over the years about the lack of an unambiguous theoretical definition of the learning strategy construct. And, similarly to learning styles, most of the relevant literature in the L2 field seems to ignore this problem. So let us first examine the definition issue.

According to a comprehensive definition of learning strategies offered by Oxford (1999: 518), the construct refers to "specific actions, behaviours, steps, or techniques that students use to improve their own progress in developing skills in a second or foreign language. These strategies can facilitate the internalisation, storage, retrieval or use of the new language." Definitions of learning strategies do not come any better than this, as indicated by the fact that a recent definition from educational psychology by one of the most influential American strategy experts, Claire Weinstein, covered the same aspects: "Learning strategies include any thoughts, behaviours, beliefs or emotions that facilitate the acquisition, understanding or later transfer of new knowledge and skills" (Weinstein, Husman and Dierking 2000: 727).

Although these definitions appear to be logical and exhaustive, they leave 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 *learning strategy use*? In Dörnyei (2005) the following illustration of this problem is given: If someone memorises vocabulary by simply looking at a bilingual vocabulary list, most people would say that this is an example of learning. But if the person applies some colour marking code to highlight the words in the list which he or she still does not know, suddenly we can start talking about strategic learning. But what is the difference? The colour code?

So what are the distinguishing features of learning strategies? Weinstein et al. (2000) offered three critical characteristics: *goal-directed*, *intentionally invoked* and *effortful*. The problem with these intuitively appealing attributes is that they can also be true about *hard* and *focused* learning in general. Does that mean that hard and focused learning is by definition strategic? This is not an unreasonable question, because Macaro (2001) also raised the same issue: “An interesting practice-related avenue to pursue is whether what we mean by *effort* when doing a language task simply means the effective deployment of a range of strategies in a task” (p. 264). However, if we define the strategic quality of learning with goal-oriented, intentionally evoked and effortful behaviour then we, in effect, equate ‘strategic’ with ‘motivated,’ because goal-oriented, intentionally evoked and effortful are three key features of motivation.

Cohen (1998) highlighted a further important aspect of learning strategies, the *element of choice*. He argued that it is an essential feature of these strategies that they are voluntarily employed by the learner. Although this is clearly important in distinguishing learning strategies from creative teacher-owned tasks, choice 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 purposeful attempts to enhance the effectiveness of learning. Examples include choosing the time to do home assignments; selecting a pen for doing a writing task; choosing a partner for pairwork whom one likes; performing a classroom task in a way that it will impress one’s peers, etc.

I believe the best way of distinguishing between normal learning activities and learning strategy use has been 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 has been 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.

Although defining learning strategies in terms of *appropriateness* appears to be simple and comprehensive, we must note that 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 strategy offers a personally effective response to that. This relativity is not necessarily a problem but it does go against the standard view in the field; for example, this conception would disqualify several learning strategy inventories which start out with a list of preconceived strategies and learners are asked

about the extent of their use of these; however, questionnaire items of this sort do not make sense as they usually posit a rating scale with 'not used or endorsed' at one end, which simply does not apply to strategies conceived in this way (for a new approach to assessing strategic learning, see Tseng, Dörnyei and Schmitt 2006).

Learning strategies in L2 studies

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, learning strategies represented one of the most promising topics in the broader field of educational psychology in the 1980s and –what was just as important – 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; Oxford 1996). There was an increasing body of research evidence that learning strategies played an important role in L2 attainment and their study offered a glimpse into the subtle mechanisms that constituted the complex process of learning. Any doubts about the validity of the construct were shrugged off by saying that significant developments are often accompanied by a theoretical muddle that will eventually be cleared away by the subsequent restructuring of our existing knowledge.

Regrettably, the necessary theoretical clarification about the nature of the learning strategy concept has not taken place, which resulted in a marked shift in the evolution and application of the notion both in L2 research and educational psychology. In the former field, the concept has increasingly shifted from the basic research domain into the more applied realm of language teaching methodology. In educational psychology the term *learning strategy* was first marginalized and then virtually abandoned by the research community in favour of the more versatile concept of *self-regulation*.

Interestingly, Joan Rubin (2001, 2005) has recently introduced the concept of "*learner self-management*" in L2 studies, and this construct parallels the 'self-regulation' construct established in psychology. This is an important development because the new concept, proposed by one of the leading language learning strategy experts, outlines a future research direction that accommodates some of the concerns outlined above. Rubin's construct of learner self-management refers to the ability to deploy *metacognitive strategic procedures* and to access relevant *knowledge and beliefs*. The former involves planning, monitoring, evaluating, problem-solving and implementing, whereas the latter consist of task knowledge, self knowledge, beliefs, background knowledge and strategy knowledge. Only the last component, strategic knowledge, concerns traditionally conceived learning strategies, and therefore Rubin's construct can be seen as a major extension of the traditional conceptualisation of L2 strategic learning. It will be interesting to see to what extent other strategy experts will embrace Rubin's ideas and how useful the new construct will be with regard to practical strategy training.

Strategy training in L2 studies

Although the amount of research on language learning strategies has been on the decrease in general, there is one area which is a striking exception: language teaching methodology. When it comes to examining how to train students to be more effective strategic learners, there is a healthy supply of summaries, policy papers and various sorts of training materials. Is this not a contradiction to the previous suggestion that learning strategies have contestable validity as a concept? I do not believe so. If we think about it, even if the notion *learning strategy* does not exist as a distinctive aspect of learning but only indicates creative and personalised learning behaviours, the training of these 'strategies' would be a highly desirable activity as it would amount, in effect, to the teaching of learners ways in which they can learn better. And no one would question the fact that most learners would benefit from an improvement of their study skills.

The notion of *learning to learn* in L2 studies has a history of over two decades, starting with Ellis and Sinclair's (1989) famous coursebook, *Learning to Learn English: A Course in Learner Training*, and with more recent books highlighting the specific training of learner strategies (e.g. Chamot, Barnhardt, El-Dinary and Robbins 1999; Grenfell and Harris 1999; Macaro 2001). In educational psychology we can find the same type of publications, with titles highlighting either 'learning to learn' or 'learning strategies' (e.g. Dembo 2000; VanderStoep and Pintrich 2003).

Although the various strategy training frameworks differ in detail, they aim to achieve the same overall goals: to raise the learners' awareness about learning strategies and model strategies overtly along with the task; to encourage strategy use and give a rationale for it; to offer a wide menu of relevant strategies for learners to choose from; to offer controlled practice in the use of some strategies; and to provide some sort of a post-task analysis which allows students to reflect on their strategy use. Arguably the most inspiring and instructive part of strategy training is the 'sharing session,' where students are asked to share their learning discoveries and self-generated learning strategies as a regular part of class. Students who are directly involved in the learning process often have fresh insights that they can share with fellow learners in simplified terms, and personal learning strategies are often quite amusing and therefore students usually enjoy discussing them. (For summaries of strategy training, see e.g. Chamot et al. 1999; Cohen 1998; Harris 2003; Macaro 2001; McDonough 1999). An ambitious recent initiative to integrate learning strategies into language instruction has been provided by Andrew Cohen in his *Styles and Strategies-Based Instruction* (Cohen 2002; Cohen and Weaver; 2004), which is a learner-focused approach that combines strategy training with awareness raising about the learners' style preferences and the fit between strategies and styles.

Learning strategies and self-regulation in educational psychology

Although the construct of learning strategies has continued to be used for practical purposes in educational psychology, researchers have increasingly found the notion unhelpful when conducting in-depth analyses of the antecedents and ingredients of strategic learning; as a consequence, the concept had been sidelined and marginalized by the 1990s. This does not mean that scholars developed second thoughts about the virtues and benefits associated with learning strategies that made this line of research so popular in the 1980s. Far from it: the learners' proactive and informed contribution to increasing the effectiveness of their own learning was seen as more important than ever before. What had changed was the research perspective: It was realised that strategic learning was a far more complex issue than it was thought before and therefore simply focusing on the 'surface manifestations' — that is, the tactics and techniques that strategic learners actually employ — did not do the topic justice. Scholars recognised that the important thing about proactive strategic learners is not necessarily the exact nature of the strategies, tactics or techniques they apply, but rather the fact that they *do apply* them. That is, what makes strategic learners special is not so much what they do as the fact that they choose to put creative effort into improving their own learning and that they have the capacity to do so. As a consequence, a new construct, 'self-regulation' or 'self-regulated learning,' was introduced in the educational psychological literature.

One may feel that this change has been a mere face-lift and research into self-regulation carried on doing the same kind of investigations as before by simply replacing the term *strategy* (which seemed to cause most of the confusion) with a new metaphor. Although for some scholars this may have indeed been the case, and they merely jumped from one band wagon onto another at the beginning of the 1990s, there are at least two aspects of this conceptual shift that turned out to be truly significant:

- a. By shifting the focus from the *product* (strategies) to the *process* (self-regulation), researchers have created more leeway for themselves: Although the so-called 'self-regulatory mechanisms' are very similar to 'learning strategies' and carry the same problems, these mechanisms are not the only important elements within the self-regulatory process and therefore their insufficient understanding does not necessarily prevent researchers from making headway in understanding other aspects of self-regulation.
- b. The new perspective on self-regulation also offers a 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 behavioural processes (e.g. in clinical, health and organisational psychology); an excellent summary of this cross-disciplinary effort is provided by Boekaerts, Pintrich and Zeidner's (2000) *Handbook of Self-Regulation*.

As a result of this paradigm shift, by the beginning of the 1990s the study of self-regulation had come of age, causing a "virtual explosion of work in this area" (Zeidner,

Boekaerts and Pintrich 2000: 750), thereby becoming a “natural and organic part of the landscape of psychology and education” (p. 749).

Conclusion

If we consider the existing research on the various ID variables together, we can find three intriguing parallels (Dörnyei 2005): The most striking aspect of the contemporary ID literature is the emerging theme of *context*: It appears that cutting-edge research in all the diverse areas has been addressing the same issue, that is, the situated nature of the ID factors in question. Scholars have come to reject the notion that the various traits are context-independent and absolute, and are now proposing new dynamic conceptualisations in which ID factors enter into some interaction with the situational parameters rather than cutting across tasks and environments (see also Ellis 2004).

The second common aspect of much of the best research in the field is the suggestion that instead of trying to detect linear relationships between certain ID factors and corresponding outcome/performance variables in isolation, researchers should work with more complex theoretical paradigms. In these, the various ID factors are seen either to operate in concert or to interfere with each other in a clearly delineated manner and there is a growing conviction amongst scholars that combinations of traits have more predictive power than traits in isolation.

The third important theme that connects the various bodies of research is the recent attempt in the literature to try and relate ID variables to specific SLA processes. This, of course, has been made possible by the increasingly elaborate mapping of the mental mechanisms underlying SLA during the past decade and it seems that ID researchers have welcomed the opportunity to integrate their field into mainstream SLA research. I believe that the future of L2 studies in general lies in the integration of linguistic and psychological approaches in a balanced and complementary manner, and it seems that the study of individual differences has taken this forward-pointing route.

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