

Individual differences

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Introduction

Every person is unique; it is not possible to find two identical language learners. For teachers, differences among individuals can be difficult to deal with because they make it virtually impossible to predict exactly what will happen during the language learning process or to specify in advance exactly what its outcomes will be. Teaching techniques, cultural exchange programmes and contact with other speakers of the target language (TL) can produce both successes and failures in the same cohort of students. Additionally, the actions and reactions of any specific individual will also change over time and are potentially influenced by a wide range of factors.

One of the reasons for the difficulty in predicting the outcomes of learning is the range of factors that influence the process, but, more importantly, the ways in which those many factors interact with each other (DeKeyser, 2013). Perhaps an analogy will help to illustrate the issue. Televisions sets and LCD projectors produce millions of colours on a screen using only three lights – red, green and blue. Subtle changes in combinations of the light provide the many different colours we see. Therefore, it is possible to begin with a few basic elements that interact to produce enormous diversity of outcomes. In some cases, the presence or absence of a specific factor can play a mediating role in the relationship between two other factors. For example, the link between anxiety and enjoyment appears to be somewhat different for men and women (Dewaele and MacIntyre, 2014). When we consider the many possible interactions among learner factors, we can see how the infinite number of different individuals and their learning outcomes can be possible.

In this chapter, we will discuss some of the reasons why individual differences arise and what the research suggests about them. Throughout the chapter, we identify trends in the research literature that have influenced ways in which individual difference (hereafter, ID) factors are conceptualised and studied.

The chapter is organised into four sections. The first reviews several prominent ID factors. We have decided not to classify the IDs into categories. Potential frameworks such as ‘affective’ versus ‘cognitive’ IDs can be problematic because there are both affective and cognitive dimensions to all of the concepts discussed below. Similarly, the concepts could be considered through a time-perspective, contrasting some IDs which can fluctuate rapidly, such as anxiety, with those that are quite stable, such as learner personality traits. However, all IDs show both stability and the capacity to change. Thus, classifying or grouping IDs would invariably clarify some dimensions of these variables while it clouds other dimensions. We have therefore chosen to review

them individually, in alphabetical order, to emphasise that each of these concepts is complex and multifaceted.

The second section of the chapter deals with how the ID factors fit together; we use two different approaches, one that has been used extensively in the research literature (statistical modelling) and one that is rather new to the field (complex dynamic systems theory). The third section isolates key areas of dispute and debate in the area of ID factors. Finally, we discuss how language practitioners might capitalise on their learners' individuality.

ID factors

Anxiety

Anxiety is the most widely studied emotion in the SLA field, whilst teachers are concerned about language anxiety because of its potential negative effect on both classroom interactions and assessment. MacIntyre and Gardner (1991b) defined language anxiety as the worry and negative emotion reaction aroused when learning or using a second language. Early research focused on two key questions: (1) how to define and measure the concept and (2) is anxiety a cause (or merely an effect) of poor performance?

In defining and attempting to measure anxiety related to language learning, Horwitz et al. (1986) argued that there is something about second/foreign language situations that produces a unique form of anxiety that functions like a personality trait. MacIntyre and Gardner (1991a: 297) theorised that language anxiety begins as an undifferentiated, negative response to some aspect of language learning, but repeated occurrences solidify the association between anxiety and the L2. This process helps to differentiate language learning and use from other anxiety-arousing situations that a learner might encounter, such as public speaking.

Horwitz et al. (1986) discuss three interrelated ingredients to anxiety reactions in the language classroom: communication, fear of negative evaluation and testing. Communication that is incomplete or incomprehensible can generate anxious feelings, as can worry about what others think of us because of misunderstanding or misspeaking the TL. Testing done as part of a course and for other purposes (e.g. university entrance, job applications) has the potential to generate anxiety that will interfere with the testing process, as when students 'freeze up' and cannot demonstrate what they have learned. The research literature has identified many other potential sources and consequences of language anxiety (Gregersen and MacIntyre, 2014).

As teachers think about anxiety, it might be best to consider it as *both* a cause and a consequence of difficulties with language and communication. Taken as a cause of difficulties in language, the emotional arousal and distractions that accompany anxiety can affect all stages of the learning process. For example, an experiment by MacIntyre and Gardner (1994) divided TL vocabulary learning into input, processing and output stages. At the input stage, where new words were originally encountered, anxiety arousal (i.e. increased anxiety) was shown to reduce attention and act as a distraction; thus, anxious learners' focus was divided between dealing with the emotional arousal and the linguistic task at hand. At the processing stage, where the meaning of new words is learned, higher levels of anxiety generated both increased effort to memorise the words and reduced accuracy of correctly identifying them – an unfortunate combination from a learner's perspective. Finally, anxiety arousal at the output stage, where learners use the new words in sentences, reduced the amount and quality of communication (see also Steinberg and Horwitz, 1986).

Anxiety is a consequence of, and can be triggered by, a long list of items, including competitiveness among learners, a mismatch between learner and teacher beliefs, harsh error correction

and perfectionism (Gregersen and MacIntyre, 2014). Research has shown that difficulties in linguistic coding (such as not being able to recognise the sounds of a TL) contribute to anxiety reactions (Ganschow et al., 1994). Although speaking might be considered the most anxiety-arousing of the skill areas (Kim, 2009), language anxiety can also occur when listening, reading and writing. Gregersen (2006) further notes that anxiety may be heightened when a student has significantly stronger skills in one area (e.g. listening) than another (e.g. speaking). Many learners have described the feelings of fear, embarrassment and even panic associated with anxiety arousal (see MacIntyre, 1999).

Aptitude and multiple intelligences

The meaning and implications of concepts such as *ability*, *aptitude* or *intelligence* have been debated extensively over the years. From the controversy has emerged a set of concepts that have evolved from seemingly monolithic, fixed entities to a more nuanced account of modifiable abilities that work together. Early studies treated language aptitude as a stable ability determined early in life, one that is not based on training or prior experience (Carroll, 1973). Prior to the advent of language motivation research in the 1960s, aptitude was considered *the* major individual difference factor affecting learning. Thirty-five years later, Ehrman and Oxford (1995) reported that aptitude was the ID variable with the strongest prediction of L2 proficiency.

In spite of such empirical support, many language practitioners have been sceptical about aptitude; Skehan (2002) proposes three reasons for the concern. First, the original aptitude research was conducted during the period when the audiolingual approach was dominant in language pedagogy, and the teaching methodology of the field has changed substantially over the past 20 to 30 years. Second, there is now a greater appreciation for the whole learner, including affect and motivation. Third, the aptitude concept itself might be seen as anti-egalitarian, especially when used to stream learners into groups (Skehan, 2002).

Current research on language aptitude emphasises that it is a dynamic and potentially trainable ID factor (Robinson, 2007) that interacts with learner motivation and opportunity (Ranta, 2008). Robinson's work on aptitude emphasises cognitive abilities as they combine with other ID factors into aptitude complexes that can be matched with teaching techniques for maximum effect. Meanwhile, Skehan (2002) has argued that aptitude is multi-faceted, linked to stages of the learning process.

Like aptitude, the concept of intelligence also has undergone a significant change over the years, developing into a multi-dimensional and increasingly dynamic concept. Early research into intelligence involved a search for 'g', or general intelligence applicable to all situations. As intelligence research progressed, however, the concept became more diversified, and specific facets of intelligence were defined more specifically. Howard Gardner's (1993) theory of multiple intelligences defined at least seven different areas: linguistic, logical-mathematical, spatial, bodily-kinesthetic, musical intelligence, interpersonal intelligence and intrapersonal intelligence. The core idea is that various intelligences represent different ways of knowing and understanding the world, both around us and within us. Despite its intuitive appeal, the notion of multiple intelligences has drawn its share of criticism, and there is a paucity of empirical research to support specific application to language classrooms (Richards and Rodgers, 2001; Ghamrawi, 2014).

Beliefs

Beliefs carry assumptions about the learning process such as how long it should take, how an accent should sound and how teachers and learners should act. Beliefs influence students'

receptivity to teaching practices and the choice of language learning strategies (Gregersen and MacIntyre, 2014). Beliefs can be explicitly taught or be implicit, acquired by listening and observing but often without critical evaluation (Wenden, 1999). Implicit beliefs, because they are unexamined, can be troublesome for teachers and learners at times. A learner's unique belief system develops from her or his own experience, combined with culture and personality, to form a coherent framework for interpreting the world that is both stable over time and somewhat open to change (Mori, 1999; Wenden, 1999).

Horwitz (1988) noted that learners are likely to be exposed to widespread and sometimes conflicting beliefs about language learning. Whether or not they are justified, helpful or ill-advised, learners act on their beliefs as if they are true (Stevick, 1980). For example, the belief that language aptitude or intelligence is a fixed, unchanging characteristic of a learner can exert a powerful effect on the learning process. Mori (1999) argues that a student who believes that intelligence can be increased through practice has the potential to be more successful than her counterparts who believe in innate, unchanging aptitude. Beliefs are connected to the larger emotion and motivation systems of learners; therefore, explicitly asking about beliefs can provide a window into how teachers and learners think IDs function in practice.

Identity

Language learning and usage involve how one defines oneself, particularly in interactions (see Edwards, 2009), because language fulfils multiple functions including communication, thinking, cultural transmission and symbolic representation, to name but a few. Early on, Lambert (1981) proposed that learning and using another language could have one of two consequences. It could result in the accumulation of two identities, a phenomenon he labelled additive bilingualism, or in the loss of the first identity, what he dubbed subtractive bilingualism. These ideas have strong intuitive appeal and have influenced both teachers' and researchers' thinking about identity.

Concern over the potential for subtractive bilingualism has generated a number of research studies that show generally positive effects of being bilingual. Gilette (2013) summarises the numerous advantages of bilingualism gleaned from scientific research, including improved attention to details, improved memory, early onset of conflict management skills, improved executive control, lessening of symptoms associated with cognitive decline, improved social skills and reduced stress and risk of depression. Other research has documented positive consequences of bilingualism for stronger family cohesion (Portes and Hao, 2004) and the valuation of bilingual children by their own community (Portes and Rumbaut, 2006). Bilingual children also show higher academic achievement (e.g. Golash-Boza, 2005) and higher self-esteem (Portes and Hao, 2004). Han (2010), however, warns that the advantages of bilingualism present among first generation immigrants tend to dissipate with subsequent generations.

Recent research has conceptualised the possibility of a hybrid identity, that is, a form of simultaneous identification to the two groups which may involve identity switching or fusion. Through sharing the same community activities, close ties are developed through peer groups and exogamic marriages, and support for one language becomes associated with support for the other (Gaudet and Clément, 2009), with a new form of identity emerging (e.g. Benet-Martinez and Haritatos, 2005). There is ample evidence from classroom research for the emergence of a fused identity (see, for example, Amicucci, 2012). Thus, social context plays a significant role in matters of identity. Landry et al. (2013) identified a phenomenon called 'resistance bilingualism', wherein a state of over protectiveness towards one's own language and identity is prompted by a perception that the group is under threat. Consistent with this idea, Freynet and Clément (2015) found that bilingual individuals whose language had the lowest distinctiveness and

prominence in the community showed *better* attitudes and engagement towards their own language than groups whose language had higher vitality.

Work in the area of identity emphasises ways in which identities are complex and continuously being negotiated. Norton (2013) describes the investments learners make and how they imagine the TL communities to be (see also Lamb, this volume). The negotiation of identity is tied to how learners understand their imagined identities, which reflect “the way a person understands his or her relationship to the world, how that relationship is constructed across time and space, and how the person understands possibilities for the future” (p. 4). Teachers also work with complex issues of identity development and transformation (Duff and Uchida, 1997). Therefore, it appears that the relationship between language acquisition and identity is quite complex, involving the effects of social-structural factors moderated by cognitive integration mechanisms and ideological considerations.

Language learning strategies and styles

Strategies are what learners do mentally or physically to facilitate their language learning and communication (Rubin, 1975; Griffiths, 2008). Strategies can be taught and become easier to use over time, making them appealing to teachers and learners alike (see Griffiths, 2008; Cohen, 2007, 2012; Oxford, 2012). The function of strategies is to allow learners to “regulate or control their own learning, thus making it easier and more effective” (Oxford, 2012: 12). The idea that strategies provide a means of self-regulation helps to tie them to the learners’ motivation system, as learners are viewed as being autonomous and active in the learning process (Dörnyei and Skehan, 2003; Cohen, 2007). However, ties to other ID factors have led to controversy over the definition of language learning strategies; specifically, how does one differentiate strategies from non-strategies? What should be counted and what should not be counted as a language learning strategy?

Broadly speaking, the most prominent taxonomies of language learning strategies converge on similar concepts (O’Malley and Chamot, 1990; Oxford, 1990, 2012; Cohen and Macaro, 2007). For example, Oxford (2012) identified: (a) cognitive strategies that allow learners to manipulate or transform the TL through identification, retention, storage and/or retrieval; (b) social strategies that enhance communication and practice in the TL; (c) affective strategies that help to regulate emotional experiences; and (d) metacognitive strategies that are used to manage the deployment of other types of strategies. Cohen (2012) advocates adding additional categories to the typology, including (a) communication strategies that allow for meaningful expression of ideas; (b) retrieval and rehearsal strategies that activate previously learned material in memory; and (c) cover strategies that project a positive image of oneself.

Language learning styles also have been difficult to define with precision (see Ehrman et al., 2003; Dörnyei, 2005). Yet the notion that people have preferences for thinking and learning in different ways has strong intuitive appeal – we all have ways of doing things that we find comfortable (Gregersen and MacIntyre, 2014). Reid (1987) reviewed a number of taxonomies of styles and chose six for comparison internationally: visual (seeing language), auditory (listening to language), kinesthetic (physical movement), tactile (hands-on experience), preference for individual-learning and preference for learning in groups. It seems quite natural to suggest that language teachers try to match their instructional style to learners’ preferences, such as assigning readings to a learner with a visual style or movement for a learner with a kinesthetic style. Yet even the idea of style-matching has been controversial, as authors argue whether it is better to design instruction consistent with strengths of a learner or challenge learners to overcome their particular areas of weakness. It is important to emphasise that a preference for one or another

style modality does not imply the inability to learn from non-preferred methods. Indeed, it is important for teachers and learners alike to keep in mind that styles are assessed on a continuum; labelling of persons as either ‘this or that’ style simply is not recommended.

Motivation

No discussion of ID factors should ignore motivation. The topic has been well established in the literature as perhaps the key ID factor (alongside aptitude), from early research (Gardner and Lambert, 1959) to the present day. This *Handbook* features a separate chapter on motivation (see Lamb, this volume).

Personality

In psychology, the topic of personality is virtually synonymous with the term ‘individual differences’. Yet personality has not been studied as widely in the SLA field as other topics in this chapter. Indeed, there has been something of a conflicted relationship between SLA and personality-related topics such as tolerance for ambiguity, risk taking, perfectionism and the like (for a review, see Ellis, 2004). Identification of relevant personality traits was hampered for a long time by the plethora of personality theories and measures that were available in the psychology literature. Some consistency in the study of personality was achieved by the description of “the Five Factor Model” (Costa and McCrae, 1992) and its conceptual cousin “the Big Five” personality traits (Goldberg and Rosolack, 1994). Using Goldberg’s Big Five terminology, the five major dimensions or personality traits are: extraversion/introversion, conscientiousness, agreeableness, emotional stability/neuroticism and openness to experience/sophistication/intellect. It is generally agreed that these five factors form a reasonable taxonomy for investigating personality traits, though there has been criticism of this perspective (McAdams, 1992; Block, 1995).

Of the Big Five, the extraversion-introversion dimension is the most widely studied in language learning. Yet the research results have been somewhat equivocal, leading researchers to call extraversion the ‘unloved variable’ in applied linguistics research (Dewaele and Furnham, 1999). The mixed bag of results in the literature on personality and various aspects of language learning stems in part from the issue of breadth versus depth in the definition of personality traits. For example, extraversion might work in favour of learners who wish to talk in order to learn (Skehan, 1998) but introversion might work in favour of detail-oriented cognitive learning tasks that are prevalent in formal language instruction (MacIntyre et al., 2004). By definition, personality traits apply across situations, yet the more broadly a concept is defined, the less capable it is of predicting specific behaviour or outcomes (Doll and Ajzen, 1992). The expectation seems reasonable that traits *should* predict language acquisition, but it might be too simple to define a broad trait, such as extraversion, and expect that it will relate consistently to the wide variety of specific indices of language achievement that are available. Thus, rather than personality traits, ID research in SLA has tended to examine specific concepts such as language anxiety, identity and motivation for language learning.

Willingness to communicate

One of the most important decisions that a learner faces is whether or not to speak the TL when the opportunity arises. The concept of willingness to communicate (WTC) is based on the idea that there are both long-lasting tendencies and immediate situational influences on the decision to speak or to remain quiet; even in the native language, there is a wide range of

WTC. MacIntyre et al. (1998) took the concept of WTC, as originally defined in the literature on native language communication, to emphasise stable tendencies in approaching or avoiding communication (McCroskey and Richmond, 1991) and re-conceptualised it as a rapidly changing, situational ID variable. Their 'pyramid' model captured a wide range of enduring and transient influences on WTC, many of which are included in this chapter. Research supports the model's prediction that higher levels of WTC are strongly correlated with both the perception of competence and lower levels of language anxiety (Clément et al., 2003; MacIntyre et al., 2003).

More recently, the dynamics underlying changes in WTC from moment to moment have come into focus (MacIntyre and Legatto, 2011). Qualitative research shows that a highly nuanced psychological process underlies fluctuations in WTC; the situations in which learners are most willing to communicate are not radically different from those in which they are least willing (MacIntyre et al., 2011). From this perspective, language competencies serve communication goals in the classroom (Kang, 2005). Yashima (2012) emphasises that communication is inherently social, meaning that the psychology of more than one individual comes into play during communication as people interact with each other. If communication is the ultimate goal of language teaching, then a language programme that does not create WTC among its learners has failed to achieve its prime objective (MacIntyre et al., 1998).

How do ID factors fit together?

Readers might have noticed that the discussion above does not feature a consideration of the links among ID factors. There is a large number of studies that have established correlations among subsets of the factors above, too many studies to review here. Here, we will call this research tradition the 'variable-analytic approach' because its goal is to understand the relationships among ID variables using statistical analysis. In this tradition, an ID factor refers to the relative positioning of individuals within a group with respect to a specific characteristic (for example, one learner's scores for anxiety, extraversion or WTC relative to other learners'). For example, a correlational study might ask whether the students in a sample who are relatively low in aptitude tend to show relatively higher levels of anxiety and, if so, whether theory can offer an explanation for the relationship. In some cases, studies have used multiple regression analysis to predict the scores for one ID factor based on a statistical combination of several other factors or to use a chosen set of ID factors to predict selected measures of language achievement.

An influential set of studies in this tradition integrate a large number of ID factors into conceptual models that can be tested statistically, providing evidence on how ID factors fit together. For example, Gardner's (1985, 2010) socio-educational model showed that support for languages in the social milieu, combined with positive attitudes toward the teacher and course, support what he called an integrative motivation for language learning (see also Lamb, this volume). Individual differences in integrative motivation predicted various language learning outcomes in both formal (e.g. school) and informal (e.g. in the community) learning contexts. A related model, Clément's (1986) social context model, emphasised that the language learning process is psychologically different for members of a minority group compared with members of a majority group. Clément suggested that minority group members can experience a tension between pressures to integrate with a larger group and at the same time fear assimilation and loss of their native language/culture. MacIntyre et al. (1998) developed the 'pyramid' model of WTC to show how factors as diverse as personality, intergroup climate, various motivational processes, anxiety and the desire to speak to a specific person combine to foster a willingness to enter into communication in the TL at a specific time. The approach to empirically testing all of these models has been to measure the various ID factors using questionnaires and then apply complex statistics

(path analysis and structural equation modelling) to assess whether or not the pattern of correlations emerges as the theory would predict.

In recent years, an alternative approach to ID factors has been developed. Complex dynamic systems theory (CDST, Larsen-Freeman and Cameron, 2008; see also Mercer, this volume) exists alongside the variable-analytic tradition but has a long list of differing assumptions. CDST emphasises relationships among factors that are nonlinear, sometimes chaotic and sometimes stable and tied closely to the context in which the system is operating. Dynamic models emphasise that the parts of a system are continuously interacting in complex ways. In this research approach, IDs can refer to changes within a person over time, as language develops along unique, personal trajectories. For example, a case study might examine how a highly anxious student deals with language aptitude difficulties over the semester, focusing on various ways in which strategy instruction and his/her competitive personality facilitate language development.

Although the assumptions underlying the variable-analytic and CDST traditions are quite different, each approach has the potential to inform teaching and learning. For example, variable analytic studies have identified ID factors that appear to be most relevant to success in language learning. The strength of the CDST approach lies in a focus on describing the messy process that comes from a number of factors interacting with each other in a specific context. Teachers might find one or the other approach more appealing in conceptualising the IDs that they observe among learners and how language learning in their specific context changes over time.

Key areas of disagreement

Contrasting the variable analytic tradition with the CDST tradition can help to put three perennial controversies into perspective. In the literature, there has been a consistent issue with respect to correlation versus causation, definitions and how to use ID information in teaching. We will address briefly each of these issues.

- 1 *Correlation versus causation:* A perpetual controversy within the ID research tradition is the question of correlation versus causation. Introductory texts on research methods will emphasise that observing a correlation does not mean one factor causes the other. For example, it has been observed that students with higher anxiety also show deficits in aptitude and lower levels of achievement. Thus, Sparks and Ganschow (1991) took the position that aptitude differences, specifically having difficulties in the area of linguistic coding, cause both higher levels of anxiety and lower levels of achievement. However, MacIntyre and Gardner (1994) used an experimental method to show that increasing anxiety arousal can cause reductions in language input and output. Therefore, anxiety can be seen as both a cause and a consequence of poor performance.
- 2 *Definitional issues:* Controversies about definitions continue to affect ID research. Most, if not all, of the ID factors reviewed above have generated controversy over their definitions that continues to affect the ways in which those concepts are understood. For the most part, a core idea can be identified, but there is difficulty in finding its boundaries. For example, if an individual is high in a personality trait such as extraversion that generates a lot of socialising, then is it proper to think of conversations with strangers as this person's language learning strategy or is it simply a consequence of personality? Ehrman (1996) frames personality constructs such as extraversion-introversion as 'personality-based learning styles', but Griffiths (2012) argues strongly that extraversion and similar variables should not be classified as learning styles. A teacher might encounter an individual learner who talks a lot in the classroom – does this reflect a personality trait, a learning style, a strategy, a belief or

something else? When a teacher interprets such behaviour, the definitions of all of these concepts can be considered, but with the implicit understanding that choosing a focal concept does not imply that nothing else is relevant. Alternatively, the learner herself might understand that s/he talks a lot because of a convergence among personality traits, styles, strategies and beliefs, along with concurrent attitudes, emotions and aptitudes.

- 3 *Using ID research: 'Am I a teacher or a psychologist?'* This question was posed to two of the authors during a webinar for TESOL International (MacIntyre and Gregersen, 2014). The question raises an interesting point that teachers might wish to consider. The review earlier in this chapter of individual difference factors shows that much has been learned about making the learning process more efficient and effective, allowing teachers to take into account both stability and change in the learner and how she or he learns. Yet what is the responsibility of the teacher – are teachers to act as psychotherapists for students? Of course it is inappropriate to ask teachers to take on such responsibility. But it is fair to note that every teaching style, lesson strategy and choice of activity reveals something about a teacher's approach to ID factors. To the extent that a teacher can be informed by a nuanced understanding of ID factors and how they work together dynamically, teachers can make better-informed decisions and be in a position to evaluate the consequences of those choices. If the study of IDs has taught us anything, it is that one-size-fits-all solutions are very rare and that diversity is the rule rather than the exception. Activities that work well in some classes and not others are those that fit the ID profile of the students to a greater or lesser extent respectively.

Implications for teachers and practitioners

From a teacher's perspective, the sheer number of ID factors that impinge on learning and the complexity they bring can seem overwhelming. One approach to dealing with learner IDs that teachers might find useful would be to choose a single ID factor for detailed consideration, exploring how it relates to other relevant factors and processes, much as the variable-analytic approach to research has done (but without the statistics). For example, there are many causes and consequences of anxiety in a given classroom; teachers who understand how anxiety operates can develop ways to deal with it. A close inspection of any one of the IDs (e.g. anxiety, beliefs or WTC) will implicate a number of connections among many of the other IDs noted above, plus other factors, much as the CDST perspective has emphasised. When IDs interact, the relative influence of one factor on another also fluctuates in language classrooms. For example, a classroom roleplay activity might be embraced enthusiastically by some extraverted students, arouse anxiety among almost all students and conflict with the widely held learner beliefs about what counts as proper teaching. A subtle change in the activity, such as adding an element of choice to the role play, might alleviate some anxiety and increase WTC but leave beliefs unchanged.

ID factors work together because they grow together – they become mutually dependent and intertwined. Teachers and learners can experience difficulty in the ID field when they think of these factors as if they were parts of a machine to be assembled or ingredients in a recipe (see the epilogue in Gregersen and MacIntyre, 2014). Instead of a predictable recipe that works the same way every time, it is important to acknowledge that individual differences combine in ways that make sense but often remain somewhat unpredictable. Thinking about individual differences, we therefore recommend *not* using a recipe as a guiding metaphor. Instead, consider the metaphors emerging from the development of weather systems, fluctuations in the stock market or even the outcome of professional sports contests. Each of these three areas have rules that govern the activities within them and have outcomes that are often predictable in the long run but also carry

an element of unpredictability that makes them interesting to contemplate. Within the complexity of IDs in language learning lie numerous opportunities for engaged teachers to capitalise on learner differences.

We believe that an explicit awareness of the processes and emotions that unfold during language learning can lead students to notice both their own uniqueness and what they share with other learners. Greater awareness can be achieved through self-analysis, autonomy and effective management of affective, psychological and cognitive issues. In their role as facilitators, it is important that teachers consider the relevance of IDs within and among learners, openly discuss them and provide learners with guidance on how to manage them. Teachers who exercise sensitivity to learner IDs can adapt to some of the unpredictable events that occur in teaching. Learners themselves can also become more sensitive to their own pattern of IDs and use self-regulation strategies that increase their constructive emotions and actions, reducing the impact of those factors that are unproductive and detrimental (Young, 1991). Through classroom (and other) community building activities, creating social networks and personal relationships, language learners can tap into those ID components that support their language learning.

Finally, the breadth of the collection of ID variables might leave teachers feeling a bit overwhelmed if they try to accommodate all learners at all times. It might seem a daunting task to try to accommodate all of the ID factors present in the classroom. Indeed, there can be a positive effect of growth when learners are exposed to something new, as when trying out new learning styles and strategies. It is said that ‘variety is the spice of life’, and for this reason, teachers might consider a ‘mixed and many’ approach to managing IDs in a classroom, at times matching and at other times conflicting with learner preferences, but always within a supportive context. Learner IDs do not necessarily imply one correct formula or recipe for success. Instead, teachers might consider instructional methods that allow them to capitalise on both variety and choice and also help learners find ways to do this for themselves inside and outside the classroom (Gregersen and MacIntyre, 2014).

Conclusion

A concern for ID factors is a concern for individuality, its regular patterns and change. The powerful interactions among ID factors will help to determine how a person proceeds with learning, how quickly learning takes place and some of the long-term effects of language learning, such as intercultural friendships, international travel and opportunities for personal growth and well-being. Even as research demands that certain factors be isolated for study, it is important to consider how IDs grow together and operate in context. Language learners arrive in classrooms as integrated, whole persons; informed teachers find ways of accessing the pressure points that drive positive change among their learners. In the ecology of the classroom, diversity is a source of strength.

Discussion questions

- What ID factors do you, or teachers/learners in general, view as most relevant and how might they affect learning in your context?
- To what extent do you think teachers need to be ‘psychologists’ in the classroom?
- We have suggested that ID factors do not fit together like baking a cake from a recipe or building a machine from its parts but that we prefer metaphors drawn from weather systems and sports. In thinking about how ID factors work together, finish the following phrase in ways which make sense to you: ‘Individual differences among learners operate like a(n) _____’.

Related topics

Cognitive perspectives on classroom language learning; Complexity and language teaching; Motivation.

Further reading

- Dörnyei, Z. and Ryan, S. (2015) *The psychology of the language learner – Revisited*. New York: Routledge. (This text is an update of Dörnyei's 2005 text covering research into key ID factors.)
- Gregersen, T. and MacIntyre, P. D. (2014) *Capitalizing on language learner individuality*. Bristol: Multilingual Matters. (Directed primarily at teachers, the text reviews relevant ID research and presents numerous classroom activities along with suggestions for adapting those activities to different teaching situations.)
- Pawlek, M. (2012) *New directions on individual differences in second language learning*. Berlin Heidelberg: Springer. (This edited volume combines theoretical and practical contributions, primarily from European authors.)

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