
The Processes Of Adult Learning: Failure As Feedback For Motivation

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Abstract

This research demonstrates the power of failure as it serves to motivate adult learning. During the course of this type of learning phenomenon cognitive, psychological, and behavioral discoveries occur for the learner that escalate the learning and bring about personal transformations and knowledge revolutions for the learner and society at large.

Purpose and Rationale

The major objective of this research was to continue an in-depth inquiry into case studies of successful adult learners to examine the occurrence, frequency, nature, impact, and role that failure plays in the evolution of active adult learning endeavors. During the final stages of research that investigated self-directed adult learning that occurred in various contexts, it became evident that the learning patterns and processes utilized by adults engaged in learning projects as defined by Tough (1979) follow identifiable patterns through which the individual progresses that lead to cognitive and/or social change. As a result of comparing and contrasting numerous studies that examined this phenomenon (Cavaliere's [1988, 1991] adult learning and the inventive process; Williams' [1989] adult learning and social advocacy; Sgroi's [1992] adult learning and dance; Carr's [1992] adult learning in museums, libraries, and cultural institutions; Oliver's [1987] adult learning and social circles; Wolf's [1992] and McLeish's [1976] older adult learning; Langer's [1989; Langer & Brown, 1992] and Csikszentmihalyi's [1982] mindful adult learning;

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and Zwerling's [1992] adult learning in the world of work), behavioral commonalities between the patterns and processes of the adult's learning emerged serving as a basis for the formulation of a conceptual model of adult learning. This model illustrated the sequence and patterns that evolve during active, self-directed learning. The nature of adult learning as exemplified by these databases, illustrated that this type of learning is active, problem centered, goal oriented, cyclical, and interactive. During the course of this type of learning, cognitive, psychological, and behavioral discoveries occur for the learner that escalate the learning and bring about personal transformations and knowledge revolutions for the learner and society at large. This information was atypical in that it focused primarily on the processes of the learning phenomena and sought to expand the analytical perspective presently used in the field of adult education.

The following questions arose during the examination of active learning in varying contexts: What is it that makes the learner act? Why do some people actively engage in learning? What are the source and nature of the motivation that triggers active learning? These databases revealed similarities in identifiable variables that seem to have direct impact on the learning system and that act as a source of motivation for the learner. These variables had the ability to energize the system and triggered the learner to engage with the context to release energy in the form of actions and behaviors that subsequently resulted in change for the learner and the context. These power variables, as I refer to them, are generated by the learner, the context, and the interaction between these systemic elements. These variables included, but were not limited to, the power of emotion, the partner/mentor, the model, marginality, timing, and failure.

The continuation of this research has taken the form of an in-depth study of the nature and role of failure and of how it serves as a powerful source of motivation for the learner when received as a form of feedback. The previous research illustrated that failure provides information to the learner that allows for retesting and the comparing and contrasting of information and actions to be corrected and refined for future success. Failure is part of the learning process, and successful, active learners are not intimidated by failure; rather, they use it to reformulate and move on with their learning. Failure had the power to motivate these learners to remain persistent in the face of defeat, to master their goals, and to fulfill their dreams. This continuation study examined the impact and role failure plays in the active learning process and the influence failure has as

a powerful form of motivation on adult learners. Failure as feedback that triggers motivation was investigated as one power variable that influences the decision-making and subsequent learning processes that follow the experience of failure.

Methodology

The major objective of this research is to continue an in-depth, heuristic inquiry into case studies of successful adult learners in order to examine the occurrence, frequency, nature, impact, and role that failure plays in the evolution of active learning endeavors pursued by adults. The specific research objectives focus on the relationship and impact of failure as a form of feedback to the learner and how this feedback influences motivation for the learner. Examples of specific questions that guided the inquiry include: How is failure manifested to the learner? How is failure communicated to the learner? How does the learner perceive failure? What are the reactions of the learner to failure? What is the frequency with which the learner experiences failure, and how does this affect the learning patterns and processes? What is the nature of the context within which the learner experiences failure? How does failure act as a form of feedback to the learner? How do the timing and frequency of experiences with failure impact the future learning patterns and processes employed by the learner? How does failure act as feedback to motivate the learner to continue in the pursuit of learning goals?

Methodologically content analysis and naturalistic inquiry are being employed as a research strategy to analyze diaries, biographies, and historical documents that describe case studies of successful adult learners. The definition of a successful adult learner is in keeping with the initial research that serves as the theoretical framework for this study. Additional theoretical frameworks also inform this analysis: adult learning theory, adult development psychology, motivation theory, communication theory, and social network theory.

Initial content analyses of nine case studies of successful adult learners revealed similarities in behavioral patterns and learning processes that were a direct manifestation of reactive responses to their experiences with failure. The case studies provided examples of adults engaged in active learning in order to solve problems and achieve clearly defined personal and/or professional goals.

Using naturalistic inquiry to guide the analysis, the longitudinal trails that the learners blazed, from the inception of the problem (or the

articulation of the outcome goal) to the successful completion of their learning projects, were charted for observable behavior patterns and learning processes that were identified in the original research. The subjects' thoughts and words, as well as recognizable, manifest behaviors, were counted for frequency, coded, and categorized according to the ways in which the individuals reacted to failure during their learning projects. The subjects for this round of analysis consisted of twelve males, some working in teams and others interviewed individually, who successfully accomplished a predetermined goal or solved a clearly defined problem through independent, self-directed learning projects. These successful adult learners included Bill Bowerman, founder of Nike; Arthur Jones, the inventor of the Nautilus machine; Fred Smith, founder of Federal Express; Godfrey Hounsfield, developer of the CAT Scanner; Kiichiro Toyota and Taiichi Ohno, revolutionizers of Toyota; Dr. James Black, inventor of Tagamet; Dick Duke, founder of ChemLawn; Spence Silver, the chemist who discovered the glue used in 3M's Post-it Notes; and Kenjiro Takayanagi, Yuma Shiraishi, and Shizuo Takano, inventors and developers of the VCR.

The data culled from the content analyses of these case studies was incorporated with the findings from the studies of adult learners in multiple contexts cited previously. This resultant data was compared and contrasted with the initial research findings that focused exclusively on the Wright Brothers (Cavaliere, 1988), to determine the relevance of the conceptual learning process model that evolved from these initial analyses of adult learning processes.

Findings

The initial level of investigation of the data validated the original tenets of the conceptual learning process model and identified seven behavioral themes that successful adult learners manifest relative to the role of failure during their learning project. The nature of active adult learning as described by Cavaliere (1991; Cavaliere & Sgroi, 1992) was exhibited by these adult learners in every case. The learners were involved in a highly active, dynamic interchange between their own characteristics and those of the context. Their learning was problem centered, goal oriented, cyclical, and interactive. Their learning involved perspective transformation (Mezirow, 1991) and change.

During the initial stages of the learning project, the learner initiated an inquiry process that began with the statement of a problem or a clearly

articulated outcome goal. This inquiry process was usually triggered by a situation, highly emotional and meaningful to the learner, that created a state of discountenance for the individual. This state acted as a motivational mechanism that caused the learner to engage in active learning in order to achieve homeostasis. This phenomenon is similar to Vygotsky's (1978) theory of the zone of proximal development, Piaget's equilibration as reinforced by Williams (1989), Wolf's (1992) creative tension, and Csikszentmihalyi's (1982) zone of optimal flow--a zone between frustration and boredom.

The case studies examined revealed that the learner, in every instance, was actively involved in the learning process—cognitively, physically, and emotionally. The physical act of taking some form of action was the most powerful aspect of initiating the learning process. Physical involvement, motivated by high emotional commitment, drove the learner through the context in an exploratory fashion, whereby each subsequent learning behavior was a result of its antecedent. Frequently the antecedent activity was some form of failure. However, through a series of identifiable behaviors and interactions with the context, their learning resulted in some form of change for the individual and, very often, for society-at-large.

When confronted with failure, the learners exhibited reactions that formed patterns of behaviors that depicted seven distinct themes. In each instance the individual manifested an intense level of persistence when faced with failure. The themes of the learning behaviors manifested in response to failure involved:

1. Problem Solving. The respondents' inquiries began with a very clearly defined problem to solve that would lead to the creation or discovery of the end concept/product. In each case the proper statement of the problem was embodied in their idea of the "elegant concept" (Nayak & Ketteringham, 1986, p. 18). The learner is very often obsessed with the problem. This obsession permeates the person's being, and the individual is dauntless in finding the solution. The existence of the problem seemed to provide a clarity that assisted the learners in seeing through their failures.

2. Visioning. The individual could describe the final concept or outcome product at the early stages of the inquiry. This ability to visualize the outcome or solution is a result of the individual having the capability to think bisociatively. According to Koestler,

The bisociative thinker is one not only obsessed with a problem, but one who is capable of responding to spontaneous flashes of insight in

which they see [*sic*] a familiar situation or event in a new light. Bisociative thinking connects previously unconnected matrices of experience. (as cited in Nayak & Ketteringham, 1986, pp. 18-19)

Although the learners had the final outcome envisioned, the steps to bring forth the product are not always known and may take long periods of time to unfold.

3. Objectifying. When failure did occur, the learner did not view the failure as a personal issue. It was not their failure; it was the failure of the process or method was employed that failed to solve the problem or move the process to a successful end. The failure was not personalized; they did not perceive themselves as being failures.

4. Emotion. There was intense emotion experienced by the learners throughout the learning process. This emotion acted as motivation to overcome failure and persist toward success. The emergences of their learning processes seemed to originate first in their spirits and hearts. The emotion experienced by the learners seem to provide the energy for incredible persistence and perseverance in the face of failure. Furthermore, because their emotions so deeply personal, emerge as powerful driving forces that propel the learners to fly in spite of the failure.

5. Reflecting. The learners viewed failure as an opportunity to gather information. They would analyze the details of the failure and understand what went wrong. This understanding of error provided valuable information in the form of immediate feedback enabling the learners to implement corrective behavior. They used the failure to hone their problem-solving skills by focusing on the trial-and-error aspect of the process rather than viewing the lack of a correct solution as a failure. Experimentation was their *modus operandi*.

6. Partnering. There were usually other individuals with whom they partnered to solve their problem. These partners believed in the learner's vision and offered support, feedback, alternative ideas, and hope in the face of failure. These partners took the form of colleague, mentor, teacher, spouse, sibling, or co-worker.

7. Active Learning. The learners experienced failure as a result of doing something, not just thinking about it. Their active state of learning and engaging with their contexts created opportunities for trial and error which, in turn, fostered new concepts and behaviors.

The findings reinforce the original research, which illustrated that failure provides information to the learner that allows for retesting, comparing, and contrasting of data and actions to develop corrective

actions for future success. Failure is certainly part of the active learning process, and successful, active learners are not intimidated by failure but, rather, use it to reformulate and move on with their learning project. In these case studies failure, received and perceived as feedback, had the power to motivate these learners to remain persistent in the face of defeat in order to solve their problems and accomplish their goals.

Implication and Applications

The learning behavior themes that emerged provide some descriptive analyses of reactive responses to failure employed by successful adult learners as well as character traits exhibited by these learners. This information serves as a basis for future research as well as data for adult educators engaged in the development of curriculums and the facilitation of learning.

The use of the conceptual model which was constructed during the initial phase of this research, provides the framework from which to analyze the behavioral patterns and processes that adults employed while engaged in active learning. One of the power variables that seems to act as an intense form of feedback for motivation is failure. This research provided a systematic study of the nature and form of failure and its impact on the adult learner.

Changing perspective relative to failure seems to be one key that these successful adult learners used to unlock the mysteries of their world and themselves. Although there is a paucity of research on this topic in the field of adult education, this study presents a preliminary attempt to explore this phenomenon in order to further enhance the understanding of the processes of adult learning as well as to inform the research base for further investigation.

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