

It should also be noted that the link between the identification of a learning style and the appropriate action by a tutor is not as obvious as it might seem. Two major issues are immediately raised when considering this matter. In any group of learners there is likely to be a *continuous distribution of preferred learning styles* so even if there were a direct relationship between the teaching approach taken and an individual learning style, in a classroom situation, it would be impossible to accommodate all styles at all times. More fundamentally we might ask whether it is necessarily beneficial for a learner to be encouraged to learn in a way that suits their style. Learning might be more effective if learners are challenged and many cognitive psychologists would argue that in some circumstances it is as appropriate to use a teaching approach style that is in conflict with learner pre-disposition. We should remember that tutors also will have preferred learning styles, which may affect their approach to teaching. An effective tutor is likely to be someone who is aware of his or her own preferences and is aware of the heterogeneous nature of the preferences of a group of learners.

A final note of caution relates to the instruments that are used to measure learning style. Coffield and colleagues assessed 13 of the commonly used tools for their reliability and validity. Only one met four criteria of internal consistency, test-retest reliability, construct validity and predictive validity, and one met none of these. This account does not allow discussion of the technical problems intrinsic to the use of these tools, but it is important to realise that they do not all carry the objectiveness that they purport to have. Many instruments seem attractive superficially, but have less than firm scientific bases. Many are merely commercial packages.

## References

- Coffield, F., Moseley, D., Hall, E. and Ecclestone, K. (2004) *Learning styles and pedagogy in post-16 learning. A systematic and critical review*. London: Learning and Skills Development Agency
- Kolb, D. (2000) *Facilitator's guide to learning*. Boston: Hay/McBer

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# Learning Styles (Theory)

This article explains some theories of Learning Styles and, along with the paper Learning Styles (Practice) within the Learning Principles Toolkit, gives information for tutors to consider with learners or as part of their own continuous professional development.

The notion that individual learners have a particular style in approaching a learning task has enormous appeal to tutors and learners alike. A number of authors have suggested that by paying more attention to individual learning styles, tutors can:

- ascertain the preferences that learners have in learning
- allow learners to ascertain their strengths and weakness as learners
- assign teaching strategies that are responsive to these diagnoses at an individual level
- improve subsequent learner approaches to and strategies in learning, and consequently learner performance

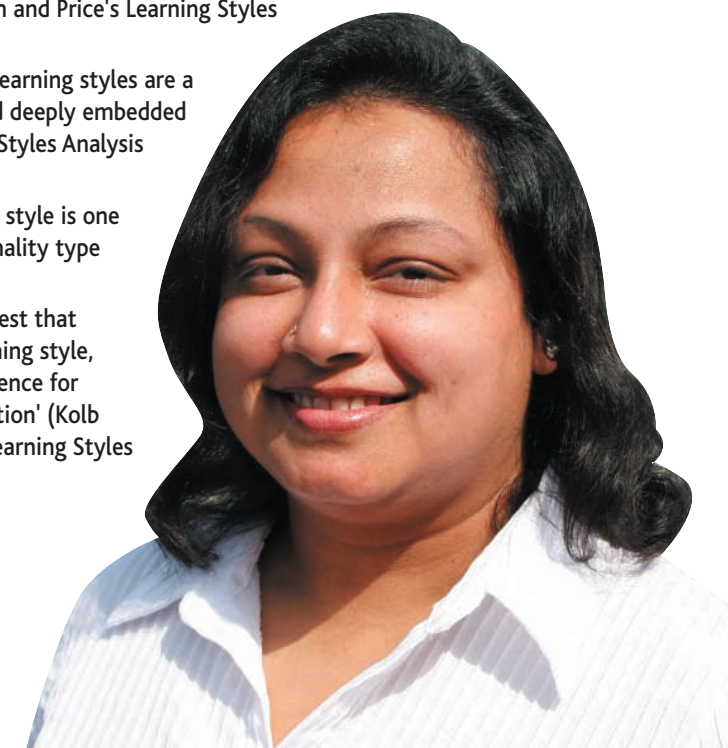
Most models ... suggest that human beings possess underlying fixed traits that are linked to a learning style, viewed to be largely stable over time

The popularity and appeal of the field of Learning Styles is illustrated in a recent review by Coffield et al (2004) in which they identify 71 models, 13 of which they describe as major models and subsequently analyse in some depth. These models more often than not are based around the construction of an instrument or inventory informed by a questionnaire that diagnoses an individual's style within a typology. Many of these instruments have now become very well-known and are used commercially; one of the most popular in the UK is Honey and Mumford's Learning Styles Questionnaire (LSQ), which labels learners as activists, reflectors, theorists and pragmatists.

Most models are derived from well established psychological theories, especially those which suggest that human beings possess underlying fixed traits that are linked to a learning style, viewed to be largely stable over time.

Coffield very usefully divides learning styles into five 'families'

- *Constitutionally-based learning styles and preferences*, which place great stress on traits which are genetically inherited, and that suggest that existing predilections in learning styles should be developed rather than changed (e.g. Dunn, Dunn and Price's Learning Styles Inventory (LSI))
- *Cognitive structure models*, which suggest that learning styles are a structural property of the cognitive system, and deeply embedded in personality structure (e.g. Riding's Cognitive Styles Analysis (CSA))
- The *Stable personality type* argues that learning style is one observable element of a relatively stable personality type (e.g. The Myers-Briggs Indicator (MBTI))
- *Flexibly stable learning preferences*, which suggest that whilst there is some long-term stability in learning style, this is not a fixed trait, but 'a differential preference for learning, which changes from situation to situation' (Kolb 2000) (e.g. Honey and Mumford's LSQ; Kolb's Learning Styles Inventory (LSI))



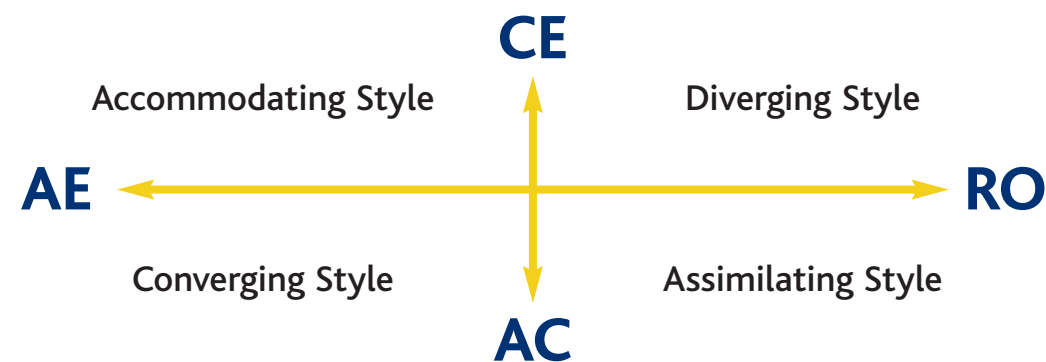
Consideration of learning style places the focus on the strengths and weaknesses of learners rather than describing them as good, bad, or average



Evidence suggests that ... learners can change their approach to learning if tutors draw attention to their learning styles

- Learning approaches and strategies, which has been highly influential in UK Higher Education and made popular by Noel Entwistle of the University of Edinburgh. These models speak of the strategies that learners chose to deal with a task (*surface, strategic and deep*) and their approach to learning (*Holist and Serialist*) (e.g. Entwistle's Approaches and Study Skills Inventory (ASSIST), Vermunt's Inventory of Learning Styles (ILS))

It is not possible, given the array of models, to deal with each in detail so just one of the most popular tools is considered in more depth. Kolb's work on experiential learning has been the basis of his inventory and that of Honey and Mumford. It is based on a model of learning being a process in which knowledge is created through transformation of experience. Kolb's learning inventory is used to place individuals on two axes. One axis situates them in a continuum between the extremes of their ability to learn from *concrete experience (CE)* and by contrast from *abstract conceptualisations (AC)*. The second axis contrasts *active experimentation (AE)* with *reflective observation (RO)*. Scores on each axis determine placement in one of four quadrants each of which represents a particular learning style, each of which has its strengths and weaknesses



The model suggests that there are polar opposites of learner approaches to learning, but any individual learner may exhibit characteristics of different approaches. The styles at each end of the axes are by definition conflicting ways of operating in the world, and learning is a process of resolving these conflicts. Learning style in Kolb's model represents a preference for one mode of adaptation over another and the form that adaptation takes will vary over time and in different situations. He has suggested that a *complete learner* integrates the bi-polar dimensions of each style and is more than someone who uses the appropriate style at the appropriate time, but can integrate the conflicts between them.

### What is helpful about Learning Styles?

A number of authors have written extensively about Learning Styles highlighting the merits of the concept and its problems, and on the positive side it can be argued that an awareness and consideration of the notion has the following merits:

- Learning Style measures are potential *diagnostic tools* for understanding the individual differences in approaches to learning amongst a heterogeneous population of learners
- which in turn aids *planning* of teaching and learning
- which also might justify a focus on provision that aids *learning to learn (metacognitive approaches)* customised to a learner's identified learning needs as determined by their learning style
- the highlighting of *learning processes* rather than simply teaching techniques
- the focus on *strengths and weaknesses* of learners rather than describing them as good, bad, or average

But be critical and we should note that:

- Learning Styles models are largely descriptions of preferences that learners hold, *not* measures of competence, ability, or what learners learn
- certain approaches to learning tend to carry more weight (e.g. taking a deep approach to tackle a specific task), but are *not* necessarily the best approach for *all* learners in *all* circumstances. A sophisticated learner would quite logically in certain circumstances take a surface approach, for example simply memorising facts to pass a test rather than seeking to understand a subject in depth
- some models tend to encourage the view that these are mutually exclusive poles of learning style, and that there isn't any development over time or as a result of intervention. Evidence suggests that in fact this is not the case, and learners can change their approach to learning if tutors draw attention to their learning styles

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