



Learning Styles, Culture and Inclusive Instruction in the Multicultural Classroom: A Business and Management Perspective

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SUMMARY

This article examines the learning style profile exhibited by students in a multicultural class of international business management, and how cultural conditioning is reflected in the learning style preferences of home and international students. Using the Felder and Soloman's *Index of Learning Styles*, this study finds that each learning style dimension measured by the instrument is amply represented and that the scores reported by international students on all but one learning style dimension show much wider measures of dispersion compared to those of home students suggesting that greater variations in learning preferences are likely to co-exist in culturally heterogeneous cohorts. Suggestions on how to move toward a multistyle teaching approach to business management education so as to enfranchise all students in the multicultural classroom are then put forward. Finally, a discussion of the implications of these findings with respect to the business management curriculum design is provided.

INTRODUCTION

Many teachers and management educators find that even well-prepared lectures or workshops often fail to engage all students when the composition of the cohort is multicultural. In particular, traditional methods of uniform instruction seem to be ineffective with a student group that is very diverse, with students from different backgrounds and with different approaches to learning. This article suggests that one of the reasons for this lies in the mismatch between the instructor's teaching style and the students' learning styles. International students (individuals for whom English is not their first language or culture, who have come to the UK to undertake a university course) may, in fact, be culturally predisposed to learn in ways that may not (always) be compatible with the 'local' and 'common' methods of instruction, the latter being themselves subject to cultural conditioning.

Much research has been conducted on the classification and identification of learning styles but many teachers who wish to use learning style theory for classroom application have been left overwhelmed by this vast body of literature. At the same time, little attention has been devoted to the investigation of cultural influences

on the development of individual learning style preferences, and how educators can use this information to diversify the way they teach so as to engage all students in multicultural settings and hence provide a truly inclusive approach to instruction.

This study attempts to fill these gaps by exploring the link between culture and learning style explicitly. Using the Felder and Soloman's *Index of Learning Styles (ILS)* (1999a), a profile of the learning styles which happen to co-exist in a multicultural class of international business management is drawn, and a comparison of the learning style preferences exhibited by home and international students on the course is made. From this evidence, practice-based suggestions on how to move towards inclusive instruction through multistyle delivery in business management education are presented. The article concludes with a discussion of the implications of these findings for curriculum design of business management degrees at both undergraduate and postgraduate level.

LEARNING STYLES

The literature offers a myriad of definitions of learning style (LS). The one which, by virtue of its encompassing properties, still commands benchmarking significance, remains that provided by Keefe (1979), according to whom 'learning styles are characteristic cognitive, effective, and psychological behaviours that serve as relatively stable indicators of how learners perceive, interact with, and respond to the learning environment' (p. 4). Curry (1983) examined the 'relative stability' of such indicators and following the development of a concentric-rings model (with cognitive personality elements at its epicentre, information processing in the middle ring and instructional preferences in the outer ring), concluded that the most ingrained patterns are to be found at the core, with decreasing stability as we move toward the outer ring.

The complexity of this definition is a mere prelude to what is undoubtedly an extremely rich but fragmented theoretical landscape. The distinctive learning styles that influence our preferred ways for perceiving, organizing and processing information have, in fact, received much attention from a number of disciplines (psychology, management development, education, to name but a few) but notwithstanding the value to be found in the wealth of alternative perspectives, lack of a unified theoretical and analytical framework in the resulting literature has left many teachers and management educators alike with the question of how to use learning style theory effectively in the classroom.

Models and instruments

In the last two decades, several models and measurement instruments have been developed to classify learning styles and identify individual learning preferences. Kolb's (1976, 1984) model of experiential learning postulates a four stage cyclic structure where concrete experience provides scope for reflective observation that, after a process of abstract conceptualization, allows for active experimentation to take place. The associated Learning Style Inventory (LSI) measures information-perception orientations on the basis of a learner's preference of concrete experience over abstractness, and information-processing orientations on the basis of a learner's preference of action over reflection. The varying orientations result in four types of learners: divergers (whose dominant learning activities are concrete experience and reflective observation); convergers (who are best at abstract conceptualization and active experimentation);

assimilators (whose greatest learning strengths are in abstract conceptualization and reflective observation); and *accommodators* (who learn best through concrete experience and active experimentation).

Whilst accepting Kolb's learning cycle model, Honey & Mumford's (1982) expressed dissatisfaction with the effectiveness of the Inventory itself (poor face validity and questionable predictive accuracy). This led them to develop an alternative instrument called the Learning Style Questionnaire (LSQ), which identifies whether someone is predominantly an activist (someone who is better equipped to learn from experience), a reflector (better equipped for reflective observation), a theorist (who learns best from exploring associations and interrelationships between ideas and events) or a pragmatist (whose dominant learning activities are those based on doing or trying things that yield practical advantages). Although Honey and Mumford's LSQ has been widely used in management training and development, work conducted by Riding and Sadler-Smith has questioned the four-factor structure of the LSQ raising doubts as to the applicability of the instrument to students in general and business studies students in particular (Sadler-Smith, 1996).

The Canfield Learning Style Inventory (1992) identifies learning style preferences on the basis of four learning dimensions: conditions for learning, area of interest, mode of learning and performance expectations. However, the application of this instrument, too, can present problems. As found by Ladd and Ruby (1999), it is difficult to establish whether a neutrality score on the instrument is to be interpreted as an indication of lack of strong preference or, instead, as some degree of non-involvement.

Felder and Silverman's learning style model (1988), which was first applied in the context of engineering education, categorizes students' preferences in terms of type and mode of information perception (sensory or intuitive; visual or verbal), approaches for the organization and processing of information (inductive or deductive; active or reflective), and the rate at which students progress towards understanding (sequential or global). The associated *ILS* (Felder and Soloman, 1999a), is based on a 44-item questionnaire and develops the preference profile of a student or an entire class on four of the learning style dimensions outlined above (the inductive-deductive dimension is not assessed by the *ILS*).

Running parallel to the above-mentioned contributions, there are three further strands of research that

can be identified. The first refers to the work on personality type theory (see, for example, Jensen and DiTiberio, 1989) prompted by the Myers-Briggs Type Indicator (MBTI), a personality inventory designed to measure a specific theory of psychological types. Due to its length and high degree of sophistication, however, the appropriateness of the use of this instrument in situations when learning styles are the key object of inquiry has been questioned by a number of writers (see, for example, Sugarman, 1985).

Then there is the work on the link between cognitive style and neuro- (or pseudo neuro-) physiological characteristics (hemispherical cerebral dominance). Sadler-Smith (1999) provides a good summary of a number of studies of cognitive styles concerning the left-right brain dichotomy, an hypothesis which mirrors the distinction made by Kirby (1979) between 'splitters' who learn in a step-by-step logical format and like to split the subject matter into smaller parts (the sequential and analytical left brain thinkers) and 'lumpers' who search for patterns between the parts so as to look at the big picture (the more intuitive and holistic right brain thinkers).

Finally, there is the theory of multiple intelligences (Gardner, 1993), now being commonly associated with research on learning styles as they relate to classroom teaching (see, for example, Moore, 1999). Gardner (1993) advocated a pluralized way of understanding the intellect and developed a typology of intellectual faculties (linguistic, logical-mathematical, interpersonal, etc.). Although these intelligences are not in themselves learning styles, the theory can be said to provide a roadmap to a number of alternative pathways to learning.

Whilst any attempt to integrate such varied classifying models of learning styles into a coherent, all-encompassing framework would undoubtedly represent an overly ambitious task, what these different perspectives do share is the underlying rationale that everyone cannot be taught in the same way. It follows that teachers should take learning style differences among students seriously.

Culture and learning styles

A simple process of logical analysis applied to the semantics of the terms 'culture' and 'learning style', leaves little room for doubt on the existence of cultural influences in the development of individual learning preferences. This is because culture, by influencing the way we perceive, organize and process information

(Samovar *et al.*, 1981), the way in which we communicate, interact with others and solve problems (Terpstra and David, 1985), and the way we form 'mental categories' and retrieve them in order to create patterns which allow us to generate new knowledge by means of previously acquired knowledge (Triandis, 1964), must, by definition, affect 'the preferences students have for thinking, relating to others, and particular types of classroom environments and experiences', which is how Grasha (1990, p. 26) defines learning styles with reference to student learning.

The importance of cultural background in the development of individual learning style finds further support in the influence that culture-based educational experiences have in predisposing individuals to certain ways of learning. The form of the education process through which members of a society learn how to function within a culture must, in fact, play a critical role in reinforcing, if not shaping, learning style preferences that are, therefore, subject to cultural conditioning. This tentative notion of 'cultural learning style' which re-proposes learning as a culturally-based phenomenon may then explain why teaching methods, learning tasks and environments which promote learning in some cultures may be ineffective in others (where other learning style preferences have been reinforced).

This suggestion of a link between culture and learning styles, of course, is not new. Kolb and Fry (1975), for example, argued that key agents of socialization (family, school, etc.), that are clearly important media for the transmission of cultural values and, hence, directly related to culture, influence the development of learning style. Triandis (1989) and Pratt (1991) showed how differences in Chinese and Western conceptions of 'self' provide a rationale for cultural variations in learning styles, a rationale which forms the basis of Pratt's (1992) claim that learning styles vary from culture to culture.

Hughes-Wiener (1986) addressed differences in cultural orientation in the context of Kolb's model, and hypothesized that cross-cultural differences exist within each stage of the experiential learning cycle. Jackson (1995) tested Hughes-Wiener's hypothesis using a sample consisting of five national groups (French, German, Spanish, Anglo-Irish and East European) drawn from the population of a graduate business school located in four European locations, and found supporting evidence for the hypothesis.

Hayes and Allinson (1988) investigated whether

culture accounts for differences in learning styles by comparing the styles of British, Indian and East African managers. They used Honey and Mumford's LSQ, though scores are reported on two dimensions only, namely, 'analysis' (positive loadings on the LSQ's theorist and pragmatist scales) and 'action' (positive loading on the activist LSQ scale and negative loading on the reflector LSQ scale). Their results suggest that there are important differences among all three cultures on each of the two dimensions.

Auyeng and Sands (1996) examined how individualism-collectivism, a key dimension of cultural variability in cross-cultural research, is reflected in the learning styles of accounting students in Australia, Hong Kong and Taiwan. Using Kolb's model, they showed that Australian students exhibit an accommodator learning style, while students from Hong Kong and Taiwan display an assimilator style (they are more abstract and reflective, as well as less concrete and active than their Australian counterparts).

Although, in relative terms, the work outlined may only represent a limited body of research and evidence, such work is of sufficient value to justify the formulation of the hypothesis that the presence of international students may accentuate the diversity of learning styles likely to be found in the classroom.

AN APPLICATION OF FELDER AND SOLOMAN'S INDEX OF LEARNING STYLES

As an illustration of the different learning styles likely to be present in the multicultural classroom, I applied the Felder and Soloman's *ILS* to my undergraduate international business management class where 68 students were enrolled (43 of whom were international students) and 20 different nationalities were represented.

The instrument, which is still subject to ongoing factor analyses for the purpose of validation, was chosen against competing alternatives because it has been explicitly developed for classroom application and, though suitable to profile individual learning preferences, as argued by Felder, 'the results provide an even better indication of the preference profile of a group of students (e.g. a class)'. (Professor Felder warns: 'A student learning style profile provides an indication of probable strengths and possible tendencies or habits that might lead to difficulty in academic settings. The profile does not reflect a student's suitability for a particular subject, discipline,

or profession, and it should not be used for these purposes'.)

Method and results

The research exercise was conducted during contact time of the first week of term, taking approximately 25 minutes of the scheduled three-hour workshop. The *ILS* questionnaire was distributed to students after explaining to them the details of the study and the potential benefits of this exercise for both the students (knowledge of their individual learning style preferences could help students learn to help themselves) and the tutor (through increased awareness of the variety of learning style preferences to be catered for). Instructions on how the results of the *ILS* (obtained by combining certain scores on the instrument) could be consolidated were given and an information sheet with suggestions on how students could 'help themselves' in light of the knowledge of their strengths and potential areas of difficulty in academic settings was also provided (Felder and Soloman, 1999b). The completed score sheets were then returned to the tutor. Anonymity of individual results was ensured since score sheets were nameless (though information on nationality and native language was requested). Out of 66 students present, 63 completed score sheets were returned (21 from home students and 42 from international students), a response rate (95.5%) which demonstrates students' positive attitudes towards this research exercise since participation was voluntary.

Table 1 reports the percentage distribution of learning style preferences on each learning style dimension. The class profile clearly shows that both sides of each dimension are amply represented. Unfortunately, given the limited sample, it was not possible to analyse learning style scores by culture (or nationality) since, with the exception of British students, the other represented nationalities did not provide a sufficient size in the sub-samples for meaningful inference.

It was, however, possible to compare the scores reported by home and international students. Such comparison (see Table 2) reveals that, with the exception of the visual-verbal dimension, greater variation of learning style preferences exists within the international student sample. Indeed, while international students' scores appear to be scattered across the moderate/strong ranges of the active-reflective, sensing-intuitive and sequential-global scales, home students exhibit a fairly distinct learning pattern with marked preferences for active (as opposed to reflective) information processing, sensing (as opposed

Table 1 Class profile: percentage distribution of learning style preferences

Active-reflective	Sensing-intuitive	Visual-verbal	Sequential –global
63.5% – 36.5%	69.8% – 30.2%	68.3% – 31.7%	63.5% – 36.5%

Table 2 Percentage distribution of home and international students' scores on the ILS dimensions' scales

	Strongly active	Moderately active	Moderately reflective	Strongly reflective
Home Students	28.6	57.1	14.3	0
International Students	7.1	45.2	38.1	9.6
	Strongly sensing	Moderately sensing	Moderately intuitive	Strongly intuitive
Home Students	23.8	61.9	14.3	0
International Students	21.4	40.5	26.2	11.9
	Strongly visual	Moderately visual	Moderately verbal	Strongly verbal
Home Students	14.3	38.1	47.6	0
International Students	23.8	52.4	23.8	0
	Strongly sequential	Moderately sequential	Moderately global	Strongly global
Home Students	9.5	66.7	23.8	0
International Students	7.1	45.2	38.2	9.5

to intuitive) information perception, and sequential (as opposed to global) progression toward understanding.

In terms of the modality in which information is most effectively perceived, over 75% of international students display a preference for visual rather than verbal inputs. Although this strong preference shared by students who come from 19 different nationalities may seem, *prima facie*, at odds with the 'cultural conditioning' hypothesis, it should be borne in mind that for such learners, in their current educational context, the written and spoken explanations embodied

in the verbal style measured by the instrument refer to information delivered in what is for them a second or third language. While home students appear to cope better with verbal information, also a majority of them (52.4%) emerges as visual learners.

This emphasis on visual rather than verbal mode of information perception, which seems to transcend any cultural influence in the development of learning style, can perhaps be explained by the fact that visual messages have become powerful media of communication in all cultures and, as pointed out by Marx and Frost (1998), students of today, being accustomed and

Table 3 Mean and dispersion measures of home and international students' scores

	Home Students			International Students		
	Mean*	Variance	CoV**	Mean*	Variance	CoV**
<i>Active-Reflective</i>	4.14a	15.92	0.96	0.23b	20.86	19.85
<i>Sensing-Intuitive</i>	3.95a	10.34	0.81	1.14a	28.80	4.70
<i>Visual-Verbal</i>	0.85a	26.42	6.04	3.23a	17.12	1.28
<i>Sequential-Global</i>	2.14a	15.12	1.81	0.19b	20.25	23.68

* For each of the four dimensions individual scores range from 11a (maximum score for active, sensing, visual and sequential learning styles) to 11b (maximum score for reflective, intuitive, verbal and global learning styles). Mean scores are calculated via alpha-numeric averaging of individual scores within each of the four scales.

** Coefficient of variation = σ/μ ; where σ is the standard deviation and μ is the mean.

exposed to television, computer screens and video games, have developed an enhanced ability of comprehension through visual images.

The hypothesis that the presence of international students may accentuate the diversity of learning styles likely to be found in the classroom finds further empirical content in the statistics reported in Table 3. Whilst on at least three dimensions, the mean of home students' scores shows a clear preference for a particular style of learning, with the exception of the visual-verbal dimension, international students' preferences are sufficiently diverse to cancel out, with mean scores being close to zero.

The wider learning style variations displayed by international students, which may be attributable to the many different cultural influences operating within the culturally heterogeneous sample, are also confirmed by the variance and coefficient of variation (CoV) measures (the latter being the most appropriate for comparative purposes as it is expressed as a pure number). According to both, in fact, the scores reported by international students on the active-reflective, sensing-intuitive and sequential-global learning style dimensions display substantially greater values of absolute and relative dispersion compared to the scores reported by home students.

ADAPTING TEACHING STYLE TO LEARNING STYLE

Given the markedly different learning styles present in such a class, the easy option would be that of expecting students to self-inflict the transformation of their

'cognitive, affective, and physiological behaviours' necessary to match their learning styles to the tutor's teaching style. Some commentators (e.g. Thompson, 1997) have argued that this is a 'reasonable approach' in that it allows teachers to teach from their strengths and avoid experimentation with teaching techniques with which they are less comfortable and therefore less competent and skilled. The validity of an approach that is dictated by the deficiencies of the teacher rather than the needs of the learner must, however, be questioned. Common sense suggests that the 'do-nothing' option (i.e. leaving the responsibility of the style alignment to students) is not only inherently at odds with the 'facilitation of learning' ethos which should underpin, inform and guide professional practice, it has also little chance of success. This is because although some learning/teaching style mismatches may in some instances be appropriate to help students learn in different ways (Entwistle, 1988), constant or total mismatching may represent too big a gap to bridge, resulting in utter frustration and disengagement. This risk is particularly high in multicultural classrooms where international students may be simultaneously seeking to overcome culture-shock or language-related barriers.

Good practice must, therefore, translate into using a variety of teaching styles and address each side of each learning dimension at least some of the time (Felder, 1993) so as to reach and engage all students while enabling them to stretch their repertoire of learning styles at their own pace. The evidence presented in Table 1, therefore, makes a strong case for moving towards a multistyle teaching approach also to business and management education, especially in multicultural settings.

Fortunately, greater alignment between the many learning styles of the students and the teaching style of the tutor could be achieved by means of less than radical modifications to the way in which business management material has traditionally been delivered.

Since sensing learners favour information that comes through their senses, like facts, it is important to ensure that concrete examples from the real world of business accompany more abstract notions or theoretical frameworks (highly valued by intuitive learners). The rather complex eclectic theorem of international production developed by Dunning (1988), for example, is best explained by informing theory through company and country examples of ownership, location and internalization (OLI) advantages.

To satisfy the needs of active learners (who like to learn through experience, try things out and bounce ideas off each other), I frequently let students work through learn-by-doing exercises which I found particularly useful to stretch students' problem-solving ability with respect to financial management issues, e.g. hedging techniques. In addition, I incorporate group-projects and presentations as an assessed learning outcome, one which is however counterbalanced by an individual reflective statement on the group work experience (the latter coursework assessment component doing justice to reflective learners who most like working alone). To cater for the needs of reflective learners, I also introduce pauses for reflection and evaluation during my lectures, to allow time for thinking, checking understanding and formulating questions as well as answers.

While verbal learners favour a learning style which is highly compatible with the traditional lecture-based teaching method (the spoken word), in order to reach visual learners, who instead learn better through visual images, I make extensive use of figures, tables, pictures, maps, video clips, etc., whenever appropriate. The educational opportunities made available by the computer software technology at our disposal (which can bring together text, sounds, graphics, videos and web connections at the click of a mouse) can help us create, when such tools are not abused, truly powerful visual presentations.

The needs of both sequential learners (who learn through a stepwise development) and global learners (who view concepts and information holistically) can be accommodated by organizing the syllabus so as to ensure an integrated progression of topics (with each topic building on the material delivered previously)

while providing the contextual field in which a concept is embedded through frequent references to the wider picture.

Finally, although the fifth dimension of Felder and Silverman's model is not assessed by the *ILS* instrument, a good balance between techniques which suit both inductive learners (who prefer to learn starting from specific cases to then infer general principles) and deductive learners (who prefer to learn via the general to specific process) should also be aimed at. In my workshops, I try to achieve this balance by offering explanations that contain both (inductive and deductive) reasoning processes. For example, in examining the deleterious consequences of ignoring cultural differences, I usually start with company examples which illustrate how ignoring cultural diversity can lead to marketing blunders, higher labour turnover costs, and, in extreme cases, business failure altogether. I then ask students to think about possible strategies for managing cultural differences strategically (inductive approach). After students' ideas are pulled together, links to formal theoretical frameworks are established (e.g. Hoeckling, 1995). Finally, case study evidence is used again to provide theory with factual content through examples of companies where strategies for using cultural differences as a source of competitive advantage are in place (deductive approach). We have therefore gone through a two-step process of the specific-to-general and general-to-specific type.

Table 4 summarizes just some of the teaching and learning methods that were employed on the international business management course in an effort to cater for each side of each learning style dimension.

SOME EXTENSIONS

Of course, at root, multistyle delivery is about careful and considerate design; a design which must, however, be flexible enough to account for the learning styles' variations exhibited by each unique cohort. As pointed out by Mumford (1994, p. 16) 'it would be irresponsible simply to throw a rag-bag of activities at a group on the assumption that their learning styles will be different'. Mumford is right, learning styles variations cannot be assumed. We must test for them, and an appropriate class profile outlined so as to allow some degree of congruent customization (the difference between congruent customization and course tailoring is obviously one of degree rather than kind).

Table 4 A multistyle teaching approach to aid the facilitation of learning

Learning style	Teaching technique adopted to match individual learning styles
<i>Active</i>	group projects; brainstorming; learn-by-doing and problem-solving exercises
<i>Reflective</i>	reflective statements; 'functional pauses' for reflection and evaluation
<i>Sensing</i>	case studies; examples and explicit links to the real world of business
<i>Intuitive</i>	theories and models; space for abstraction and conceptualization
<i>Visual</i>	trigger videos and visual organizers such as charts, maps, Venn diagrams, etc.
<i>Verbal</i>	traditional lecture; oral presentation
<i>Sequential</i>	integrated progression of topics; breaking information down into smaller parts
<i>Global</i>	a two-step approach combining specific-to-general and general-to-specific elements

It should be borne in mind, however, that even in the event of severe under-representation of some types of learning styles, it would still be appropriate to address these, at least some of the time. As mentioned earlier, while matching teaching style to learning styles may lead to greater motivation and participation, some mismatching, that is exposing students to learning situations that do not naturally fall within their personal learning range, may, if done with consideration, expand the spectrum of activities students feel comfortable with, and hence lead to the development of a wholly effective, more integrated learner. As noted by Robotham (1995), such an approach should help students develop their learning capability to the point where they could consciously select the most appropriate learning style from a range of styles to meet effectively the specific requirements of the particular task at hand.

The gradual development of such a proficient learner, master of his or her own learning strategy represents, especially in the business and management field, the ultimate educational challenge. The ability to select from a personal style portfolio according to the specific challenges of a situation and 'learn-how-to-learn' are, in fact, skills particularly valued in the real world of business and management where versatility and flexibility are considered critical personal attributes to respond effectively to the constantly changing demands internal and external to the organization. Of course, once the ability to adapt and respond effectively to different learning stimuli and environments is developed, the formation of an autonomous learner requires a culminating postgraduate curriculum designed to encourage students to take responsibility for their own learning and development. In MBAs and

International Management Masters' Programmes, this should translate into learning tasks and learning outcomes that are instrumental to the development of two interrelated didactic strategies: one participative, and one based on systematic reflection and self-inquiry. The former, may be implemented following the 'close encounters' approach proposed by Case and Selvester (2000); a meeting of and between students and tutors that brings processes of human interaction to the fore and which, in such a multicultural phenomenological reality, allows the more subtle cultural differences (e.g. methods of problem solving) to come to the surface. Implementation of the latter may entail the use of learning contracts, personal development portfolios and learning logs (see, among others, Barclay, 1996; Honey and Mumford, 1989; Pedler *et al.*, 1994), powerful process-oriented tools that enable learners to increase self-awareness, evaluate personal strengths and weaknesses, consciously learn from experiences, and plan as well as monitor self-development; key skills for prospective international managers.

CONCLUSIONS

Much work has been done on learning styles but a relatively modest body of literature has focused on the relationship between culture and learning style. Even rarer in the literature is the exploration of the implications that cultural influences on learning style preferences have for the instructional approaches to be adopted by teachers and management educators who are confronted with culturally heterogeneous groups of learners.

Using Felder and Soloman's *ILS*, this study examined

the learning style profile of a multicultural class of international business management and how cultural conditioning is reflected in the learning style preferences of students by comparing the scores reported on the instrument by home and international students. The study found that each side of each dichotomous learning style dimension is amply represented and that the scores reported by international students on the active-reflective, sensing-intuitive and sequential-global learning style dimensions show much wider measures of absolute and relative dispersion to those of home students, suggesting that greater variations of learning style preferences are present within culturally heterogeneous cohorts. In terms of mode of information perception, while home students appear to cope well with verbal inputs, international students (for whom English is a second or third language) exhibit a marked preference for the visual style of information perception. This is evidence that provides a case for the adoption of a multistyle teaching approach especially in multicultural educational settings.

In exploring the implications of these findings for curriculum design, the article then offered a model of implementation of inclusive instruction in the context of business management education based on the notion of congruent customization, whereby while accounting for the learning style variations exhibited by each unique cohort, elements of considerate teaching/learning style mismatches allow students the opportunity to gradually expand their individual learning style portfolio.

Such an approach not only can help students to respond more effectively to different learning stimuli and environments, if followed up by a culminating curriculum designed to encourage students to take responsibility for their own learning and development, can act as a building block towards the formation of a more autonomous learner.

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REFERENCES

- Auyeng, P and Sands, J (1996) A cross-cultural study of the learning style of accounting students, *Accounting and Finance*, **36**, 261–275.
- Barclay, J (1996) Learning from experience with learning logs, *Journal of Management Development*, **15**, 28–43.
- Canfield, A (1992) *Canfield Learning Styles Inventory Manual*, Western Psychological Services, Los Angeles.
- Case, P and Selvester, K (2000) Close encounters: ideological invasion and complicity on an 'International Management' master's programme, *Management Learning*, **31**, 11–23.
- Curry, L (1983) *Learning Styles in Continuing Medical Education*, Canadian Medical Association, Ottawa.
- Dunning, J H (1988) The eclectic paradigm of international production: a restatement and some possible extensions, *Journal of International Business Studies*, **19**, 269–295.
- Entwistle, N J (1988) *Styles of Learning and Teaching*, David Fulton, London.
- Felder, R M (1993) Reaching the second tier: learning and teaching styles in college science education, *Journal of College Science Teaching*, **23**, 286–290.
- Felder, R M and Silverman, L (1988) Learning and teaching styles in engineering education, *Engineering Education*, **78**, 674–681.
- Felder, R M and Soloman, B A (1999a) *Index of learning styles*. Available online: www2.ncsu.edu/unity/lockers/users/f/felder/public/ILSdir/ILS-a.htm
- Felder, R M and Soloman, B A (1999b) Learning styles and strategies. Available online: www2.ncsu.edu:8010/unity/lockers/users/f/felder/public/ILSdir/styles.htm
- Gardner, H (1993) *Multiple Intelligences: The Theory in Practice, a Reader*, Basic Books, New York.
- Grasha, A F (1990) Using traditional versus naturalistic approaches to assessing learning styles in college teaching, *Journal of Excellence in College Teaching*, **1**, 23–38.
- Hayes, J and Allinson, C W (1994) Cultural differences in the learning styles of managers. In Jackson, T (eds) *Cross-cultural Management*, Butterworth-Heinemann, Oxford.
- Hoeckling, L (1995) *Managing Cultural Differences: Strategies for Competitive Advantage*, Addison-Wesley, Harlow.
- Honey, R and Mumford, A (1982) *The Manual of Learning Styles*, Peter Honey, Maidenhead.
- Honey, R and Mumford, A (1989) *The Manual of Learning Opportunities*, Peter Honey, Maidenhead.
- Hughes-Wiener, G (1986) The 'learn how to learn' approach to cross-cultural orientation, *International Journal of Intercultural Relations*, **10**, 485–505.
- Jackson, T (1995) European management training: a cross-cultural interpretation of Kolb's learning cycle, *Journal of Management Development*, **14**, 42–50.
- Jensen, G H and Ditiberio, J K (1989) *Personality and the theory of composition*, Ablex, Norwood.
- Keefe, J W (1979) Learning style: an overview. In Keefe, J W (eds) *Student Learning Styles: Diagnosing and Prescribing Programs*, NASSP, Reston.

- Kirby, P (1979) Cognitive Style, Learning Style, and Transfer Skill Acquisition. Information Services No. 195. Columbus: Ohio State University, National Centre for Research in Vocational Education. Eric Digest 186685.
- Kolb, D A (1976) *Learning Style Inventory: Technical Manual*, McBear & Co., Boston.
- Kolb, D A (1984) *Experiential Learning*, Prentice-Hall, Englewood Cliffs.
- Kolb, D A and Fry, R (1975) Toward an applied theory of experiential learning. In Cooper, C (eds) *Theories of Group Processes*, Wiley, New York.
- Ladd, P and Ruby, Jr R (1999) Learning style and adjustment issues of international students, *Journal of Education for Business*, **74**, 363–367.
- Marx, R D and Frost, P J (1998) Toward optimal use of video in management education: examining the evidence, *Journal of Management Development*, **17**, 243–251.
- Moore, D P (1999) Facilities and learning styles, *School of Planning and Management*, **38**, 22–24.
- Mumford, A (1994) Effectiveness in management development. In Mumford, A (eds) *The Gower Handbook of Management Development*, Aldershot, Gower.
- Pedler, M, Burgoyne, J and Boydell, T (1994) *A Manager's Guide to Self-development*, McGraw-Hill, London.
- Pratt, D D (1991) Conceptions of self within China and the United States, *International Journal of Intercultural Relations*, **15**, 285–310.
- Pratt, D D (1992) 'Conceptions of teaching', *Adult Education Quarterly*, **42**, 203–220.
- Robotham, D (1995) Self-directed learning: the ultimate learning style?, *Journal of European Industrial Training*, **19**, 3–7.
- Sadler-Smith, E (1996) Learning styles: a holistic approach, *Journal of European Industrial Training*, **20**, 29–37.
- Sadler-Smith, E (1999) Intuition-analysis, cognitive style and learning preferences of business and management students: a UK exploratory study, *Journal of Management Psychology*, **14**, 26–38.
- Samovar, L A, Porter, R E and Jain, N C (1981) *Understanding Intercultural Communication*, Wadsworth Publishing Company, Belmont.
- Sugarman, L (1985) Kolb's model of experiential learning: touchstone for trainers, students, counsellors and clients, *Journal of Counselling and Development*, **64**, 262–268.
- Terpstra, V and David, K (1985) *The Cultural Environments of International Business*, South-Western Publishing, Dallas.
- Thompson, T C (1997) Learning styles and teaching styles: who should adapt to whom? In Dyrud, M A (ed.) *Focus on teaching (Column)*, *Business Communication Quarterly*, **60**, 124–135.
- Triandis, H C (1964) Cultural influences upon cognitive processes. In Berkowitz, L (ed.) *Advances in Experimental and Social Psychology*, Academic Press, New York.
- Triandis, H C (1989) The self and social behaviour in differing cultural contexts, *Psychological Review*, **96**, 506–520.

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