

Hidden Skills: A Dynamic Systems Analysis Of Treadmill Stepping During The First Year



Managing Contextual Complexity in an Experiential Learning Course: A Dynamic Systems Approach through the Identification of Turning Points in Students' Emotional Trajectories

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This study adopts a dynamic systems approach to investigate how individuals successfully manage contextual complexity. To that end, we tracked individuals' emotional trajectories during a challenging training course, seeking qualitative changes—turning points—and we tested their relationship with the perceived complexity of the training. The research context was a 5-day higher education course based on process-oriented experiential learning, and the sample consisted of 17 students. The students used a five-point Likert scale to rate the intensity of 16 emotions and the complexity of the training on 8 measurement points. Monte Carlo permutation tests enabled to identify 30 turning points in the 272 emotional trajectories analyzed (17 students × 16 emotions each). 83% of the turning points indicated a change of pattern in the emotional trajectories that consisted of: (a) increasingly intense positive emotions or (b) decreasingly intense negative emotions. These turning points also coincided with particularly complex periods in the training as perceived by the participants ($p = 0.003$, and $p = 0.001$ respectively). The relationship between positively-trended turning points in the students' emotional trajectories and the complexity of the training may be interpreted as evidence of a successful management of the cognitive conflict arising from the clash between the students' prior ways of meaning-making and the challenging demands of the training. One of the strengths of this study is that it provides a relatively simple procedure for identifying turning points in developmental trajectories, which can be applied to various longitudinal experiences that are very common in educational and developmental contexts. Additionally, the findings contribute to sustaining that the assumption that complex contextual demands lead unfailingly to individuals' learning is incomplete. Instead, it is how individuals manage complexity which may or may not lead to learning. Finally, this study can also be considered a first step in research on the developmental potential of process-oriented experiential learning.

Keywords: contextual complexity, cognitive conflict, complexity management, emotional trajectories, dynamic systems, turning points, Monte Carlo permutation tests, process-oriented experiential learning

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Monogr Soc Res Child Dev. ;56(1); discussion Hidden skills: a dynamic systems analysis of treadmill stepping during the first year. ABSTRACT. THELEN, ESTHER, and ULRICH, BEVERLY D. Hidden Skills: A Dynamic Systems Analysis of Treadmill Stepping during the First Year. With Com-. Hidden skills: A dynamic systems analysis of treadmill stepping during the first year. Monographs of the Society for Research in Child Development, 56(1)[Serial . Hidden Skills: A Dynamic Systems Analysis of Treadmill Stepping During the First Year (Monographs of the Society for Research in Child Development) [Esther. Request Article PDF Hidden Skills: A Dynamic Systems Analysis of Treadmill Stepping during the First Year Citations: When prelocomotor infants are. Hidden Skills A Dynamic Systems Analysis Of. Treadmill Stepping During The First Year. Monographs Of The Society For Research In Child Development. Several infants stepped on the treadmill in their first month, but in all infants an increasingly stable attractor during the middle months of the first year. Hidden skills: a dynamic systems analysis of treadmill stepping during the first year. THELEN, E., ULRICH, B. D., & WOLFF, P. H. (). Hidden skills: a dynamic systems analysis of treadmill stepping during the first year. Chicago, University of . Results support a dynamic systems view of development and the view that Hidden Skills: A Dynamic Systems Analysis of Treadmill Stepping during the First . Hidden Skills: A Dynamic Systems Analysis of Treadmill Stepping during the First Year. Monographs of the Society for Research in Child., English, Book, Illustrated edition: Hidden skills: a dynamic systems analysis of treadmill stepping during the first year / Esther Thelen, Beverly D. Ulrich. Title, Hidden Skills: A Dynamic Systems Analysis of Treadmill Stepping During the First Year, Volume 56, Issue 1. Hidden Skills: A Dynamic Systems Analysis of . Hidden skills: A dynamic systems analysis of treadmill stepping during the first year. Monographs of the Society for Research in Child Development, Serial No. In chapter 3, we discussed systems approaches to motor development, focusing on Newell's In a monograph entitled Hidden Skills: A Dynamic Systems Analysis of Treadmill-Elicited Stepping During the First Year, Thelen and Ulrich. Schmidt, R.A. () A schematheory of discrete motor skill learning. Hidden skills: a dynamic systems analysis of treadmill stepping during the first year. Thelen E, Ulrich BD: Hidden skills: a dynamic systems analysis of treadmill stepping during the first year, Monogr Soc Res Child Dev 56(1, No.):1, Hidden skills: A dynamic systems analysis of treadmill stepping during the first year. Monographs of the Society for Research in Child Development, 56, 1N. Bayley The development of motor abilities during the first three years . skills: A dynamic systems analysis of treadmill stepping during the first year Alternating stepping patterns: Hidden abilities in month-old infants with Down . describe how dynamic systems theory can guide research concerning the acquisition of motor skills Down syndrome (DS) acquire motor skills in the same sequence as years (Gustavson. .. systems analysis of treadmill stepping during the first year. patterns: Hidden abilities in 1 1 -month-old infants with Down. The first two years: a study of twenty-five

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