Generative Learning: Adults Learning Within Ambiguity

Aliki Nicolaides[1]

Abstract

This study explored the extent to which ambiguity can serve as a catalyst for adult learning. The purpose of this study is to understand learning that is generated when encountering ambiguity agitated by the complexity of liquid modernity. *Ambiguity*, in this study, describes an encounter with an appearance of reality that is at first unrecognizable, oblique, simultaneously evoking fear of "no-cognition" and the potential hope for multiple meanings irresolvable by reference to context alone. Specifically, this phenomenological study engaged nine adults who make meaning—cognitively, affectively, and interpersonally—with an extraordinary capacity for mastering complexity. The findings suggest that metaphor facilitates probing encounters with ambiguity, revealing three capacities for *generative learning within ambiguity*. Given the unprecedented demands for rapid change and adaptation confronting adults today, exploring the value of ambiguity may facilitate the capacity for vital learning and intelligent action.

Keywords

adult learning, ambiguity, complexity

Introduction

We live in complex times. The social theorist Zygmunt Bauman (2006) has described this period of early 21st-century life as "liquid modernity." This article explores how individuals learn in the context of liquid modernity where ordinary learning is not enough.

[1]University of Georgia, Athens, GA, USA

Corresponding Author:
Aliki Nicolaides, Assistant Professor, Adult Education, Department of Lifelong Education, Administration, and Policy, University of Georgia, College of Education, 850 College Station Road, 417 River's Crossing, Athens, GA 30602, USA.
Email: alikin@uga.edu

In its ordinary usage, "learning" refers to the acquisition of knowledge or skills from experience, study, or teaching. It involves interest and commitment: We learn what we are interested in and follow through with some degree of commitment. Learning also assumes understanding and retention: We have learned something if we understand it or understand how to do it in the case of skills and can retain that understanding for some period of time. Learning is complicated (i.e., cognitive, affective, interpersonal, intrapersonal, imaginative, stylistic, to name a few dimensions) and learning is complex (i.e., single-loop behavioral adaptation, double-loop assumption transformation, triple-loop alignment with vision, strategy, action, and feedback in action). These ordinary forms of learning are not the subject of this article. Learning that interacts creatively "in-the-person" and "within-reality" to generate a changed world is the subject of this article and my ongoing research. I tentatively describe this learning as *generative learning within ambiguity*. I sought ambiguity, the territory of complexity where no-certainty and the unknown prevail, to understand features of learning that generate the appearance of potential that could shape a new mutual reality.

In this period of global development, what was formerly solid, reliable, and recognizable is becoming liquid. The metaphor of liquidity effectively captures the complexity of the social changes taking place in everyday life. Increasingly, social structures widely viewed as solid—education, health, social security, leisure, and family, to name only a few—are more fluid, unable to hold their shape for long. This new liquidity signals constant change, and with it insecurity and uncertainty: about what to wear, who to follow, what matters, and what to *learn*. Individuals worldwide appear increasingly insecure about how best to go about the business of their everyday lives, evidenced by the changing face of higher education and labor force demands (OECD, 2013).

The transformation from "solid" to "liquid" modernity has created unprecedented contexts for individual life pursuits, confronting individuals with a series of challenges never before encountered (Bauman, 2006). Social forms and institutions no longer have enough time to solidify and therefore cannot serve as frames of reference for human learning, actions, and long-term planning, giving rise to ambiguity. The complexity of liquid modernity requires individuals to make sense of their fragmented lives by being flexible, adaptable, and constantly ready and willing to change tactics; to abandon commitments and loyalties without regret; and to act in a moment, as failure to act brings greater insecurity—such demands place adults "in over their heads."

To explore the ways and the extent to which individuals respond to the ambiguity generated by a liquid modernity, I sought individuals who possessed complex forms of knowing, doing, and being. Seeking to understand their encounter of ambiguity, I inquired about what and if they learned from that encounter. "Complex forms of knowing, doing, and being" refer to an individual's developmental (cognitive, affective, and sociocultural) capacity to make meaning, adopt various perspectives, and engage in intelligent action (Cook-Greuter, 2004; Kegan, 1994; Nicolaides & McCallum, 2014; Torbert, 2004). "Complexity" denotes the interconnectedness, interdependency, and unprecedented rate of change occurring in the social field (Boulton & Allen, 2007; Cilliers, 1998; Stacey & Griffin, 2005).

The absence of predictability and order characterize the complex liquidity of early 21st-century life (Snowden & Boone, 2007). Complexity science has demonstrated that complex adaptive systems generate the seeds of their own transformation, in which learning represents "the continuous improvisations of alternate actions and responses to new possibilities and changing circumstances that emerge" (Fenwick, 2003, p. 8). Complexity gives rise to ambiguity when traditional, predominantly rational responses to learning are inadequate and challenged. The purpose of this study is to understand learning that is generated when encountering ambiguity agitated by the complexity of liquid modernity.

Ambiguity, in this study, describes an encounter with an appearance of reality that is at first unrecognizable, oblique, simultaneously evoking fear of "no-cognition" and the potential hope for multiple meanings irresolvable by reference to context alone. Two questions guide this phenomenological inquiry: (1) How do adults with complex forms of knowing, doing, and being encounter ambiguity? (2) What, if any, capacity for learning emerge from their encounters with ambiguity? The methodological paradigm used to study the phenomenon of ambiguity is presented in the following section.

Methodology

Phenomenology seeks to study lived experience as it comes into being (Heidegger, 1962; Merleau-Ponty, 1945; Van Manen, 1990). The dynamic context described above, and in which this study is situated, requires an equally dynamic research approach. For this reason, phenomenology as the qualitative research methodology is used in this study.

The major aim of phenomenology is to "reduce" individuals' experience of a phenomenon of interest so that finally a description of its universal essence is achieved, allowing researchers "to grasp the very nature of the thing" (Van Manen, 1990, p. 177). Founded by Edmund Husserl (1859-1938), phenomenology has its roots in philosophy. Husserl's phenomenology, known as transcendental phenomenology, seeks to generate the "essence" of pure consciousness. Husserl declared that to achieve this essence, all presuppositions must be "bracketed out," or held in abeyance (Mitchell & Cody, 1993, p. 174.).

Unlike Husserl, who strongly affirmed individuals' ability to effectively bracket their beliefs about reality, Heidegger (1962) believed that human beings were incapable of denying the basic actuality that has always existed in the world. Merleau-Ponty (1945) departs from Husserl's tight grip on subjectivity and more closely aligns with Heidegger (1962), asserting that

> Phenomenology is the study of essences; and according to it, all problems amount to finding definitions of essence: the essence of perceptions, or the essence of consciousness . . . phenomenology is also a philosophy which puts essence back into existence, and does not expect to arrive at an understanding of man and the world from any starting point other than that of their "facticity" . . . [it] is also a philosophy for which the world is always "already there" before reflection begins— as "an inalienable presence" and all

its efforts are concentrated upon re-achieving a direct and primitive contact with the world . . . (Merleau-Ponty, 1945, p. xxii)

This phenomenological study follows Merleau-Ponty's (1945) affirmation that subjectivity and intersubjectivity are inseparable. The study finds unity of meaning in the intersection of the participant and researcher's perceptions as they both encounter ambiguity.

No Theory

The study design and period of inquiry with participants challenged me to put the theoretical conceptions I studied, especially complexity science, developmental psychology and adult learning theories aside. Pioneers in qualitative research have insisted that theory should not be applied in phenomenology. For example, McLeod (2001) states, "Phenomenology requires a kind of withdrawal from the world and a willingness to lay aside existing theories and beliefs" (p. 37). The word *theory* refers to a particular kind of explanation, as Leedy and Ormrod (2004, p. 4) note: "A theory is an organized body of concepts and principles intended to explain a particular phenomenon." Moreover, Creswell (2007) observes, "No preconceived notions, frameworks or expectations guide researchers in phenomenology" (p. 94).

Conversations, Not Interviews

As a researcher, phenomenology enabled me to develop a stance that held me to the same rigor of exploring how conscious I and the participants are of being in relationship to ambiguity. This allowed us to recognize our limitations in learning from— rather than misjudging—the ambiguities of our lives. The egoic, self-protective, judgmental aspects of our whole self often closes off too quickly the potential that ambiguity might bring. Therefore by seeking ways to move beyond these limitations, we found growth within this studies inquiry. It is helpful to characterize this intentional stance as an effort to be attentive from within the domain of the phenomenon (Gadamer, 1960/1989). As Gadamer notes in *Truth and Method*, "application is neither a subsequent nor merely an occasional part of the phenomenon of understanding, but co-determines it as a whole from the beginning" (p. 324).

This study was shaped by deep and vulnerable conversations. Such an approach implies and accepts the constraints of an intersubjective dialogue as methodological boundaries to explore and make sense of ambiguity. Gadamer (1960/1989) described a *conversation* as an evocative space in which the essential features of a phenomenon can emerge:

A genuine conversation is never the one that we wanted to conduct . . . it is more correct to say that we fall into conversation, or even that we become involved in it . . . a conversation has a spirit of its own . . .the language in which it is conducted bears its own truth within it—it allows something to "emerge" which henceforth exists. (p. 383)

Gadamer (1960/1989) emphasizes the value of meaning-making conversations involving both researcher and participant engaged in a shared encounter with ambiguity. Responding to this study's research questions required conducting a probing, detailed investigation into the nature of our encounters with ambiguity as it emerged in the research conversations. In this research the participants and I shared encounters with ambiguity and cointerpreted the meaning of our experience.

The challenge of this method is to remain as still as possible when encountering ambiguity—

> to *intentionally* [italics added] fail to understand either the subject or the object . . . to discover the origin of the object at the very center of our experience; we must describe the emergence of being and we must understand how, paradoxically, there is *for us an in-itself*. (Merleau-Ponty, 1945, p. 83)

In the interviews, the initial semistructured set of probing questions—which were designed to prompt reflection, description, and conversation about ambiguity—surprisingly elicited thin responses. It quickly became apparent that asking participants to recall past experiences of ambiguity was not yielding interesting descriptions. An initially unconscious move, on the participants' part and my own, to join in a necessary coinquiry about the ambiguity arising shaped our ensuing conversations. The most critical intention of this phenomenological study was to create a deliberate space to encounter ambiguity.

When our attention shifted from attempting to describe past ambiguity to encountering the ambiguity in our conversations, this discovery moved us more readily toward a shared encounter of ambiguity. Here is an illustration of how ambiguity emerged in the conversations:

Participant: Did we exhaust ambiguity in my answering of your question? Seems too soon to me.
Researcher: *Remains silent*
Participant: Let's be silent together.
Researcher: (*beginning to get choked up; feeling fear of failure, then disappointment, then inner quiet*). I am feeling cold in this moment, afraid that there is nothing of interest when exploring ambiguity, and I do not know what comes next.
Participant: (interrupting) There, there it is . . . now here is ambiguity we share.

This exchange illustrates the unique quality of the conversations. Our conversations began, as interviews typically do, with an instruction: "Tell me about an experience you perceived as ambiguous." Participants talked about the ambiguity of a situation and remembered its psychological effects at the time. However, the storytelling ended abruptly as these extraordinary participants, with a high degree of complexity of mind, began to question the point of exploring ambiguity. It was in those moments of confrontation—in a space occupied by my own uncertainty about how to

proceed and the participant's intuition that ambiguity was just at the horizon of our encounter—that a moment of mutual self- and corecognition occurred, ambiguity itself emerged, and coinquiry ensued.

Participant Selection

Due to the abstract focus of this study and the many interpretations that ambiguity galvanizes, I chose a select group of adults capable of highly complex forms of knowing, doing, and being as participants for the study (Kegan, 1994; Torbert, 2004).

The rationale for selecting participants from this small adult population was two-fold. First, I assumed that adults with more conventional ways of perceiving abstract experiences would describe encounters with ambiguity as events to be avoided or might be unable to even identify such encounters. Second, I assumed that adults with more complex forms of perceiving ambiguity would have the cognitive, affective, and sociocultural capacity required to engage in and describe complex and abstract phenomena.

Initially I set out to recruit participants in the conventional way, by developing a clear research summary and inviting participation. That strategy did not yield results. Ultimately, one of my mentors, a thought leader in the field of action science, suggested that if I sought to engage an elite group of adults to join in my research, I had to demonstrate what I knew of the phenomenon and its impact on me.

In response to this feedback, I wrote and performed a 30-minute three-act play for two audiences. The play enacted my lived encounters with ambiguity exposing my own vulnerability with the unknown and potential curiosity that this approach could stimulate in the audience (due to space limitations, I have not included the play here). At the invitation of a mentor, I performed my play to a group of government, community, and independent consultants from around the world and invited participants to join my research. Of the 12 attendees, 6 agreed to participate in my study after my performance. Three additional participants were selected from a group of educators, activists, and artists attending a community service board meeting in New York City. I was invited to perform my play at the end of the meeting; afterward 5 out of the 15 attendees agreed to participate. Of the five, three met the criteria for participant selection. In all, nine adults participated in this study.

Over the course of 15 months, three interviews were conducted with each of the nine participants, for a total of 27 in-depth conversations. The 90-minute–plus interviews, which were held at approximately 3-month intervals, took place face-to-face in the participant's home, at my university library, or in different countries (I traveled to England and South Africa), and interviews were supplemented by numerous e-mail exchanges. This time with the participants yielded 1,500 pages of transcribed data. Atlas.ti ™ was used to facilitate the process of data management, coding, and analysis. Included as part of the data were my own journal notes as my own participation was integral to the research.

Data Analysis

Narrative inquiry profiles (Creswell, 2007; deMarrais, 2004) provided an authentic way to organize and make sense of the data. As Atkinson (2005) points out, "Narrative is not a unique mode of organizing or reporting experience, although it is one pervasive and important way of doing. Narrative is an important genre for spoken action and representation in everyday life, and in many specialized contexts" (p. 10). Narrative inquiry profiles featured the participants' unique encounters with ambiguity based on their lived experience. In essence, each profile became a way to present one-person plays of the participant's encounter with ambiguity. On completion of these profiles, I shared them individually with each participant to produce further thematic analysis. With permission, I then invited participants to read and reflect about each other's profiles that generated further data analysis and additional member checks, and to increase the trustworthiness of my interpretations.

Bringing the narrative profiles together generated a collage-like effect, unifying seemingly disparate fragments of meaning. Within this collage, thick descriptions capturing perceptions of encounters with ambiguity served as the primary analytic units. The significant descriptions of the phenomenon identified by the researcher were then shared with the participants for collaborative analysis. As an illustration, following is part of the conversation that ensued after the narrative profile was shared:

> Participant: Oh! And let me not forget the whole entire conversation being a play of "I know, you know, I know" . . . Unveiling the "you know"—the wizard is exposed behind the curtain by the playful absentmindedness of Toto in Oz. That this entire interview reveals my own "you know." The "you know" of inquiring vulnerability and of making sense from moment to moment that is leaving behind the knowing instrument of the intellect and evoking the knowing of being—intuitive, present, and in a state of alert relaxation. It occurs to me that in the space of our conversation what is revealed is us sitting behind the curtain speaking into the mechanism that exegetes our being rather than be our being. I feel the humility and the revelation of my own exaggerations.
>
> Researcher: Is it possible to be intimate with not knowing?
>
> Participant: That is the nature of our particular encounter—intimate being with each other in our unknowing.

The process of engaging with the participants in thematic identification and discussing their meanings with playlike narrative displays was part of the intentional subjective stance of this research. These approaches enhanced the quality of analysis and the integrity of the mutual encounter with ambiguity, eliciting deep understanding of such an encounter. Findings and their implications for adult learning and intelligent action are discussed in the following section.

Findings

This phenomenological study sought to explore individuals' perceptions of ambiguity at the moment of its encounter. Two inquiries focused this phenomenological study: (1) How do adults with complex forms of knowing, doing, and being encounter ambiguity? (2) What, if any, capacities for learning emerge from their encounters with ambiguity?

Two meaningful findings emerged from the data analysis. The first is the use of metaphor to approach an encounter with ambiguity. The emic code "a door in each moment" is a representation of the first finding. The second finding is that three distinct learning capacities emerged from the data analysis: to endure, to be in communion, and to awaken.

Finding 1: Metaphor as Doorways to Encounter Ambiguity

The emic code "a door in each moment" is an exemplary metaphor representative of the participants' reliance on metaphors to grasp the slippery opaqueness of ambiguity. Metaphors served as a doorway through which to peek at and bring into greater visibility the contours of ambiguity. Metaphors could bring participants close to and/or keep them at arm's length from encounters with ambiguity. Metaphors have the power to define reality by highlighting some features while hiding others. The participants wrestled with ambiguity using the truth discovered through metaphor to discern meaning and intelligent action (i.e., to decide how best to respond). Metaphors provided shelter from ambiguity by highlighting or hiding, made whole systems more visible, and provided guidance for intelligent action.

All participants employed metaphors—100 distinct metaphors in all. The participants' responses pointed to a shared recognition that in the process of making meaning of ambiguity, metaphors provide a "doorway," creating space for an emerging understanding of the encounter with ambiguity. However, the ways in which participants articulated and experienced this "doorway" varied across the range of their complexity of knowing, doing, and being. Essentially, as one participant noted, metaphor let the "shy animal of our being make a slow path toward the unknown features of ambiguity," with the hope that catastrophe was not hiding in the shadows. Conventional logic suggests that ambiguity signals danger at the edge of chaos (Snowden & Boone, 2007), the moment at which a complex system is about to collapse into dynamic bedlam. The intersection of participant and ambiguity creates space for something novel, and metaphor provides a meaning-making-in-the-present structure for a new, transcendent whole to emerge. Table 1 presents a sample of the metaphors that emerged.

The metaphors in Table 1 illustrate the participants' concern with understanding their experiences. The general principles that each metaphor captures involve whole systems of concerns, rather than individual words or concepts. Metaphors provide a structure that exposes one's partial perception of experience, at the same time acknowledging the hidden aspects of experiences that are yet to be discovered. These

Table 1. Metaphors Describing an Encounter With Ambiguity.

Metaphors: Sample from 100
"A tuft of grass"
"A door in each moment"
"A thrumming silence"
"Limited magic"
"A shocking death that lives"
"Sheer pleasure"
"Being clueless together"
"An outstretched hand"
"Mystery without the armor"
"Seeing a world tipped in collapse"
"Unselfishness with the possible and already-created"
"Precision of my incapacity"
"A figure-ground shift"

metaphors expose the relationship between one's perceptions of ambiguity while capturing the dynamic of discerning how to act out of that perception (Lakoff & Johnson, 2005).

An illustration of how metaphor emerged in the meaning-making process illuminates the potential for mysterious richness that lay within ambiguity. Some participants were able to move closer to that mystery through metaphor, while for others the metaphor provided shelter and a close-enough quality, as if extending a hand to establish a boundary between ambiguity and the participant. One participant described her lived encounters with the "ambiguities of her life" as "unanticipated, brazen, exciting, and fascinating." This labeling of the experiences conveys the distance between her and the ambiguity that arises from those experiences. That hesitation is "an outstretched hand," a metaphor that signals the extent to which she was willing to engage, learn from, and act in the face of ambiguity.

For other participants, values acted as a kind of internal structure for the metaphors they chose. These participants purposefully and creatively sought the potential introduced by encounters with ambiguity. The metaphor "limited magic" exemplifies this purposeful stance toward ambiguity. As one participated reflected,

> Limited magic . . . I think that ambiguity for ambiguity's sake alone is unproductive. That is, I am less positive about a magical view of ambiguity, which treats ambiguity as universally positive.

Some participants expressed a felt interconnectedness with ambiguity through their use of metaphors featuring the relational aspects of the phenomenon. One participant offered the metaphor "a lit corner of a room" to describe her encounter with ambiguity:

There probably really isn't any ambiguity, but my incapacity to see beyond what I may perceive as ambiguity means that I create ambiguity. How do I create ambiguity? By where I place my attention. It's like I'm in a room in which there are a number of things already in place, already in existence, light only shines for me to see in certain corners.

Another participant referenced the many potential realities contained within ambiguity. He describes his metaphor, "the glory of ambiguity":

Having had the experiences of making fundamental mistakes because I didn't know the language or the culture, and doing things that I thought were actually good things to do, like hitting the fat boy in the line next to me when he bothered the little girl . . . The fact that different culture and languages make the same action/word either positive or negative seems to me to be a funny sign of the glory of the ambiguity of things.

Such examples bring into sharp relief metaphor's ability to provide a means of engaging with ambiguity. Importantly, this finding suggests that an encounter with ambiguity may benefit the individual who, through the use of metaphor, seeks understanding that lies beyond any rational construction or label. This brings to mind Dewey's (1938) definition of education as "that reconstruction or reorganization of experience which adds to the meaning of experience, and which increased [one's] ability to direct the course of subsequent experience" (p. 74).

Dewey (1938) argued that the interaction between individuals and their environment is of key importance. Dewey (1938) defined *environment* as "whatever conditions interact with personal needs, desires, purposes, and capacities to create the experience which is had" (p. 44). An experience involves interaction between the self and either another person, the material world, the natural world, an idea, or whatever constitutes the environment at hand—in this case, ambiguity. Dewey goes on to point out that because an experience involves interaction between oneself and the world, the outcome of experience is change not only in the self but also in the environment.

Ambiguity introduces disorder into the relationship between the learner and his or her environment, while metaphor provides a path to a new order, emerging from the intersection of the individual and ambiguity. Remaining in the present moment of experience demands a stillness that does not look backward to the past for meaning, nor does it anticipate a recognizable future to make sense of an encounter with ambiguity. Stillness to *search out* meaning is the demand of complexity and the invitation from ambiguity.

What truths does ambiguity signal? Lakoff and Johnson (2005) suggest that

the issue is not the truth or falsity of a metaphor but the perceptions and inferences that follow from it and the actions that are sanctioned by it . . . we draw inferences, set goals, make commitments, and execute plans, all on the basis of how we in part structure experience, consciously and unconsciously, by means of metaphor. (p. 158)

Coemergence, a feature of complex adaptive systems in which ambiguity abounds, features new meaning arising through interconnections that could not have been achieved independently without new learning.

Valera (1999) explains that perception consists not in the recovery of a pregiven world but rather in the "perceptual guidance of action in the world that is inseparable from our . . . embodied action" (p. 17). Lakoff and Johnson's (2005) research shows that metaphors have entailments through which they highlight and make coherent certain aspects of our experience. They conclude, "A given metaphor may be the only way to highlight and coherently organize exactly those aspects of our experience . . . and thus be a guide for future action" (p. 156). The data show that metaphor provides a bridge whereby the cognitive, affective, and sociocultural acuities of an individual convene to give ambiguity a chance to reveal something that initially was hidden. Metaphor is a meaningful and productive response to the ambiguity that accompanies complexity in this period of liquid modernity.

The participants in this study revealed another perspective on ambiguity: Even when individuals are strained by complexity's demands on all parts of society, there is a gentle way of learning through ambiguity. By placing all 100 metaphors together, and on further analysis, a pattern emerged from the data revealing a new richness about the capacity for learning that accompanies encounters with ambiguity.

Finding 2: Capacities for Learning Within Ambiguity

The second finding identifies three distinct capacities that galvanize learning through ambiguity: to endure, to be in communion, and to awaken. One participant described her capacity to engage ambiguity as an unanticipated experience that had to be *endured*, a phase she was required to pass through to experience "the sheer pleasure" of whatever mystery might be revealed through ambiguity. This participant learned after marrying her first husband that he was transsexual—that he was, in her words, "not this and not that." She described the effects of her discovery and how it led her to find "her own thing" in the mystery of ambiguity:

> I was married to [my first husband] for two years when I realized, I can't live with this. It was a huge shock for me to learn that this man who was not [a man], and didn't want to be one that affected the whole rest of my life. I think that being with someone who was not this and not that is an example of the ambiguity in my life . . .

"Shock" is the word this participant used to describe her response to the ambiguous and unfathomable experiences of discovering her husband was transsexual. In our conversation she shuddered at the memory of what she endured for several years. She continued,

> I discovered my own thing—painting, through the mystery of ambiguity… I remember being in some kind of stationery/art store. They had these tiny tubes of paints, and I picked some up, and bought some brushes, and some paper. I think they were oil paints, . . . why I bought those, I don't know. We didn't have any money. I felt guilty about it; and then that night, I stayed up painting one of these candles that melted many colors . . . I sat it up [in the laundry room] and painted it on a piece of paper, my first painting. I started doing that. I started staying up there, and then over time, I did more and more of this stuff, and they were just terrible paintings. It was sheer pleasure.

This rich description outlines the ambiguities she endured in a tentative yet robust way. Years of enduring ambiguity's mysteries led this participant serendipitously to buy some paints and subsequently to discover, in the quiet of her laundry room in the late-night hours, the "sheer pleasure" of painting.

Similarly, two other participants described their relationship to ambiguity in terms of endurance rooted in their capacity to act on the basis of their beliefs and values. In short, they endured ambiguity insofar as it allowed them to take effective action on behalf of themselves and the systems of which they were a part. Their connection to ambiguity alerted them that there was something beyond what was immediately knowable that would enable them to act on behalf of the systems they served.

Enduring ambiguity enabled these participants to integrate their sense of responsibility to act intelligently, which was based on their values, with the (seemingly paradoxical) ability to "act in synergy with the direction of potential." As one participant explained,

> Through my unconscious processing of ambiguity, I've developed a real trusting relationship with it. I realize almost the less that I pay attention to it, the more I empower myself to get fruit from ambiguity, and to yield by leaving time and letting the mind do its thing.

The notion of paradox features in both of these vignettes, in which a connection with ambiguity provides a range of insights when the participant remains in the experience without imposing judgment or control. The following reflection illuminates this range:

> I recognize that there's a certain continuum along which the more I try, the more I get to where I want to go. And paradoxically, there's a point beyond that where I need to just kind of let go. And then [knowing] needs to come. This is the point where the shift between the external and the internal usually happens. It's like the last effort on that continuum is that effort to be willing to allow the internal to take the role of allowing the unknown to emerge into the known . . . [as] opposed to me finding it or seeking it.

Paradoxically, these participants endured ambiguity because of the potential for a "codetermined knowing" that results from a conscious engagement with ambiguity. For these two participants, the commitment to principled action fortified their willingness to endure and "let go" of the more traditional effort of seeking and finding to which they were accustomed.

Five of the nine participants described a capacity to be in *communion* with a felt sense of intimacy with an "always present" ambiguity. *Communion* is defined as a close relationship with someone or something that is marked by intimacy, vulnerability, and counion. Yet communion with ambiguity also reflects the partiality and limitations of one's capacity to know reality. As one participant shared, a relationship with ambiguity brought him face-to-face with a reality he no longer experienced as separate from himself, yet that was not completely knowable—a "thrumming silence":

> I think what enables us to stay steady in the face of radical ambiguity is the larger knowledge that we are held. . . . underneath it is a really deep knowing of being a part of a vast, interdependent universe . . . what I refer to as a kind of thrumming silence. . . at the heart of the universe. At the heart of things that I have experienced . . . there is a place one moves, or one is moved to, in which one simply gets it that there is something ineffable and unnamable at the heart of being. And it is sweet.

Remaining "steady in the face of radical ambiguity" brought this participant in touch with a sense of being held "at the heart of the universe," and in touch with his capacity to be in communion with the unnamable at the heart of being.

To be in communion with ambiguity is a powerful stance for those with the capacity to trust what lies beneath the unknowable. One participant expressed her sense of communion in this way:

> Uncertainty's obscene in the world. Uncertainty lived graciously is the mark of wisdom. Lived loudly, it's the mark of stupidity . . . when I thought about [ambiguity] I wound up going around the other way, which is to say what it isn't. That the deeper I went into experiencing ambiguity, the more it comes back around to accepting that there are few things that one could feel like one knew, and even those get kind of squishy if you poke at them hard enough.

For this participant, there is a quality of fervor that comes from recognizing the futility of resisting ambiguity: "Uncertainty lived graciously is the mark of wisdom. Lived loudly, it's the mark of stupidity." There is power in a capacity to be in communion with ambiguity with what is as yet unknown, and possibly unknowable, yet holds together.

Another participant's description of ambiguity brings this capacity for communion into sharp focus:

> It's heavy and it's sweet, too. I mean, there's a brightness, and it is about grief. Grief emerges when we accept the reality of conditions around us, and we are seeing a world tipped in collapse. We're seeing a world and its institutions in collapse. We're seeing a world desperately trying to keep its head above water when it's being drowned out . . . There's a certain sense, where I just sort of have to face it: Everything is ambiguous. Everything about my life, everything about my future, and maybe everything about everybody's future is ambiguous at this point. We just don't know. It's as though ambiguity initiates multiple figure-ground shifts.

A "figure-ground shift" is another way to describe the capacity for communion these participants felt as they engaged ambiguity, the radical inversion of being held by the unknown (and possibly unknowable) ambiguity of life.

The sense of communion that emerges from each of these illustrations is not without grief, loss, and at times wrath, but it is also not without sweetness. The closer the relationship with ambiguity, the more it demands the surrender of one's armor, one's defense against the mystery of what is not yet recognizable. Communion evokes the

risk described in Bateson's (1973) Learning Level III, a means of learning to learn that entails a "double involvement of primary processes (corrective action) and conscious thought (epistemic evolution)" (as cited in Brockman, 1977, p. 61). A central feature of Bateson's conceptualization is that higher order learning entails personal risk. Learning intentionally from ambiguity demands conscious and purposeful engagement—the choice to endure, to be in communion—accompanied by a capacity for meaning-making that is continuous and humble in the midst of ambiguity.

Participants displayed a unique complexity of mind in their descriptions of actively awakening ambiguity in their relationships, roles, and responsibilities as a means of coming closer to the potential within ambiguity. One participant characterized his capacity to awaken ambiguity as "shifting moment-by-moment," which includes "accepting reality as it is to awaken a space in which mutual multiple realities can take shape and let shape." He elaborated,

> You don't feel identified with the role and yet you are perceived through that identity from the outside. You're not acting in ways that are absolutely contradictory to the role because you are "using" the role as a "tool." . . . While you're in that role you may be experiencing all sorts of ambiguity and multiplicity, which you are using to choose conventional actions, in a sequence that is unique and more creative than simply following some kind of conventional repertoire would be . . . it feels like actively creating a sense not just of two ways of doing something, but of any number of ways of doing it, as often as possible . . .

Actively awakening ambiguity to test the limits of one's own and others' attachment to identities, roles, and other less fluid aspects of knowing, doing, and being is characteristic of learning within ambiguity. Another participant expressed awakening ambiguity in this way:

> God can't be all-powerful and we can't simultaneously be free . . . unless the universe is structured in such a way that we have to rediscover the very nature of the mystery, of power, of freedom, and so forth . . . If it could be captured by a completed dogmatic formulation, then nobody else would ever have to figure it out. That figuring out is not merely mental; as we pursue the purpose of life, we are co-creating the universe in ever so micro ways. By just being a little different from moment to moment than we otherwise would have been had we not been engaged in that sense of search, or that sense of being in touch with both the emptiness, the un-finishedness, with the possible and the already created.

Participants' descriptions of awakening ambiguity convey a distinct quality of intimacy, of shaping and being shaped by ambiguity. Engaging ambiguity does not necessarily imply dissolving ambiguity but rather implies moving toward "being in touch with both the emptiness, the unfinishedness, with the possible and the already created." The undercurrents of awakening ambiguity are well suited for a complex context wherein systems (individual, collective, societal) are constantly engaging in joint action and interaction.
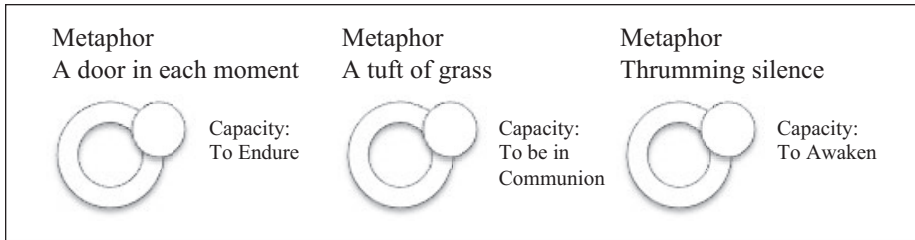
Metaphor
A door in each moment

Capacity:
To Endure

Metaphor
A tuft of grass

Capacity:
To be in
Communion

Metaphor
Thrumming silence

Capacity:
To Awaken

Figure 1. Metaphor as doorway to generative capacities for learning within ambiguity.

The data show that these distinct capacities for engaging ambiguity shape our willingness to learn within our experience of it and awaken our openness to letting it shape us through timely and intelligent action. The capacity to continuously learn from complexity demands a conscious acceptance of ambiguity and the roundabout nature of learning it may generate. Figure 1 summarizes the findings illustrating the relationship between metaphor as a "doorway" to generating learning within ambiguity.

Conclusion

Does how adults learn influence how they encounter these liquid times? I began this article by describing the liquid modernity we are currently living and the uncertain demands placed on adults. The findings point to *generative learning within ambiguity* enhancing individuals' capacity to engage with ambiguity by sparking generative (Bateson, 1973; Dewey, 1938) forms of learning. The characteristics of *generative learning within ambiguity* illustrate the "reframing spirit" (Torbert, 2004, p. 189) of more complex forms of knowing, doing, and being. Similar to John Heron (1992), who advocates continuous new learning as a key to developing our personhood, *generative learning within ambiguity* is essential to giving shape to a new "curriculum of living" in this period of liquidity. Such learning increases individuals' ability to respond effectively to work and life demands (Nicolaides & McCallum, 2014).

In response to the first research question, the findings show that for those adults with more complex forms of knowing, doing, and being, an encounter with ambiguity reveals the mystery of potential. For educators who are new to the conditions of a liquid modernity and the way ambiguity influences how adults to learn, grow, and develop, this finding provides a way to approach and shape adults learning in this current reality though metaphor. Designing novel opportunities for adults to consciously explore, engage with, and shape a connection to ambiguity provides a doorway to drawing out the potential emerging from within ambiguity that may guide intelligent action (Nicolaides, 2008; Yorks & Nicolaides, 2013). The second finding suggests that ambiguity activates generative capacities of learning—to endure, to be in communion, and to awaken—a "figure-ground shift" that can catalyze a cascade of potential and spur intelligent action. For contemporary individuals confronting this period of liquid modernity, *generative learning within ambiguity* provides a hopeful framework

through which to understand the "glory" of ambiguity and the potential that stands ready within its discovery.

This study contributes to our understanding that ambiguity presents ideal conditions in which to learn and through which to reap the rewards of potential hidden in complexity. Such an understanding is counter to the caution of learning where ambiguity evokes fear, risk, and aversion, suspending learning and keeping potential hidden in complexity. This reframing has led me to imagine *generative learning within ambiguity* as learning that joins with the appearance of potential giving shape to new mutual realities. Liquid modernity demands continuous connection and learning. For adult educators whose mission is to engage and reenvision democratic action, to develop deliberate learning pathways that enhance adults' participation in society, and to provide intentional space for inclusion and diversity that grow adults' capacities to meet the demands of this complex liquid modernity, *generative learning within ambiguity* provides a shelter for adults to shape new mutual realities.

Declaration of Conflicting Interests

Funding

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Author Biography

Aliki Nicolaides's scholarship and teachings focus on leading adult learning and practicing collaborative developmental action inquiry as a method for creating conditions for adults to advance their capacity (complexity of knowing) and competencies (skillful means) to engage paradox, uncertainty, and the ambiguity generated by early 21st century demands in work, life, and society. In both teaching and research, Dr. Nicolaides is interested in generating conditions for adults, groups, and systems to learn, grow, and develop the skillful means for collaborative inquiry, timely action, and mutually transforming power.