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Individual learner differences and distance language learning:

an overview

Abstract

Open and distance learning is special in the sense that it places greater demand on learners to develop their own approach to learning without the frequent face-to-face guidance and intervention of a teacher. It is an environment that also creates a challenge for course writers. Unlike in the classroom where teachers can adapt language courses to suit the needs of their current learners, both in terms of course requirements and individual learner differences, those writing at a distance must take on the many roles of teacher-in-the-classroom, but without access to their learners.

What are these differences, what are their interrelationships and how important are they in terms of their impact on distance language learning and teaching? This paper explores the issues raised by these questions, by applying the literature on individual difference to the distance language learning context. The paper goes on to discuss research tools for yielding data on difference, and looks ahead, in conclusion, to the potential of the Internet to aid in the process of data collection and to allow a greater focus on the learner by facilitating a variety of opportunities for mutual exchange and support.

Introduction

Much has been written on individual differences among learners and the impact of these on learning patterns and learning success. While some of the issues raised by close inspection of these differences appear to apply across the board, there are others

that would seem to have a special significance within identified learning contexts and specific subject areas. Sussex 1991 (as cited in White 1994: 12-13) maintains that languages are more difficult than most subjects to learn in the distance mode because of the complex combination of skills and information required for language mastery. This paper explores the notion that foreign language learning within a distance learning context raises different or certainly additional questions that need addressing in a way that is perhaps peculiar to this particular discipline in this particular environment.

Aspects of individual difference

Adult learners collectively embrace a wide range of variables, including age, gender, intelligence, personality, learning style and previous learning experience. They also come to learning with their own individual beliefs, attitudes, expectations, motivations and strategies. Whether classified as cognitive or affective, fixed or modifiable, variables are generally considered to have some bearing on the ways in which a learner is likely to interpret, relate and respond to the learning materials. They also interact with each other in a variety of different ways.

With regard to language learning, while some of the research attempts to cover the full range of individual differences (Ellis 1985, 1992; Skehan 1989, 1998; Spolsky 1989; Larsen-Freeman, 2001), other studies are devoted to specific examples, for example:

- Aptitude and intelligence (Carroll 1981, 1991; Pimsleur, 1966; Skehan, 1998);

- Age (Ellis, 1994; Skehan, 1998; Spolsky, 1989);

- Gender (Bacon, 1992; Maubach and Morgan 2001; Oxford, Nyikos and Ehrman,1988);

- Attitudes and motivation (Csizér & Dornyëi, 2005; Dornyëi, 2001, 2003; Gardner and Lambert, 1972; Masgoret & Gardner, 2003; Tremblay & Gardner, 1995; Ushioda, 1996)

- Personality variables such as extraversion, introversion, risk-taking and anxiety (Dewaele, 2001; Horwitz, Horwitz and Cope, 1986, 2000, 2001; MacIntyre, 1995, 1999; MacIntyre and Gardner, 1991, 1994);

- Beliefs (Cotterall, 1999; Kalaja & Ferreira Barcelos, 2003; White, 1999; Yang, 1999);

- Styles (Dickinson, 1990; Ellis & Sinclair, 1990; Riley, 1990; Sternberg & Zhang, 2001);

- Strategies (Cohen, 1998; McDonough, 1999; O'Malley & Chamot, 1990; Oxford, 1990; Rubin, 2001; Wenden, 1991);

- Context (Benson and Lor (1999); Sakui & Gaies, 1999; Victori, 1999; White, 1999).

This paper reviews the literature on learner variables with relation to language learning, and then examines the issues that arise from this review with respect to the distance context.

Aptitude and intelligence

Carroll (1965, 1981, 1991) divides language aptitude into four components: phonemic coding ability (the capacity to identify distinct sounds and to code them for later retrieval), grammatical sensitivity (the ability to recognise the function of words in sentences), associative memory (the ability to learn associations between sounds and

meanings and retain them) and inductive language learning ability (the ability to identify patterns in language use and to infer the rules that govern them). Skehan (1989) argues that Carroll's four components can be reduced to three: auditory ability, linguistic ability and memory ability. From the studies he has investigated into successful and unsuccessful language learners, memory ability emerges as a key characteristic of outstanding language learners, most specifically in terms of its relevance to the 'coding, organisation, retrieval and use of existing information' (1998: 285). In this respect, language fluency is also seen as partly dependent on the role of memory in performance.

With regard to intelligence, Skehan (1989: 110) finds some overlap with aptitude: 'Verbal intelligence relates most strongly to the analytic capacity of language aptitude'. He argues further that aptitude, where it concerns language analytic capacities, may be even more important for those learning in informal settings than in formal classroom settings, because of the 'considerably greater problem of imposing structure on the data' (1989: 40). A study carried out with language learners at the Open University (UK) by the author (Hurd, 2000: 69) would seem to bear this out, with 82.2% of participants identifying intelligence as a factor in language learning. It would be reasonable to suggest that intelligence and aptitude might therefore be relevant to adult distance language learning, as much in terms of the *context* of learning as in the learning *process* itself, though such a hypothesis can only be speculative at this stage.

While the current body of research into language aptitude addresses its nature and how to test it, there is little that attempts to link aptitude to instructional methods. It

has been suggested (O'Malley and Chamot 1993; Skehan 1998) that this might be because of the disparities in ability that aptitude tests can reveal, and the ways in which this information can be used to pre-select so-called gifted language learners in order to suit vested interests. O'Malley and Chamot (1993: 107-8) contend, however, that while aptitude is generally assumed to be a fixed characteristic, it may be more adaptable to instruction than was originally anticipated. They find a close link between Carroll's four components of aptitude and language learning strategies, and propose that what has previously been defined as fixed aptitudes of learners may be redefined conceptually in terms of the strategies individuals use in learning situations. This has implications for pedagogic intervention, in terms of strategy training for language learners.

Age and gender

Age is clearly an important factor for distance learning, given that all distance learners are adults. We learned our first language from infancy without trying and we all have examples from our own lives of children who have 'picked up' languages with no apparent difficulty before reaching adulthood. But what of those who are learning a second language as an adult and at a distance? Skehan (1998: 232), in examining the evidence for a critical period for language acquisition (the critical period hypothesis), concludes that all findings are consistent with a gradual decline in language capacity which is complete by the onset of puberty. Depressing news indeed but, on his own admission, lacking in an explanation as to why many adult language learners do well. Younger learners certainly score better in pronunciation and memory ability, but, as Taylor (1974, cited in Spolsky 1989: 157) contends, 'it seems logical to assume that the adult's more advanced cognitive maturity would allow him (*sic*) to deal with the

abstract nature of language even better than children'. Enhanced cognitive maturity and the more advanced metacognitive skills that an adult learner particularly at a distance must develop, in order to cope with the extra demands of the learning context, may well then compensate, at least to some extent, for waning memory.

Gender has been cited as a factor in adult language learning, more in terms of strategy use than in relation to successful outcomes. Oxford, Nyikos and Ehrman (1988: 323-6) in their study of 1,200 university language undergraduates point to profound sex differences in strategy use, with females using more and a greater diversity of strategies than males, particularly those strategies with a social orientation. They also cite 'women's demonstrated superiority in verbal ability' and conclude, somewhat controversially, that the general female preference for feeling judgement might help them in terms of significantly greater use of certain types of language-learning strategies and in terms of language skill development. In the Open University (UK) study (Hurd, 2000), while age was considered an important factor in distance language learning by 43.3%, only 11.1% considered this to be true of gender. Moreover, the findings on strategy use only partly bore out those of the Oxford *et al.* survey, in that although, overall, women reported using more strategies than men, some strategies received higher ratings from men. Maubach and Morgan (2001: 46) in their research into possible links between gender and learning styles among sixth-form students concluded that although some male of female tendencies may exist, more significant differences relate to individual characteristics than to the gender divide. To date, there is no research to suggest that gender is of any great significance in effective language learning at a distance, but further studies are needed.

Attitudes and motivation

The extensive body of research into motivation in language learning, particularly that carried out by Gardner and Lambert (1972), Gardner and MacIntyre (1993), Ushioda (1996) and Dornyëi (2001) indicates that it is one of the most important variables in language learning. Ellis (1985: 119) confirms that there can be little doubt that motivation is a powerful factor in SLA. Oxford and Shearin (1994: 12) too, reinforce the view that motivation is one of the main determining factors in success in developing a second or foreign language. However, the nature of the relationship between motivation and successful language learning is less clear. Ellis (1985: 119): 'We do not know whether it is motivation that produces successful learning, or successful learning that enhances motivation'. The large body of work on strategies suggests a link between motivation, use of strategies and learning success. Oxford and Crookall (1989: 411) found in the previously mentioned survey that in contrast to unmotivated students, highly motivated ones made frequent use of a range of strategies and that students who felt they were good language learners used more strategies than those who viewed themselves as less successful learners. Dickinson (1995: 171) identifies autonomy as another factor in the motivation-success chain: 'Success in learning […] appears to lead to greater motivation only for those students who accept responsibility for their own learning success'.

For distance language learners, motivation has a special and direct role. In most cases it is the determining factor in whether to study or not. Once registered on a distance language course, the inherently demanding nature of self-instruction, together with the shift of locus of control from teacher to learner, means that only those who maintain their levels of motivation are likely to succeed. This view was confirmed by the

learners in the Open University (UK) study (Hurd, 2000). At the start of their course, 89.1% of them considered motivation to be a characteristic of the 'good distance language learner'. Halfway through the course, an even higher percentage - 98.9% - saw motivation, along with persistence, as equally important factors influencing language learning. Nevertheless, difficulty in coping with the materials and assessing personal progress, perceived inadequacy of feedback, frustration at unresolved problems, and lack of opportunities to practise with others and share experiences are all factors that can adversely affect motivation levels.

Distance course writers and teachers need to be aware of the different types of motivational orientation (Skehan 2003) and of the importance of high quality feedback in helping to boost or maintain motivation. Self-help groups can also be beneficial by providing opportunities for mutual exchange and support.

Extroversion, introversion and risk taking

Skehan (1989: 101) in his analysis of extroversion and introversion finds that there is something of a conflict between *general* learning predictions in this area, and *language* learning predictions. Extroverts, it would seem, because of their outgoing and impulsive nature have 'the appropriate personality trait for *language* learning (as distinct from general, content-oriented learning) since such learning is best accomplished, according to most theorists, by actually *using* language'. Extrovert students tend to participate more in classroom interactions, worry less about accuracy and have a tendency to take risks with their language, all of which are assets when it comes to communicative oral competence. Introverts tend to have higher anxiety

levels than extroverts and take longer to retrieve information. However, they are more accurate and show greater cognitive control (Dewaele & Furnham, 1999).

For distance language learners, those with high levels of confidence and who are outgoing in their nature are most likely to fit the profile above. They are also the group most likely to seek out opportunities for language practice, and, according to the Open University (UK) study (Hurd, 2000), are likely to be men. 64% of the men, in the survey, as opposed to 46.4% of the women, claimed to make use of any language practice opportunities that came their way. A third of the men (33.3%) also considered themselves to be self-confident, against a quarter of the women (25.3%). Women, however, scored higher in their support of 'willingness to take risks' as a factor in successful language learning (91.1% women; 85.3% men), which does not mean that they were risk-takers themselves. Indeed, evidence from classroom research indicates that males are more likely to take risks than females (Wallach and Kogan 1959, cited in Graham 1997: 103). Graham (1997: 108) points to the 'sense of solidarity' which can develop in the classroom and is an important factor in the development of risk-taking characteristics. For distance learners working on their own, the lack of solidarity can be particularly relevant. It is, however, by no means proven that extroversion and risk-taking have a role to play in the overall task of language learning, though they may well have a bearing on the development of oral skills.

Anxiety

Anxiety is said to be strongly associated with low self-confidence (Cheng, Horwitz & Shallert, 1999) and with introversion. Studies into anxiety in language learning have

focused on 'a type of anxiety related specifically to language situations, termed language anxiety' (Gardner and MacIntyre 1993: 5). which can be treated as a 'conceptually distinct variable' (Horwitz, Horwitz and Cope 1986: 125-8) with 'a distinct complex of self-perceptions, beliefs, feelings, and behaviors related to classroom language learning arising from the uniqueness of the language learning process'. Like motivation, there is a link between anxiety and proficiency levels, with anxiety levels being at their highest early on in language learning, and then declining as proficiency increases (Gardner and MacIntyre 1993: 6). This is true of distance learners too, who, according to White (1995: 208), report 'initial feelings of lack of preparedness and lack of confidence and a sense of inadequacy'.

While anxiety can be a factor in language learning in all contexts, there are more likely to be anxious learners at a distance than in the classroom. As Paul (1990: 34) points out: 'While students with a lower self-esteem are those most likely to have difficulty with independent learning, they are also the group most apt to choose distance education courses (out of false impressions that they are less demanding than classroom-based ones)'. Distance language learners do have more choices however, including whether to attend tutorials and mix with other learners or not. They are therefore spared, at least until the examination, one known anxiety-inducing factor – live performance in the foreign language in front of others.

Beliefs
All learners come to their studies with their own particular beliefs, assumptions and expectations about the language learning process and themselves as learners. According to a survey done for the European Year of Languages 2001, 22% of the EU

population do not learn languages because they believe they are 'not good' at them. Cotterall (1995: 195) maintains that the beliefs and attitudes learners hold have a profound influence on their learning behaviour and that teachers and materials writers need to be aware of, and sensitive to students' pre-existing assumptions about the language learning process (1999: 496). Wen and Johnson (1997: 39), in their study of L2 learner variables and English achievement, also find 'strong positive relationships between belief and strategy variables'.

White (1999: 444) emphasizes the special importance in the distance context of attention to expectations and beliefs which 'can contribute to our understanding of the realities of the early stages of self-instruction in language'. The power of these beliefs is such that if we ignore them, we miss a valuable opportunity to find out about our learners and help them to develop appropriate learning methods and ultimately achieve their goals. This presents a major challenge for distance language educators, as Hurd (2001a: 141) points out: 'Not only are they physically remote for most or all of their learning, and therefore difficult to access, but they may also dislike any attempt to interrogate them on what might be regarded as personal matters, such as beliefs and attitudes'.

Styles, strategies and context: interrelationships and mutability of variables
One learner variable that continues to attract much attention, perhaps because it is seen to be so intimately connected to other variables, is learning style. Keefe (1979, cited in Ellis 1994: 499) defines learning styles as 'characteristic cognitive, affective and physiological behaviours that serve as relatively stable indicators of how learners perceive, interact with, and respond to the learning environment'. Schmeck (1988:

175) views learning style as 'lying between personality and learning strategy on the causal continuum that leads to a learning outcome. It is not as specific as strategy nor as general as personality. Learning style is the expression of personality within the situational context […]'. Others are less willing to give definitions. O'Malley and Chamot (1993: 109), for example, contend that there has been no unifying theoretical framework for variables cited under the rubric of learning style. Ellis (1992: 161-187) cautions too about 'the looseness of the construct and the uncertainty about how to measure it'. He describes it as 'difficult to define and therefore, difficult to operationalise'. The difficulties of conceptualizing learning styles with L2 learners and validating instruments to measure them are highlighted by Wintergerst *et al.* (2001) who claim some success in their use of exploratory factor analysis to measure the reliability and validity of Reid's Perceptual Learning Style Preference Questionnaire. While for Chapelle (1992, cited in Larsen-Freeman, 2001: 22) the very existence of cognitive styles remains a matter of opinion, Ellis (1992: 163), despite the known difficulties of establishing valid learning style theories and measurement instruments, admits that the hypothesis that L2 (second language) acquisition is influenced by the way in which learners orient to the learning task remains an appealing one.

The concept of learning strategies is equally elusive and seen as 'fuzzily defined and controversially classified' Griffiths (2004: 5). Some research into learning strategies identifies a close link with learning styles. Cohen (1998: 15), for example, contends that learning strategies do not operate by themselves, but rather are directly tied to the learner's underlying learning styles (i.e. their general approaches to learning) and other personality-related variables (such as anxiety and self-concept) in the learner.

Dickinson (1990: 200) also talks of a likely 'relationship between cognitive style and preferred learning processes and strategies in language learning'. Yet there is evidence from studies of the 'good language learner' (Naiman *et al.* 1978; Rubin 1975) that some learning styles are more effective than others and lead to higher levels of language proficiency. Ellis' case study of two adult German *ab initio* learners (1992: 174-189) confirms that learners do benefit if the instruction suits their learning style but asks: 'Are learning styles fixed or do they change as acquisition proceeds?' A consensus has yet to emerge, though there is some evidence (Oxford 1990; O'Malley and Chamot 1993; Cohen, 1998; Skehan, 1998) that preferences and styles can change as learners gain proficiency, or in response to pedagogical intervention in the form of strategy training.

Learning context or setting is increasingly cited as a key factor influencing other factors in language learning. Benson and Lor (1999), Victori (1999) and Sakui & Gaies (1999) stress the importance of context in influencing beliefs and attitudes. White (1999: 449) in her study of distance language learners goes further in identifying 'the relationship between the learner and the context as the critical aspects of self-instruction' with 'each exerting an influence on the other'. She cites the 'metacognitive growth' experienced by most participants in her study, maintaining that the distance learning context itself influences them to develop their knowledge about themselves as learners and extend their skills.

One of the debatable points about many learner variables is the extent to which they are amenable to change, and if so, at what point and in what way. Larsen-Freeman (2001: 20) argues that we may find that learner factors are not only mutable, but that

they also vary in their influence, depending on the learner's stage of acquisition. We have already seen from the brief discussion on motivation that there would appear to be a relationship between motivation, strategy use and learning success, but that its nature may vary in terms of which factor is the causal or influencing one. Gardner's socio-educational model of second-language acquisition (1985, cited in Gardner and MacIntyre 1993: 2-8) 'explicitly proposes reciprocal causation' between individual differences, contexts and outcomes, with particular emphasis given to the 'very dominant role played by the social context'. Oxford and Nyikos (1989: 295) talk of a 'chain of variables' in which they would expect that use of appropriate strategies leads to enhanced actual and perceived proficiency, which in turn creates high self-esteem, which leads to strong motivation, spiralling to still more use of strategies, great actual and perceived proficiency, high self-esteem, improved motivation and so on. The results of a study carried out by Yang (1999) also suggest a cyclical rather than a uni-directional relationship between learners' beliefs, motivation and strategy use.

Benson (2001: 68) nevertheless cautions that to date, research does not provide conclusive evidence on the mutability of individual variables in learning, their interrelationships, or the role of experience, training and self-control in change.

Pedagogical intervention and learner self-management
With regard to language learning in both face-to-face and distance contexts, there is a general consensus that the investigation of language learning strategies is an important way forward. O'Malley and Chamot (1993), and Cotterall (1995) support the increasing interest in the characteristics of learners that are amenable to

instruction, mediation or observation as opposed to the fixed characteristics of learners which are not. They consider that learning strategies fall into this category as they 'can be adapted to task and contextual variables' and are, moreover, 'more powerful predictors of learning outcomes then other learner characteristics' (O'Malley and Chamot, 1993: 105). Skehan's model of learner differences and language learning (1998: 267) confirms strategies as being the most capable of change. His model 'reflects progressively greater degrees of malleability for the learner difference concerned', from modality preference (visual, auditory, kinaesthetic) and foreign language aptitude, both of which influence learning styles, to learning strategies, and finally to learning.

Others (Cohen, 1998; Ellis, 1992; Ellis and Sinclair, 1990; Little and Singleton, 1990; McDonough, 1999) also argue for the analysis and development of learning strategies, and, in particular, for the awareness raising, reflection and development of metacognitive knowledge that need to take place if students are to become autonomous in their learning. McDonough (1999: 12) highlights a tension that is particularly relevant to distance learners, namely the 'double-edged relation between teaching people to learn and learner autonomy'. Ellis and Sinclair (1990) and Dickinson (1990) argue for learners to be provided with different strategies for trialling, so that they can work out for themselves which strategies best match their learning style and lead to successful outcomes.

The demands and opportunities of a distance learning context make it necessary for students to develop a comparatively higher degree of metacognitive knowledge, particularly in terms of self- or person knowledge (White, 1995). Not only do they have

to find out by trial and error which strategies seem to work for them; they also have to learn the skills of assessing their individual learning needs, including their strengths and weaknesses as learners (Hurd, Beaven & Ortega, 2001b). As stated by Hauck & Hurd, (2005): 'Self-management is an essential strategy for language learners in general and for distance language learners in particular - in both face-to-face and virtual learning environments. Not only does it include self-knowledge and awareness and a reflective capacity, it also relates to the ability to set up optimal learning conditions in different learning contexts, including managing affective considerations such as anxiety and motivation'.

Data gathering methods for investigating learner variables

One of the difficulties that has beset researchers investigating learner variables among language learners, particularly those variables classified as affective, has been the reliability of research instruments. Skehan (1989: 118-149) points to the 'over-reliance on questionnaire scale approaches'. He argues further that it may be that self-report and questionnaire methods of data elicitation do not tally with actual behaviour. This is a particular problem with regard to investigating learner beliefs and other affective variables. Kalaja (1995, cited in Cotterall 1999: 497) claims that questionnaires only measure beliefs in theory and not on actual occasions of talk or writing. Cotterall (1999: 507) finds that an added problem with administering questionnaires in English to multilingual groups of learners of English, is that of understanding, which is 'compounded by the ambiguities of interpretation inherent in using Likert Scale data'. Sakui & Gaies (1999: 481) conclude in their study that we have to accept the inherent limitations of questionnaire items – no matter how carefully developed, field-tested, and revised they may be.

Cohen's analysis of six different approaches to assessing language strategies (1998: 23-64), covers interviews and written questionnaires, observation, verbal report, diaries and dialog journals, recollective studies and computer tracking. The method that emerges as having distinct advantages is that of verbal report. This 'think-aloud' procedure involves students reporting on their thought processes while actually working on language tasks, and allows researchers an insight into individual reactions and responses. It is often complemented by retrospective verbal report for further reflection.

One of the instruments favoured by White (1994; 1999) in her research with distance language learners is the yoked subject technique. She describes this technique as 'a form of retrospective account' in which subjects are asked to give their thoughts about a particular aspect of learning to another person, real or imagined, who is about to embark on a similar task, for example strategy evaluation or self-instructed learning. This technique has similarities with the verbal report procedure but attempts to counteract some of its 'potential weaknesses' (1994: 19-20). White sees it as 'a promising tool for multimethod research designs in distance education'.

Introspective methods, along with yoked subject procedures, and complemented by other tools, such as interviews, observation studies and focus groups, seem particularly suited to research which investigates learner variables with large numbers of language students. However, the need for a thorough approach to both design and description of such methods is emphasised by Cohen (1998: 62): 'The time has come to provide greater systematicity both in the collection of such data and in the reporting

of such studies […] so that the already valuable findings from verbal report studies will be even more greatly enhanced by the extra methodological rigour'.

For distance language learning, this is of particular importance, given the inaccessibility of students and the general difficulty of coordinating research tasks at a distance. The specific features of the subject, for example the need to develop good oral skills, and the factor of distance, introduce other important dimensions which need separate investigation.

Conclusion

Larsen-Freeman (2001: 24) argues that we need more holistic research that links integrated individual difference research […] to the processes, mechanisms and conditions of learning within different contexts over time. Certainly, in terms of distance language learning, further research is needed to address some of the gaps that exist in our knowledge of learner variables and their impact on learning a language at different points from *ab initio* to graduate level. The distance learning environment is undergoing rapid and fundamental change with the advent of new technologies, which is forcing a rethink of current activity and revolutionising the ways in which we currently view teaching and learning. One of its main strengths is to reduce isolation and extend flexible learning opportunities to many more students by making it possible for tutors and learners to support and communicate with each other wherever they are, while at the same time offering a variety of methods for language practice. Supported in this way, learners are more likely to be in a position to work out their own learning paths in accordance with their personal needs and preferences. The Internet is also starting to play a role in the process of gathering information on

variables from distance language learners, through email and online discussion, and is thus proving to be a very useful tool for data collection.

What is important about the study of individual differences is that it allows us to break away from what Skehan terms as a 'conspiracy of uniformity' (1998: 260) and gives scope to 'explore just how instruction can be adapted to take account of the person who is most involved, the actual learner'.

(4,928 words)

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