

LEARNING STYLES IN EDUCATION AND TRAINING: PROBLEMS, POLITICISATION AND POTENTIAL

*Carol Evans, School of Education, Durham University and Eugene Sadler-Smith,
School of Management, University of Surrey*

Context

The application of learning styles theory and research has long held great promise for practitioners in both education and training as a potentially powerful mechanism for enabling pupils, students and trainees to better manage their own learning throughout their educational and working lives. The selection of papers from the 10th Annual Learning Styles Conference (held in July 2005 at the School of Management, University of Surrey) presented here raise a number of pertinent issues significant in the on-going debate regarding the value of models of cognitive and learning styles to education and training practice. Central to debate is the question: how do practitioners (teachers and trainers) “gain a working vocabulary around the concept of learning” (DEMOS, 2005:2) in order that they may incorporate the notion of stylistic differences into their day-to-day practice in order to enhance the learning process? For cognitive and learning styles models to be able to play a significant role within the personalised, student-centred, life-long and organisational learning agenda, practitioners need to be able to: cut through the swathe of terminology; hone in on those constructs and measures that are theoretically sound, reliable and valid; be critically aware of the benefits and limitations of the available models for their practice; use evidence-based practice which is scientifically robust; and work with researchers to be in a position to disseminate ‘what works’ effectively to a wider audience.

Interpretation of cognitive / learning styles

The Coffield et al., (2004³) report on learning styles has been significant and useful, not only in terms of encouraging further publications (Stringer, 2005; Hastings & Jenkins, 2005; Abrams, 2005; Coffield, 2004^b; NERF, 2004-5; NSIN, 2005; Clark, 2005; Utley, 2003), but also in terms of highlighting inherent problems within a field of study which lacks a broad theoretical underpinning that is explanatory for the discipline as a whole (Hay & Kinchin, 2006). The unfortunate combination of an extensive range of models allied to a sometimes ambiguous use of terminologies (DEMOS, 2005) does not help busy practitioners to readily access the learning styles literature (Boström & Lassen, 2006). Curry (1983) and Riding and Rayner (1998) sought to differentiate between cognitive and learning styles models, with cognitive style being how one processes information and which are thought to be relatively stable (but modifiable or manageable with suitable guidance), and learning styles which are broader, and refer to particular attributes of learning situations that may be context-dependent.

The pigeon-holing of individuals into narrow categories has quite rightly been condemned (Coffield et al., 2004³; DEMOS, 2005) and the binarity of some cognitive/learning styles models, and the limitations of such approaches (including their cultural underpinnings) are explored by Wozniak (2006). Misconceptions and over-simplistic assumptions which may imply for example, that a learner labelled as 'wholist' is unable to think analytically are crude interpretations which may not only misrepresent theory and research but may also fly in the face of common sense. A preference for one type of processing may not automatically exclude another. Within complex rather than unitary conceptualisations of style it may be possible for an

individual to be, for example, both analytic and intuitive or at least to develop analytical strategies as a counter-balance to an inherent preference for intuition (and *vice versa* – see Hodgkinson & Sadler-Smith, 2003). Freedom from the strictures of bi-polarity with respect to some constructs opens-up possibilities for individuals to become more ‘rounded’ as learners by developing the executive or meta-cognitive capability to exercise choice over what style or approach might be most appropriate in a given set of circumstances (see: Sadler-Smith & Smith, 2004). This is not to deny the notion of style *per se*; rather we argue that one of the greatest contributions of learning styles and cognitive styles research over the past decade is that it has: firstly, raised awareness of the notion of style amongst practitioners; and secondly, opened-up the possibilities for individuals, under guidance, to better understand and manage their own thinking and learning process.

The misguided application of the concept of learning styles has been commented (see: Coffield et al., 2004; DEMOS, 2005). For example, in British schools there is evidence of poor application (for example: labelling of children, reduction to types, indiscriminate use of poorly validated tests, inappropriate groupings, matching styles of learners according to one dimension of style only, one off ‘learning styles training days’ for teachers and so forth). In spite of this many teachers and teacher educators are using learning styles tools effectively in educational settings to encourage students to reflect on learning and to develop a meta-cognitive approach (DEMOS, 2005). The use of learning styles has been a prominent feature of the management development classroom for several decades.

Application to Education and Training Practice

The extent to which learning styles has permeated the British classroom is contentious. While a lot of schools have been using so-called VAK (visual, auditory

and kinaesthetic) models, there is little evidence of the uptake of student approaches to learning (SAL) models or cognitive styles models which have a more robust scientific basis (as exemplified in the work of Entwistle, Ramsden and Briggs in the domain of SAL, and Allinson and Hayes' or Sternberg's models of thinking styles). Lucas (2005) would argue that VAK does not constitute a learning styles model and yet the predominance of this in DfES (2003) literature (condemned by Coffield, 2005) along with the lack of reference to more robust models (in terms of validity and reliability) is problematic. A review of recent UK educational press (The Times Educational Supplement 2003 - 5) confirms the focus on VAK to the exclusion of other potentially more relevant and valid models, typified in a recent article (Hastings and Jenkins, 2005). Perhaps the time has come for educational practice to embrace SAL and thinking styles more fully.

In management and business practice in the UK the Honey and Mumford model of learning styles has tended to predominate, whilst in the USA the same might be said of Kolb's model. As far as the Learning Styles Questionnaire (LSQ) is concerned, its pragmatic contribution cannot be denied, moreover its authors do not make any claims for it as self-standing psychometric test; rather they see the LSQ as a means by which an awareness of the concept of learning style and the learning cycle may be raised and embedded in the minds of practising managers. Interestingly, other models and instruments appear now to be making significant in-roads into management training and development in the UK and elsewhere (for example the Allinson and Hayes Cognitive Style Index now forms the basis of a growing corpus of applied research in occupational settings).

The approach taken by Riding and Rayner (2000) to focus on the learning profile of an individual and comprising many different styles is helpful as it builds on the earlier

work of Curry (1983). Particular models may look at very different attributes of learning and some aspects of our learning profile are heavily context-dependent and may be more open to change than others (Diseth et al., 2006; Cassidy, 2006). In helping an individual to understand how they learn, ‘a learning profile approach’ has been successfully used by Rosenfeld and Rosenfeld (2004) and Evans and Waring (2006) with trainee teachers. Considering how the environment of the classroom or the workplace impacts on learners and how cognitive style and learning style models can be useful in explaining thinking processes in that it sensitises learners to how they and others learn. This has direct relevance for education and training practitioners in that it can assist in developing different instructional techniques which may enhance learning performance (for example unpacking the whole and the specifics of a situation; in looking at ideas sequentially or tangentially using multiple modes of presentation; and so forth). Such ideas do have strong face validity with teachers and training because they help them to be able to identify the information processing preferences and needs of their learners. Expert practitioners in education and training are often able to flex and adapt their methods in this way ‘intuitively’ (Burke & Sadler-Smith, 2006). A better understanding of thinking styles and learning strategies would enhance the planning and design of learning in educational and occupational settings and also might help to accelerate the acquisition of expertise amongst novice practitioners.

Two issues arise with regard to the research base for evidence-based practice: the first is whether quantitative studies are the best way to measure impacts; and secondly, is it possible to isolate an aspect of cognitive and learning style in terms of impact on performance to the exclusion of other factors? Coffield et al. (2003) in their discussion of Hattie’s work on effect sizes using only quantitative studies were keen

to highlight the limited impact of individualisation on children's learning compared to quality of instruction, student's disposition to learn and classroom climate. Nonetheless good practice whether it is in education or training includes an acknowledgement and accommodation of individual differences in the ways in which learners process information and how they engage with the learning process. That said we should never lose sight of the fact that thinking styles and learning strategies are not a 'holy grail' and can never present a panacea – they are merely additional tools in the armoury of good practice.

The potential of cognitive and learning styles for practice

The eight papers here show how cognitive and learning styles models can be used to enhance the learning experience in education and training. The emphasis is firmly upon a learner-centred approach. This is important since such a focus may be one way to address the disengagement of a large minority of young people (Nuffield report 2004-5:4) in compulsory and further education. Boström and Lassen (2006) highlight the view that changes can only be implemented when practitioners feel this is meaningful for themselves and their students. The value of styles-based approaches has to be demonstrated through well-designed research projects, based in real settings which may be replicated to confirm the findings. The future agenda of styles research must include longitudinal and qualitatively-orientated projects. The key messages in these selected papers from the Conference may be distilled into the following:

flexibility and informed choice for students is important as part of enhancing the learner-centeredness of teaching and training and this must be supported by better curriculum and course content design;

Use of instruction that is sensitive to the needs of the learner, aimed at developing and broadening styles and strategies;

Creation of a positive teaching environment, including attention to issues of delivery and feedback (these are key features of students' course experiences), clearly stated goals and explicit guidance about requirements of assessment;

Alertness to the dangers of labelling students;

Awareness of the role of culture in how style is conceptualised;

Variety in teaching methods and an informed awareness of the benefits and limitations of matching and mismatching learning and learner;

Informed and responsible use of groupings to encourage diversity;

Using technology in ways that are sensitive to individual differences;

Use of narratives and concept mapping in styles research and practice as well as greater reliance upon longitudinal and experimental studies;

Developing learners' meta-cognitive skills.

Looking to the future

There is a considerable body of evidence to suggest that individual approaches to learning can have considerable impacts on learning (Entwistle & Tait, 1990) and there is a real need for more information about successful strategies and approaches to improve learning (Ecclestone, 2005). The report by Coffield et al. (2004³), whilst being correct in arguing for a more intelligent use of learning styles, could be perceived to be overzealous and premature in its cull of certain theories, models and measures that have undeniable relevance to education and training. Two dangers of the recent turn of events in the styles debate are that it could lead to the curtailment of

a crucial area of research and practice and to the politicization of thinking styles and learning strategies. These potentially fatal outcomes are to be avoided at all costs. The need to synthesize research and practice evidence (DEMOS, 2005) is a fundamental challenge facing this field of study. Dissemination of clear guidance on effective strategies to enable teachers and students to understand and critique how learning styles can facilitate independent and reflective learners in various contexts is essential. The informed application of research in this field using valid and reliable constructs and measures is pre-eminent as a mechanism and means by which learners in educational and occupational settings can come to understand their own learning process and manage these more effectively. Given that there can be fewer more important issues than ‘learning-to-learn’ in the age of the life long learner the time has come for the potential of thinking styles, learning strategies and meta-cognition to be embraced explicitly by styles researchers, education and training practitioners and those responsible for the setting and implementation of education and training policies.

References

Abrams, F. (2005) Cognitive Conundrum. *The Times Educational Supplement*, May 20 2005.

Allinson, C. W. & Hayes, J. (1996) The Cognitive Style Index: a measure of intuition – analysis for organisational research, *Journal of Management Studies*, 33, 1, 119 – 135.

Brighouse, T. (1994) The Magicians of the Inner City. *The Times Educational Supplement*, 22 April, pp-29 – 30.

Burke, L. & Sadler-Smith, E. (2006). Instructor intuition in the educational context, *Academy of Management Learning & Education*, 5 (in press).

Coffield, F., Moseley, D., Hall, E. & Ecclestone, K. (2004) *Learning styles and pedagogy in post-16 learning: A systematic and critical review*, London: Learning and Skills research Centre, LSDA.

Coffield, F. (2004a) Revealing figures behind the styles. *The Time Higher Educational Supplement*, January 2, 2004.

Coffield, F. (2005) Looking back in Amazement. Presentation at: Learning Styles: Help or Hindrance? 10th November, 2005, Institute of Education

Curry, L. (1983) An organisation of learning styles theory and constructs, *ERIC Document* 235, 185.

Darling-Hammond, L. (1996) The Quiet Revolution: Rethinking Teacher Development. *Educational Leadership*, Vol. 53, 6, 4 – 10.

DEMOS. (2005) *About Learning*. Report of the Learning Working Group. DEMOS.

DfES. (2003) Teaching and Learning in Secondary Schools: Pilot: Unit 10: Learning Styles. *Department for Education and Skills*, Cambridge University Press.

Ecclestone, K. (2005) “*The resistible rise of Learning Styles – examples from practice and policy*. Presentation at: Learning Styles: Help or Hindrance? 10th November, 2005, Institute of Education.

Entwistle, N. J. & Tait, H. (1990) “Approaches to learning, evaluations of teaching and preferences for contrasting academic environments” *Higher Education*, 19, 169-194.

Evans, C. & Waring, M. (2006) Towards Inclusive Teacher Education: Sensitising Individuals to How they Learn. *Educational Psychology*, 26 (4) (in press).

Hastings, S. & Jenkins, S. (2005) Learning Styles. *The Times Educational Supplement*, ~~Friday~~, 4th November 2005.

Hodgkinson, G. P. & Sadler-Smith, E. (2003) A Critique and Empirical Reassessment of The Cognitive Style Index. UPDATE.

Lucas, B. (2005) *What are the learning styles of an effective lifelong learner? Should we do more to profile these?*” Keynote Address European Learning Styles Information Network – 10th International Conference, School of Management, University of Surrey, 13th – 15th June 2005.

NERF (2004-5) Bulletin Evidence for Teaching and Learning: Learning Styles should be handled with care. *National Educational Research Forum*, Issue 2, Winter 04/05, 7.

NSIN (2005) Research Matters: Learning Styles: help or hindrance? *National School Improvement Network*, No. 26 Institute of Education, University of London.

Nuffield Review (2004-5) *Nuffield Review 14 – 19: Education and Training in England and Wales*. Annual Report. Aims, Learning and Curriculum: Summary.

Peterson, E. (2005) “Are we on a “quasi evangelical crusade to transform all levels of education?” Some thoughts on the Coffield et al. Learning Style Report. In: *European Learning Styles Information Network An International Forum Newsletter*, Winter 2004/5.

Riding, R. J. & Rayner, S. (2000) *International Perspectives on Individual Differences. Volume 1: Cognitive Styles*. (Eds.) Stamford, Connecticut: Ablex.

Riding, R. J. (1991a) *Cognitive Styles Analysis*. Birmingham: Learning and Training Technology.

Rosenfeld, M. & Rosenfeld, S. (2004) Developing Teacher Sensitivity to Individual Learning Differences, *Educational Psychology*, 24 (4), 465-487.

Sadler-Smith, E. & Smith, PJB. (2004) Strategies for accommodating individual's styles and preferences in flexible learning programmes, *British Journal of Educational Technology*, 35: 395-412.

P. Stringer. (2005) Interview with Frank Coffield: A question of style. *The Psychologist*, Vol. 18. No. 6.

Utley, A. (2003) Influential Teaching technique rubbish. *The Times Higher, Educational Supplement*, November 28, 2003.

Veenam, M. V. J., Prins, F. J. & Verheij, J. (2003) Learning styles: Self report versus thinking-aloud measures. *British Journal of Educational Psychology*, 73, 357 – 372.

Zehm, S. J. & Kottler, J. A (1993) *On being a Teacher: The Human Dimension*. California: Corwin Press.