State of the art article

A crosscultural view of learning styles

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Culture is a variable, not a deficiency to be remedied. Loflin, 1989

Purpose

To paraphrase novelist Lawrence Durrell, who chronicled life in modern Alexandria, Egypt, 'We are the children of our cultural landscape; it dictates behaviour and even thought in the measure to which we respond to it.' The meaning of culture and its influence on language learning styles are the keystones of this overview article. Here are our four goals: to delineate the problem and its significance, to define culture, to depict cultural influences on the development of these styles, and to provide instructional and research-relevant implications.

The problem and its significance

For optimal language progress, language instructors need to understand their students' learning styles and the cultural and crosscultural influences that help shape those styles. The problem is that many language teachers have not yet been taught to identify their individual students' styles, nor to comprehend the myriad influences—particularly the cultural ones—affecting the development of language learning styles. Often teachers view learning difficulties among culturally diverse students as problems inherent in the students themselves, rather than a lack of crosscultural or learning-style understanding by the teacher (Cuban, 1980; Nuby, 1995). When teachers fail to recognize the cultural differences among learning styles, students react in negative ways to the instruction (Ortiz & Garcia, 1988). 'Particularly [for the teacher] without overseas experience, there is often the danger of ethnocentricism in thinking about learning. There may be some cultural prejudices, … and there may also be some broad assumptions about certain classroom performances' (Parham, 1989: 6).

Conflicts occur when a student has a learning style that differs from the instructional style of the teacher, especially when the teacher does not understand the cultural and personal reasons for this difference (Cohen, 1969; Oxford, Ehrman & Levine, 1993).

The classroom thus becomes a place of inequity, where some students receive what they need and others do not. Some students struggle along while feeling somewhat deprived or confused, and others drop out. Such problems can occur in second language classes, in which students are learning a new language in an environment where that language is widely used for daily communication. They can also arise in foreign language classes, in which students face the handicap that the 'largest' language is not spoken for everyday communication outside the class.

Lack of understanding of learning styles and of their partially cultural roots is not necessarily the fault of the teacher. Many teacher education programmes do not provide the kind of experiences that would allow prospective teachers to develop their skills in identifying students' learning styles and in handling crosscultural differences.

Crosscultural understanding of language learning styles is crucial to success in language teaching and learning. 'A continued theoretical analysis is necessary not only to increase our understanding of intercultural communication but also to improve our ability to help members of one culture to communicate effectively with members of another culture' (Gudykunst & Nishida, 1989: 41). 'Seek first to understand, then to be understood' (Covey in Reilly, 1995: 5).

Yet many teachers value most the students who seem most like themselves in cognitive skills and learning styles (Claxton & Murrell, 1987), and this is an insidious and often unrecognized form of educational prejudice. We must understand our student's styles, not superficially but on a culturally deep level, if we see to provide the best language instruction for these students.

Following are selected examples underscoring the need for understanding learning styles in a

Culture

Culture is much more than just what the individual or group wears, eats, drinks, listens to, or smokes in certain situations. 'Culture is a survival strategy' (Bullivant, 1984). 'Culture is the intangible symbols, rules, and values that people use to define themselves' (Dimen-Schein, 1977). Culture is 'the human-made part of our environment' (Herskovits, 1948). More broadly, 'Culture is the social cement of all human relationships; it is the medium in which we move and breathe and have our being' (Scovel, 1991: 1).

Some define culture merely in terms of observable behaviours, such as leisure habits and marriage traditions. Behaviourally inclined anthropologists and anthropological linguists sometimes say that culture is 'all learned behavior which is socially acquired' (Nida, 1954: 28). Cognitive anthropologists focus on how the individual perceives the culture. Symbolic anthropologists define culture as a system of symbols and meanings. Interpretations by the individual are the key aspect for both these kinds of anthropologists. Expanded definitions of culture therefore include not just the behaviour, but also and more importantly the non-obvious rules, meanings, beliefs, attitudes, and values governing those behaviours (Liberman, 1994; Yang, 1992).

Steinmetz, Bush and Joseph-Goldfarb (1994: 12) indicate that 'Studying culture does not mean looking only at customs, institutions, and artifacts ... but also studying people’s values, beliefs, and attitudes and how they influence or are influenced by interactions among people. Culture should be studied as a process as well as a product.' Another example of this kind of definition comes from Brooks (1968: 218–21):

Culture (relating to patterns of living) refers to the individual’s role in the unfolding multivariate life situations of every kind and the rules or models for attitudes and conduct in them. By reference to these models, all human beings, from infancy onward, justify the world to themselves as best they can, associate with those around them, and relate to the social order to which they are attached ... What is important in culture ... is what one is expected to think, believe, say, do, eat, wear, pay, earn, respect, honour, laugh at, fight for, and worship, in typical life situations ...

The famous metaphor of the ‘cultural iceberg’ (Hall & Hall, 1990; Oxford, 1995b) indicates that many aspects of culture, such as certain beliefs, perceptions, and values, are below the surface of consciousness (in the submerged part of the iceberg). Other aspects of culture, like clothing and TV-watching habits, are in the conscious area (above the water-line). It is often the less conscious cultural aspects that influence how people learn languages. Research by Yang (1992) suggests that culture clearly includes beliefs, perceptions, and values which affect language learning.

Language is, of course, one of the most important symbol systems in any culture. The vocabulary, grammar and phonology of a language tell a great deal about the nature and values of the culture. In the great cultural iceberg, language can be considered as highly observable behaviour and within consciousness, and its deeper, subtler meanings and messages can be seen as more value and belief laden, thus out of consciousness.

The importance of culture is reflected in the concept of situational cognition, which holds that the setting and the activity in which knowledge is developed are not separable from learning, nor are they neutral; they are an integral part of the learning (Brown, Collins & Duguid, 1989; Geertz, 1983; Lave, 1988; Lave & Wenger, 1991; Rogoff & Lave, 1984; Suchman, 1987). Thus, in the foreign or second language classroom, the activities and cultural influences cannot be separated from what is learned. Language learning is fully situated within a given cultural context. The student becomes enculturated (apprenticed into a particular learning culture or environment that in many ways reflects the general culture) through classroom activities and through the modelling and coaching of the teacher and many others (Lave, 1988; Rogoff & Lave, 1984). Rather than just the teacher/learner dyad, there exists a richly diverse field of essential actors and, with it, other forms of relationships of participation (Lave & Wenger, 1991: 56). In this view, learning is never a mere process of transmission or transfer but is instead nothing less than a process of transformation.

dynamic system of understandings and assumptions within and across cultures or subcultures.

When understanding is not there, inequity often results, as stated earlier. Multicultural or multietnic education, according to Banks (1994), involves action toward attaining cultural equity through five means: (1) prejudice reduction; (2) an 'equity pedagogy' that modifies instruction so that all ethnic, racial, and economic groups can achieve; (3) teaching instruction of diverse context; (4) knowledge construction, involving determination of hidden cultural assumptions of teachers and students; and (5) school culture and social structure that can empower students of all backgrounds. Compared to Banks' five strategies, Thompson (1987: 29) presented a streamlined formula for equity in the classroom, 'simply by making teachers aware of the educational implications of [cultural learning] style'.

**Language learning styles and crosscultural factors that help shape them**

Language learning styles are 'the general approaches - for example, global or analytic, auditive or visual - that students use in acquiring a new language' (Oxford & Lavine, 1992: 38). These styles are 'the overall patterns that give general direction to learning behaviour' (Cormet, 1983: 9). Learning style is the biologically and developmentally imposed set of characteristics that make the same teaching method wonderful for some and terrible for others' (Dunn & Griggs, 1988: 3).

Learning styles have six interrelated aspects: cognitive, executive, affective, social, physiological and behavioural. (Willing, 1988, and Wallace & Oxford, 1992, cite four elements, but a system of six elements is more accurate and more encompassing.) (1) Cognitive elements include preferred or habitual patterns of mental functioning (often called 'cognitive styles'). (2) The executive aspect deals with the degree to which the person seeks order, organisation and closure and manages his or her own learning processes. (3) The affective aspect reflects clusters of attitudes, beliefs and values that influence what an individual will pay most attention to in a learning situation. (4) The social contribution concerns the preferred extent of involvement with other people while learning. (5) The physiological element involves at least partly anatomically-based sensory and perceptual tendencies of the person. (6) From the standpoint of behaviour, learning style relates to a tendency to actively seek situations compatible with one's own learning preferences. In contrast to language learning styles, language learning strategies are specific behaviours or techniques that students use, often consciously, to improve their own progress in internalising, storing, retrieving and using the target language (Oxford, 1990a, b; Rigney, 1978). Examples are seeking out conversation partners, grouping words, giving oneself encouragement, using gestures to communicate, analysing words, and planning and evaluating one's own progress. Conscious, 'tailored' use of these strategies is related to language achievement and proficiency (O'Malley & Chamot, 1990). Particular strategies are often chosen because they are compatible with a student's culturally-influenced learning style.

A key assumption that we hope to prove here is that learning styles have a strong cultural component. Oxford, Holloway and Murillo (1992: 441) emphasised: 'Although culture is not the single determinant, and although many other influences intervene, culture often does play a significant role in the learning styles...adopted by many participants in the culture.' Cole and Scribner's classic book (1974) showed that culture and thought patterns are strongly linked. Good (1973: 65) asserted, 'Cultural patterns are an interrelated, interwoven, and virtually inseparable group or cluster of traits that, taken together, produce an established and typical result such as a way of thinking, living, and acting.' Merriam and Caffarella (1991: 178) contended that to understand the effects of learning styles, one 'must consider the impact of the family, the educational system, and the culture on what we know and how we come to know it'. Similarly, Singleton (1991: 120) stated, 'There are, in every society, unstated assumptions about people, and how they learn...[which] act as a kind of unintentional hidden curriculum, or what an anthropologist might call a cultural theory of learning.'

Hofstede (1986) described differences in 'cognitive abilities' (which he explained as being very similar to what we call 'learning styles') directly based on cultural values and needs. For instance, in China the nature of the pictorial or idiographic script developed children's ability to recognise patterns and memorise by rote, while children in Germany are brought up to believe that anything easy to understand is probably dubious and unscientific. Our cognitive development is determined by the demands of the environment in which we grew up; a person will be good at doing the things that are important to him/her and that (he) has occasion to do often' (Hofstede, 1986: 305).

Other work has implied that culture has a tremendous influence on learning styles. For example, Dunn, Gamale, Jalali and Zemahayen (1990) found that cultural background strongly influences learning style preferences among elementary students, who included African Americans, Greek Americans, Chinese Americans.
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and Mexican Americans. This result echoes the 20-year-old findings of Ramirez and Price-Williams (1974), who examined the styles of schooled children, including Mexican Americans, African Americans and Canadian Americans. Griggs and Dunn (1989) studied elementary students from different cultural groups and reaffirmed that cultural background influences students' style preferences. Dunn and Griggs (1990) summarised eight learning style studies of cultural and racial groups in the US, showing that teachers can increase student learning through teaching to students' culturally-influenced learning styles. Vogt, Jordan and Tharp (1987) found the same thing (enhancement of learning by teaching to students' styles) with Hawaiian children and Navajo children, as did Swisher and Dychile (1987) and Phillips (1983) in research on the styles of Native American youth. Other examples include research by Cole, Gey, Glick and Sharp (1971); Cuban (1989); Hall and Hall (1990); Holland and Quinn (1987); Jacobs (1990); Lam and Phoon (1985); MacMurren (1985); More (1987); Reid (1987); Sco lon and Scollon (1985); Shade (1982, 1983, 1989); Sue and Kirk (1972); and Worthley (1987).

Worthley (1987) noted that while diversity within any culture is the norm, research shows that individuals within a culture tend to have a common pattern of learning and perception when members of their culture are compared to members of another culture. In addition, stated Nuby (1995: 36), 'individuals from relatively pluralistic cultures such as the US (actually a polyglot of many subcultures) tend to exhibit greater diversity in learning styles than individuals from relatively singular cultures such as that of the African Kpelle tribe'. The generalisations made in this article about specific cultures do not apply to every representative of those cultures; many individual exceptions of course exist.

Individual learners have a composite of at least 20 style dimensions (Ehrman & Oxford, 1990), including the following that seem to be among the most significant for second or foreign language learning. Note that the primary components of style are listed next to these dimensions.

- global and analytic (cognitive);
- field dependent and field independent (cognitive);
- feeling and thinking (both affective and cognitive);
- impulsive and reflective (both affective and cognitive);
- intuitive-random and concrete-sequential (both cognitive and executive);
- closure-oriented and open (both cognitive and executive);
- extraverted and introverted (both social and affective); and
- visual, auditory and hands-on (physiological).

Note that the sixth component, behavioural, is

infused in all of the above dimensions, because it involves the tendency to seek learning environments that allow the person's style preferences to be activated.

We will now describe the learning style dimensions (starting with global and analytic) and provide crosscultural examples from the research. Space is insufficient to provide details for all studies, such as sample size, design, instruments used, instrument reliability and validity continued so on. Nevertheless, it should be said that most studies here are at the descriptive stage, where researchers are trying to describe the existing phenomena (e.g. learning styles, effects of culture on learning styles, effects of instructional techniques on students with different styles) at the situation cognition, rather than conducting controlled experimental or quasi-experimental manipulation.

1. **Global and analytic styles**

A key style dimension appears to be global vs. analytic, which Coheren (1969) called 'relational vs. analytic'. The global or relational learner begins with the whole picture, while the analytic learner begins with the separate parts and pieces them together to make a whole (Nelson, 1995). The language student with a global (sometimes termed 'right-brain dominant') learning style seeks the big picture right away and establishes meaning only in relation to the whole. This kind of learner sometimes has trouble discerning the important details from a confusing language background (see 'field dependent' below). In contrast, an analytic ('left-brain dominant') language student likes details better than the overall picture and can separate the details from the background (see 'field independent' below). Ellis (1988) implied that the analytic language student might naturally prefer to engage in formal language learning aimed at achieving accuracy ('studial learning'), while the global student might prefer learning that is aimed at and takes place through communication ('experiential learning').

Kusmella (1993) gave a very detailed explanation of analytic and global learning styles as related to brain hemisphere. She stressed that analytic (left-hemisphere) learners are highly verbal, linear, analytic, logical, and temporal (sequencing), while global (right-hemisphere) learners are highly visual/spatial, integrative, relational, intuitive, and contextual (parts-and-whole together).

**Crosscultural examples:** Hispanics often develop a global learning style (Oxford, Holloway & Munho, 1992), which behaviourally translates into their choice of global learning strategies, such as predicting, inferring (guessing from context), avoiding details, working with others rather than alone, and basing judgments on personal relationships rather than logic. Native Americans likewise have a global learning style, because their culture promotes
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a strong sense of context and relationships. African American students have a global learning style that displays intuition, approximation, body language, and use of deeply contextualized words (Foster, 1985; Shade, 1982). Egyptian language students have been shown to use global strategies such as guessing and memorizing large chunks of material as a whole, thus reflecting a global style (Oxford & Bury-Stock, 1995).

According to Sumrell (1990), Chinese learners are global, striving for unity between events or objects. Stewart (1972: 25) stated that the Chinese do not analyse a topic but 'are more likely to think by means of [global] analogies or to make greater use of metaphors and similes in drawing conclusions'. Yet the Chinese, along with the Japanese, are often detail- and precision-oriented, showing some features of the analytic style (Oxford & Bury-Stock, 1995).

By way of contrast, many Anglo Americans have an analytic learning style (Brown, 1987), also described as a decontextualized, abstract learning style (Stewart, 1972). They therefore use analytic strategies aimed at attaining precision and accuracy, searching for small details, looking for contrasts, finding cause-effect relationships, and basing judgments more on logic than on personal interactions (Oxford & Anderson with Bury-Stock, 1995).

2. Field dependence and field independence

The contrast between global and analytic functioning arose directly from early research on field dependence vs. field independence—the degree of ability to separate insignificant background details from truly significant details—more than two decades ago (e.g. Witkin, Moore, Goodenough & Cox, 1977) and has steadily developed with applications to language learning (see Oxford, Ehman & Lavine, 1991; Hansen & Stansfield, 1981, 1982; Stansfield & Hansen, 1983).

Worthley (1987: 33) showed that field independent learners 'prefer to compete and gain individual recognition, are often task oriented . . ., and prefer learning that emphasizes the details of concepts'. Field independent learners perceive analytically and enjoy subjects involving abstract, impersonal work (Witkin et al., 1977). They are inner-directed and have a 'thinking' (factual, objective, decontextualised) approach to learning (Oxford, 1994). Witkin et al. (1977) demonstrated that field independent learners do not typically accept other people's views before making a judgment and prefer to rely on their own standards (Violand-Sanchez, 1995). Field independence often arises in cultures where personal autonomy is emphasised (Claxton & Murrell, 1987; Worthley, 1987).

Field dependent (sometimes called 'field sensitive') to counter the prejudice attached to the word 'dependent') students have more trouble differentiating specific details in a background of information, and they are unlikely to involve themselves in analytic thinking (Bean, 1990). They accept other people's views before making a judgment and are comparatively reliant on authority figures for praise and guidance (Witkin et al., 1977). Such students are holistic; they 'tend to view themselves and all their experiences as part of a larger universe' (Worthley, 1987: 33) and globally rely on the context for information (Witkin et al., 1977).

Chapelle (1995) noted that in the early 1980s the meaning of field independence and field dependence expanded to refer to the degree of ability to cognitively reconstruct a situation or stimulus, with field independence related to analytic/visual reconstruction and field dependence related to 'interpersonal' reconstruction. At heart, Chapelle emphasised, field independence/dependence is a neutral style denoting that individuals differ in their reliance on internal versus external references, rather than in their ability (Witkin & Goodenough, 1981). 'Cognitive style flexibility' (Witkin & Goodenough, 1981) refers to moving back and forth easily between field independence and field dependence when needed.

Abraham (1985) examined the field independence and field dependence of language students in relation to grammar teaching methods: analytic (rule-oriented, deductive) vs. global (non-rule oriented, inductive). Abraham discovered that, as expected, field dependent students were happier in classrooms where rules were not emphasised, while field independent students liked classrooms where deductive, rule-oriented learning was the dominant approach.

Based on work of Day (1984), Chapelle and Roberts (1986) and Hansen and Stansfield (1981, 1982), we can point to some clear evidence that field independent people do better on tests of grammatical accuracy, but results indicate that field dependent students do not consistently perform better in communicative tasks as might be expected. Chapelle (1995: 159) stated that 'neither field independence nor field dependence guaranteed success in L2 learning'.

Crosscultural examples: Worthley (1987) suggested that the field dependent style is likely to develop in cultures that foster parental control and/or a group-orientation. According to Claxton and Murrell (1987), Hispanic (Latino) and Vietnamese cultures emphasize an orientation to the group and parental control, and so they tend to produce field dependent learners (echoed by Violand-Sanchez, 1995 and Harshbarger, Rass, Tafyta & Via, 1986, regarding Hispanics). In addition, 'Hawaiian Americans (as well as people in many other cultures without long experience with a written language) typically teach each other and therefore learn in context' (Nelson, 1995: 4), thus becoming field dependent or relational learners.

African Americans have been repeatedly shown to be field dependent in their learning in contrast to Anglo Americans and Asians (see, e.g. Violand-Sanchez,
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1995). African Americans prefer approximate concepts of space, number, and time rather than precise concepts and create many coined terms, names, and phrases that cannot be understood without a high degree of context. They like associations and suggestion rather than directness (Nisbey, 1995).

Conflicts in field independence/dependence research results appear for some cultures, however. For example, Japanese students have been shown by different studies to be field independent (Elson, 1992) and field dependent (Gondan, 1984; Nelson, 1995; Tadman, 1991). According to some investigators (see Nelson, 1995), Chinese students also tend to be field dependent learners, but this is not a unanimous vote of researchers. Perhaps the confusion here is caused by the fact that Japanese and Chinese students have elements of both field independence and field dependence and might therefore be flexible in cognitive style. Field independence is typically viewed as analytic, and Japanese and Chinese are often analytically detailed and precision-bound in their cognition. Field dependence is seen as global, and students in these two cultures often make very global (analytic and metaphorical) cognitive connections, typically prefer authority figures as models, and are brought up to value group (global) solidarity.

A different possibility is that field dependence is related to the level of target language proficiency, as long as language learning occurs in a field-independent cultural and educational environment such as the U.S. Viola-Sanchez (1995) showed that Asian and Hispanic limited-English-proficient students became more field independent as they gain greater English proficiency in the U.S. Anglo Americans in Viola-Sanchez's research were the most field independent of all (in a sample that also included African Americans, Hispanics, and Asians).

3. Feeling and thinking styles

Also related to the global v. analytic aspect - but not identical to it - is the feeling v. thinking dimension. A feeling-oriented student is broadly sensitive to social and emotional factors. His or her decision-making is likely to be globally influenced by the feelings of others, the emotional climate, and personal and interpersonal values. A thinking-focused student is not readily concerned with social and emotional subtleties, except possibly as data for analytically understanding a particular problem or issue. This type of student makes decisions based on logic and analysis. The feeling v. thinking dimension is highlighted in the Jungian-based work of Myers and McCaulley (1985), Briggs (1980), and Lawrence (1984). This dimension is particularly prone to gender differences within and across cultures (Oxford, 1995a).

Crosscultural examples: Hispanic students in general are more overtly feeling-oriented than thinking-oriented. Indicators of this feeling orientation are that Hispanic students typically base judgments on the closeness of personal relationships rather than on logic, and they often express feelings openly (Oxford, Holloway & Murillo, 1992). Also, Oxford and Barry-Stok (1993) discovered that Puerto Ricans frequently use affective strategies and reflection to handle anxiety, thus underscoring a Hispanic tendency toward the feeling orientation.

By comparison, Japanese students generally desire that the teacher respect their privacy, are not forthcoming about their personal feelings, and tend to make judgments based on analytical thinking. Japanese students might be classified as more thinking-oriented than feeling-oriented (Oxford, Holloway & Murillo, 1992). In a large study of highly selected, highly educated language learners (mostly Anglo Americans) training for the US Foreign Service, Ehrman and Oxford (1995) found that the majority were quite thinking-oriented; on the other hand, they did show a few clear feeling tendencies, such as acceptance and tenderness.

Nisbey (1995), using a personality type indicator with high school students, found that both African Americans and Native Americans are thinking-oriented rather than feeling-oriented in their style. According to the definition of the thinking orientation, both groups thus have little need for authoritarian approval and both show objective detachment and logic in decision making, rather than reaching conclusions based on feelings, emotions, and values. The thinking orientation might relate to the reflectivity ordinarily shown by Native Americans, but this does not explain why the African Americans show the same style.

4. Impulsivity and reflection

Another related dimension of learning style concerns impulsivity v. reflection (sometimes called 'conceptual tempo'), with impulsive students being more global and reflective students being more analytic. Impulsive (fast-accurate) students show quick and uncritical acceptance of initially accepted hypotheses. Overly impulsive students can be error-prone, both in the productive skills of writing and speaking and the receptive skills of listening and reading. Reflective (slow-accurate) students prefer systematic, analytic investigation of hypotheses and are usually accurate in their performance in all skills. Other possibilities are fast-accurate (always preferred but not typically achieved) and slow-inaccurate (the worst case).

Crosscultural examples: Sometimes Hispanic students appear more impulsive than reflective, with impulsivity perhaps being related to extroversion (Oxford & Lavin, 1992). Compared to American students, Hispanic students show greater reflection (Condore, 1984), as shown by the concern for precision and for not taking quick ads in conversation (Oxford, Holloway & Murillo, 1992). Quite typical is the Japanese student who waits time to arrive at the correct answer and is uncomfortable when

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5. Intuitive-random v. concrete-sequential styles

Another important contrast is intuitive-random v. concrete-sequential. An intuitive-random learner tries to build a mental model of the second-language information. He or she deals best with the 'big picture' in an abstract, nonlinear, random-access mode and constantly tries to find the underlying language system. If interesting, discussions that veer off the assigned topic for the day are perfectly acceptable to an intuitive-random student. An intuitive-random student, when asked for a list of three possibilities, is likely to come up with 15 because of a general orientation toward creativity and futurism. The intuitive-random student is comfortable without having all the information and feels free to use guessing, predicting and other compensation strategies in the absence of full knowledge.

Conversely, a concrete-sequential student prefers language learning materials and techniques that involve combinations of sound, movement, sight, and touch and that can be applied in a concrete, sequential, linear manner. If the language teacher or another student diverges from the planned topic of discussion by telling an amusing anecdote, the concrete-sequential learner is frequently distressed by the lack of continuity. Compared with intuitive-random students, concrete-sequential students are likely to follow the teacher's guidelines to the letter, to be focused on the present, to demand full information, and to avoid compensation strategies that demand creativity in the absence of complete knowledge.

The intuitive-random v. concrete-sequential (sensing) style aspect is part of Myers' (1980) and McCaulley's (1980) contribution. Gregorc (1979) has done extensive research with four related categories (concrete sequential, abstract sequential, concrete random, and abstract random). Applications to language learning have come chiefly from Oxford, Ehman and Lavine (1991). Crosscultural examples: some cultures (such as many Eastern and Arabic-speaking countries) encourage an concrete-sequential learning style. The concrete-sequential style often produces widespread use of strategies such as memorization, planning, analysis, sequenced repetition, detailed outlines and lists, structured reviews, and a search

for perfection (see Oxford & Burry-Stock, 1995, regarding Tivorean, mainland Chinese, Japanese, and Egyptian EFL students whose strategy use seems at least partially concrete-sequential). Arabic speakers are particularly prone to verbatim memorization of long passages, which are often copied to enhance students' writing. Some language program administrators called this 'plagiarism,' but it is not considered such in Arabic countries. Many Korean students like following rules (Hardanger et al., 1980). and this might be a sign of a concrete-sequential style. More flexible strategies (though not always higher-order thinking strategies) and a more facilitative, non-authoritarian view of teachers are often found among the pluralistic North Americans.

In Naby's (1995) study, Native Americans and African Americans are generally concrete-sequential (sensing), favoring linear, factual, hands-on learning with concrete results. However, when contrasting the two groups, Native Americans are somewhat more intuitive-random than African Americans in this study, although both groups are overall concrete-sequential.

In Ehman and Oxford's (1995) study of a very effective group of primarily Anglo American language learners training for the Foreign Service, most tended to be intuitive-random rather than concrete-sequential. They showed characteristics such as abstract, imaginative, theoretical, intellectual and original. This is not the general tendency of the US population, which is probably more concrete-sequential (Kernery & Bates, 1984).

6. Closure-oriented v. open styles

Closure-oriented v. open (also called 'judging' and 'perceiving') styles have a strong bearing on classroom learning. A student with a closure-oriented ('judging,' i.e., seeking early decisions or judgments) style is likely to plan language study sessions carefully and do lessons on time or early. Closure-oriented students dislike ambiguity, uncertainty or fuzziness. To avoid the ambiguity that such a student hates, he or she will sometimes jump to hasty conclusions about grammar rules or reading themes. As stated by Ely (1995: 92), 'Our real goal ... is to have the student move from feeling embarrassed or unhappy with linguistic uncertainty to seeing himself or herself as a linguistic researcher and problem solver'.

The student who is more open ('perceiving,' i.e., perceiving a great deal of input and postponing decisions or judgments) may approach a language assignment or a class activity as though it were an entertaining game. This type of student usually has a high tolerance for ambiguity, does not worry about not comprehending everything, and does not feel the need to come to rapid conclusions about the topic. Finishing language assignments on time is not a natural priority for open learners. Judging v. perceiving is a major style dimension highlighted by Briggs (1980), Lawrence (1984), and Myers and McCaulley (1980) and applied to the language

Cross-cultural examples: Many language students come from cultures where ambiguity is not tolerated well and where a closure-oriented style is encouraged. Hanhbgare et al. (1986) noted that Korean students insist that the teacher be the authority and are disturbed if this does not happen. Japanese students, though reflective themselves, often want rapid and consistent correction from the teacher and do not feel comfortable with multiple correct answers. Many Asian students, according to Suehle and Kirk (1972), are less autonomous, more dependent on authority figures, and more obedient and conforming to rules and deadlines.

Arabic-speaking students often see things in black/white, right/wrong terms and sometimes refuse to compromise; to these students, written texts take on an "always correct" aura, and the teacher who accepts more than one answer as right seems weak or ignorant (Oxford, Halfffare, & Mumilo, 1992). Note that this can occur among more conservative groups in many different cultures.

In comparison, Hispanic students are not described by Harshberger et al. (1986) in these very closure-focused terms. They appear more flexible about deadlines, dates, and clarity. In fact, the mañana concept (putting things off until tomorrow) fits well with a more open learning style. A concern for social harmony might lead Hispanic students to a greater desire for negotiation and flexibility, which are characteristics of the open style.

Nuby (1995) showed that African Americans are more closure-oriented than Native Americans. Native Americans in Nuby’s study demonstrate a strong need for flexibility, variety, novelty, and change and a powerful desire for unstructured classrooms. African Americans in this investigation held a mixed preference, with the need for closure, stasis and structure highlighted along with the opposite needs for flexibility, change and spontaneity.

Language learners in Ehrman and Oxford’s (1995) study of present and future US Foreign Service officers, mostly Anglo Americans, were overwhelmingly closure-oriented. They wanted clarity and quick decisions and were scheduled, planful and methodical.

7. Extroverted v. introverted styles

Extroversion v. introversion is another significant dimension of style that particularly influences classroom management, especially grouping of students. Extroverted learners gain their energy and focus from events and people outside of themselves. They enjoy a breadth of interest and many friends, and they like group work. Extroverted students enjoy English conversation, role-plays and other highly interactive activities. Introverted learners, on the other hand, are stimulated most by their own inner world of ideas and feelings. Their interests are deep, and they have fewer friendships than extroverted students (but often strong ones). They prefer to work alone or be in a pair with someone they know well; they dislike lots of continuous group work in the language classroom. With introverted students, it is often useful to employ the “think-pair-share” sequence, in which the student gradually eases into group work Myers and McCauley (1985) have sharpened our understanding of extroverts and introverts, and Oxford, Ehrman and Lavine (1991) and others have linked this information to the language classroom.

Cross-cultural examples: Arabic-speaking students are typically very gregarious, often involved in a whole-class, extroverted mode of instruction (Hanhberger et al., 1986; Willing, 1988). They want social closeness to their teacher and classmates. They also want their teacher to be an authority figure but expect personal kindness from the teacher at the same time.

Hispanic students in general are highly extroverted, cooperative (or homework and classroom), sensitive to the needs of others and prone to touch. They want a close relationship with the teacher as a role-model and friend and respond more to social goals more than to impersonal rewards. These are all indicators of a strong extroverted tendency among Hispanic students. In a learning strategies study, Oxford and Buzz-Schock (1995) discovered that Puerto Ricans frequently use a variety of social strategies highlighting their extroverted and cooperative learning style. One warning: some language teachers occasionally misinterpret Hispanic students’ interest in the teacher as a bid for favoritism and their peer-helpfulness as a sign of cheating.

African American students tend to be extroverted and prefer social learning activities. They like group sharing, nondirective teacher functioning, novelty, freedom and personal distinctiveness (clothes, jewelry, names) within the group setting (Nuby, 1995). Nonsocial behaviors such as strutting, touching, making or avoiding eye contact, and rolling of the eyes are all highly social, extroverted ways by which African Americans convey messages to peers and to the teacher (Nuby, 1995).

In the investigation by Nuby (1995), Native American high school students showed themselves to be extroverted in their style preference. As Nuby stated, Native Americans are highly extroverted and cooperative within their own cultural group, but this ethnic commodity coexists with a suspicion of "outsiders.

The cooperation shown by the above ethnic groups — Arabic speakers, Hispanics, African Americans and Native Americans — is related to their overall learning styles and the group solidarity of certain kinds of introverts. According to Harshberger et al. (1986), Japanese and Korean students are often quiet, shy and reticent in language classrooms. They dislike public touch and overt displays of emotions or opinions, indicating a reserve that is the hallmark of introverts. These ethnic groups, Japanese and Korean, contain many introverts but have a traditional cultural focus on group membership, cooperation, solidarity and face-saving (Harshberger et al., 1986; Hofstedee, 1986). Chinese students likewise show strong cooperative tendencies and group concerns, although many of them
would also be classified as introverts (see Su, 1995). In the Chinese system, all children are expected to maintain the same level of achievement, because 'the cooperative nature of the culture requires that everybody help everyone else' (Hudson-Ross & Dong, 1990: 123).

The kind of cooperation shown in Chinese classes is different from that of Hispanic classes (Nelson, 1995). Hispanic students cooperate evenly in class by working in groups, talking together, and helping each other directly. However, Chinese students cooperate solely by maintaining relationships, group harmony, and cohesion; they seldom work in small groups and are expected to listen, take notes, and leave. For Chinese students, overt cooperation does not occur in the classroom, but it may occur outside of school.

Because caution, conservatism and compliance are valued in Asian cultures, traditional Asians may appear to be indirect, timid, overconforming and unsociable' (Cheung, 1985, in Nair, 1985: 45). This might be why many Japanese students are reluctant to participate in speaking activities or other tasks that demand a display of extraversion.

No cultural groups preferred group work in Reid's (1987) large, cross-cultural study of ESL college students and college students who spoke English natively. This finding was especially surprising for Hispanic students, who typically show up as highly group-oriented and extraverted in most studies. English speakers rated group work lower than all other cultural groups; perhaps this relates to the competitive nature of their educational experience. A very different picture arises for Rossi-Lei (1995), who replicated and expanded Reid's work with a sample of adults immigrants that included Spanish speakers and a wide variety of Asians (Chinese, Vietnamese, Latin and others). In Rossi-Lei's study, all ethnic groups indicated a learning style preference for group learning, thus possibly reflecting a difference in age, maturity or experience.

Unlike the general US population (Kenesr & Bates, 1984), the primarily Anglo American subjects in the 1995 study by Elman and Oxford were somewhat introverted. These individuals were chosen as being linguistically and academically talented and were heading for international governmental careers.

8. Visual v. auditory v. hands-on styles
Sensory preferences (visual v. auditory v. hands-on or tactile/kinesthetic) are very significant in the multicultural ESL/EFL classroom. Visually oriented students like to read and obtain a great deal of visual stimulation. For them, lectures, conversations, and oral directions without any visual backup are very confusing and can be anxiety-producing. Auditory students, on the other hand, are comfortable with oral directions and interactions unsupported by visual means. Hands-on (sometimes called haptic, kinesthetic or tactile) students like lots of movement and enjoy working with tangible objects, collages and other media. Sitting at a desk for very long is uncomfortable for hands-on students; they need frequent breaks and, above all, physical action in games and dramatic activities. Linking language with art is valuable for both visual and hands-on learners, and using language and music is useful for auditory learners.

Cross-cultural examples: Reid's (1987) investigation of sensory learning style preferences found that Korean students are the most visual of all, significantly more so than US and Japanese students. Arabic and Chinese students are also strongly visual. Japanese students in the Reid study are the least auditory, with this result being significantly different from Arabic and Chinese students, who strongly like auditory learning. Thai, Malay and Spanish students are also strongly auditory, though slightly less so than Arabic and Chinese.

In a replication and expansion of Reid's (1987) work, Rossi-Lei (1995) discovered that visual learning is preferred by older students and by students with higher language proficiency. The more the language learner has exposure to the written word, the more he or she feels comfortable learning visually (Rossi-Lei: 120).

Most ESL students in Reid's study strongly prefer kinesthetic (movement-based) learning, and the strongest in this area are Arabic, Spanish, Chinese, Korean and That students. Similar results are seen in Rossi-Lei's 1995 work, in which the kinesthetic mode of learning is very popular among all cultural groups studied. See also Stelmach, 1995, regarding the strong kinesthetic tendencies of Hispanic students.) Even US university students (native English speakers) strongly like kinesthetic learning — although they do not encounter it much in typical university situations.

In Reid's (1987) study, native speakers of English are significantly less tactile (touch-oriented) than Arabic, Chinese, Korean and Spanish speakers. Most nomnative speakers of English are highly tactile in their learning preferences (See also Rossi-Lei, 1995, who found tactile learning extremely popular among all cultural groups examined.)

Some cultural groups in the Reid (1987) study have multiple major perceptual learning style preferences. They are able to learn equally well via two or more clearly articulated sensory channels. For example, Spanish speakers are very definite in their sensory style choices: they prefer kinesthetic and tactile as major learning styles, with visual and auditory as minor learning styles. Like Reid (1987), Su (1995) found that Chinese students have several major perceptual learning styles. Chinese students in these two studies prefer kinesthetic learning to auditory learning, and both of these modes are higher than visual learning — but all of these preferences are deemed as 'major'.

Japanese students do not, as a group, indicate any single major perceptual/kinesthetic learning style (Reid, 1987). Therefore, they differ among themselves on many of the statistical analyses. Similar findings about Japanese students' lack of a major learning style preference are available in the all-Japanese study by Call (1993) and
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Reid noted that 90% of traditional college classroom instruction is geared to the auditory learner, who is in the minority among many language groups. She suggested that teachers identify their students' styles and try to teach to these styles.

Willing (1988) found in a study of ESL students in Australia that South Americans — significantly more than most other groups — want both to see and hear English, thus combining visual and auditory modes through videos, pictures and films. As noted above, Reid (1987) found that Hispanics like visual and auditory learning as minor style preferences, with kinaesthetic and tactile as major style preferences. These differences in results might be explained by the fact that Willing did not use the same testing instrument as Reid, and it did not have a focus on kinaesthetic and tactile styles.

Native Americans present a special case of sensory preferences. As students, they are taught to learn by visual/spatial perceptual means, using images and symbols rather than word association (Nishiy, 1995). They have a "watch-them-do" approach in class: If they are interested in something, they watch how it is done, then try the product, and then try it out for themselves in private. If they are not interested, they often tune out and become detached (Nishiy, 1995). Along with their visual/spatial proclivities, Native Americans are also highly auditory learners. Empathetic, participatory listening, followed by private reflection, is an important part of their learning style (Sweizer & Dyhr, 1989).

9. Crosscultural style conflicts

In a study of teacher-student style differences in a multicultural tertiary ESL setting, Wallace and Oxford (1992) found that students and teachers experienced style conflicts 82% of the time, i.e. in 326 out of 396 possible comparisons of style dimensions. The instrument used was the Keirsey Temperament Sorter (Keirsey & Bates, 1984), which covers the following style dimensions: extravert—introvert, intuitive—sensing, feeling—thinking, and judging (closed)—perceiving (open). In this study, the ESL students were significantly more extraverted (47%) than their American teachers (27%), and the teachers were dramatically more thinking-oriented (55%) than their students (19%). The greater extraversion and feeling orientation of the students suggested greater personal and interpersonal sensitivity, as contrasted with more impersonal objectivity on the part of the teachers in this sample. However, the teacher-student differences on the intuitive—sensing and closedness-openness dimensions were not as striking. Wallace and Oxford felt that cultural influences were a major contributor to the style differences.

Wallace and Oxford discovered that, in the writing area, style differences between students and teachers consistently and negatively affected student grades and style congruence positively influenced student grades. In reading and grammar, style differences negatively affected grades for significant numbers of students. However, style conflicts did not affect student grades in speaking in the Wallace-Oxford study.

Style summary by cultural groups mentioned in the research

The material presented above was organised according to various learning styles. To summarise in a different way, we divide the studies above into cultural groups (e.g. Hispanics, Japanese, Anglo Americans). Then we identify the studies according to type: (1) general studies, which are investigations of the learning styles of diverse cultural groups; and (2) language learning studies, which focus on the styles of language learners representing different cultures. See Table 1 for details, including cultural group, author and date of study, type of study (general or language learning), learning style results, and comments.

Implications for instruction

We have six interlocking suggestions for instruction in the language classroom. First, we must recognise that language learning involves the whole person and that we must view language learning styles broadly, in a way that includes all key aspects. We must not focus just on the cognitive style elements but must also look at the affective, social, executive, physiological and behavioural sides. These have all been defined earlier. 'Seek first to understand your students,' and the language teaching-learning process will be more powerful.

Second, through style assessment we can help students recognise the power of understanding their language learning styles for making learning quicker, easier and more effective. We can readily aid students in identifying their learning styles by means of questionnaires. A questionnaire is by nature non-threatening (as long as the vocabulary is understandable), and it often provides important crosscultural results. Reid (1995) includes several very useful learning style questionnaires: the Learning Channel Preference Checklist by O'Brien, the Perceptual Learning Style Preference Questionnaire by Reid, the Style Analysis Survey by Oxford, the Second Language Tolerance of Ambiguity Scale by Ely, and the Perceptual Learning Preferences Study by Kinsella. We can also use other kinds of style assessment tools, such as interviews, discussions and diaries. Cultural differences affect the kind of style assessment one should choose. With
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Hispanic or Arabic students, a personal interview or whole-class discussion about styles might be considered both useful and entertaining, but to a Japanese or Korean student the same process might be daunting. A diary procedure, in which the student remarks on his or her styles in a private conversation with the teacher, might be perfectly comfortable in the UK, Canada, or the US, but might require more preparation and demystifying in the People’s Republic of China.

Third, it would be advantageous for each language teacher to take one of the learning style assessments to gain insight into his or her own learning style. Teachers often teach rather automatically according to their own learning styles, but this might not be helpful to all their students. Teachers can benefit from an understanding of their own style, particularly as it compares to the styles of their students.

Fourth, we can help students learn how to operate outside their preferred styles. As learners become aware of their own learning style preferences, they can also become aware of things they can do to ‘stretch’ their learning styles. This can be highly beneficial for learners is, later on, they are in a class in which the teacher is not aware of teacher–student learning style clashes and is thus unable or unwilling to accommodate students’ style requirements.

Fifth, depending on the size of the language programme and the number of teachers, it is sometimes possible to match learners and teachers who share similar style preferences. Research suggests that matching students and instructors by style can be helpful in some cases (Wallace & Oxford, 1992), but realistically it almost never happens due to the logistics of language programmes.

Sixth, teachers can ‘style-match’ parts of every lesson to meet the needs of diverse styles through judicious, creative lessons that highlight variety. We can pay attention to our students’ culturally influenced learning styles by designing instruction that fits those styles a large amount of the time. If we find that we have a class which is three-quarters analytic and concrete-sequential in style and which uses the strategies of focusing on details, repetition, rule-generalisation, analysis of sentences and words, and following the teacher’s directions precisely, then we can orient a significant amount of the instruction to the existing styles. We can also help the other one-quarter of the students who are global and intuitive-random in style and who crave guessing, whole language activities, futuristic prediction from a few details, searching for the main idea, and use of personal creativity rather than direction-following.

We can intentionally create a variety of activities that serve the needs of both of these kinds of learners – and that also force them to stretch their strategies to develop their less favoured side.

Implications for further research

Four specific recommendations are made to further our understanding of the influence of culture on language learning styles (and thus on language learning in general). First, it is obvious that more research on learning styles in general and language learning styles in particular should be conducted in Europe, both Eastern and Western, and in other parts of the world. We have considerable bodies of data on learning styles of certain Asian groups, Hispanics and Middle Easterners in general (but not by country), African Americans, and some tribes of Native Americans, but very little information exists for other groups. For the sake of comparison with other cultures, and for deeper understanding of given cultures, we need more research.

Second, learning style studies need to be replicated so that more consistent information becomes available within and across populations. Particularly important is more information on the learning styles of different cultural backgrounds. A good example of this replication is the fact that Reid’s (1987) study has been replicated in part by Call (1995), Hyland (1994), Stenbus (1995) and Su (1995). If such a pattern is followed using the same instruments and procedures, we can begin to improve our database of learning style profiles.

Third, researchers could combine efforts on larger studies. Instead of investigators going off on their own to collect small samples of data, they could prepare and implement much larger projects that would be capable of producing exceptionally sound results.

Fourth, more research needs to be done to examine potential and actual learning style clashes involving students and teachers in the culturally diverse classroom. For example, extremely valuable investigations could be accomplished to examine the specific accommodations that a teacher makes to match the needs of diverse students and the success of those accommodations.

References

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<table>
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<tr>
<th>Cultural group</th>
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<th>Study Type</th>
<th>Learning Style Findings</th>
<th>Contexts</th>
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<tbody>
<tr>
<td>Native America</td>
<td>Nake (1983)</td>
<td>General</td>
<td>Thinking-oriented, concrete-sequential, open styles, cited other research as visual/spatial, auditory styles</td>
<td>Encouraged in main group, not with controls</td>
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<td>General</td>
<td>Global learning style</td>
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<tr>
<td>Native America</td>
<td>Longen (1982)</td>
<td>General</td>
<td>Reflective style</td>
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<td>Reflective Style</td>
<td>Field independent style</td>
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<td>Field dependent, concrete, open style</td>
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<td>Field dependent style</td>
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<td>Field dependent style</td>
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<td>Not group work difference compared to Reid (1985)</td>
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<tr>
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<td>Reflective, field dependent, concrete-sequential style (based on strong evidence)</td>
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