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# Replicative indwelling: Mitigating lost knowledge through accelerated experiential exposure

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## Abstract

*An aging workforce presents a serious threat to the stability and continuity of an organization as that workforce takes with it into retirement years of experience, insight, and knowledge. As a result, organizations are faced with the challenge of how to mitigate the loss of intellectual capital during the process of transferring knowledge to the remaining workforce in order to maximize the chances of continued organizational success. This paper offers a practical method of application for intra-organizational professional development that seeks to mitigate lost knowledge by introducing a process referred to as Accelerated Experiential Exposure, as well as an epistemological frame from which it is presented, referred to as Replicative Indwelling.*

**Keywords:** knowledge management, knowledge transfer, organizational knowledge, knowledge loss mitigation.

## Introduction

Accelerated Experiential Exposure (AEE) is a proposed knowledge transmission methodology which combines: 1) Specific case study methods, 2) Socratic questioning techniques, 3) Reflective practices, and 4) Action learning. While educational institutions apply several of these techniques in combination (Defense Acquisition University, n.d., 2012; DeLeon, 2012; Erskine, Leenders, & Mauffette-Leenders, 2011; Fahim & Bagheri, 2012; Kurfiss, 1988; Whiteley, 2006), and many of these techniques have been examined and applied individually for the purpose of knowledge transmission (Asselin, Schwartz-Barcott, & Osterman, 2013; Cox, 2005; Daudelin, 1996; Davenport & Prusak, 2000; DeLong, 2004; Waks, 1999), no research has been identified that seeks to unify these applications into a singular knowledge transmission process. Accordingly, the purpose of this paper is to establish that by AEE (the amalgamation of the educational techniques presented in this paper), supported by a theoretical reconstructivist phenomenon known as Replicative Indwelling (RI), one can achieve an acceleration affect in knowledge transfer, an increase in critical thinking skills, and a workforce better prepared to assume greater responsibilities as an aging workforce enters retirement.

To proceed, the authors will first examine the definition of knowledge, and its relationship with experience. Then, each of the multiple teaching techniques described, which when applied in combination, offer a potential means by which experience can be developed at an accelerated rate through Replicative Indwelling, a reconstructivist phenomenon establishing theoretical framework so that knowledge may be wholly communicated, from within its context. Finally, the authors conclude with recommendations for future empirical studies to validate the authors'

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supposition that Accelerated Experiential Exposure through Replicative Indwelling is the most effective way to mitigate lost knowledge within an organization.

## **Knowledge & Experience**

Knowledge has been defined in multiple ways (Berger & Luckmann, 1966; Nonaka & Takeuchi, 1995; Polanyi, 1962); however, perhaps the most comprehensive is that of Davenport and Prusak's (2000), which will serve as an operative definition:

...a fluid mix of framed experiences, values, contextual information, and expert insight that provides a framework for evaluation and incorporating new experiences and information. It originates and is applied in the minds of knowers. In organizations, it often becomes embedded not only in documents or repositories but also in organizational routines, processes, practices, and norms. (p. 5).

One can immediately see the challenge that a workforce who has years of experience, insight, and knowledge leaving the workforce presents to DeLong, and why transferring knowledge to the younger workforce becomes as essential as it is problematic. First, everyone has their own idiosyncratic frame and value system that may or may not be shaped by the organization's frame and enculturation process. Second, because "it originates...in the minds of the knowers" (Davenport & Prusak, 2000, p. 5), we may not be readily able to communicate what we know. Or, as Polanyi argues, "we know more than we can tell" (1966, p. 4). Third, the reference to a framework for evaluation and incorporation implies operating at the highest level of Bloom's taxonomy of the cognitive domain (Bloom, Englehart, Furst, Hill, & Krathwohl, 1956). Finally, because knowledge is embedded in organizational culture, routines, and practices, existing transfer rates are likely insufficient to mitigate lost knowledge unless new processes are adapted.

DeLong (2004) argues that the most at risk element of knowledge loss due to the exit of an aging workforce is an individual's tacit or experiential knowledge. As such, we submit that the most critical element of Davenport and Prusak's (2000) knowledge definition that necessitates transfer is that of "expert insight". While DeLong (2004) presents knowledge retention initiatives, we contend that transfer of tacit knowledge from one workforce generation to the next, by making it explicit, is the best means for ultimate retention by the organization. Hence, an accelerated exposure to varied experiences may increase "expert insight" (Davenport & Prusak, 2000) which builds an individual's tacit knowledge, in turn enhancing organizational knowledge retention.

## **Knowledge Transfer Techniques**

Prior to understanding why these techniques were selected, it is imperative to understand the differences in learning styles proven most effective in adult education. Schwandt (2005) describes four cognitive shifts that occur as an adult that impact one's ability to "create useful knowledge" (p. 181). Schwandt (2005) first states that "the nature of knowledge is no longer considered singular" in that it varies based on context, environment, and social norms (p. 181). Second, he states that "the relationship between human learning and action is no longer seen as simply sequential...in that they are both requisite for and mutually dependent on one another for the creation of knowledge" (p. 181). Schwandt then indicates that learning as an adult is no longer a solitary individual effort, but one shaped by "a milieu of dynamic social variables that

are directed at continuous meaning making” (p. 181). Finally, and perhaps most importantly, “individual (and collective) reflection has shifted from a simple response to stimuli, or a step in the problem-solving process, to the fundamental introspective process required for change to occur in basic assumptions, premises, and sensemaking frameworks” (p. 181).

Application of the case methodology, Socratic questioning techniques, reflective practices, and action learning in various combinations has proven effective in academic environments (Defense Acquisition University, n.d., DeLeon, 2012; Kurfiss, 1988; Whiteley, 2006). Additionally, reflective practices and action learning have been validated in work place environments as a means to enhance knowledge transfer (Asselin, Schwartz-Barcott, & Osterman, 2013; Daudelin, 1996; Kinsella, 2009). Each of these techniques has been developed to address, to some degree, the cognitive shifts discussed by Schwandt. Thus, having a deeper understanding of each technique will illuminate the paper’s position that these methods be unified and applied in a comprehensive manner.

At this point, we also need to recognize terms that are well defined by some, yet used interchangeably by others. First, knowledge transfer has been defined as “an area of knowledge management concerned with the movement of knowledge across the boundaries created by specialized knowledge domains” (Liyanage, Elhag, Ballal, & Li, 2009, p. 122) and as “[t]he focused, unidirectional communication of knowledge between individuals, groups, or organizations such that the recipient of knowledge (a) has a cognitive understanding, (b) has the ability to apply the knowledge, or (c) applies the knowledge” (Paulin & Suneson, 2012, p. 83). Second, knowledge sharing has been described as a two-way process in which people exchange knowledge mutually as a means of achieving mutual understanding (Liyanage et al., 2009). While Paulin and Suneson (2012) and Liyanage et al. (2009) make these clear distinctions between the two terms, other researchers have not made the distinction as clear, especially with regard to knowledge transfer being inter-organizational, and knowledge sharing being intra-organizational (Cloutier, Ledoux, & Fournier, 2012; Hansen, Mors, & Lovas, 2005; Van Wijk, Jansen, & Lyles, 2008). For the purposes of this paper, we recognize the term knowledge sharing as an intra-organizational construct, but because our primary focus is inter-generational, knowledge transfer remains an appropriate term.

## **Case Method**

Case methodology serves as a means to expose learners to a variety of situations that result in knowledge transfer. Mauffette-Leenders, Erskine, and Leenders (2007) define a case as “a description of an actual situation, commonly involving a decision, a challenge, an opportunity, a problem or an issue faced by a person (or persons) in an organization” (p. 2). There are several types of cases each having a different learning outcome. For the purposes of our proposal, we assert that the dilemma-based case offers the most to knowledge transfer. *Dilemma-based cases* force participants to analyze the information from the perspective of the protagonist, make a decision, and then defend their decision in front of their peers. The learning outcomes for dilemma-based cases are similar to historical cases, but move beyond receiving lessons learned in a passive manner into the realm of critical thinking (DAU, 2012, Slide 8). This higher-order case has three key elements: it is a dilemma-based, decision-making, and peer-critiqued process.

Erskine et al. (2011) describe a “three-stage” learning process that entails individual preparation, a small group discussion, and a large group discussion with detailed learning objectives for each.

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The main intent of the individual preparation period is for the learner to understand the case, process the most relevant information, develop multiple courses of action, and then establish their best solution to the problem. This individual preparation elevates one's knowledge of the case to a certain point consistent with the lower levels of Bloom's revised taxonomy of *remembering* and *understanding*.

The small group discussion is designed for individuals to share thoughts on the case, build confidence about their understanding of the information and proposed solution, develop communication skills, and teach one another. Mauffette-Leenders et al. (2007) state that, "Small group discussions make it easier to debate viewpoints in the intimacy and safety of a small group than in front of the whole class" (p. 23). They further advocate that small group discussion elevates learning to a level beyond individual preparation in order to begin large group discussion at that higher level. Small group discussions elevate the cognitive operational range to the middle level of Bloom's revised taxonomy to the *apply* and *analyze* domains.

The large group discussion elevates the learning to a higher level by focusing on "learning by doing" and "teaching others". Specifically, Mauffette-Leenders et al. (2007) state that "Everyone in the class has the responsibility to help others learn" (p. 26). The three key elements of large group include contextualizing the dilemma, interacting face-to-face with peers, and defending one's ideas and assumptions to both peers and the case leader. Large group is where Goffman (1967) would claim "the action is" (pp. 149-270). Large group discussions elevate the cognitive operational range to the top of Bloom's revised taxonomy to the *analyze*, *evaluate*, and *create* domains. Nonaka and Takeuchi (1995) emphasize that "knowledge, unlike information, is about *action*. It is always knowledge 'to some end'" (p. 58), and as such, large group discussions seek to enable transfer of knowledge in an organization as a means to mitigate lost knowledge based on a more capable work-force.

### **Socratic Method**

The Socratic Method of asking questions to draw-out a student's self-discovery and develop critical thinking skills has been advocated since Socrates' mastery of the process over 2400 years ago (Maxwell, 2015). Maxwell states, "Through the respondent's process of answering Socrates' questions, they experienced their own original thinking in the context of examining their own ideas and themselves" (para. 2). The challenge is asking the right questions. Fahim and Bagheri (2012) reference the linkage of Bloom's taxonomy of higher order thinking with Paul's Taxonomy of Socratic questions to assist in framing questions.

Whitely (2006) also advocates Socratic dialectic methods as a means to advance student thinking to the higher order of Bloom's original taxonomy, specifically for the objectives of *analysis*, *synthesis*, and *evaluation* (p. 66). Asking the right questions to maximize results is even a struggle for experienced practitioners. Padesky (1993) outlines arguments for using Socratic questions to both change minds and aid in guided self-discovery. Her argument is that many instructional techniques use questioning, but not proper Socratic questioning, and as such, results are less than optimal (Elder & Paul, 2009; Paul & Elder, 2007). Maxwell (2015) further delineates the classic Socratic Method that has a free-flowing unknown ending point based on a deconstructionist approach from the modern Socratic Method which uses a constructionist approach to reach a pre-planned end-state by the instructor. Because our approach is to

accelerate experiential exposure, the modern Socratic constructionist approach is the recommended means of elevating critical thinking relative to Bloom’s higher-order of cognition

## Critical Thinking

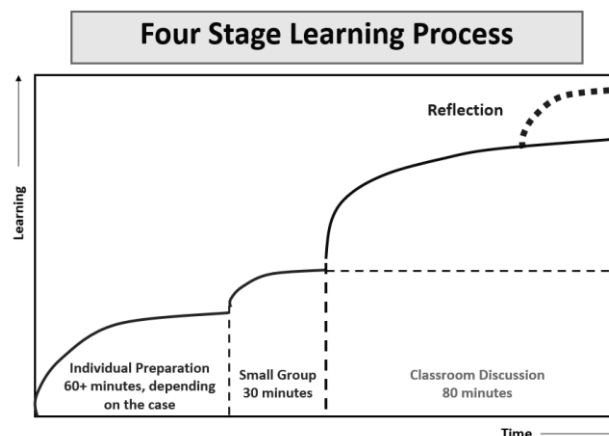
It is the realm of critical thinking that we believe facilitates the highest level of knowledge transfer. Critical thinking has been defined in multiple ways based on whether it is approached from a philosophical, psychological, or educational perspective (DeLeon, 2012). DeLeon also discusses the lineage of each in detail, while offering the American Philosophical Association’s 1987 expert panel’s definition as the most comprehensive and inclusive (2012, p. 30):

We understand critical thinking to be purposeful, self-regulatory judgment that results in interpretation, analysis, evaluation, and inference, as well as explanation of the evidential, conceptual, methodological, criteriological, or contextual considerations upon which that judgment is based (Facione, 1990, p. 6).

It is not our intent to debate the merits of any one definition or conceptualization (Bailin, Case, Coombs, & Daniels, 1999a, 1999b), nor is it our intent to revisit earlier debates over critical thinking’s applicability to subject specificity (Ennis, 1989; McPeck, 1990), but it is our intent to highlight the need to be at a higher order of thinking in order to take explicit knowledge and internalize it to the tacit. In this context, we argue that Paul and Elder’s (2009) stages of critical thinking development are the key objective of mentoring the younger workforce. Specifically, they state that *Advances Thinkers* are committed to lifelong learning, and “are beginning to internalize intellectual virtues” (p.20), and that *Accomplished Thinkers* are ones who’s “intellectual skills and virtues have become second nature” (p.20). Finally, the linkage between critical thinking and reflection is demonstrated by DeLeon’s (2012) examination of Brookfield, Dewey, Ennis, McPeck, and Paul and Elder’s definitions of critical thinking that either directly or in directly entail some form of reflection during the cognitive process.

## Frameworks for Reflection

Based on DeLeon’s (2012) research, the Defense Acquisition University modified Mauffette-Leenders et al.’s (2007) three stage learning process by adding reflection in the spirit of Schön’s *The Reflective Practitioner* (DeLeon, 2012; Kinsella, 2009).



**Four Stage Learning Process (DAU, 2012)**

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This fourth stage of AEE addresses Schwandt's fourth cognitive shift in adult learners. Specifically, Schwandt (2005) states that for adult learners, "individual (and collective) reflection has shifted from a simple response to stimuli, or a step in the problem-solving process, to the fundamental introspective process required for change to occur in basic assumptions, premises, and sensemaking frameworks" (p. 181). From this statement, reflection takes on two primary roles to aid in mitigation of lost knowledge. First, reflection serves as a means to take newly acquired knowledge, process it, and then absorb it in the manner described by Davenport and Prusak (2000). This absorption of knowledge is the heart of knowledge transfer. The tacit knowledge of the senior workforce member becomes evident and explicit during the large group discussion, that knowledge is then critically examined during the critique phase of the discussion, and then absorbed at a deeper level during the reflection process. Davenport and Prusak (2000) insist "Knowledge that isn't absorbed hasn't really been transferred" (p. 181).

The second role that reflection assumes in mitigating lost knowledge is based on Schwandt's (2005) assertion that it results in fundamental changes to assumptions and frameworks. Davenport and Prusak (2000) concur that without a change in behavior, future application of newly transferred knowledge is limited. Bolman and Deal's (2013) concept of reframing, or looking at a situation from a different viewpoint, reinforces our point of reflection's value. Reframing through reflection achieves knowledge transfer not only from individual to individual, but also enables a metacognitive transfer of knowledge in which one is now able to transfer both tacit and explicit knowledge from one situation to a new situation (Barnett & Ceci, 2002; Halpern, 1998; Mayer, 2002; Pintrich, 2002).

We feel Schön's discussion on reflection most applicable to mitigating lost knowledge in his views expressed by Kinsella (2007) that "the majority of problems (85%) are 'not in the book' and occur in what he [Schön] refers to as 'indeterminate zones'" (Kinsella, 2007, p. 106). These indeterminate zones are ones "characterized by uncertainty, uniqueness, instability, and value conflict..." (Kinsella, 2007, p. 106). These zones are ones that necessitate "expert insight" to navigate. These zones, if navigated successfully, demonstrate how knowledge transfer results in a competitive advantage (Argote & Ingram, 2000). These zones are the ones that, because they occur 85% of the time, necessitate an acceleration of experiential exposure in order to make experts that can navigate them successfully.

## **Action Learning**

Action learning is the final element of our proposed accelerated experiential experience approach to mitigating lost knowledge. Action learning is a well-defined and comprehensive field that stems from Revan's early work in European management education (Boshyk, 2012). As with critical thinking above, it is not our intent to weigh the merits or perceived deficiencies of either the "classic" or the "Americanized" version of action learning (Boshyk, 2012), nor the differences in the "scientific, experiential, and critical reflection" schools (Marsick & O'Neil, 1999), but it is our intent to show how action learning enables our method.

Defined in its most basic form, action learning includes a "method for individual and organizational development" that is based on "small groups of colleagues meeting over time to tackle real problems or issues in order to get things done; reflecting and learning with and from their experience and from each other as they attempt to change things" (Edmonstone, 2003, p. 3). Though action learning incorporates some elements of AEE, we believe that its lack of using

multiple cases in a deliberate and defined timeframe limit its ability to achieve the “accelerated learning and personal development” advocated by Smith and Peters (1997). Action learning, when applied as envisioned, certainly is capable of achieving many of its goals (Boshyk, 2012; Edmonstone, 2003; Marquardt, 2015). Yet the deficiency is that practical application is occurring at normal rates of exposure, and thus, without the accelerative effect of case exposure, will likely not mitigate lost knowledge because its transfer rate is insufficient. Additionally, Jennings (2002) indicates that, as a method, action learning did not fare as well as simulation or the case method in a learning environment. Though he viewed them independently in direct comparison and not in parallel as we submit, the deficiencies of time to build relationships and the unwillingness of managers to provide information need to be accounted for during implementation (Jennings, 2002).

### **Replicative Indwelling**

As previously stated, knowledge is operatively defined as:

...a fluid mix of framed experiences, values, contextual information, and expert insight that provides a framework for evaluation and incorporating new experiences and information. It originates and is applied in the minds of knowers. In organizations, it often becomes embedded not only in documents or repositories but also in organizational routines, processes, practices, and norms. (Davenport & Prusak, 2000, p. 5).

Replicative Indwelling is functionally reconstructive in that it is a mental construct that is used to replicate the construct, or *zeitgeist*, which existed during the knowledge creation process; or what Davenport & Prusak refer to as the *framework for evaluation and incorporating new experiences*.

Stone (2012) seeks to “explore [if] there is something in the connection that Polanyi makes between the indwelling that supports tacit knowledge and the indwelling that Heidegger speaks of in describing Being-in-the-world” (p.2). Polanyi’s assertion of indwelling is presented in *Personal Knowledge* (1962), and further developed in *The Tacit Dimension* (1966). To Polanyi, indwelling is a total immersion into the particulars of that which they seek to learn. Polanyi (1962) suggests that when expertly accomplished, indwelling allows one to “break through the accepted frameworks of thought, guided by the intimations of discoveries still beyond our horizon” (pp. 211-212).

Heidegger’s assertion of indwelling is understood from the work *Being and Time* [referred to as *dwelling*] (1996). Heidegger suggests that humans dwell as they are mutually interdependent upon the context of their surroundings, indwelling is the act of ‘being human’. While Stone (2012) concludes that they terms are not used synonymously, Polanyi’s ‘indwelling’ is an attempt for another to *know* Heidegger’s ‘indwelling’.

Replicative Indwelling is the gestalt of a functionally reconstructivist phenomenon establishing the requisite framework whereby knowledge may be wholly communicated from within its context. As stated by Polanyi, “[a] valid articulate framework may be a theory, or a mathematical discovery, or a symphony. Whichever it is, it will be used by dwelling in it, and this indwelling can be consciously experienced” (1962, p.208). The transfer of knowledge is essential to the productivity, vitality, and longevity of organizations. The means by which

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organizational knowledge is transmitted from person to person is through human interaction and communication.

In *The Social Reconstruction of Reality* (1966), Berger & Luckmann put forth the frame by which to understand the role knowledge in everyday life; asserting that “[w]hile it is possible to say that man has a nature, it is more significant to say that man constructs his own nature, or more simply, that man produces himself” (p. 66). It can then be argued that one constructs their reality based upon their interaction and communication. During this construction, an individual is subject to the phenomenon of experience. As said by Dewey, “[o]nly in association with fellows does he become a conscious centre of experience (1952, p. 207).

Replicative Indwelling is a ‘sense-making’ theoretical framework for knowledge transmission. This framework recreates the mental construct, or *zeitgeist*, in which the Abduction of knowledge being transmitted occurred for the purpose of inter-generational transmission of knowledge within an organization. The “reality of everyday life is organized around the ‘here’ of my body and the ‘now’ of my present” (Berger & Luckmann, 1966, p. 36). The Replicative Indwelling framework of the Replicative SPECTRUM, offers eight frames intended to address and organize the experiences shaping an individual during the phenomenon of knowledge creation. Replicative Indwelling’s reconstructive approach enables knowledge transfer and mitigates lost knowledge during the ‘making of experts’.

## **Knowledge Abduction**

Peirce refers to the zenith of knowledge creation as Abduction, “[a] process of forming explanatory hypotheses. It is the only logical operation which introduces any new idea” (CP 5.172). Reconstructive by nature, Replicative Indwelling seeks to immerse the recipients of knowledge being transferred through Accelerated Experiential Exposure into the *zeitgeist* of those who experienced its Abduction, so that they are presented with an opportunity to understand the knowledge in its entirety (Peirce, 1931; Polanyi, 1966; Nonaka & Takeuchi, 1995; Dewey, 1930; Geertz, 1973).

Berger & Luckmann (1966) assert that the foundation of knowledge in everyday life relies upon “the objectivations of subjective processes (and meanings) by which the intersubjective common-sense world is constructed” (p. 34), and that “[t]he reality of everyday life is not only filled with objectivations; it is only possible because of them” (p. 50). The process of knowledge creation develops a contextual-communicative dependence, the reconstruction of which is essential to transmitting the knowledge in its entirety. This dependence is also evident in Schwandt’s (2005) four cognitive shifts impacting the creation of useful knowledge.

As essential as the knowledge creation spiral is to the Abduction of knowledge, so too is an active shaping of an individual’s experience during its pursuit and consequential Abduction. The same processes and shaping of experience holds true for the Abduction and transmission of knowledge intra-organizationally. According to Cloutier, Ledoux, & Fournier (2012):

...experiential knowledge is built in tandem with changes occurring in the organization, while also conveying the occupational culture and values. Though this experiential knowledge will never be completely formalized, we believe that it is important for more research to be conducted on the places, moments, spaces, and conditions which are



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conducive to the building, sharing, and evolution of such knowledge within changing contexts, all from a learning support perspective (p. 317).

Lewis states that “[a] context is a location, time, place, and possible world - where a sentence is said... [and it] has countless features, [which are] determined by the character of the location” (1980, pp. 24-25). Contextual-communicative dependence is not only essential to illuminate that which comprises the zeitgeist, it is “the relations of comparative salience among these things [that] matter[s]”, and the relationship of this salience to the Abduction of knowledge (Lewis, 1980, p. 24). According to Porter (2013) “context is fundamental in comprehending...” (p. 27).

Based upon Davenport and Prusak’s (2000) operative definition of knowledge, RI reconstructs the zeitgeist from which the knowledge being transmitted was abducted in an effort to facilitate knowledge transmission, satisfying the contextual-communicative dependence that establishes the “‘here’ of my body and the ‘now’ of my present” (Berger & Luckmann, 1966, p. 36). All knowing comes from indwelling, “[e]ven the relatively straightforward case of knowing some object arises out of the bodily, linguistic, cultural, and historical indwelling of the person. (Apczynski, 2005, p. 79). The ‘here’ of my body addresses Heidegger’s ‘indwelling’ while the ‘now’ of my present addresses Polanyi’s.

### **Knowledge Transmission**

It is important to note that the receivers of transmitted knowledge are only offered the ‘opportunity to understand the knowledge in its entirety’, as “one has to assimilate, imaginatively, something of another's experience in order to tell him intelligently of one's own experience” (Dewey, 1930, pp. 6-7). According to Polanyi, this can only be done by “relying on the pupils intelligent co-operation for catching the meaning of the demonstration” (1960, p. 5). As stated by Nold, Lee and Choi (2003) “confirmed that [this] trust...bridged the gap between knowledge management processes and firm performance” (p. 17).

Once Abducted, or created, knowledge is often transmitted ready-made, sans the context of the concepts from which it was originally derived, from person to person, making explicit knowledge tacit - and tacit knowledge explicit. This process repeats itself in what is known as the knowledge creation spiral, explained in great detail by Nonaka & Takeuchi (1995). Organizational transmission of knowledge is conducted during the socialization phase of the knowledge creation spiral. Nonaka & Takeuchi describe socialization as a “re-experiencing”, a process in which those receiving knowledge gain insights into the context by which the knowledge being transmitted was created (1995, p. 69). According to Berger & Luckmann, “[k]nowledge is socially distributed and the mechanism of this distribution can be made the subject matter of a sociological discipline” (1966, p. 28).

### **The Replicative SPECTRUM**

Replicative Indwelling can be accomplished by *replicating* the *indwelling* of the benefactor of inter-generational organizational knowledge for its beneficiary through the use of the Replicative SPECTRUM; comprised of eight generalized social dimensions, the gestalt of which the authors assert comprise the organizational entity. The Replicative SPECTRUM provides a theoretical reconstructive framework from which to conduct the process of inter-generational organizational knowledge transfer. The pursuit of this reconstruction is sociological, as “sociology seeks to formulate type concepts and generalized uniformities...” (Weber, 1946,

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p.19). Social institutions allow for the systemized generalization of components which comprise an organization, as they encompass the pattern and accepted rules of a societies and organizations. According to Dewey (1952):

...the value of this systematization is intellectual...[c]lassifications suggest possible traits to be on the look-out for in studying a particular case; they suggest methods of action to be tried in removing the inferred causes of ill. They are tools of insight... (p.169)

As stated by Polanyi (1966), “[i]n order to share this indwelling, the pupil must presume that a teaching which appears meaningless to start with has in fact a meaning which can be discovered by hitting on the same kind of indwelling as the teacher is practicing. Such an effort is based on accepting the teacher's authority” (p. 61). By addressing the SPECTRUM with an associated component of Accelerated Experiential Exposure, organizations can ensure they are exercising employees critical thinking skills and facilitating an environment conducive to mitigating lost knowledge during inter-generational organizational knowledge transfer, transmitting knowledge that is not only "strategically relevant” (Hatten, 2002, p. 16), but that also “generate[s] value for the organization” (Nold, 2012, p.19). Ericsson, Prietula, and Cokely (2007) indicate there is susceptibility for older experts to fall victim to assuming that their experience will offer the right answer via intuition. By utilizing the Replicative SPECTRUM, as well as matching senior experts with juniors to coach, mentor, and lead case method workshops, complacency by the older workforce can be mitigated.

### **Scientific**

The Scientific frame provides for the contemporary scientific paradigm, expressing boundaries, limitations, heuristics and tendencies for bias and their relationship to the Abduction of knowledge. Knowledge is a paradigmatic product of the respective intellectual schools of thought and rules governing decision making of the time is created and is subject to the generally accepted scientific rules and principles governing its creation (Kuhn, 2012). According to Weber (1946), “science contributes [1] ... [to] the technology of controlling life by calculating external objects as well as man's activities.... [2]...methods of thinking, [as well as] the tools and the training for thought... [3] to gain[ing] clarity [regarding the situation] (pp.150-151). As it is the tendency of science to build upon that of which has come before, individuals who are the recipients of organizational knowledge may not understand the concepts from which it is derived. Heidegger, as cited by Porter (2013), illuminates this when he states that “[t]oday everybody is able to operate a radio or television set without knowing the laws of physics in their substantial contents.... The same is valid for the task of thinking” (p. 14). Thus, in order to fully understand the knowledge being transferred, the beneficiary must have access to insights and information from the paradigm in which it was created.

*Accelerated Experiential Exposure Component: Specific Case Study Methods, Socratic Questioning Techniques, Reflective Practices, Action Learning*

### **Political**

Politics can be broadly defined as that which “comprises any kind of independent leadership in action” (Weber, 1946, p.77). All political structures use force; however they vary greatly in the matter upon which they exert that force, both internally and externally. In the information

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economy, knowledge workers are vital to organizational success. The output of these workers is voluntary, and they must “buy-in” to the organization. Today’s knowledge worker is entrepreneurial, in that they bounce from organization to organization in order to climb the once stale “corporate ladder.” A great deal of faith must be placed into knowledge workers by those in positions of power within the organization.

*Accelerated Experiential Exposure Component: Reflective Practices, Action Learning*

### **Economic**

“For most of the 20th Century, the compact between employers and employees in the developed world was all about stability...Then came Globalization and the Information Age” (Hoffman, Casnocha, & Yeh, 2013, pp.49-50). Drucker (2001) states that “[i]nformation is data endowed with relevance and purpose. Converting data into information thus requires knowledge. And knowledge, by definition, is specialized” (p. 46). When knowledge is equated with an ability to convert data into information it strays from its essence, which is the knowing of meaning. However, this knowledge is a commodity and has immense economic value. This fact should serve as an incentive for employers to make earnest efforts towards employee retention and create favorable conditions for the creation and transfer of knowledge. However, this has not been the case in that “[e]mployees invest in the company's adaptability; the company invests in employees' employability” (Hoffman et al., 2013, p. 51).

*Accelerated Experiential Exposure Component: Specific Case Study Methods, Socratic Questioning Techniques, Action Learning*

### **Cultural**

To summarize Hall in *The Silent Language* (1959), culture is communication and communication is culture. Organizations “become... static, rigid, [and] institutionalized whenever... [they are] ...not employed to facilitate and enrich the contacts of human beings with one another” (Dewey, 1952, p. 207). As such, organizations must have effective methods and means of communication in order to have an effective organizational culture that is able to create, apply, and store knowledge. It should not be misconstrued that effective communications will create knowledge. Davenport & Prusak (2000) remind us that:

we must remember is that this new information technology is only the pipeline and storage system for knowledge exchange. It does not create knowledge and cannot guarantee or even promote knowledge generation or knowledge sharing in a corporate culture that doesn't favor those activities (p.18).

*Accelerated Experiential Exposure Component: Specific Case Study Methods, Reflective Practices, Action Learning*

### **Tacit**

“A personal knowledge accepted by indwelling may appear merely subjective. It cannot be fully defended here against this suspicion” (Polanyi, 1962, p.215). During the Replicative Indwelling, information must be provided in order to determine what was learned in the process of knowledge creation, as that “collateral knowledge” has tremendous organizational value as well. The information at hand at the time, documents, artifacts, the tools that were used, these all have the potential to be conduits for the transfer of tacit knowledge when utilized within context. The

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provision of supporting documentation equates to a Geertzian thick-description of the cultural scene in which knowledge being transferred was Abducted in ordered for the beneficiary to 'indwell' (1973).

As previously stated, DeLong (2004) argues that the most at risk element of knowledge loss due to the exit of an aging workforce is an individual's tacit or experiential knowledge. Supporting context "brings home to us that it is not by looking at things, but by dwelling in them, that we understand their joint meaning" (Polanyi, 1966, p.18). The additional dimensions of SPECTRUM can also provide context from which tacit knowledge may be transferred.

*Accelerated Experiential Exposure Component:* Specific Case Study Methods, Socratic Questioning Techniques, Reflective Practices, Action Learning

### **Region**

The increasingly global nature of the global economy increases the likelihood of multicultural organizations. Whorf (1940) believes that speakers of different languages know and understand the world differently due to the fact that the languages by which they use to describe and understand the world around them are different, "[w]e cut nature up, organize it into concepts, and ascribe significances as we do, largely because we are parties to an agreement to organize it in this way—an agreement that holds throughout our speech community and is codified in the patterns of our language" (p. 214). When we use language, we rely on verbal heuristics and word tendencies to communicate idiosyncratically, often trading meaning for that which we have the communicative capacity to best articulate the reality we are attempting to recode from memory to speech. This increases when languages are translated or interpreted as there may not be words in a certain language that are an exact reflection of words from another language. Schooler & Engstler-Schooler (1990) refer to this phenomenon in visual memory recall a process called 'verbal-overshadowing', where individuals' recollections are effected by their capacity for and tendencies of communication.

*Accelerated Experiential Exposure Component:* Specific Case Study Methods, Socratic Questioning Techniques, Reflective Practices

### **Uncertainty**

With the rise of the 'Information Economy', '[t]he specialist "knows" very well his own, tiny corner of the universe; he is radically ignorant of all the rest' (Gasset, 1932, p.123). The impetus for the continuous development is spurred by a combination of capitalism and the development of technology. As technology develops, so too does the body of knowledge surrounding it, contributing to the amorphous mass of data, information, and knowledge. The ability to accurately determine what *is* data, information, and knowledge is imperative, as "[o]rganizational success and failure can often depend on knowing which of them you need, which you have, and what you can and can't do with each" (Davenport & Prusak, 1998, p.1).

*Accelerated Experiential Exposure Component:* Specific Case Study Methods, Socratic Questioning Techniques, Action Learning

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## **Military**

The increasing demand for information “increases the vulnerability of private and sensitive information that needs to be protected and kept confidential in organizations (Lyu & Zhang 2015, pp. 189-190). The security of information is vital in the information economy, as information is now a commodity, and must be protected accordingly. Lyu & Zhang also state that the information economy has brought together “two seemingly irrelevant fields, information security management and knowledge management” (2015, p.191). Information security is essential to ensure no harm to the organization or its employees, the potential risks of which increase with the growth of the information economy. Failing to protect knowledge can lead to disclosure of trade secrets and can ultimately result in the demise of organizations. Manhart & Thalmann (2015) conducted an extensive analysis of knowledge protection literature and noted that more resources should be placed on tacit knowledge protection.

*Accelerated Experiential Exposure Components: Reflective Practices, Specific Case Study Methods*

## **Making Experts**

Experts are made not born, and there are no shortcuts to the making of an expert in that, “It will take you at least a decade to achieve expertise, and you will need to invest that time wisely, by engaging in ‘deliberate’ practice – practice that focuses on tasks beyond your current level of competence and comfort” (Ericsson et al., 2007, p. 116). While we recognize this argument, the method we advocate falls into the “deliberate practice” category defined as entailing “considerable, specific, and sustained efforts to do something you can’t do well – or even at all” (p. 118). Ericsson et al. (2007) acknowledge this ‘deliberate’ practice, even referencing the use of case study and military wargames as a means to “practice making decisions ten or 20 times a week”. Thus, while we recognize that becoming an expert is a lengthy process, we also recognize the value of discipline practice with an expert mentor as a means to accelerate the exposure to problems and situations not normally encountered in day-to-day experiences.

Replicative Indwelling represents the philosophical underpinnings for reaching the tacit dimension, and results in the development of the “expert insight” which we believe is the key to mitigating lost knowledge through Accelerated Experiential Exposure. Knowledge transmission methodological framework that provides information supporting these frames will assist in the satisfying the contextual-communicative dependence. Organizations should reference the SPECTRUM framework in order to ensure that all required elements providing context to the knowledge being transferred are present in order to successfully transmit knowledge in its entirety not only inter-generationally, but as a component of an overarching organizational knowledge management system to facilitate the conditions for the “creation, transfer, and application of knowledge in organizations” (Alavi & Leidner, 2001, p. 107).

## **Recommendations & Conclusions**

We offer the following four recommendations to advance the study of mitigating lost knowledge through Accelerated Experiential Exposure: 1) the views of Replicative Indwelling and Accelerated Experiential Exposure are grounded in established sociological, organizational, educational, and philosophical research. We recommend further examination of these concepts

both within these domains and from other academic domains; 2) we realize that implementation of such a program relies on appropriate resource allocation. Therefore, we recommend establishing a pilot program within an organization as a means to understand the necessary structural changes to enable implementation; 3) future research is necessary to empirically evaluate whether our proposal provides the accelerated transfer of knowledge that we believe is possible; 4) a cost-benefit analysis will be necessary to determine if the structural changes necessary within an organization are off-set by the actual increase in knowledge transfer, the increase in critical thinking skills, and the assessment of workforce preparedness to assume greater responsibilities as the aging workforce retires.

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