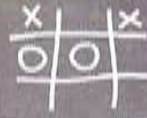


The Perfect Learner



An Expert Debate on Learning Styles



DAVE KOLB



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The Style Council

DAVE KOLB is professor of organizational behavior, Weatherhead School of Management, Case Western Reserve University, Cleveland. Kolb is credited with initiating the learning styles movement through his seminal book, *Experiential Learning: Experience as the Source of Learning and Development* (Prentice Hall, 1984), which reports 20 years of research on the Learning Style Inventory (LSI) for determining individual learning preferences.

PETER HONEY is a chartered psychologist, founder of PeterHoney.com, consultant and

author. He has worked for Ford Motor Co. and British Airways, and as a consultant to organizations such as the Bank of England, AstraZeneca, the Automobile Association, ICI and ICL. He is a fellow of the Chartered Institute of Personnel and Development and has written more than 100 articles and papers, and 20 books, including *The Manual of Learning Styles*, with Alan Mumford (Peter Honey Publications, 1992), and is co-creator (also with Mumford) of the Learning Styles Questionnaire (LSQ).

LYNN CURRY is founder of CurryCorp, Ottawa, Ontario. Curry earned a doctorate in educational psychology from Stanford University. She is the author of *Learning Styles in Secondary Schools: A Review of Instruments and Implications For Their Use* (National Center on Effective Secondary Schools, 1990) and *Integrating Concepts of Cognitive or Learning Style: A Review With Attention to Psychometric Standards--The Curry Report* (The Learning Styles Network, Center for the Study of Learning and Teaching Styles, 1987).

For more than a quarter century, learning style theory has knocked on the door of corporate training offices offering itself as a credible alternative to one-size-fits-all instruction. Now that technology has given us the means to deliver truly individualized learning, it begs the question:

Is it time to let learning styles come in?

BY MARTIN DELAHOUSSEY

Every radio station has a unique transmitting frequency. To achieve perfect reception you tune the receiver to said frequency. If the receiver drifts, even by a fraction, the signal loses some of its sharpness and clarity. More drift brings the fuzzy sounds of other stations into the mix. Eventually, the ability to decode the signal is lost altogether. You can't discern words or music any more, just noise. This is analogous to the way we learn.

At least that's the view of the many educators and academics who have studied individual learning differences. They conclude that we each have a preference, a unique frequency, for receiving and processing information. Dave

Kolb coined the term "learning style" to explain this preference (see "A Brighter Future," on page 35). The assumption is that we are at our most efficient as learners when information comes in aligned with the way we want to receive it.

Based on this assumption, a state of optimum learning—or pedagogical nirvana, if you will—can be achieved by identifying individuals, or groups of individuals, with similar learning styles, then constructing learning activities around the curriculum that correspond to their style.

In common with almost all learning theories, a specter of doubt has lingered over this anodyne take on education and has done so ever since Kolb introduced learning styles to the educational vocabulary in the mid-60s. Over time, bipolar views have emerged: Either learning style



GARY SALTON

GARY SALTON is CEO of Professional Communications Inc., Ann Arbor, Mich. Salton holds a doctorate in sociology, a master of arts in economics and an MBA. He created the field of Organizational Engineering, which uses I-Opt as its instrumentation. Salton's most recent book is *The Manager's Guide to Organizational Engineering* (HRD Press, 2000). He is now finishing the book, *Engineered Learning*, that offers a formula for measuring and predicting outcomes of learning events before they are held.



ASHLEY FIELDS

ASHLEY FIELDS is senior advisor at Shell People Services, Shell Oil Co., Houston. He recently completed a dissertation on intuition in decision-making using the I-Opt learning styles inventory. Fields is currently writing a book on thought diversity.

RICK DALY is chief learning officer for Fort Worth, Texas-based AmeriCredit, where he is building a learning styles database. This database will ultimately be used to deliver tailored content to AmeriCredit's 5,200 team members.



RICK DALY



PATRICK O'BRIEN

PATRICK O'BRIEN is an organizational engineer and senior training consultant in the Organizational Effectiveness Group of the Mossville Engine Center, Mossville, Ill., an operating unit within the Large Power Systems Division of Caterpillar Inc. O'Brien has more than 25 years experience in various management capacities including sales, operations and staff positions. His current areas of involvement include leader selection/development, change management, performance consulting and career development —M.D.

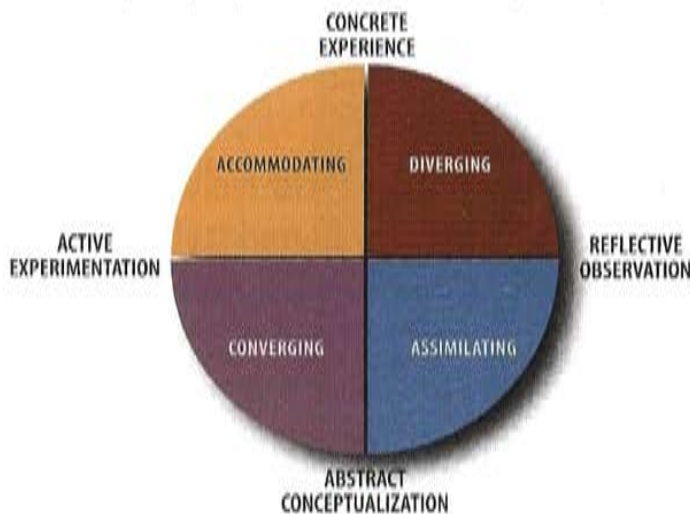
Learning Styles

WHAT'S IN A NAME?

"One of the most pervasive difficulties in this field of research is the sloppiness of the definitions," says Lynn Curry, founder, CurryCorp, Ottawa, Ontario. "Across the literature the same or similar concepts carry various titles, describe varying ranges of behavior and are variably observable." Curry has a point. The three style determinants referenced in the main feature—Dave Kolb's Learning Style Inventory (LSI), Peter Honey and Alan Mumford's Learning Styles Questionnaire (LSQ) and Gary Salton's I-Opt—each identify four basic types of learning preference but use no less than 16 names to describe them.

Kolb's Learning Styles and Experiential Learning Cycle

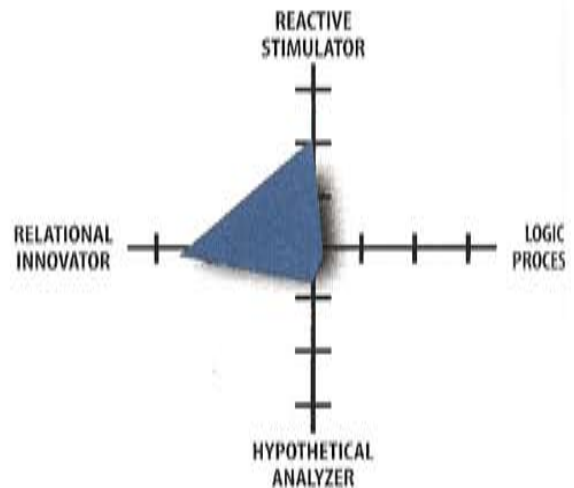
Kolb began it all when he created the Learning Style Inventory—a series of questions about how people learn best—to help learners better understand the way they learn from experience. The cycle itself comprises four stages, concrete experience, reflective observation, abstract conceptualization and active experimentation, which align with the North, East, South and West points of the compass. The four learning styles—accommodating, diverging, assimilating and converging—are offset at the midpoint between each of the stages equivalent to North West, North East, South East and South West on the compass, indicating that each style comprises preferences that align with two stages in the cycle.



Salton's I-Opt

Salton's I-Opt, a recent entry onto the learning styles scene, is another instrument that can be used to determine learning preferences. However, claims Salton, "only I-Opt has a technology that can mathematically correlate individuals into accurate representations of entire groups."

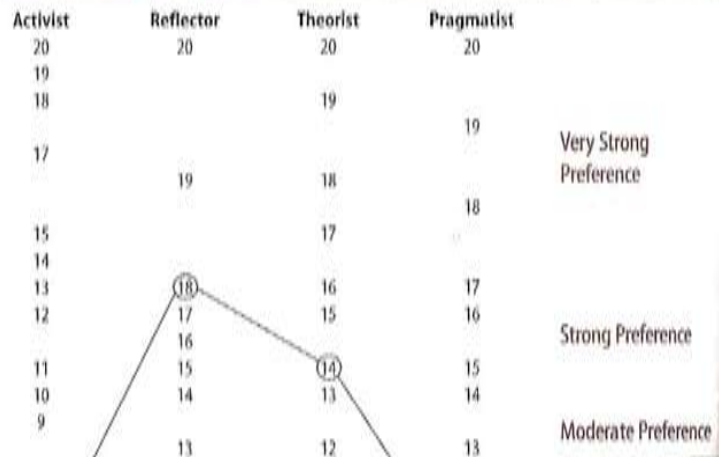
Specifically, Salton recommends using I-Opt to determine how attach group members are to their particular learning preference—style flexibility. Despite this key difference, I-Opt still classifies four style types: relational innovator, logical processor, hypothetical analyzer and reactive stimulator. I-Opt adds four patterns that are combinations of the styles and carry behavioral implications of their own (changer, performer, conservator and perfecter).



Honey & Mumford's Learning Styles Questionnaire

Honey and Mumford's LSQ was developed as part of a project for the Chloride organization in the late 1970s. "We were surprised to find that managers in Chloride found it difficult to answer the LSI because it assumed that they knew how they learned from experience," says Honey. "The reaction tended to be 'I don't know, I just do it.' So we decided to invent a questionnaire that avoided having any items that asked direct questions about how someone learned. A person's learning style preference is inferred from the way someone says they go about solving problems or behaving in meetings. In other words, the 'ordinary' things managers do on a daily basis."

Comprising 80 questions, the LSQ is similar in process to the LSI, but Honey and Mumford refer to the four possible style outcomes as activist, theorist, pragmatist and reflector.



A COMPARISON OF STYLES

The Learning Style Inventory (LSI), the Learning Style Questionnaire (LSQ), and I-Opt make use of different inventories or questionnaires to determine learning style. And, even though the names used to describe the styles also differ, there are clear similarities in the underlying behaviors of each style type. Since each approach achieves pretty much the same result, in terms of determining individual learning style preference, the choice as to which one you use is mostly a matter of personal preference.

Diverging (Kolb, LSI) learners solve problems by viewing situations from many perspectives and rely heavily on brainstorming and idea generation. They are motivated to discover the relevancy or “why” of a situation. They like to reason from concrete-specific information and to explore what a system has to offer. Those with the Diverging style are people-oriented and like to deal with feelings.

Reflectors (Honey & Mumford, LSQ) like to look before they leap. These learners prefer to collect information and sift through it. They are cautious, thorough people who like to observe rather than take the lead. They are slow to make up their minds, but when they do, their decisions are very soundly based—not only on their own knowledge and opinions but also on what they have learned from watching and listening to others.

Hypothetical Analyzers (Salton, I-Opt) do not like loose pieces of information that don't seem to fit the whole. They want to understand the big picture in order to establish a framework within which information can be “fit.” If focused on a small piece of the whole without explaining how that piece fits into the big picture they will ask themselves “Why?” or “What's the point?”

Learners with the **Assimilating** (Kolb, LSI) style like to solve problems by inductive reasoning and have an ability to create theoretical models. They are motivated to answer the question, “What is there to know?” They are uncomfortable randomly exploring a system, and they like to get the “right” answer to the problem.

Theorists (Honey & Mumford, LSQ) live in a world of ideas. They have tidy, organized minds. They are not happy until they have reached the bottom of

Converging (Kolb, LSI) learners want to solve a problem through hypothetical-deductive reasoning. They are at their best when focusing on specific, identifiable, practical problems, and are motivated to discover the relevancy or “how” of a situation.

Activists (Honey & Mumford, LSQ)

love novelty and will “try anything once.” Give them a task, and they will throw themselves wholeheartedly into it. They like to get on with things, so they are not interested in planning what they are about to do. They live very much in the present.

Reactive Stimulators (Salton, I-Opt) are highly task- and action-

Accommodating (Kolb, LSI) learners solve problems by carrying out plans and experiments, and can adapt to specific, immediate circumstances. Those with an accommodating learning preference tend to excel at influencing others and accomplishing tasks in interpersonal situations.

Pragmatists (Honey & Mumford, LSQ) are people who also enjoy solving problems through experimentation. They are “how” rather than “why” oriented.

Relational Innovators (Salton, I-Opt) are similar to Salton's Relational Innovator in that these learners are experientially rooted. They learn best through the use of analogies and examples.

things and explained their observations in terms of basic principles. They want to know the logic of actions and observations.

Logical Processors (Salton, I-Opt) are very much task- and process-oriented, and prefer learning experiences that are straightforward and detailed. Logical Processors learn well by doing but will typically need a good deal of justification if the training requires much in the way of change. They want more than theory, and they like concrete examples and a track to run on.

oriented. New learning situations might take advantage of their desire to apply new knowledge quickly. Very much now-oriented, this learner would much rather be trying the new task than hearing why it is important. Lengthy discussion and theorizing are of less interest than actually doing the job. —M.D.

Is an individual's learning style stable over time, task, problem and situation?

DAVE KOLB: Test-retest studies of the LSI suggest that learning style is relatively stable over time. However, cross-sectional studies suggest that learning style does change as a function of career path and life experience. For example, engineers who remain bench engineers throughout their career retain the converging (abstract and active) learning style typical of the engineering profession, but engineers who become managers become more concrete because of the interpersonal job demands of that role. Similarly, a study of the accounting profession showed that accounting students had diverse learning styles, entry-level accountants were converging, and intermediate-level accountants were even more so. Senior-level accountants had accommodating (concrete and active) learning styles.

LYNN CURRY: Yes, but there are caveats. Styles are consistent across acts and are observable as regularities in the form or manner of acts or performances. Some styles have been observed as behavioral consistencies from very early in life. Others have been observed as behaviors consistent over a lifetime.

PETER HONEY: It depends whether we are talking about the preference or the behavior part of the style. The underlying preference is more consistent and durable. The behaviors, however, are changeable depending on circumstances or will. The nature of my work, having to pay close attention to detail for example, would affect my behavior but I could, and I do, discipline myself to compensate for a "weaker" style. My self-imposed discipline of keeping a written learning log, for example, forces me to invest more effort in reflecting and surfacing lessons learned than my activist/pragmatist preferences would allow.

ASHLEY FIELDS: Learning watchmaking is a lot different than learning to be a commodity trader or learning hands-on tasks vs. knowledge management-based tasks. Yet, if provided sufficient incentive, say \$1 million, most people can learn to do both. If learning style were stable across task, problem or situation this could not be true.

GARY SALTON: For the Myers-Briggs Type Indicator and Brain Dominance, yes, these theories have no formal provision for change. NLP is more "iffy." There is no theory describing how these preferences come to be or how they change. For learning styles based on NLP, the answer has to be indeterminate.

Are learners adept at finding their own path through content?

LYNN CURRY: The evidence is that this is not true. The best references here are from the European line of research

into learning instructional preferences. Scores are high when the individual's learning approach happens to match the performance expectations of the course or performance situation. When approach and performance expectation do not match, poor scores result. Those with flexibility about style can adapt easily within some range of learning environments. Learning environments that are inconsistent or oppose their native learning style further challenge those without the style flexibility, or those at the borderline of their general competence to learn at all.

RICK DALY: I might agree more with this if learners are aware of both the notion of learning styles and of their own learning preference(s). You have to trust the learner, but you can't trust them to navigate in an unknown area unless they know what to look for. The learners are ultimately in charge of their own learning. They need to seek out learning delivery methods most palatable to them, but they first need to know what to look for.

PETER HONEY: Most learners are unaware of their style and are bombarded by diverse learning materials. It is all very hit-and-miss and inefficient. Much more work remains to be done on how to tailor content. At the moment, people hide behind an ostensible multimedia/blended approach claiming that it provides something for all. This is, however, just a sop and another version of one-size-fits-all. My experience is that people who are aware of their learning style preferences, who understand the need to continuously improve their learning capabilities (learn to learn), and who have access to sound guidance are in a far better position than those who are left to their own devices.

ASHLEY FIELDS: People are not stupid. Given enough motivation they will navigate any content. However, while they can stay in areas where they are not comfortable, they will not stay there any longer than they have to. If you tailor content delivery to a person's strategic style, they are likely to have a greater natural interest in the subject and are likely to absorb more information.

What are the barriers to making better use of individual learning styles?

RICK DALY: One of the biggest barriers is lack of interest on the learner's part. A complete approach measures learner style, learner motivation, course content, facilitator style and course media to predict the success of a given learning experience. At the same time, we need to address learning style head-on, while still making the experience somewhat seamless to the learner. Many people don't really seem to care about learning how they learn. We have developed a number of courses addressing this over the past 10 years, but not everyone finds it the most fascinating of topics like we do

A Brighter Future

One of the most important contributions to understanding how people learn came about by chance. While teaching at Case Western Reserve's Sloan School, Dave Kolb was working on a textbook, *Organizational Psychology: An Experiential Approach*. "The book followed the learning cycle in terms of structuring a curriculum where students have experiences, reflect on them in small groups, have readings and conceptualize, and then do active projects," explains Kolb. Using the book as a foundation, Kolb began testing the experiential learning cycle in his class. His students, though, didn't take too kindly to the change. "They were frustrated," explains Kolb. "They wanted to know why I wasn't lecturing them." Consequently, he developed the Learning Style Inventory purely as a way to help his students understand the experiential learning cycle. "It was kind of incidental that I was focusing on learning style," says Kolb. "The vast part of my work was experiential learning theory." Now professor of organizational development at

Case Western Reserve's Weatherhead School of Management, Cleveland, Kolb's major focus has remained experiential learning, but he continues to refine his original thinking on learning styles. "One of the things we've discovered is that we can begin to get a much sharper resolution of learning styles than just the four styles that exist now," he says. "So we're moving toward nine styles. Instead of the four-quadrant grid we have a tic-tac-toe grid."

One outcome of this refinement is the discovery that those possessing the balanced style (people who score in the middle of the tic-tac-toe) are more flexible in their learning. "These people tend to change their style as a function of the task that they're working on," says Kolb. Another refinement, the application of experiential learning styles to learning in conversation, is reported in his forthcoming book, *Conversational Learning: An Experiential Approach to Knowledge Creation*

(Greenwood Press) co-authored with Ann Baker of George Mason University and Patricia Jensen of Alverno College.

Learning style adoption is a long way from being the norm in training and education, acknowledges Kolb, but he is encouraged by the growing influence of technology for learning. "The fact that more and more education is taking place using technology increases the potential for dramatically changing the kind of classroom teaching structure that training tends to be based on," says Kolb. "Technology provides opportunities to really individualize instruction in terms of different learning styles. But the people who are adept at using computers, not surprisingly, are abstract as opposed to concrete and also to some extent reflective as opposed to active. So one of the real challenges is how we make all this information accessible to people for whom it is not a natural way to learn."

—M.D.

DAVE KOLB: I would name three barriers: the rigid institutionalization of the traditional lecture classroom; learners who do not understand the learning process and how they learn and who do not take responsibility for their own learning; and teachers who teach based on the way they were taught and assume that everyone learns the way they do.

GARY SALTON: Learning has no value to a corporation except as it is expressed in behavior. A person's information-processing style expresses what is likely to be done with the knowledge gained. Therefore, one barrier to exploiting learning styles is incomplete instrumentation. For example, LSI tells how a learner wants input but not what is likely to be done with it. Without that knowledge, the value of learning styles to a corporation is somewhat questionable.

How can we best make use of learning styles in the corporate environment?

PATRICK O'BRIEN: The best use of styles in learning applications will be in reducing the one-size-fits-all mentality that dominates training and development. This sensitivity alone will improve the outcomes. There is a corollary, however. Practitioners will need to be upgraded. This is not going to be easy.

DAVE KOLB: In addition to the obvious applications of experiential learning theory and the LSI to the design and

conduct of corporate training programs, these ideas can also be used to promote learning throughout the organization. Managers' understanding of their learning style can help them understand and improve the way they make decisions. Understanding the learning styles that are characteristic of different organizational functions also can improve cross-functional communication. A study of the demise of a once highly profitable high-tech firm when its patent expired and competition entered the market showed a culture dominated by engineers with the converging style who would not accept high-level marketing personnel hired to create a more market-oriented culture.

GARY SALTON: Courses can be structured to match the information-processing styles. These courses will improve the learning outcomes for the participants. However, they will also cost more money to prepare since multiple courses will be needed for each subject. It is likely that the economics of multiple courses will not work out for many courses. It is probable that the one-size-fits-all model will remain the dominant paradigm in training.

However, there will be high-value courses where the increased investment is worth it. In these cases, the quality of course designers and instructors will have to be upgraded to match the variability of the content. In other words, tailored courses are likely to be more challenging since content and delivery are variable. This will probably create a

hierarchy of trainers and course designers. The best people are likely to work in creating and delivering tailored content. The less skilled will probably be assigned the one-size-fits-all courses.

PETER HONEY: Use information about the mix of learning style preferences to arrive at a learning strategy that would build learning into the system/processes so that it becomes a "requirement." Too often, organizations say that learning is a priority, but then they adopt an "it's-up-to-you" approach, making it an optional activity. E-learning has, if anything, exacerbated this with the expectation that people will somehow find the space and time to do it. I see learning styles as just one piece of the jigsaw puzzle. Other pieces are about the motivation to learn, the skills to learn and the learning environment. The challenge to create learning-friendly work environments is as great as it ever was.

LYNN CURRY: The quickest and most cost-effective use of cognitive and learning styles in corporate environments is to provide comprehensive, detailed and interpreted information to employees about their own styles. This will allow individuals to use that personal information to better structure their coping strategies and achievement tactics.

Compilation of this individual information into a group composite would indicate to peers, team leaders and supervisors the necessity of offering alternative working structures to what is currently in place or personally preferred by the supervisor. Further supervisory development may be necessary in order to assist leaders to develop these alternative structures within time and resource constraints. Even if alternative structures cannot be provided, this knowledge of style differences should enable everyone to respond more effectively to the style outliers in the workplace.

RICK DALY: E-Learning, considered on its own, is a natural for tailoring to styles. If you know the learner's preferred style, you can engage him or her on a path that is oriented specifically to their style. E-learning has traditionally appealed to the more structured and analytic styles, but by making the content more action-oriented and driving more effectively to application of knowledge and skills, the value of the learning experience can increase dramatically for the action-oriented learner and the innovator.

What areas of learning style would most benefit from further research?

PETER HONEY: Everything! In particular, I'd say we need much more research on learning behaviors. What ways of behaving increase the amount and relevance of what is learned and people's willingness to share what

they have learned for the good of the organization? We also need more research on the specific links between different styles and different types/methods of learning.

LYNN CURRY: A range of experimental design flaws plague this literature including [but not limited to] over-generalization based on measurement of one isolated construct, often assessed on only one occasion and with only one instrument; only one or sometimes no independent measure of behavior change; and no attempt to control for interacting and confounding variables such as gender, IQ, ability or initial capability in target behavior, time-on-task and teacher expectation.

The result is that the research base is not a strong and consistent platform guiding the application of learning or cognitive style. These same criticisms can, however, be applied to the wider body of educational literature. Considerable service to the field could be made through relatively modest-scale studies that addressed any one, and preferably more, of the above limitations.

DAVE KOLB: Our latest research on experiential learning and the LSI is focused on developing more fine-grained descriptions of individuality in learning—the Adaptive Style Inventory—in order to respect individual uniqueness and avoid the stereotyping that can result from having only four learning styles. Also we are studying ways to promote adaptive flexibility in learning using this new inventory.

ASHLEY FIELDS: The most important thing will be to keep out the quick-fix solutions. The way to control that is to demand results. Any theory or method should be able to assess the outcome of an event *before* that event occurs. If a tool cannot do that, it is an opinion and not a serious business contribution. That prediction should be done with your group, in your environment and on matters of interest to you. It should not be in some laboratory study that you cannot personally verify.

RICK DALY: Big areas of opportunity exist in cross-national and cross-cultural study of learning preferences. This could serve as an indicator as to how much environment, culture and society really affect learning styles and also reveal how stable styles are over time.

PATRICK O'BRIEN: The single most important area for any form of learning research, including learning styles, is providing definitive assurance that they work in practice. This means researching adults in ordinary work settings, not students in classrooms or labs, and using meaningful measures of performance, not performance on some irrelevant written test. The last thing our profession needs is another fad. ■

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