



## **BEVI Administrator Training Pre-Reading Materials**

### **A Brief Introduction to the Foundations of the Beliefs, Events, and Values Inventory** (adapted from Wiley, 2018)

“When we started this program, I thought that people were born gay, but now I am not so sure. At home (in Central Asia), I am a minority, and I can’t get a good job because of the way I was born. When I talk to other friends from near my home country in this program, they say that being gay is a choice that will ruin our family structures. What do you think?” This expression from Dalir, a graduate student, to his professor took place at the culmination of a two week long intensive multinational Model UN experience. The conversation provides a brief phenomenological example of how students enter learning experiences and how their pre-existing worldviews and needs filter and influence how they interact with their peers. It also influences how they interact with academic experiences and content that are prepared for them. The learning objectives for this program targeted content acquisition on the United Nation’s efforts to protect human rights based upon sexual orientation and gender identity. How was Dalir’s experience in the program interacting with his values and beliefs to facilitate or impede learning or development?

This snapshot from a sample educational experience provides a context for the framework of this training. Why do students learn and change or resist learning and change? When students do learn, what exactly is it that changes? How could faculty and administrators who design educational experiences benefit from understanding who a student is prior to participation? The sections below will outline the theories that create the foundation for the BEVI and transformative learning experiences, keeping Dalir’s experience present and a reminder of the applied context of learning.

Take just a few minutes to consider students in your learning context? What beliefs, values and experiences do they bring with them that could facilitate or impede the learning you intend for them?

#### **Theoretical Framework of the BEVI: Definitions**

The BEVI was created with a theoretical lens called Equilintegration Theory. The BEVI captures the developmental process of changes in worldviews which are collections of beliefs and values. While these terms are understood in common vernacular, it is important to provide their contextual meaning for some of the terms we will use in the training session in order to establish a shared understanding.

**Beliefs.** There are many scholars who have extensively studied these constructs: Dabrowski (1964), Dirkx (2012), Feather (1992), Kahemann (2003), Rokeach (1973), Schwartz (1992), and Shealy (2015) are just a few, but their work is important to consider when preparing for the workshop. Broadly speaking, beliefs are an individual's ideas about what is true based on their prior and current interactions and inputs from the context in which they live (Shealy, 2015). It is possible for people to share a belief but from a different perspective and to a different degree than others. Dalir, for example, entered his learning experience believing that people should not be discriminated against for characteristics with which they are born, in part, because of his own experiences with discrimination based upon his ethnicity. Sam, an undergraduate student from the US from a majority culture profile, shared the same belief but more from a background of growing up in a context where equality and self-expression were valued by his parents. His experience with discrimination was abstract while Dalir's was concrete, changing the nature and perspective of how they might internalize and act on the belief.

**Values.** One may hold many beliefs, and those which are held and maintained over time solidify into values. Beliefs are the building blocks of values and are, thus, fewer in number than beliefs (Feather, 1992; Rokeach, 1973; Shealy, 2015). Feather (as cited in Shealy, 2015) states that "values can be conceived as abstract structures that involve the beliefs that people hold about desirable ways of behaving or about desirable end states. These beliefs transcend specific objects and situations, and they have a normative, or oughtness quality about them." (p. 45). At a basic level, values connect and interact with one another as people interact with their environment. How they make sense of the input they receive becomes a system. Dalir and Sam, for example, might share a value for respecting others, believing that cultural differences should not be judged or penalized by a majority population. They may differ on other values, however, like work ethic or the importance of family relationships.

**Worldview.** The worldview represents the internal system for organizing, connecting and making meaning of beliefs and values. Like beliefs and values, a person's way of making meaning of the inputs from their environment may not be apparent to them. There is an unconscious screening process that is constantly at work in people in order to keep them internally balanced, integrated between what they believe about the world and the inputs from the world (Shealy, 2015). It is through reflection and interacting with new information that a person can become aware of the filtering process. Asking, "Why do I believe that?" This process is often uncomfortable and can lead to disequilibrium - simply stated, a sense that the world does not make sense in the same way it did before. Therefore, worldview is important because it is through gaining an awareness of self, its relationship to the surrounding environment, and how those relationships meet or do not core needs that learners filter information they receive. For the purpose of this session, a worldview is a system of beliefs and values, and worldviews can be shifted or opened to questioning through moments of disequilibrium.

**Need.** Theorists and researchers involved in understanding beliefs and values often interact with the construct of need because of the foundational influence core needs have on the formation of beliefs and values. A need, at a basic level, is an interaction or input that, if a person has to go without, causes either/both physiological or psychological suffering. When human needs go unmet long enough, it shapes the way an individual takes in and processes information about their environment, thus influencing belief formation (Shealy, 2015). Beliefs about ourselves, others, and the world around us, the values that they comprise, and the systems of beliefs and values that become our worldviews are formed by how our needs are met, or not met, especially early in life.

**Self.** The simplicity of this word appears disconnected from its definition. Shealy (2015) points out the irony that the construct of “self” is one of the most widely researched constructs in the field of Psychology while sharing no single commonly accepted definition among scholars. One useful definition for the context of this study comes from Hungarian psychologist Mikayli Csikszentmihalyi (as cited in Shealy, 2015):

The self. . .contains everything else that has passed through consciousness: all the memories, actions, desires, pleasures, and pains are included in it. And more than anything else, the self represents the hierarchy of goals that we have built up, bit by bit, over the years...however much we are aware of it, the self is in many ways the most important element of consciousness, for it represents symbolically all of consciousness’s other contents, as well as the pattern of their interrelations. (p. 34)

This definition points to the complexity of way the self gets structured, including the entangled nature of a person’s accumulated experiences, whether and how those experiences meet the person’s needs, and, ultimately, how they perceive themselves and engage with their environments.

Two theories are useful for examining the outcomes of non-traditional educational experiences. The first, Equilintegration (EI) Theory, helps explain how students enter an educational experience, from a psychological readiness perspective, and why they may or may not resist learning. EI Theory (Shealy, 2004, 2006, 2015) provides the framework for understanding how students develop the way they see themselves and the worldviews that they bring to interventions like intercultural learning experiences. EI theory draws connections between the many facets of who a person is, how their needs are met, and how input from their environment shapes their system of beliefs and values, or worldview. It provides a framework for understanding why interventions may have different outcomes for different students. The second, Transformative Learning Theory provides a bridge to the pedagogical design of learning experiences. Transformative Learning Theory describes what specific aspects of a student should change in order to claim an experience has sustained, high impact on student learning outcomes. The Transformative Learning framework established by Hoggan (2016) could allow educators to design pedagogical practices that would target change in those specific elements of who students are and how they see, or do not see, themselves and the world.

### **Equilintegration Theory**

EI Theory seeks to explain “the processes by which beliefs, values, and worldviews are acquired and maintained, why their alteration is typically resisted, and how and under what circumstances their modification occurs” (Shealy, 2004, p. 1075). To begin that process of explanation, an understanding of who a person is and how they become who they are is warranted. An element of EI Theory is that while beliefs and values moderate behavior at individual and group levels, those beliefs and values may not be rational or known explicitly (Shealy, 2006). EI Theory outlines a developmental model that begins with infants acquiring an understanding of the world through the context that surrounds them (Shealy, 2004). Individuals develop layers of complexity as they begin to think of themselves as differentiated from caregivers and have internal dialogues, taking stimulus from the external environment, and making meaning from it. Shealy (2015) explained that, “belief and value content (i.e., the beliefs and values that a human being holds to be self-evident about self, others and the world at large)

largely is a function of those beliefs and values that predominate in the primary cultures and context in which that human being develops and lives”(p. 96). This is not to negate individuals’ power to diverge from their cultural norms or deny the heterogeneity of cultural groups, but to mark the connection between how, where, and when people grow up and who they become.

Through this framework, we begin to understand how students come to learning experiences with a particular worldview, or system of acquiring beliefs and values. Individuals are composed of beliefs and values that are available to them as they develop (Shealy, 2004; Vygotsky, 1997). Being unaware that they have a worldview, through lack of availability to contrasting views, may prevent students from being able to learn or change. Through novel experiences, that are not consonant with their prior experiences, individuals may gain awareness of their own beliefs and values and those of others. For true change in awareness or critical thinking to occur, some sort of intervention may be necessary to act as a catalyst (Dabrowski, 1964; J. Dirkx, 1998; Dweck, 2008; Mezirow, 1997). However, such interventions can disturb a sense of balance the self has created regarding how the world makes sense (Shealy, 2015); therefore, GDL practices should be designed with support for reflection and emotional processing.

While EI Theory is useful in bringing us to an understanding of how students may need or begin the intervention, it does not entirely offer a framework for the pedagogy necessary to elicit change—the catalyst. It is necessary, therefore, to employ Transformative Learning Theory (Mezirow, 1997) as a framework for how these experiences can be expected to produce changes in self and other awareness as well as critical thinking capacity. It is through transformative learning experiences that students become aware of their worldview and ability to think critically about it. In our case study, Dalir found himself in conflict between his belief that people should not be discriminated against for characteristics of themselves they could not control and his need for affiliation with peers from his home country (who had expressed that they felt strongly that homosexuality was morally wrong). Through the learning experience, Dalir was able to share experiences and conversations with students from a spectrum of gender orientations that sparked reflection, created a new awareness of his value for family and the needs met by family. He also began to try to imagine how his family context would change, if one of his parents had “chosen” to change their sexual orientation. His interactions with the variety of participants in his cohort provided an overwhelming amount of input from which he struggled to make meaning. Would he change his beliefs and values, and if so, how and why, and what impact would this change have on his identity, his interactions with others, and his experiences?

### **Transformative Learning Theory**

EI Theory provides the context for how Dalir formed the beliefs about himself and others that he brought to the learning experience. It also explains the interconnectedness of core needs and belief formation that can provide understandings of why learning or change is resisted at times. There is a gap, however, between knowing how a student’s worldview is formed and the learning environment. Transformative Learning theory can provide the bridge between the two contexts by identifying components of the student that should change in order for the experience to be identified as high impact. This allows the educator to systematically design learning experiences and environments that could support change in each of these components. In the section that follows, a brief discussion of all of the components of Transformative Learning Theory provide a bridge to the types of learning experiences we can assess using the BEVI.

All of the input Dalir received was providing input for a change in how he saw the world through the lens of his values, beliefs and needs. Transformative Learning (TL) theory is, “the process of effecting change in a frame of reference” (Mezirow, 1997, p. 5). In his theory, Mezirow (1997) outlined the process involved in effecting change that, while critiqued and modified over the past two decades, has been foundational in the field of Adult Learning.

Hoggan (2016) completed a meta-analysis of 206 studies that took place between 2003 and 2014 concerning transformative learning and developed a taxonomy to describe essential components of transformation which were present in the body of studies he reviewed. His work outlines six fundamental components: (a) a change in worldview, (b) changes in ways of knowing, (c) changes in cognitive ability, (d) increased awareness of self and other, (e) increased mindful awareness of subconscious dialogue, and (f) changes in action (Hoggan, 2016).

**Self.** In Hoggan’s (2016) meta-analysis of Transformative Learning studies an overarching theme of changes in the self emerged. He labeled this component simply, the Self. Hoggan found that many studies referred to a transformation in how the study participants saw themselves in relationship to the outside world due to some intervening process. There were subthemes of empowerment and increased responsibility as a result of changes in how study participants viewed themselves through their experiences. Another sub-theme of the Self component came from studies that noted how participants became aware of or changed the purpose for their lives. There is an expressed sense among some scholars of experiential and intercultural learning that the purpose of GDL practices is to create a learning environment where students can gain a broader awareness of the world and, through that awareness, refine their understanding of how and through what systems they are connected to the world outside of the self (Agnew & Kahn, 2014; Gorski, 2008; Kahn & Agnew, 2017; Law, 2014; Whitehead, 2016). Mindful awareness of what educators are asking of students is warranted (Ettling, 2012). Through the insights provided by EI Theory, however, educators can be more mindful and informed about how to support students in a process that can often be disorienting, if not painful. Dalir could conceivably experience transformation of the self in this Model UN experience, coming to a new understanding of his own beliefs and the reasons for them. The change in worldview may have consequences, however, for his connection with longtime peers if not carefully considered.

**Worldview.** This component of Transformative Learning theory is about the realm outside of the self. It encompasses all things that could be considered ‘other’, not just individuals but social systems as well. Hoggan (2016) notes that many of the studies he reviewed captured changes in how participants made sense of the environment around them. He also noted that several studies included new awareness of the variation among perspectives and behaviors in different social groups. Hoggan noted that participants were, “becoming aware of the existence of social, economic, and political contradictions in society or the role power, privilege, and oppression play in people’s lives.” (2016, p. 66). EI theory provides educators with the framework for understanding how students differentiate between what they consider self and other, while TL theory provides the bridge into pedagogical realms. For educational experiences to have lasting impact, they must be designed to help students develop new awareness of the world outside of the self. Practices should bring students into contact with their own values and mental narratives in service of helping them see that those systems serve as a filter for what comes from the outside world. As a result of his participation in the Model UN program, Dalir began to see himself in a broader social context and experienced a shift in how he perceives and interacts with peers who do not share his sexuality.

**Epistemology and Capacity.** These two components of Transformative Learning Theory are presented together because together they fit into the EI Theory framework for critical thinking. Hoggan (2016) identified the theme of Epistemology, or ways of knowing, in a number of studies he reviewed. Studies identified changes in how study participants defined knowledge or acquired knowledge. There were also findings that participants became more nuanced and critical about how they took in new information. Participants moved from passive and dualistic knowledge systems to active and nuanced systems. Additionally, Capacity for cognitive development emerged as a theme of research in Hoggan's (2016) meta-analysis. Transformative practices facilitated shifts from ego-centric to more global-centric orientations. Hoggan notes that increased ability to think with nuance and complexity allows learners to become more conscious of their 'self' and its location within a wider social context. Finally, it is important to take note of the entangled nature of processes within the self, like increases in critical thinking that give rise to increased awareness of one's social context. EI theory and the model of the EI Self help make those systems within the learner clearer to educators designing complex pedagogical practices. TL theory can then help identify those components of the learner that can be transformed through learning experiences. Because this was Dalir's first experience explicitly discussing the spectrum of gender and sexuality with his peers, he began thinking critically about what his beliefs about sexuality would mean for his interactions, both with people who agreed and disagreed with him.

**Ontology.** This facet of Transformative Learning Theory connects to the internal processes that are represented in the EI Self. Hoggan (2016) found that a number of studies on transformative learning involved changes in participants' emotional experience of the learning context as well as changes in their ways of being and in attributes like hopefulness or empathy. This maps well onto the EI Theory which suggests that emotion is often a regulator of information that enters the self. To provide an example from a global learning context, when students are engaged in learning in an unfamiliar environment, fear or anxiety may inhibit information from being critically analyzed and situated in the worldview. Alternatively, when students feel supported and safe in an unfamiliar environment, curiosity may lead them to bring contextual information into the self for analysis and reflection. If Dalir had not been willing to engage in deep philosophical questioning of himself and others this experience would not have impacted him much. Likewise, if he had felt threatened, insecure, or attacked for his beliefs, he likely would not have been willing to grow or change in this situation. The Ontology aspect of TL theory reminds us as educators to be aware of what emotional states students bring with them to educational experiences, as well as what emotional states the experiences themselves may trigger.

### ***The Beliefs Events and Values Inventory (BEVI).***

The BEVI, founded on EI theory, is a useful tool for operationalizing these elements of TL theory. A set of psychometric scales developed by Craig Shealy (2004), the BEVI is "designed to identify and predict a variety of developmental, affective, and attributional processes and outcomes that are integral to EI Theory" (Shealy, 2004, p. 1075). The instrument's development began in the early 1990s and has undergone consistent review to maintain validity through multiple Confirmatory Factor Analyses (Shealy, 2015). The current version contains 185 items. It includes the following components: (a) an extensive, modifiable set of demographic questions; (b) life history questions; (c) two validity scales; (d) seventeen psychometric scales; and (e) three qualitative items intended to collect participant reflections on their experiences.

**Reliability and validity.** Reliability coefficients for each of the scales have been recorded at above 0.80 and 0.90 (Shealy, 2015). According to Creswell (2012), levels of .80 and above are considered high reliability. Researchers have indicated validity of the BEVI due to its ability to predict group membership across demographic variables. One study found that the BEVI was able to classify and predict group membership of mental health professionals and evangelical Christians (Hayes, 2001). In addition, Reisweber (2008) demonstrated the concurrent validity of the BEVI by predicting students who had increased their level of intercultural competence as measured by the Intercultural Development Inventory (Hammer, Bennett, & Wiseman, 2003) and the BEVI.

**Scale and domain composition.** Scores are calculated for each of the seventeen scales in the BEVI. Additionally, scales that are closely correlated are further organized under seven overarching domains. The composition of the domains and scales of the BEVI are included in the table below.

Domain	Description of scales within each domain
<b>Validity Scales</b>	<p><b>Consistency:</b> captures consistency of response to differently worded items that measure the same construct</p> <p><b>Congruency:</b> degree to which responses follow statistically expected patterns</p>
<b>Formative Variables</b>	<p><b>Demographics:</b> background items such as gender, economic status, age, ethnicity, etc.</p> <p><b>Scale 1: Negative Life Events:</b> Conflict in family; trouble as a child</p>
<b>Fulfillment of Core Needs</b>	<p><b>Scale 2: Needs Closure:</b> Lack of connection to core needs in self or other</p> <p><b>Scale 3: Needs Fulfillment:</b> Open to needs of self and others</p> <p><b>Scale 4: Identity Diffusion:</b> Difficult crisis of identity; no sense of control over life outcomes</p>
<b>Tolerance for Disequilibrium</b>	<p><b>Scale 5: Basic Openness:</b> Ability to be open with self and others about thoughts, feelings, and needs</p> <p><b>Scale 6: Self Certitude:</b> does not have the capacity for deep analysis; strong sense of will</p>
<b>Critical Thinking</b>	<p><b>Scale 7: Basic Determinism:</b> Chooses simple explanations for phenomena; sense of fixed character</p> <p><b>Scale 8: Socioemotional Convergence:</b> thoughtful; sees complexities in circumstances; aware of connectivity between self and larger world</p>

<b>Self Access</b>	<b>Scale 9: <i>Physical Resonance</i>:</b> receptive to needs and feelings of own body
	<b>Scale 10: <i>Emotional Attunement</i>:</b> connected to own emotions; sensitive to and accepting of expressions of affect in others
	<b>Scale 11: <i>Self Awareness</i>:</b> reflective, okay with complexity and difficult feelings
	<b>Scale 12: <i>Meaning Quest</i>:</b> seeking balance in life; searching for meaning
<b>Other Access</b>	<b>Scale 13: <i>Religions Traditionalism</i>:</b> sees life as mediated by God; highly committed to religious doctrine
	<b>Scale 14: <i>Gender Traditionalism</i>:</b> binary in thinking about sexes and roles that are assigned to sexes; refers simple view of sex and gender.
	<b>Scale 15: <i>Sociocultural Openness</i>:</b> open to an array of policies and practices; looks for experience of difference
<b>Global Access</b>	<b>Scale 16: <i>Ecological Resonance</i>:</b> highly committed to environmental sustainability
	<b>Scale 17: <i>Global Resonance</i>:</b> desire to learn about different cultures, share experience with others from differing culture groups

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In the table below, TL theory is mapped against EI theory, high impact practices from the literature, and the BEVI scales, to emphasize how the BEVI operationalizes these constructs.

<p>El Theory applied (Shealy, 2016)</p>	<p>Transformative Learning Theory elements (Hoggan, 2016)</p>	<p>High impact practice outcomes (Schneider, 2005; Kuh, 2008)</p>	<p>BEVI-Short version: Domain alignment (Acheson, et al., in press)</p>
<p>Worldviews form based upon the interaction of social context and how formative needs were met</p>	<p>Worldview shifts</p>	<p>Global knowledge in relation to self</p>	<p>Other Access Domain: open regarding ways of functioning in social context, capacity for dealing with the existential and non-corporeal, open understanding of gender in social contexts, and interest in interactions with unfamiliar contexts and personal backgrounds</p>
<p>Changes in worldview come through disequilibrium experiences that challenge assumptions</p>	<p>Changes in underlying assumptions</p>		
<p>Awareness of the internal system for belief development</p>	<p>Ways of knowing are more open, discriminating, inclusive;</p>	<p>Intellectual skills, e.g., critical thinking, teamwork, problem solving (Kuh, 2008)</p>	<p>Critical Thinking Domain: capacity for complex explanation of differences, awareness of larger world and entangled nature of interactions with others</p>
<p>Understanding of internal dialogue and processes</p>	<p>Increases in cognitive abilities</p>		
<p>To change, people must have awareness of core needs, (affective, affiliative) and personal beliefs</p>	<p>Ways of being, more emotionally in tune, independent, aware</p>	<p>Personal and Social Responsibility, e.g., intercultural awareness, civic knowledge and action (Kuh, 2008)</p>	<p>Self Access Domain: cares for human condition; tolerates difficult feelings; resilient; receptive to corporeal needs; sensitive, social, values the expression of affect</p>
<p>As awareness of core needs and their relationship to beliefs becomes apparent, people see themselves independent of social context</p>	<p>Changes in sense of identity, efficacy, empowerment</p>	<p>Personal and Social Responsibility, e.g., intercultural awareness, civic knowledge and action (Kuh, 2008)</p>	<p>Self Access Domain: introspective; accepts complexity of self; cares for human condition, open regarding practices in social context</p>
	<p>Behavior aligns with changes in</p>	<p>Applied learning, civic engagement, ethical action (2008)</p>	

Note: Modified from Acheson, et al. (In press).

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Excerpted from: “High Impact Learning in Higher Education: Operationalizing the Self-Constructive Outcomes of Transformative Learning Theory”, in *Transformative Learning: Theory and Praxis (in press)*

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## **Introduction**

Originating in the contexts of Freire’s (1970) cultural literacy circles and the stories of women returning to community colleges (Mezirow, 1978), the generative framework of transformative learning theory (Taylor & Cranton, 2012) has recently found wide application in U.S. tertiary education in general and in high impact learning experiences in particular (e.g., study abroad, international service learning and practica, etc.). Scholars and practitioners interested in experiences that have a profound impact on an adult’s sense of self and his or her relationships to the broader world, however, struggle to operationalize the theory in such a way that transformative outcomes associated with high impact learning experiences can be effectively measured and documented. At the same time, calls for accountability in higher education policy and practice and the need to assess and document student learning outcomes have become increasingly prevalent. In operationalizing the theory, we use Hoggan’s (2016) taxonomy of transformative learning constructs to connect the self-constructive dimensions of the theory with the 17 scales of the Beliefs, Events, and Values Inventory or BEVI (Shealy, 2016).

## **High Impact Learning**

Since the turn of the century, a paradigm shift towards a culture of assessment has evinced within higher education (Bastedo, Altbach, & Gumpert, 2016; Huisman & Currie, 2004; Zumata, 2000). Accompanied by the increased importance of institutional and program level accreditation and a rise in credibility of the Scholarship of Teaching and Learning (SOTL), the systematized assessment of learning outcomes has become a backbone of the culture of tertiary education in many countries, including the US. Built on the twin philosophies of transparency and accountability, many universities are intentionally investing in best practices of assessment in an attempt to ensure continual improvement and the achievement of student learning objectives in their curricula and co-curricular experiences.

As a result, higher education administrators often focus on high impact learning experiences as crucial to the accomplishment of their missions. High impact practices are characterized by an emphasis on learning that goes beyond the classroom setting, engagement with faculty in ongoing interactions with students, and collaboration among

diverse students (Kuh, 2008). For example, there is a tendency for universities to explicitly connect programs such as study abroad, internships, service learning, practica, and service learning with institutional goals of internationalization and engagement. Unfortunately, such programs are frequently assumed to be high impact without much evidence to that effect, prompting assessment experts to insist that institutions gather data on how, why, and in what contexts students learn most effectively in order to make evidence-based decisions instead of taking for granted the value of so-called high impact learning experiences (Deardorff, 2016).

The assessment of high impact learning, however, is rife with issues. Even when assessment protocols are present in these contexts, they (like the high impact experiences themselves) are often limited in scope to small “boutique” programs rather than scaled to the entire student body. Furthermore, academic outcomes (e.g., GPA, major selection, career choices) and satisfaction with the program are much more likely to be measured than deep transformative changes, which by definition, include core aspects of the self and identity: behaviorally-based allocation of resources, changes in how affect is experienced or expressed, core alteration of beliefs / values, new forms of relating interpersonally (Leary & Tangney, 2012; Shealy, 2016). In other words, most faculty and program administrators do not gather and analyze evidence of deep changes to the construction of the self beyond the anecdotal evidence of participant testimony on the “life-changing” nature of these experiences.

### **Transformative Learning**

Transformative learning refers to both the processes and outcomes of particular kinds of learning experiences. Within these experiences, the learner’s sense of self, of being in the world, and relationships with others are profoundly called into question. Meaning perspectives and frames of reference that one could once rely upon for making sense of experiences seem to no longer hold. Daloz (1986) argues that transformative learning is triggered when the fabric of meaning within one’s life becomes tattered and worn. While initially framed primarily within cognitive perspectives (Mezirow, 1978), recent scholarship emphasizes more holistic conceptions of transformative learning, emphasizing the importance of affective and spiritual dimensions to transformative learning (Bamber, 2016; Dirkx, 2012, 2000, 1997; Fisher-Yoshida, Geller, & Shapiro, 2009; Taylor & Cranton, 2012). Elias (1997) illustrates this more holistic understanding, defining transformative learning as: “the expansion of consciousness through the transformation of basic worldview and specific capacities of the self; transformative learning is facilitated through consciously directed processes such as appreciatively accessing and receiving the symbolic contents of the unconscious and critically analyzing underlying premises.” (n.p.)

Transformative learning underscores the centrality of the self conception in high impact learning experiences and how it comes to be constructed and reconstructed through processes of critical reflection on one’s beliefs, assumptions, and values, and how working symbolically with unconscious content of psyche, such as emotion-laden experiences and images, fosters consciousness development (Dirkx, 2012).

Many high impact practices create environments which can potentially foster transformative learning. However, clearly establishing this interrelationship is difficult because we lack tools to effectively measure and document both the processes and outcomes of transformative learning. Much of the research in transformative learning reflects qualitative approaches that stress the phenomenological and interpretive dimensions of this form of learning. A few scholars have attempted to develop more quantitative tools for assessing transformative learning. Yet, as Cranton and Hoggan (2012) suggest, numerous issues remain with assessing outcomes of transformative learning. King (2004) was one of the early investigators to attempt to measure the extent to which participants in professional development programs experiences transformative learning. While some have claimed the instrument demonstrates appropriate validity and reliability (Vittoria, Stollo, Brock, & Romano, 2014), the Learning Activities Survey Professional Development Technology Format (LAS-PDT) is not rigorously grounded in transformative learning theory as outlined above, and does not provide adequate means to assess self-construction or transformation. Stucky, Taylor, and Cranton (2013) developed a more theoretically grounded instrument, but considerable psychometric work remains before this instrument will be useful for measuring outcomes of transformative learning experiences. To be effective in assessing transformative dimensions and experiences of high impact learning, scholars need to address the need for a more operationalized conception of transformative learning.

### **Operationalizing Transformative Learning Theory**

Recently, Chad Hoggan (2016) undertook an extensive content analysis of the body of literature on transformative learning to clarify and delineate conceptualizations of TL in order to encourage a more coherent and cohesive scholarly discourse in this field. Table 1 below presents Hoggan’s resulting taxonomy, in descending order of frequency of discursive presence.

*Table 1. Hoggan’s (2016) taxonomy of Transformative Learning*

<b>Aspect of Transformation</b>	<b>Included Constructs</b>
Worldview	- Assumptions, Beliefs, Attitudes, Expectations - Ways of Interpreting Experience

	<ul style="list-style-type: none"> <li>- More Comprehensive or Complex Worldview</li> <li>- New Awareness / New Understandings</li> </ul>
Self	<ul style="list-style-type: none"> <li>- Self-in-Relation</li> <li>- Empowerment / Responsibility</li> <li>- Identity / View of Self</li> <li>- Self-Knowledge</li> <li>- Personal Narratives</li> <li>- Meaning / Purpose</li> <li>- Personality Change</li> </ul>
Epistemology	<ul style="list-style-type: none"> <li>- More Discriminating</li> <li>- Utilizing Extra-Rational Ways of Knowing</li> <li>- More Open</li> </ul>
Ontology	<ul style="list-style-type: none"> <li>- Affective Experience of Life</li> <li>- Ways of Being</li> <li>- Attributes</li> </ul>
Behavior	<ul style="list-style-type: none"> <li>- Actions Consistent with New Perspective</li> <li>- Social Action</li> <li>- Professional Practices</li> <li>- Skills</li> </ul>
Capacity	<ul style="list-style-type: none"> <li>- Cognitive Development</li> <li>- Consciousness</li> <li>- Spirituality</li> </ul>

In our task of operationalizing TL theory in such a way that the resulting quantitative and qualitative frameworks would be readily applicable in a systematic fashion across a range of institutional contexts, several considerations emerged as guiding principles:

1. *Theoretical compatibility* - first and foremost among key considerations was the fit of constructs measured by instruments to TL theory, as well as compatibility between transformative learning and the theories undergirding the development of the instruments;
2. *Need for both quantitative and qualitative operationalizations* - a fully comprehensive approach to measuring transformative learning must be responsive to a wide range of data types, not only results of pre/post inventories that can be subjected to statistical analyses but also the many text-based student artifacts generated in high impact best practices such as reflective writing;
3. *Preference for validated instruments already in common use* - given the challenges of creating new instruments and the time and effort required to

gain acceptance of their value in the scholarly community, we thought it better to first consider assessment tools already established with a history of use and widespread credibility;

4. *Robust and sophisticated nature of the tools* - because transformative learning theory, with its rich traditions and decades of scholarly development, is far from simplistic, we need measurement tools that account for the complex, multifaceted and interconnected nature of transformation of the self;
5. *Logistical considerations* - the viability of our operationalization will in some contexts depend heavily upon cost effectiveness, training required, accessibility of resources/support, ease of implementation, and other logistical concerns;
6. *Usefulness for formative assessment* - because reflection and self-awareness are so important to self-constructive transformative processes, we looked for instruments with the potential to be utilized effectively as formative assessments in addition to summative assessment tools. Important to this formative potential were the accessibility and gentleness of instrument feedback returned to students and their usefulness as a framework for group debriefing and individual processing.

Many of the above perspectives are aligned with a fundamental proposition: that constructs like “transformative learning” -- which are conceptually appealing to a range of scholars and practitioners -- must be assessed in an ecologically valid manner. In other words, if we wish to offer empirical evidence that our propositions about human change are “true” (e.g., have demonstrable impact in the real world), we first have to acknowledge that a concept like “transformative learning” is a “construct,” which may be defined as “a concept or a mental representation of shared attributes or characteristics” which are “assumed to exist because it gives rise to observable or measurable phenomena” (Hubley & Zumbo, 2013, p. 3). Constructs like “transformative learning” must be operationalized, which is to say, they need to be defined and measured in terms of the operations that illustrate their existence. That is, if we are to claim ecological validity for this construct or any other (e.g., “intelligence,” “openness,” “anxiety” etc.), we must be able to specify in a measurable and replicable manner what exactly we mean by this core contention about how humans change and under what circumstances.

Based on a careful comparison of the alignment of the constructs measured by the BEVI, or Beliefs, Events, and Values Inventory, with TL theory, we believe it to be a reasonable operationalization of transformative learning. The BEVI examines interactions among developmental, affective, and attributional processes that are related to who learns what and why, and under what circumstances (Wandschneider, Pysarchik, Sternberger, Ma, Acheson, et al., 2016). In development since the early

1990s, the Beliefs, Events, and Values Inventory (BEVI) is a comprehensive assessment measure that is used in a wide range of applied settings, evaluative contexts, and research projects. Grounded in Equilintegration or EI Theory -- which “explain[s] the processes by which beliefs, values, and worldviews are acquired and maintained, why their alteration is typically resisted, and how and under what circumstances their modification occurs” (Shealy, 2004, p. 1075) -- the BEVI consists of four interrelated components: demographic/ background items (age, gender, ethnicity, citizenship, countries visited), a life history/background questionnaire, two validity and seventeen "process scales," and three qualitative "experiential reflection" items (for a full explanation of BEVI scales, see Wandschneider et al., 2016). The BEVI seeks to understand "who the person is" prior to participating in an experience, "how the person changes" as a result of the experience, and how these factors interact to produce a greater or lesser likelihood of learning and growth. More specifically, the BEVI assesses “basic openness; receptivity to different cultures, religions, and social practices; the tendency (or not) to stereotype in particular ways; self and emotional awareness; and preferred but implicit strategies for making sense of why ‘other’ people and cultures ‘do what they do’” (Shealy, 2005, p. 99). A web-based inventory, the BEVI typically requires between 25 and 30 minutes to complete.

Highly relevant to the construct of transformative learning, the BEVI illustrates both from a theoretical and empirical perspective why it is important to apprehend human beings in comprehensive and integrative terms. These realities are revealed via correlation matrix data, which show the interrelationship of various BEVI scales with each other. Consider the following correlation matrix data from one of the “primary” factors on the BEVI, *Sociocultural Openness*, which measures beliefs / values regarding a wide range of actions, policies, and practices in the areas of culture, economics, education, environment, gender/global relations, and politics. Sample items from this scale include “We should try to understand cultures that are different from our own” and “There is too big a gap between the rich and poor in our country.” This correlation matrix

*Figure 1. BEVI Scale Correlations*

*Correlation Matrix Findings above .40 between Sociocultural Openness and other BEVI Scales*

Scales	Correlation
Needs Closure	-0.90
Ecological Resonance	0.88
Socioemotional Convergence	0.82
Basic Closedness	-0.81
Identity Diffusion	-0.71
Emotional Attunement	0.77
Socioreligious Traditionalism	-0.62
Hard Structure	-0.58
Negative Life Events	-0.57
Divergent Determinism	-0.50

analysis from the Wandschneider et al. (2015) article reveals the interconnectedness among various aspects of self-structure and functioning.

How do we interpret such findings? Essentially, individuals who score highly on *Sociocultural Openness*:

- are more likely to indicate that core needs (e.g., for attachment, affection) were met in a “good enough” manner (*Needs Closure*);
- are more likely to be concerned about or invested in matters that have to do with the environment and natural world (*Ecological Resonance*);
- appear more able to experience the world in complex “shades of gray,” rather than in black and white terms (*Socioemotional Convergence*);
- are less likely to deny or ignore fundamental thoughts, feelings, or needs that generally are experienced as “normative” regarding human existence or functioning (*Basic Closedness*);
- are less likely to express feelings of confusion and entrapment regarding their current existence and future prospects (*Identity Diffusion*);
- are more likely to indicate the capacity and inclination to experience affect in self and other, and to value its expression (*Emotional Attunement*);
- are less likely to endorse a traditional worldview regarding the nature and purpose of religion and its centrality to one’s own life (*Socioreligious Traditionalism*);
- are less likely to express very strong certitude regarding the correctness of one’s own way of seeing self, others, and the larger world, while denying doubts or weakness (*Hard Structure*);
- are less likely to report the experience of a high degree of unhappy life experiences during childhood/ adolescence or generally in life (*Negative Life Events*); and,
- are less likely to adopt a reflexively contrarian posture regarding the nature of “truth” or “reality” (*Divergent Determinism*).

In short, just as in TL theory one change in the self is not likely to occur in isolation without ramifications for other aspects of the self, BEVI scales are intricately intertwined and interact in complex but predictable ways.

Our creation of the crosswalk between Hoggan’s (2016) taxonomy of transformative learning and the scales of the BEVI proceeded organically from an initial alignment of the most clearly connected concepts to a construct validity check with a panel of experts, through a series of small revisions to account for the full complexity of both theory and data, and finally to a second expert review for validity. An excerpt of the crosswalk with the alignment between “Worldview”, one aspect of Hoggan’s taxonomy, and five scales for the BEVI from the “Other Access” and “Global Access” domains, is provided below to demonstrate how BEVI pre/post-test data can be used as an indicator

of how and to what extent participants in a high impact learning experience engage in transformative learning.

*Table 2: Transformative Learning Operationalized as BEVI data*

<b>Aspect of TL (Hoggan, 2016)</b>	<b>BEVI scales (Shealy, 2016) - significant pre/post-test scale differences indicate aspect and extent of transformative learning</b>
<p><b>Worldview</b> Change in underlying worldview assumptions or conceptualizations</p>	<ul style="list-style-type: none"> <li>● <b>Sociocultural Openness Scale (Other Access Domain):</b> progressive/open regarding actions, policies, and practices in culture, economics, education, environment, gender/global relations, politics</li> <li>● <b>Religious Traditionalism Scale (Other Access Domain):</b> sees self/behavior/events as mediated by God/spiritual forces; believes in one way to the “afterlife”</li> <li>● <b>Gender Traditionalism Scale (Other Access Domain):</b> prefers traditional/simple views of gender and gender roles</li> <li>● <b>Ecological Resonance Scale (Global Access Domain):</b> deeply invested in environmental/sustainability issues; concerned about the fate of the earth/natural world</li> <li>● <b>Global Resonance Scale (Global Access Domain):</b> invested in learning about/encountering different individuals, groups, languages, cultures; seeks global engagement</li> </ul>

It is important to note that the crosswalk is not always neatly aligned. In other words, there is not a one-to-one correlation of TL aspects to BEVI scales. In fact, some BEVI scales are listed in the full crosswalk table across from multiple TL aspects. An example of this is the BEVI’s “Meaning Quest” scale in the Self Access domain (searching for meaning; seeks balance in life; resilient/persistent; highly feeling; concerned for less fortunate), which offers evidence of transformation in terms of three of Hoggan’s aspects of TL: “Epistemology,” “Self,” and “Ontology.” Furthermore, in the case of two of Hoggan’s TL types, “Epistemology” and “Capacity,” it became too difficult to tease out their differences based on BEVI data; the two were thus conflated and listed together in the crosswalk opposite the five BEVI scales indicative of those kinds of transformation. Such conflation functions well because, just as BEVI scales are not analyzed in isolation from the others when used for other purposes, when used as a measure of transformative learning they should still be considered holistically. In addition to the scales, the formative variables identified by the BEVI contributed to the measurement of transformative learning. In short, this operationalization is as complex and sophisticated as are TL theory and the BEVI instrument themselves.

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**Appendix A: Operationalization of Transformative Learning as Measurable with the BEVI\***

\*Note: the BEVI is meant to be utilized holistically (not with a single scale in isolation)

Taxonomy of TL (Hoggan, 2016)	Operationalized with BEVI scales (Shealy, 2016) - <i>change on scales indicates transformative learning</i>	Operationalized with BEVI formative variables
<p><b>Worldview</b> Change in underlying worldview assumptions or conceptualizations</p>	<ul style="list-style-type: none"> <li>● <b>Sociocultural Openness Scale (Other Access Domain):</b> progressive/open regarding actions, policies, and practices in culture, economics, education, environment, gender/global relations, politics (<i>positive pre/posttest change on scale scores</i>)</li> <li>● <b>Religious Traditionalism Scale (Other Access Domain):</b> sees self/behavior/events as mediated by God/spiritual forces; believes in one way to the “afterlife” (<i>negative pre/posttest change on scale scores</i>)</li> <li>● <b>Gender Traditionalism Scale (Other Access Domain):</b> prefers traditional/simple views of gender and gender roles (<i>negative pre/posttest change on scale scores</i>)</li> <li>● <b>Ecological Resonance Scale (Global Access Domain):</b> deeply invested in environmental/sustainability issues; concerned about the fate of the earth/natural world (<i>positive pre/posttest change on scale scores</i>)</li> <li>● <b>Global Resonance Scale (Global Access Domain):</b> invested in learning about/encountering different individuals, groups, languages, cultures; seeks global engagement (<i>positive pre/posttest change on scale scores</i>)</li> </ul>	

Taxonomy of TL (Hoggan, 2016)	Operationalized with BEVI scales (Shealy, 2016) - <i>change on scales indicates transformative learning</i>	Operationalized with BEVI formative variables
<p><b>Epistemology</b> Changes in epistemic beliefs More autonomous, systemic, authentic or embodied ways of knowing</p> <p><b>Capacity</b> Development of cognitive abilities Consciousness</p>	<ul style="list-style-type: none"> <li>● <b>Basic Determinism Scale (Critical Thinking Domain):</b> prefers simple explanations for differences/behavior; believes people don't change/strong will survive (<i>negative pre/posttest change on scale scores</i>)</li> <li>● <b>Socioemotional Convergence Scale (Critical Thinking Domain):</b> open, aware of self/other, larger world; thoughtful, pragmatic, determined; sees world in shades of gray, such as the need for self-reliance while caring for vulnerable others (<i>positive pre/posttest change on scale scores</i>)</li> <li>● <b>Self-Certitude Scale (Tolerance of Disequilibrium Domain):</b> strong sense of will; impatient with excuses for difficulties; emphasizes positive thinking; disinclined toward deep analysis (<i>negative pre/posttest change on scale scores</i>)</li> <li>● <b>Self Awareness Scale (Self Access Domain):</b> introspective; accepts complexity of self; cares for human experience/condition; tolerates difficult thoughts/feelings (<i>positive pre/posttest change on scale scores</i>)</li> <li>● <b>Meaning Quest Scale (Self Access Domain):</b> searching for meaning; seeks balance in life; resilient/persistent; highly feeling; concerned for less fortunate (<i>positive pre/posttest change on scale scores</i>)</li> </ul>	

Taxonomy of TL (Hoggan, 2016)	Operationalized with BEVI scales (Shealy, 2016) - <i>change on scales indicates transformative learning</i>	Operationalized with BEVI formative variables
<p><b>Self</b></p> <p>Outcomes related to self</p> <p>Changes in one's sense of identity</p> <p>[neutral in terms of direction of change]</p> <p>Relatedness to others</p> <p>Self-efficacy</p> <p>Empowerment</p>	<ul style="list-style-type: none"> <li>● <b>Meaning Quest Scale (Self Access Domain):</b> searching for meaning; seeks balance in life; resilient/persistent; highly feeling; concerned for less fortunate (<i>positive pre/posttest change on scale scores</i>)</li> <li>● <b>Needs Closure Scale (Core Needs Domain):</b> unhappy upbringing/life history; conflictual/disturbed family dynamics; stereotypical thinking/odd explanations (<i>change in any direction on pre/posttest scale scores</i>)</li> <li>● <b>Needs Fulfillment Scale (Core Needs Domain):</b> open to experiences, needs, and feelings; deep care/sensitivity for self, others, and the larger world (<i>change in any direction on pre/posttest scale scores</i>)</li> <li>● <b>Identity Diffusion Scale (Core Needs Domain):</b> indicates painful crisis of identity; fatalistic regarding negatives of marital/family life; feels "bad" about self and prospects (<i>change in any direction on pre/posttest scale scores</i>)</li> <li>● <b>Basic Openness Scale (Tolerance of Disequilibrium Domain):</b> open and honest about the experience of basic thoughts, feelings, and needs (<i>positive pre/posttest change on scale scores</i>)</li> </ul>	<ul style="list-style-type: none"> <li>● <b>Negative Life Events Scale:</b> difficult childhood; parents were troubled; life conflict/struggle and regrets</li> </ul>

Taxonomy of TL (Hoggan, 2016)	Operationalized with BEVI scales (Shealy, 2016) - <i>change on scales indicates transformative learning</i>	Operationalized with BEVI formative variables
<p><b>Ontology/Ways of being</b></p> <p>Affective experience of life</p> <p>Ways of being</p> <p>Mindful awareness</p> <p>Present in the moment</p> <p>Consciousness in dialogue with the unconscious</p>	<ul style="list-style-type: none"> <li>● <b>Self Awareness Scale (Self Access Domain):</b> introspective; accepts complexity of self; cares for human experience/condition; tolerates difficult thoughts/feelings (<i>positive pre/posttest change on scale scores</i>)</li> <li>● <b>Meaning Quest Scale (Self Access Domain):</b> searching for meaning; seeks balance in life; resilient/persistent; highly feeling; concerned for less fortunate (<i>positive pre/posttest change on scale scores</i>)</li> <li>● <b>Physical Resonance Scale (Self Access Domain):</b> receptive to corporeal needs/feelings; experientially inclined; appreciates the impact of human nature/evolution (<i>positive pre/posttest change on scale scores</i>)</li> <li>● <b>Emotional Attunement Scale (Self Access Domain):</b> emotional, sensitive, social, needy, affiliative; values the expression of affect; close family connections (<i>positive pre/posttest change on scale scores</i>)</li> </ul>	
<p><b>Behavior-Action</b></p> <p>Change in observable behavior</p>		<ul style="list-style-type: none"> <li>● <b>Background/ Demographic Questions</b></li> </ul>



