

Moving and Learning: Expanding Style and Increasing Flexibility

Journal of Experiential Education
2015, Vol. 38(3) 228–244
© The Authors 2014
Reprints and permissions:
sagepub.com/journalsPermissions.nav
DOI: 10.1177/1053825914540836
jee.sagepub.com


Kay Peterson¹, Lisa DeCato¹, and David A. Kolb²

Abstract

This article introduces ways in which movement can enhance one's understanding of how to learn using Experiential Learning Theory (ELT) concepts of the Learning Cycle, Learning Styles, and Learning Flexibility. The theoretical correspondence between the dialectic dimensions of the Learning Cycle and the dimensions of the Laban Movement Analysis (LMA) framework create a hypothesized integrated typology of learning and movement styles that expand the description of Learning Style to include the movement affinities. These suggested relationships are facilitated by the existing theories and grounded by movement observations and interviews of more than 200 adult learners. From the theoretical relationships and observations, the authors propose descriptions of the movement affinities for each of the nine styles in the Kolb Learning Styles Inventory 4.0 (KLSI 4.0) and suggest that increasing one's movement flexibility, or the ability to move using a full range Effort and motion through space, provides a catalyst for learning and promotes Learning Flexibility. These hypothesized relationships will form the basis for future empirical research.

Keywords

experiential learning, learning cycle, learning styles, movement analysis, learning flexibility

Introduction

Experiential education programs have relied heavily on the Learning Cycle to create holistic educational experiences that enable learners to complete this cycle of Experiencing, Reflecting, Thinking, and Acting (A. Y. Kolb & Kolb, 2005). These

¹Learning Partners Group, Ashtabula, OH, USA

²Experienced Based Learning Systems, Inc., Ashtabula, OH, USA

Corresponding Author:

Kay Peterson, Learning Partners Group, P.O. Box 2300, Ashtabula, OH, 44005 USA.

Email: peterston@learningflexibility.com

programs address the affective, perceptual, and behavioral, as well as the cognitive dimensions of learning, unlike academic programs, which tend to address learning mainly from the cognitive realm.

The concept of Learning Style in Experiential Learning Theory (ELT; D. A. Kolb, 1984; A. Y. Kolb & Kolb, 2011) describes how learners come to prefer some learning modes over others, preferring to dwell in some parts of the Learning Cycle while neglecting others. These preferences are not viewed as fixed personality traits but rather as stable states or habitual patterns of learning. These habits influence the whole person affectively, perceptually, cognitively, and behaviorally and can be seen in the embodied adaptive stance the person takes to the world. The term *Learning Flexibility* refers to the ability to engage all Learning Styles in response to the demands of the learning context and fully integrate all modes of the Learning Cycle.

In movement education, ELT design principles have been used to create experiential learning programs that promote deep embodied learning in dance education (Leijen, Lam, Wildschut, Simons, & Admiraal, 2009; Wilson, 2009), in acquisition of motor skills (Roessger, 2012), and even in learning anatomy through yoga (Bentley & Pang, 2012). Several studies have explored differences between the learning styles of dance and physical education educators (Karp & Walker, 1990) and students (Johnson 1982; Zakrajsek, Johnson, & Walker, 1984). There have, however, been no systematic attempts to explore the link between individual learning styles and movement preferences.

The purpose of this article is to propose a theoretical correspondence between ELT and the Laban Movement Analysis (LMA) framework (Laban, 1974) identifying a relationship between the two dialectic dimensions of the Learning Cycle—abstract/concrete and active/reflective—and the Effort factors with their natural spatial affinities. Based on the integration of these theories, a typology of the nine Learning Styles of the Kolb Learning Style Inventory 4.0 (KLSI 4.0; A. Y. Kolb & Kolb, 2011) associated with the movement affinities is hypothesized. The typology expands the description of Learning Style to include sensorimotor indicators, here termed *movement affinities*.

Linking the Learning Styles with movement affinities can assist learners to experience each style consciously and to make its expression appropriate and integrated in their daily life. Movement awareness can promote a greater awareness of an individual's preferred approach to learning as well as to promote the flexibility necessary to effectively engage all modes of the Learning Cycle, and thus all Learning Styles.

The following sections (a) describe the ELT as a holistic approach to learning from experience and as a foundation for flexible, integrated learning; (b) outline the LMA framework; and (c) introduce a hypothesized integrated model of Learning Styles and their movement affinities. The concluding discussion offers a perspective on how movement and Learning Style awareness can aid personal learning and development.

Experiential Learning Theory

The Learning Cycle

ELT provides a process to understand how learning occurs by placing emphasis on one's own experience at the center of learning (D. A. Kolb, 1984). The ELT method

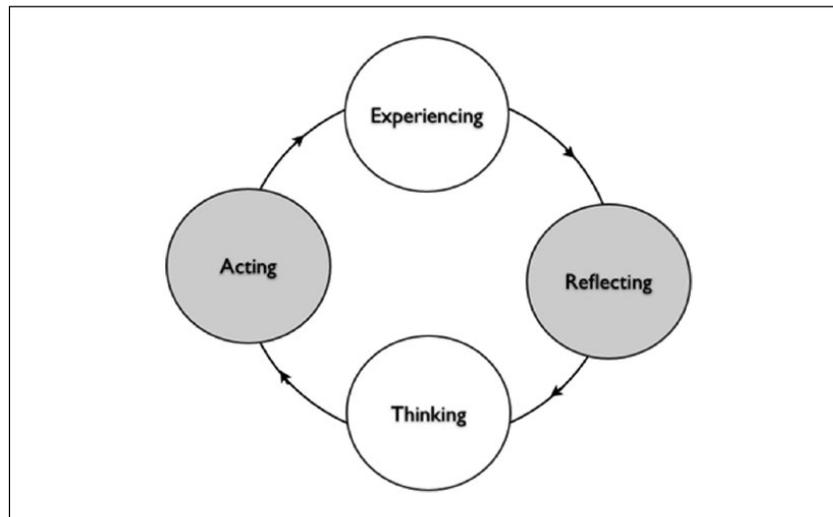


Figure 1. The Experiential Learning Cycle.

can be applied to a vast array of learning situations to identify an idealized, holistic, and recursive cycle of learning. The Learning Cycle includes four distinct modes: Experiencing, Reflecting, Thinking, and Acting (see Figure 1, Experiential Learning Cycle).

ELT proposes that individuals grasp information through the dialectally opposed modes of Experiencing and Thinking, and may transform it into knowledge through the dialectally opposed modes of Reflecting and Acting. When individuals use all four modes of the Learning Cycle, they are able to experience an ideal, well-balanced learning process that keeps their subjective experience at the center of the learning. This dynamic cycle illustrates the value of being mindful of one's own direct, immediate experience, observing and reflecting upon the experience, and thinking and conceptualizing. Acting is the way in which these internal processes are tested in the practical world (Zull, 2002). However, because the two modes of grasping and the two modes of transforming are dialectically opposed, individuals typically are not as capable of using all modes of the Learning Cycle with equal flexibility. The preference to use certain modes of the Learning Cycle and inhibit others is self-reinforcing because individuals unconsciously select learning situations that will support their preferred creative adaptation.

Learning Styles. The concept of Learning Style became a popular way to recognize the uniqueness of the individual learner. Since Kolb coined the term in the late 1960s to distinguish styles of learning from experience from cognitive styles (D. A. Kolb,

Rubin, & McIntyre, 1971), there are by now nearly 100 established learning style frameworks and assessments. They assess a wide spectrum of human individuality, including cognitive styles, preferences for sense modalities, Jungian personality types, study strategies, instructional preferences, and preferences for learning alone or in groups. Most of these theories view learning styles as fixed traits; however, the KLSI, which assesses one's approach to ELT, is different.

ELT proposes that individuals develop patterns in their approach to learning from infancy. Due to personality type, education, and cultural influences, individuals establish preferences for certain modes of learning. These stylistic preferences arise from the patterned ways learners choose between the modes of learning and ultimately influence how individuals view current situations, then perceive and decide future choices. By the time individuals reach adulthood, preferences for navigating the Learning Cycle are relatively stable (D. A. Kolb, 1984).

The way a learner creatively manages these dialectically opposed modes defines a Learning Style that can be measured by the new KLSI 4.0 (A. Y. Kolb & Kolb, 2011). This learning space is divided into a typology of nine Styles and corresponds to preferences for the four modes of the Learning Cycle. The *Initiating* style is distinguished by the ability to initiate action to deal with experiences and situations. The *Experiencing* style is distinguished by the ability to find meaning from deep involvement in experience. The *Imagining* style is distinguished by the ability to create meaning by observing and reflecting on experiences. The *Reflecting* style is distinguished by the ability to connect experience and ideas through sustained reflection. The *Analyzing* style is distinguished by the ability to integrate and systematize ideas through reflection. The *Thinking* style is distinguished by the capacity for disciplined involvement in abstract reasoning, mathematics, and logic. The *Deciding* style is distinguished by the ability to use theories and models to decide on courses of action. The *Acting* style is distinguished by a strong motivation for goal-directed action that integrates people and tasks. The *Balancing* style is distinguished by the ability to flexibly adapt by weighing the pros and cons of Acting versus Reflecting and Experiencing versus Thinking (see Figure 2).

The KLSI 4.0 is a tool designed to increase self-awareness of Learning Style and Learning Flexibility. Individuals can change and expand their Learning Styles to become flexible to adapt to situational needs.

Learning flexibility. A Learning Style is not a fixed trait but is a dynamic state resulting from continual learning experiences. Although one may have a preferred style of learning, learning flexibility implies the capability of also using nonpreferred styles, thus, moving around the nine styles of the Learning Cycle to modify one's approach for the context (Sharma & Kolb, 2010). Ideally, a flexible learner can navigate the entire Learning Cycle, tapping the strengths of each style at will. Learning flexibility is related to greater overall flexibility in life; more fulfilling personal relationships; less conflict and stress, even in a more complex life situation; perception of oneself as self-directed; and higher stages of adult ego development (Sharma & Kolb, 2010).

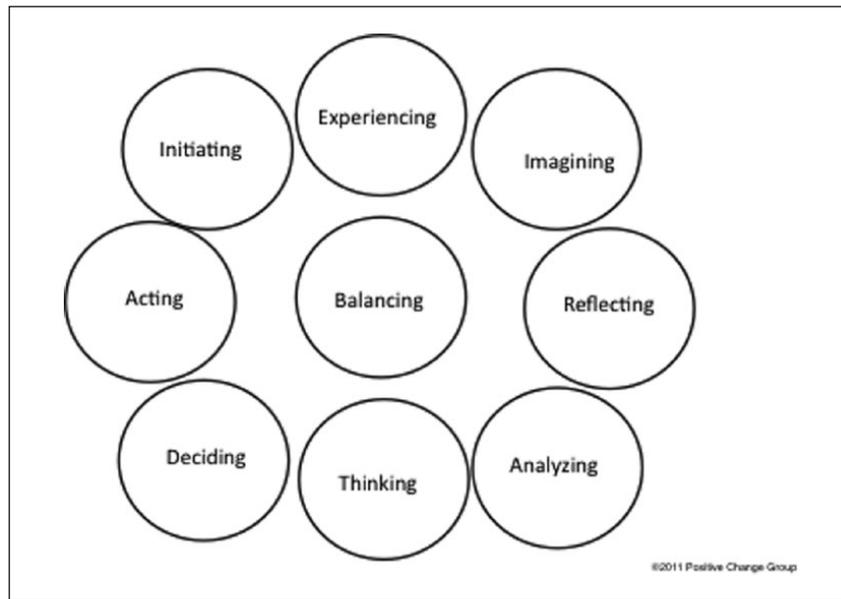


Figure 2. The nine Learning Styles of the KLSI 4.0.
 Note. KLSI = Kolb Learning Styles Inventory.

Movement

Laban Movement Analysis

To discuss movement, one must establish a common vocabulary for observation and analysis. Laban Movement Analysis (LMA), developed by Rudolf Laban (Hackney, 2002; Maletic, 1987; Newlove & Dalby, 2004), provides an approach that defines basic movement patterns and acknowledges the range of individual expression. LMA categorizes movement in terms of four components: Body, Shape, Space, and Effort. *Body* refers to the way the body is connected, organized, and integrated using principles of efficient movement. Holding patterns or habitual neuromuscular patterns reveal a characteristic body attitude. *Shape* refers to the form of the body and is influenced by heredity, life experiences, and emotions. Posture, musculature, and weight contribute to body shape and communicate a sense of self. *Space* refers to one's relationship to the environment and to other people. It can be defined by direction and movement range, and may vary by cultural norms and practices.

The fourth component, *Effort*, is the expression of one's inner emotion and attitude of investing energy. These qualitative responses reveal the expressive nature of one's movement. LMA defines four Effort factors: flow (progression), weight (intention),

Table 1. The Opposing Poles of Effort Factors.

Effort factors	Elements	
	Indulging quality	Resisting quality
Flow (progression) The emergence of feelings that bind or frees the continuity of movement	Free Fluid, liquid outgoing, released, exuberant	Bound Controlled, careful, contained, restrained
Weight (intention) The sensation of the weight of the body; can be active (yielding and pushing) or passive (giving into the weight of gravity)	Light Delicate, gentle, airy, buoyant, soft, fine touch Weak, limp	Strong Powerful, forceful strong impact, firm touch Heavy, collapsed
Time (commitment) The inner attitude toward time; the sense of timing when committing to action Intuitive readiness for decision making	Sustained Gradual, leisurely, prolonged, lingering Delayed, anticipating	Quick Urgent, instantaneous, hasty, seizing the moment Sudden
Focus (attention) The way in which one gives attention, associated with cognitive capacities of attending and organizing	Indirect Multifocused all-encompassing awareness, general	Direct Single-focused, precise, channeled, pinpointed, zeroing in

Source. Adapted from Hackney (2002) and Maletic (1987).

time (commitment), and focus in space (attention). The Effort component has a particularly strong link to the Learning Styles in that each of four Effort factors has two elements, which exist on a continuum of opposing poles between indulging and resisting qualities: flow from free to bound, weight from light to strong, time from sustained to quick, and space from indirect to direct (see Table 1). It is our contention that these correspond to the ELT dialectic dimensions of Action-Reflection and Experiencing and Thinking, and the further refined Learning Styles of Imagining and Deciding and Analyzing and Initiating.

Flow (Progression): Flow originates with inner emotions and is observed through the continuity motion or the progression of energy. It is observed in movement when feelings are expressed through free flow (easeful, outpouring) or bound flow (controlled, careful, restrained).

Weight (Intention): Activating one's body weight through space requires energy along a continuum from light to strong. The body's sense of the kinetic force required shows one's sensibilities for when a light or strong intention for action is needed (Hackney, 2002).

Table 2. Affinities of Effort and Spatial Direction.

Effort	Spatial direction
Quick	Backward
Sustained	Forward
Direct	Across
Indirect	Open
Strong	Down
Light	Up
Bound	Toward the body center
Free	Away from the body center

Time (Commitment): Time, from quick to sustained, refers to one's inner attitude toward time, a sense of timing when committing to action, and intuitive readiness for decision making rather than actual time measured on a clock (Maletic, 1987).

Space (Attention): Space refers to the way in which one directs focus and orients and organizes attention. One consciously chooses to be either direct (single focused, channeled) or indirect (scanning, multifocused, all-encompassing awareness) with his use of focus (Maletic, 1987).

An interrelationship between Effort qualities and spatial directions exists (see Table 2). Each of the Effort elements occurs in dominant relationship to a particular spatial direction; however, it does not preclude that a particular Effort can be accessed with a different spatial intent. For example, if one tries to punch without a downward spatial intent much of the strength and power of the punch is lost.

Individuals use different combinations of Effort factors to various degrees every day and are capable of a full range of dynamic expression though they typically exhibit a preference for certain Effort qualities and use of space. These habitual patterns define an individual's movement style. Figure 3 identifies the hypothesized Effort affinities for each of the Learning Styles. The ability to use a full range of movement implies flexibility in expression and communication (Maletic, 1987).

Hypothesized Relationship Between Learning Styles and Movement Affinities

Movement as a Catalyst for Learning

A complex relationship exists between one's brain and body where cognition is influenced by and influences physical experiences in the world (Ratey, 2008). Movement encompasses more than gestures or physical exercise. Sensations, emotions, and thoughts are organized patterns of movement (Keleman, 1987). The body is constantly moving on a continuum from subtle, autonomic movement patterns (such as a beating heart and breathing) to intentional physical movements (such as gesturing and walking) to change and to adapt.

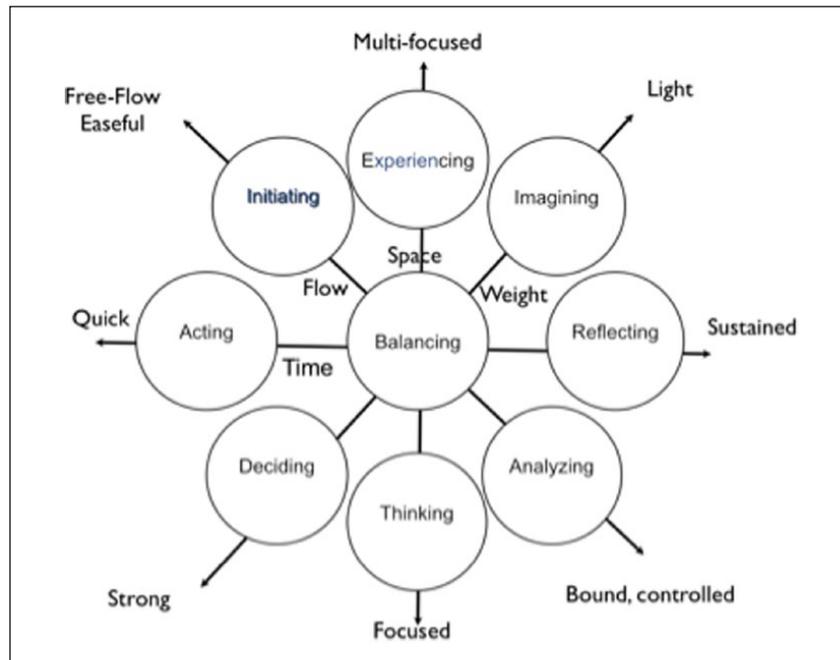


Figure 3. The Learning Styles and hypothesized effort affinities.

Experiencing mode. Experiencing requires receptivity to the present moment and sensitivity to emotions and embodied sensations. Movement creates our embodied existence, which supports our ability to comprehend change (Hackney, 2002), to gain a heightened sense of affect (Fosha, 2000), to create resilience (Zolli & Healy, 2012), to enhance emotional awareness (Golman, Boyatzis, & McKee, 2002), and to support relationships (Siegel, 2012).

Emotions are felt as bodily states that inform the thinking process about pleasure and pain. They provide the essential criteria on which we base rational decision making (Damasio, 1994). Hannaford (2005) states that expressing emotion without motion is impossible: “Hands and facial expression of emotion simulates large areas of the brain for more sophisticated connections between emotions and thought” (Hannaford, 2005, p. 65).

Reflecting mode. Reflective observation requires a break from action, discernment rather than automatic reaction (D. A. Kolb, 1984). Reflecting requires a connection to one’s internal awareness using a receptive mind-set to identify sensations, images, feelings, and thoughts (Siegel, 2010). If movement is integrated into one’s awareness,

our perception of the world and ourselves changes (Cohen, 1993). Reflection cannot occur when the body is in a state of heightened arousal. In addition, an individual's ability to reflectively observe is a powerful source of information, accounting for between 40% (Lamb & Watson, 1979) and 55% (Mehrabian, 1971) of the information one perceives about others from observing their nonverbal communication, such as movement, postures, and gestures.

Thinking mode. Movement awakens thinking, activates many of our mental capacities, and helps to express new thoughts. Hannaford (2005) demonstrates that movement integrates and anchors new information and experience into new neural networks. "Movement is vital to all the actions by which we embody and express our learning, our understanding and ourselves" (Hannaford, 2005, p. 107). It enhances our ability to communicate (Lubar & Halpern, 2003) in verbal and nonverbal ways.

Acting mode. Ratey (2008) believes movement sparks a master molecule of the learning process, and physical exercise activates the areas of the brain involved in cognitive processes. Motor activity spurs a mind-set for learning and develops new nerve cells within the brain. It also increases neural connections within the brain that support cognition and memory and increase cognitive flexibility. Learning occurs in concert with motor function. The Acting mode of the Learning Cycle is important because it initiates the sensory stimulation that forms new neurological connections in the brain and provides the basis for the next learning experience. Learners test out ideas through action and that action generates learning. Learning requires movement and movement requires learning (Zull, 2002).

Through an exploration of the theoretical integration of Experiential Learning and LMA, the authors created a hypothesized method of describing the nine Learning Styles and the associated movement affinities. For example, they propose that individuals with abstract Learning Styles (Analyzing, Thinking, and Deciding) tend to feel most comfortable with strong, focused, and controlled movements, whereas individuals with concrete Learning Styles (Initiating, Experiencing, and Imagining) feel most comfortable with light, free flowing, and multifocused movements.

Furthermore, the authors suggest that individuals have preferred movement affinities and hypothesize that practicing movement affinities, especially those associated with nonpreferred Learning Styles, may support an increase in physical and mental flexibility. The authors hypothesize that when one is able to move using a full palette of movement, one may be more flexible in both movement and learning and is able to adopt an integrated approach to learning.

The Hypothesized Flexibility Model

The authors propose a hypothesized Flexibility Model that recognizes the importance of developing a full range of movement and Learning Styles. It correlates the four components of movement included in LMA by defining movement affinities for each of the Learning Styles. The proposed model also includes a preferred verbal and

nonverbal communication style, which is the interplay between internal intention and external expression. By making these implicit connections explicit, the authors intend to expand the understanding of the experience of each Learning Style. Because contiguous Learning Style descriptions are similar in some dimensions, the movement affinities for each style also contain similarities. For instance, Imagining Style (that grasps with Experiencing mode and transforms with Reflecting mode) presents similarities to each of the adjacent Experiencing and Reflecting styles.

The authors have proposed associations of the Laban movement components of Body, Shape, Space, and Effort with the intentions and attitudes ascribed to each Learning Style (see Table 3, The Flexibility Model).

Experiencing Style

An individual in the Experiencing style is accepting of people and experiences, sensitive to emotions, sensations, and intuition. The dominant Effort quality is multifocused (indirect) attention to the environment allowing an attitude of openness. One has a natural affinity to scan the environment and use wide horizontal gestures. This reveals a gentle receptive manner and communicates sensitivity and acceptance through easeful movements and an all-encompassing focus.

Imagining Style

An individual in the Imagining style is visionary and receptive to people and their different perspectives. The dominant Effort quality is lightness with an affinity to move upward. The gentle touch of understanding communicates empathy, help, and relational safety that may lead to rich discussions. In the Imagining style, one gathers information from diverse sources. Characteristic light, sustained, and rising gestures invite trust and inclusion.

Reflecting Style

In Reflecting style, an individual needs time to observe and to establish meaning. The dominant Effort quality is an indulgence in time that allows one to observe and then turn inward to consider multiple perspectives. Sustained and deliberate movements create a thoughtful, cautious attitude. One's use of postures that lean forward in space is characteristic. Communication remains gentle and receptive as in the contiguous Imagining style. One listens and watches patiently waiting to act until he is certain of intention.

Analyzing Style

In Analyzing style, one is thoughtful and careful, able to synthesize abstract concepts into logical form and concise theories. This style is exemplified by planning ahead to minimize making mistakes. The dominant Effort quality is controlled (bound) that

Table 3. The Flexibility Model.

Learning style with capabilities	Movement qualities and body level	Integration of expression of movement and learning styles
Experiencing Mindful in the moment Oriented to relationships and concrete experiences	Indirect, multifocused Light Easeful Widening, spreading, opening outward on horizontal axis	Body easeful, open, scanning the environment; awareness of body sensation, emotions, and environment. Communication is open, accepting, intuitive, empathetic.
Imagining Helpful concern for others Oriented to helping Diversity Attention	Light Sustained Multifocused Lengthening, rising upward on the vertical axis	Light, gentle gestures, luxuriating in time, scanning the environment especially to include everyone and everything. Communication invites trust and openness, offers a helping attitude and empathy.
Reflecting Oriented to observation Internal focus Slows action	Sustained, unhurried Bound, controlled Light Bulging Advancing forward on A-P axis	Indulges in the time required to observe. Sustained and deliberate movements create a thoughtful, cautious attitude. Watching patiently, waiting to act until certain on intention. Communication requires sustained reflection before the spoken word.
Analyzing Oriented to theory and inquiry Uses models and theories Synthesizes and plans	Bound, controlled Direct in focus Sustained Linear movements close to body Enclosing in single directional spatial pull	Controlled, precise movements. Takes time to reflect before acting and moves in a controlled manner to minimize the risk of making a mistake. The combined movement qualities provide the ability, including stillness, required to focus on a task for long hours; naturally cautious and neutral, inquiring. Communication is concise and logical.
Thinking Oriented to logic Quantitative analysis	Direct in focus Strong weight Controlled, bound Narrowing, sideways across the body on horizontal axis	Focused, precise movements that narrow the focus. Strong in commitment to be thorough. Controlled in emotional expression. The intense focus creates a reserved, no-nonsense attitude. Communication is consistent and rational.
Deciding Oriented to practicality Intention to act Goal and standard setting	Strong Direct in focus Quick Sinking, descending on vertical axis	Strong intention focused on one course of action; alert and determined; efficiency with quickness, even abruptness. Strong, direct, and quick movements are forceful. Communication is pragmatic and focused.
Acting Oriented to results Experimentation Implementing plan by attending to tasks and relationships	Quick Strong Easeful Hollowing, retiring Backward direction on A-P axis	Quickness that implies high energy, intuitive readiness to take action. The strength and easy flow of energy moves to action without worry of risk. The assertive attitude is dynamic and commanding. Communication is dynamic and rapid.

(continued)

Table 3. (continued)

Learning style with capabilities	Movement qualities and body level	Integration of expression of movement and learning styles
Initiating Oriented to influence Courageous Networking	Easeful Quick Multifocused Mobile, diagonal directions Movement away from body core; opening on diagonal axes	Spontaneous emergence with free flow, ease, and exuberance. Focus on many things in rapid succession. Optimistic, extraverted, influencing behaviors. Communication is improvisational and persuasive.
Balancing Oriented to adaptability Flexible, bridging differences	Adaptable to a range of efforts based upon individual strengths	Flexible, responsive Communication is flexible and conciliatory.

Note. A-P = anterior–posterior.

allows one to objectively assess. Bound flow movements with a spatial affinity for single directional gestures support an ability to focus. Stillness may be required for long periods. The intense need for planning and perfection requires adequate time. One might be viewed as remote and exacting when deploying this style. Verbal communication is concise and exact; nonverbal communication is precise and linear.

Thinking Style

An individual in Thinking style displays thorough, logical thinking and clear directions and enjoys abstract concepts and quantitative analysis. One generally works alone to employ rational decision making for predictable plans. The dominant Effort quality is one of being focused (direct), allowing one to narrow vision, attention, and body to the task at hand, often using gestures that move across the midline of the body. One remains controlled, even constricted, in emotional expression and favors the precision and clarity in language that is evident in the contiguous Analyzing style. This intense focus creates a reserved, no-nonsense attitude. Communication is rational quantitative and direct.

Deciding Style

When in the Deciding style, an individual is focused on a clear goal. One is firmly committed to one course of action to achieve the most practical outcome. The dominant Effort quality is strong and active with gestures that move downward. Movements include a quickness not seen in the previous indulging styles. In this style, one exhibits commitment, a forceful push to efficiency, even abruptness to reach the goal. One remains alert and determined. Verbal and nonverbal communications are pragmatic and focused; strong and direct.

Acting Style

In the Acting style, one commits to implementation of the plan by combining technical knowledge with personal relationships to accomplish goals. The dominant Effort quality is quickness implying high energy and an intuitive readiness. The spatial affinity is retreating backward allowing for the quick gestures to occur. One is less worried about risk and consequences than reaching success and one uses movements that are quick, strong, and free flowing. This assertive attitude is dynamic and commanding, self-confident, and passionate. Verbal and nonverbal communications are dynamic and rapid.

Initiating Style

Intuitively moving ahead, influencing and leading others and committing immediately to action are characteristic of the Initiating style. This individual confidently drives himself and others to move courageously toward a vision. The dominant Effort quality is spontaneous emergence with free flow, ease, and exuberance. This quality combined with the body, shape, and space components create a sense that the Initiating Style is "ready for takeoff." This individual's focus is on many things in rapid succession. The Initiating style may be perceived as outgoing, innately optimistic, impulsive, and non-deliberating. Verbal and nonverbal communications are improvisational and persuasive.

Balancing Style

The Balancing style considers all possibilities and weighs all options. An individual adapts flexibly as circumstances demand. It is hypothesized that the dominant Effort characteristic is an ability to be expressive in a broader range than in any one particular style. One will have movement preferences, yet be more able to adapt responsively to the situation. Verbal and nonverbal communications are flexible.

Discussion

The above analysis has established a hypothesized theoretical correspondence between the ELT Learning Styles and the LMA framework aided by workshop observations, participant reflections, and interviews with respondents to the KLSI 4.0. Although further empirical work is needed to validate this theoretical model, the preliminary analysis suggests that becoming aware of movement affinities can be a window to a deeper understanding of how individuals learn. It suggests the possibility that increasing an individual's movement repertoire and, therefore, movement flexibility, by using a full range of Efforts factors and motion through space, can also increase learning flexibility.

One may recognize the need to increase learning flexibility but may not know how to evolve from habitual patterns. Barsalou (2008) proposes that one's cognitive

understanding of abstract concepts is grounded in the brain's sensorimotor system that includes the senses of vision, hearing, smell, taste, and touch and the kinesthetic sense. This allows us to experience feeling of emotions, intuition, movement, and thought (all functions of intellect; Feldenkrais, 1981). Learning is not merely a mental process; it is also an embodied one. How one feels, reflects, thinks, and acts is "dependent on the sensory-motor systems through which all our experience of the world and of ourselves is mediated. These sensory-motor systems shape our experience, and are shaped by it" (Hannaford, 2005, p. 34).

Learning Styles describe the way in which a learner creatively adapts to life situations by showing a preference to affective, perceptual, cognitive, or behavioral functions. Although the learner may wish to expand his flexibility to use nonpreferred Learning Styles, the style descriptions require abstract thinking. How can one experience that which may be unfamiliar?

By identifying the movement affinities for each of the nine Learning Styles, the learner may be able to create a personal experience of "standing in the space" of the unfamiliar Learning Style. After experiencing the Style in a concrete manner, the learner may then be able to augment the abstract concepts and to learn through experience.

Cognitive processes are deeply rooted in the body's interactions with the world. Jostmann, Lakens, and Schubert (2009) linked the abstract concept of importance to weight and investigated this across different domains. Weight (carrying a heavy clipboard) influenced the investment of effort and the elaboration of thought, created greater polarization between judgments of strong and weak arguments, and increased confidence in one's opinion.

Movements can affect emotional states and physiology. Nodding "yes" increases the preference for people, persuasive messages, and objects (Brinol & Petty, 2003). Carney, Cuddy, and Yap (2010) extended the research on embodied cognition to test whether expansive power poses cause mental, physiological, and behavioral change in the manner consistent with the effects of power. In their studies, participants who posed in high-power positions experienced changes in physiology (elevations in testosterone and decreases in cortisol) and increased feeling of power and tolerance for risk, whereas the low-power posers experienced the opposite patterns.

The occurrence of an experience can be quantified by chemical and neuromuscular activity; however, this objective data cannot provide information about the content of the experience. It is this content—"the context, the quality, and the meaning—of any experience that is the most significant to the individual's own internal processes and his relationships to the external world" (Juhan, 1987, p. xxvi). Practicing a full range of Efforts factors and their spatial affinities may generate new sensations by which one can learn through experience.

Movement is an external demonstration of internal awareness. Expressive movement enhances self-awareness, primes new ideas that influence our actions, influences our thoughts and feelings (Kahneman, 2011), and activates areas of the brain that increase cognition (Ratey, 2008).

Conclusion

“Human movement is ever present and always revealing” (Moore & Yamamoto, 2012, p. 218). The cross fertilization of ideas between movement studies and Experiential Learning provides a holistic process for lifelong learning and development. Individuals display stylistic preferences in both learning and moving, with flexibility being desirable in both. LMA defines movement in terms of Body, Space, Shape, and Effort. The authors have hypothesized movement affinities for Learning Styles to create an integrated model and theory for learning and moving.

Educators who use Experiential Learning as a framework can benefit from understanding the nine Learning Styles as more than theoretical concepts. When one has a preference for a certain style and lacks flexibility, the learner may have underutilized or undiscovered capabilities. By experiencing movement affinities hypothesized to be associated with each of the nine Learning Styles, one may be able to apprehend the style more deeply. In addition, the learner will be able to experience a full range of movement and promote learning and movement flexibility.

One does not need to be an LMA expert to benefit from the integrated Flexibility Model. Educators and learners can build self-awareness and new capabilities by observing and analyzing their own movement preferences. The LMA framework can provide a way to organize and discuss these observations. Initially, one may need to take the KLSI 4.0 to identify learning preferences and to seek an outside observer to help recognize movement preferences. These preferences are current strengths in learning and moving. Next, the learner can make a deliberate plan to move differently into their nonpreferred styles to increase qualitative and spatial range. The learner must recognize that change takes time and continue to practice different ways of moving in real-life situations, thereby breaking habitual patterns to gain flexibility.

Declaration of Conflicting Interests

The author(s) declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

Funding

The author(s) received no financial support for the research, authorship, and/or publication of this article.

References

- Barsalou, L. W. (2008). Grounding symbolic operations in the brain's modal systems. In G. R. Semin & E. R. Smith (Eds.), *Embodied grounding: Social, cognitive, affective, and neuroscientific approaches* (pp. 9-42). New York, NY: Cambridge University Press.
- Bentley, D. C., & Pang, S. C. (2012). Yoga asanas as an effective form of experiential learning when teaching musculoskeletal anatomy of the lower limb. *Anatomical Sciences Education*, 5, 281-286.
- Brinol, P., & Petty, R. E. (2003). Overt head movements and persuasion: A self-validation analysis. *Journal of Personality and Social Psychology*, 84, 1123-1139.

- Carney, D. R., Cuddy, A. J. C., & Yap, A. J. (2010). Power posing: Brief nonverbal displays affect neuroendocrine levels and risk tolerance. *Psychological Science, 21*, 1363-1368.
- Cohen, B. B. (1993). *Sensing, feeling, and action*. Northampton, MA: Contact Editions.
- Damasio, A. R. (1994). *Descartes' error: Emotions, reason and the human brain*. New York, NY: Putnam.
- Feldenkrais, M. (1981). *The elusive obvious*. Capitola, CA: Meta Publications.
- Fosha, D. (2000). *The transforming power of affect: A model for accelerated change*. New York, NY: Basic Books.
- Hackney, P. (2002). *Making connections: Total body integration through Bartenieff fundamentals*. New York, NY: Routledge.
- Hannaford, C. (2005). *Smart moves: Why learning is not all in your head*. Salt Lake City, UT: Great River Books.
- Johnson, R. L. (1982). *Identification and comparison of learning styles between physical education and dance majors* (Unpublished master's thesis). University of Idaho, Moscow.
- Jostmann, N. B., Lakens, D., & Schubert, T. W. (2009). Weight as an embodiment of importance. *Psychological Science, 20*, 1169-1174.
- Juhan, D. (1987). *Job's body: A handbook for bodywork*. Barryton, NY: Station Hill Press.
- Kahneman, D. (2011). *Thinking, fast and slow*. New York, NY: Farrar, Straus and Giroux.
- Karp, G. C., & Walker, D. B. (1990). Comparison of processing style and instructional style observed in physical educators and dance educators. *Perceptual Motor Skills, 70*, 122.
- Keleman, S. (1987). *Embodying experience: Forming a personal life*. Berkeley, CA: Center Press.
- Kolb, A. Y., & Kolb, D. A. (2005). Learning styles and learning spaces: Enhancing experiential learning in higher education. *Academy of Management Learning & Education, 4*, 193-212.
- Kolb, A. Y., & Kolb, D. A. (2011). *Learning Style Inventory Version 4.0 Hay Resources Direct*. Available from www.learningfromexperience.com
- Kolb, D. A. (1984). *Experiential learning, experience as the source of learning and development*. Englewood Cliffs, NJ: Prentice Hall.
- Kolb, D. A., Rubin, I. M., & McIntyre, J. (Eds.). (1971). *Organizational psychology: An experiential approach*. Englewood Cliffs, NJ: Prentice Hall.
- Laban, R. (1974). *The language of movement*. Boston, MA: Plays.
- Lamb, W., & Watson, E. (1979). *Body code: The meaning in movement*. Princeton, NJ: Princeton Book.
- Leijen, A., Lam, I., Wildschut, L., Simons, P. R., & Admiraal, W. (2009). Streaming video to enhance students' reflection in dance education. *Computers & Education, 52*, 169-176.
- Lubar, K., & Halpern, B. L. (2003). *Leadership presence*. New York, NY: Gotham Books.
- Maletic, V. (1987). *Body-space-expression: The development of Rudolf Laban's movement and dance concepts*. New York, NY: Mouton de Gruyter.
- Mehrabian, A. (1971). *Silent message*. New York, NY: Wadsworth.
- Moore, C. L., & Yamamoto, K. (2012). *Beyond words: Movement observation and analysis*. New York, NY: Routledge.
- Newlove, J., & Dalby, J. (2004). *Laban for all*. London, England: Nick Hern Books.
- Ratey, J. J. (2008). *Spark: The revolutionary new science of exercise*. New York, NY: Little, Brown and Company.
- Roessger, K. M. (2012). Toward an interdisciplinary perspective: A review of adult learning frameworks and theoretical models of motor learning. *Adult Education Quarterly, 62*, 371-392.

- Sharma, G., & Kolb, D. A. (2010). The learning flexibility index: Assessing contextual flexibility in learning style. In S. Rayner & E. Cools (Eds.), *Style differences in cognition, learning and management: Theory, research and practice* (pp. 60-77). New York, NY: Routledge..
- Seigel, D. J. (2010). *Mindsight: The new science of personal transformation*. New York, NY: Bantam Books.
- Siegel, D. J. (2012). *Pocket guide to interpersonal neurobiology*. New York, NY: W.W. Norton.
- Wilson, M. (2009). Dance pedagogy case studies: A grounded theory approach to analyzing qualitative data. *Research in Dance Education, 10*, 3-16.
- Zakrajsek, D. B., Johnson, R. L., & Walker, D. B. (1984). Comparison of learning styles between physical education and dance majors. *Perceptual & Motor Skills, 58*, 583-588.
- Zolli, A., & Healy, A. M. (2012). *Resilience: Why things bounce back*. New York, NY: Free Press.
- Zull, J. E. (2002). *The art of changing the brain: Enriching teaching by exploring the biology of learning*. Sterling, VA: Stylus Publishing.

Author Biographies

Kay Peterson is an Organizational Development Consultant and Executive Coach specializing in leadership development through Experiential Learning, Learning flexibility and adult development. She is a founding partner of Learning Partners Group and a founder and co-CEO of Harlan Peterson Partners.

Lisa DeCato is a Certified Movement Analyst (CMA), an Adjunct Professor in the Dance Department at Cleveland State University, and retired tenured professor. She is a co-founder of Learning Partners Group where she is a consultant developing programming to better understand the integration of the learning process and the body.

David A. Kolb, a Psychologist and Educational Theorist, is the founder of Experience Based Learning Systems, Inc. and a Professor Emeritus at Case Western Reserve University. His renowned Kolb Experiential Learning Theory has supported individual and social change, career development, and executive and professional education for over 40 years.