JOURNAL OF TRANSFORMATIVE LEARNING
The Journal provides a forum for perspectives on the practice and application of transformative learning.
JoTL is an Open Access journal published by the University of Central Oklahoma at jotl.uco.edu.

Rome Wasn't Built in a Day: Why Transformative Learning Takes Time

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Abstract

This article approaches student learning as a non-linear path, comparing the transformative learning process to one's driving, which requires accidents, roadblocks, and delays. Referring to Daniel Kanheman's (2011) "mind systems" to better explain the cognitive journey, System 1 happens automatically and unconsciously, while System 2 is a state that requires more mental attention. Usually operating in System 1 without conscious control, students often fail to engage in logical reasoning or recognize their need to seek new information when necessary. Changes in students' meaning perspective will take time though, for it challenges the traditional school system which emphasizes mindless learning and testing in timed structures. Through understanding the way our working and long-term memory operates, students can go from the previously instilled mindlessness involved in traditional schooling, to mindful reflection on learning activities and engagement in true transformative learning practices. Properly reflecting on the accidents, roadblocks, and delays involved in the process removes the student from a timed racetrack and places them on a personal journey where he or she becomes a self-conscious agent of his or her own thinking.

Keywords: transformative learning, mind systems, knowledge projection, meaning perspective, working memory, mindful perspective

The Complications of Getting Where You're Going

The student facing new knowledge is in many ways like you driving to work. And if we hope for transformative learning, students will achieve it only if they encounter accidents, roadblocks, and delays. The straight route won't get them there.

You are driving to work along the familiar route you take every day. What are you thinking about? Given that traffic and weather conditions are within the normal range, you are probably thinking about something, almost anything, other than driving. You may be planning a conversation you will have when you arrive at your destination, thinking through plans for a class you will teach or a meeting you will attend, listening to the news or music on the car radio. If I am sitting next to you and ask, "What are you thinking about?", you may tell the truth or you might lie. But if you lie (the truth being embarrassing or inappropriate), the kind of lie you will tell will be something on the order of a plausible mental scenario: "I was thinking about how

long it will take me to finish preparing for the meeting." What would not be a plausible lie—so obviously concocted that it would not pass the smell test—would be something like, "Oh, I was thinking about how hard to depress the break pedal to maintain a constant distance from the car I'm following" or "I was thinking about whether I should begin to signal a right turn now or wait until we have passed that fire hydrant." Nobody would believe it.

Yet, you are driving. So most of the mental operations that you are engaged in—those guiding your nervous system through the movements that entail driving—are implicit rather than explicit, unconscious rather than conscious. They are conducted, to use the "mind systems" that Daniel Kahneman (2011) has popularized, in System 1 ("operates automatically and quickly, with little or no effort and no sense of voluntary control") rather than in System 2 ("allocates attention to the effortful mental activities that demand it, . . . associated with the subjective experience of agency, choice, and concentration") (p. 20-21). Because System 1 activities are often learned and practiced tacitly or implicitly rather than openly and declaratively, they are easy to execute: you don't have to *think* about driving or writing to do it; it just flows. But for the very reason that they are not hard to do, they can be hard to change. If you pick up a bad habit when learning to play tennis or golf, or to drive or write cursive, it may be hard to change later exactly because you do it without the burden—or the aid—of conscious awareness.

But this distinction doesn't just apply to skills. It works for knowledge as well. Indeed, the most basic foundations of our knowledge system are usually tacit. When someone asks you a question for which the answer is "obvious" ("Who was president during the Civil War?" "Who proposed the Theory of Relativity?") you don't stop to think about it, any more than you stop to think about depressing the breaks when the car in front of you slows down. You just find the answer available in your brain. Thinking in System 1 is not, so to speak, visible, even to the thinker. It happens out of sight, and apparently both effortlessly and instantly—a*nd out of conscious control.*

One of the processes by which we learn is what psychologists call *knowledge projection*. This means that we often project onto new knowledge the implicit, unexamined frameworks we use to effortlessly produce already mastered knowledge. When new information comes into view, we exercise *selective scrutiny*. Psychologist Keith Stanovich (2002) summarizes it this way: "subjects accept conclusions that are believable without engaging in logical reasoning at all. Only when faced with unbelievable conclusions do subjects engage in logical reasoning about the premises" (p. 147). We might also call this experience of being faced with the unbelievable a *disorienting dilemma.*

But what determines whether new information is believable or unbelievable? Its consistency with what you already believe, its capacity to merge with and support your existing framework of thinking that you are attempting to project onto the new information. Jack Mezirow (1991) uses the term *meaning perspective* to describe what I think is, perhaps, the same thing: "the structure of assumptions within which one's past *experience assimilates and transforms new experience*" (p. 42).

The thing about this process that we need to keep in mind is that it is usually unconscious and automatic. The student taking in new knowledge, acting in System 1, is doing it the same way you drive to work: without any conscious awareness of the process by which he or she is assigning meaning and significance to information. As Kahneman (2011) points out, System 2 is inherently lazy. System 2, of course, is the mode in which we seek out ideas to fill gaps in our thinking, compare concepts, and weigh relative probabilities. But we don't do any of these things unless we have to, unless we are *forced* to. When you are driving to work, you will think about alternative routes *only if you must*. Say the road is closed because of construction or an accident. Then, if I'm sitting next to you in the car and I ask, "What are you thinking about?" you can honestly answer "I'm thinking about whether the freeway or Grand Avenue is going to get us there quicker." You are self-consciously reflecting, thinking in System 2, about your driving. The System 1 conclusion automatically projected into your brain really is, now, unbelievable. You need to think what to do next.

Kahneman (2011) describes the conservative aspect of System 1 thinking with a remarkable initialism: WYSIATI, which stand for "what you see is all there is." System 1 only considers what its automatic process offers up. He points out that "System 1 is radically insensitive to both the quality and the quantity of the information that gives rise to the impressions and intuitions." As far as System 2 is concerned, it starts with what it is given: "The combination of a coherence-seeking system 1 with a lazy System 2 implies that System 2 will endorse many intuitive beliefs, which closely reflect the impressions generated by System 1" (p. 86).

When do we question the automatic assumptions that we have learned to make? Only when they conspicuously fail. It's possible that the route you've been taking to work these last many months is not, in fact, the best route. Perhaps they completed the construction on Grand Avenue, which is now both quicker and easier. But you won't discover that under normal circumstance, unless the road is closed, creating a disorienting dilemma. For students, the meaning perspectives that they use to project meaning on to new information may not—I'm being diplomatic here—be ideal. But they will never discover that, will never try the alternative routes, unless the road is closed.

This does not depend on how informed or sophisticated or intelligent people are. It's just the way our minds tend to work. Students who are, from your perspective, deeply ignorant on a subject probably don't know it. They don't know what they don't know: WYSIATI. As Kahneman (2011) puts it, "The confidence that individuals have in their beliefs depends mostly on the quality of the story they can tell about what they see, even if they see little. We often fail to allow for the possibility that evidence that should be critical to our judgement is missing—what we see is all there is" (p. 87). We tend to project our meaning perspectives onto the new information we encounter, which means that the confirmation bias is a built-in quality of our mental operations and one that we are usually completely unaware of.

Sometimes this works to our benefit. Sometimes not. It explains, probably, why the Ptolemaic model of the universe was, through centuries of observation and new discovery, jiggered and adjusted and augmented by increasing numbers of cycles and epicycles rather than being abandoned. It explains why the Copernican system, faulty and incomplete in its original form, nonetheless provoked its own correction. It

explains why theorists working from a sound theory make good sense out of new data, and why theory correction often takes a long time. It explains why students, as Stanovich puts it, are sometimes isolated "on 'islands of false beliefs' from which—because of the knowledge projection tendency—they are unable to escape" (p. 148). This has nothing to do with intelligence or fundamental mental capacity, as Stanovich (2002) points out: "Knowledge projection from an island of false beliefs might explain the phenomenon of otherwise intelligent people who get caught in a domain-specific web of falsity and because of projection tendencies cannot escape . . ." (p. 149).

This is not just about science, though the scientific examples may be more clear-cut. People can reside on islands of false belief with respect to social and personal relations, history, and their own skills and capacities. And, of course, politics. Indeed, the very conception of intelligence that sees IQ as a global predicter of ability and reasonableness may be an island of false belief on which many of us are stranded, keeping us from perceiving the sources of many problems.

Why It Takes Time

Changing one's meaning perspective is not easy or automatic, and we might correctly conclude that it isn't fast either. Yet the whole structure of schooling, not just college but all schooling from kindergarten up, puts a priority on speed. The semester or quarter structure of classes and the stand-alone credit granted by individual teachers at end of term mean that the highest rewards go to the students who can master "the material" fastest. Timed tests of all kinds, from IQ tests to in-class essays, measure, not how much students know or what they know, but what they can report in a given format in a defined period of time. Tests do not find out who has the best answers, they find out who has the best answers in fifty minutes, or whatever the time limit is. What determines the speed with which students can solve a problem or answer a question?

Processing a question or a problem is done in *working memory*. And everybody's working memory works in essentially the same way. It can hold more or less seven elements and operate on two to four of them at the same time; after about 20 seconds, information is lost to working memory unless it is refreshed (Merriënboer and Sweller, 2005, p. 148). Working memory allows us to compare, contrast, and perceive the intersections among the various elements that appear in it. The limitation to a few elements is probably built into our brains by evolution. Why? Long-term memory, the information and responses that we have access to on demand in our mental "data bank" needs to be relatively stable and secure. If long-term memory changed rapidly, especially in it overall design, we could not build on existing knowledge but would be constantly replacing it. We would be starting over all the time. Long-term memory has to be recognizably coherent in the long term.

Jeroen van Merriënboer of the Open University of the Netherlands and John Sweller (2005) of New South Wales University in Australia point out that "Human cognition has a specific structure to ensure that rapid alterations to long-term memory do not occur: A limited working memory. Working memory can be used to test the effectiveness of only a small number of combinations of elements" (p. 155). That this

must be so is clear when we consider the alternative. Because the number of permutations of information elements increases exponentially with the number of elements, that number must be small. Three elements can be combined in six different ways. Ten elements can be combined in more than 3.5 million ways. “A working memory that could deal with more than a few elements of information would not be functional” (Merriënboer and Sweller, 2005, p. 155). So, the vast library of long-term memory is subject to change, but the only passageway through which it can be reached is the narrow door of working memory.

Cognitive Load and the Speed of Thought

The number of separately processed items in working memory constitutes the *cognitive load* of a mental process. Some people can apparently handle a greater cognitive load than others, can calculate more elements faster or anticipate more steps in a process. Yet people who process information more rapidly than others are generally not processing the contents of working memory any faster. How, then, do they do it? The key to processing information more rapidly lies not in working memory but in long-term memory. Working memory has constant access to what is already stored in long-term memory. The schemas or patterns that reside in long-term memory are the tools by which novel information is understood in working memory. Just think about the process of reading. Readers who lack the background knowledge and context to process the meaning of a passage will read it slowly and arduously, and probably come away from it with a more vivid memory of its difficulty than of its content. Readers do not find meaning in the words they encounter, they *assign* meaning from the schemas that they carry around in their heads. Those who teach reading know that readers must be able to read at a certain speed to accomplish anything. Why is this? If you have ever progressed to a certain point in learning a new language you have had the experience. If you have to stop to look up half the words in a passage, you may understand the words, but not the passage. It takes two readings, one to ascertain the import of each word in the context, another to put them together as a statement, to sort out what is being said. Working memory cannot handle all of that processing with its limited scope. Only when you have built a secure enough vocabulary—that is, when the functional meanings of most words have been saved in long-term memory so as to be readily accessible—can you process the meaning of a sentence in working memory. Otherwise, the cognitive load of the task exceeds your capacity.

Experts not only know more than novices, they learn faster and more securely than novices. They learn faster *because* they know more. That is, they have a more complex, secure, and flexible apparatus of schemas in long-term memory that they can use to assign meaning to new problems and information. They do not actually *think* faster than novices. They have already done much of the thinking in advance, by chunking related facts and processes in long-term memory so they can be easily applied in working memory. They seem to think faster now because they have invested much time in the past in rehearsing and reinforcing the elements of the kind of thinking they are doing now. The math teacher who has been rehearsing problem-solving strategies for years can solve complex problems seemingly instantly and

without conscious thought for the same reason you can drive to work with little attention to the task. Once you have securely *consolidated* a process or a mental schema in long-term memory, you can use it quickly or effortlessly. Until you have done so, the cognitive load of the task will make the work slow and arduous.

How to achieve that consolidation should perhaps be seen as a central—if not the central—question for teachers. But that question will have to wait. The point I want to raise now is that the consolidation of knowledge and skills takes time, and that has a couple of important implications. First, when we put learning on the clock, we slow it down in a significant sense. When we put time limits on learning processes, one effect is to reward those who need to learn the least and punish those who need to learn the most. We create an environment in which those who have already consolidated the essential knowledge or skills in a field will thrive and those who have not will struggle. As John Hattie and Gregory Yates put it in their valuable survey *Visible Learning and the Science of How We Learn* (2014), "By asking students to race through mandated lessons under duress of time pressures, we run considerable risk of creating little more than isolated islands of knowledge. Isolated knowledge will be subject of rapid forgetting in the natural course of time, and is not conducive to schemata development" (p. 41).

Second, transformative learning, which by definition allows for changing the student's meaning perspective, takes a long time for the simple reason that the student's meaning perspective is *already consolidated*. It consists of the schemas that have been formed and used over a long period of time. They were largely consolidated through practice and exercise in System 1, conducted thoughtlessly and uncritically. And this has nothing to do with whether they are good or bad, rich or sparse, fonts of wisdom or islands of false belief; the meaning perspective the student brings to the learning process is what the student will use to project and generate new knowledge for the simple reason that it is all the student has to work with. (The same is true, of course, of you and me.)

Mindful Reflection and the Need for Roadblocks

The need for speed in higher education works against transformative learning because reflection on existing, consolidated meaning perspectives requires that the System 1 apparatus, developed over a long period of time and now exercised effortlessly, be brought into System 2 and analyzed through the effortful process of conscious deliberation, and perhaps rebuilt on a new foundation. This is the process of *reflection*. It is not automatic and we should not expect that students (or faculty) will engage in it spontaneously, though some will.

To see one's thoughts as objects of reflection is to assume a *mindful* perspective. As Ellen Langer (1997) describes it: "A mindful approach to any activity has three characteristics: the continuous creation of new categories; openness to new information; and an implicit awareness of more than one perspective" (p. 4). The opposite, of course, is mindlessness. "Mindlessness," as Mezirow (1991) notes, "leads to the uncritical acceptance of labels, self-induced dependence on external authority, simplistic attributions, diminished self-image, and reduced growth potential" (p. 115).

Have you had a chance to observe these limitations in real life? Of course you have. To a considerable degree, mindlessness is taught in school. The whole idea that the project of education is to get the right answer in the time limit tends to impose mindlessness on students, invites them to be closed to new information that does not fit in sanctioned categories ("will this be on the test?") and to adopt only sanctioned perspectives (who has time for alternate perspectives? Only one perspective is rewarded on a multiple-choice test.) I believe that the essence of reflection is the awareness of more than one perspective. We cannot reflect upon what we are unaware of. And to become aware of our meaning perspectives, we need to see alternatives to them. If my meaning perspective is one-of-a-kind, it is merely the background to all of my knowledge. It owns me. If I am to own it, even to freely choose it, then I must see an alternative to it. To engage in reflection on the meaning perspectives that we take for granted means, at a minimum, *not taking them for granted.* Normally, we see *with* the meaning perspectives we carry with us. Reflection requires that we see *through* them. As Mezirow puts it, "Through reflection we *see through* the habitual way that we have interpreted the experience of everyday life in order to reassess rationally the implicit claim of validity made by a previously unquestioned meaning scheme or perspective" (p. 102). You will take the same route to work every day unless you learn there are alternatives. And you will not learn that unless your normal road is blocked. Thus, education for transformation requires that we cause accidents and blockages in students' routes to the truth. But if we do, they won't always get where they're going on our schedule.

Transformative learning does not always lead to transformation of ideas. As Mezirow points out, the resolution of a student's reflection on his or her meaning perspectives lies in the student's hands. It may result in the transformation of meaning perspectives, or "it may result in an elaboration, confirmation, or creation of a scheme" (p. 108). To try to determine the outcome would defeat the purpose. But even the student who confirms her prior meaning perspective, but does so as a mindful, reflective choice, has become a more mature and self-conscious agent of her own thinking. That in itself is a kind of transformation, and one that would produce an educated person in quite a different sense than is the case for many recipients of bachelor's degrees today. To get there will take time, and time allocated to the creation of dilemmas and roadblocks that cannot be quickly resolved. We cannot explore here all of the implications of this fact. But we can see that developing a habit of reflective mindfulness is not likely to be achieved in a single class. If our goal is transformative learning, we need to think beyond single classes, to the alignment and coherence of the whole curriculum, and indeed the whole experience of the student. Our word "curriculum" is borrowed from Latin, where it is a metaphor. The original meaning was "a race or racecourse," the kind that chariot races would be run on. A curriculum should not be a sequence of short, disconnected sprints. It should be a journey, a quest, and it should have a destination.

The student facing new knowledge is in many ways like you driving to work. And if we hope for transformative learning, students will achieve it only if they encounter accidents, roadblocks, and delays. If students are to arrive at the end of college in a different place than they started, they must devote some time to getting there.

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Citation: Tagg, J. (2018). Rome wasn't built in a day: Why transformative learning takes time. *Journal of Transformative Learning, (5)*1, 1-8.

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Implementing Transformative Learning Theory through Volunteerism in Business: An Interview with Angela Parker

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This editorial interview was conducted with Angela Parker, who is the Co-founder and Senior Partner of Realized Worth. Her company focuses on working with corporations to achieve employee volunteer training, volunteer program design, and employee engagement. The application of Transformative Learning theory is key to her professional and personal mission. She was interviewed by editorial research assistants, Andi Ullrich and Jacie Harvel.

Keywords: volunteerism, pragmatic change, critical reflection, consciousness raising, transformative learning, disorienting dilemma

Andi: *We can go ahead and get started! We just have a simple question: can you tell us about yourself? Your professional, academic and personal background?*

Angela: I went to college thinking I would go into communications. I had an idea that I wanted to be a writer but I didn't really know where that would land, so I figured communications would be nice and broad so I would be able to get into a writing career if I decided to do that. I also grew up in Portland, Oregon, where we don't believe in big companies, you know, protest The Man. So, I knew I would never work in business, we're hippies. So, I got my degree and went into this sort of graphic design communications position. For some reason, a few years into that, I got an offer to come and run a program focused on at-risk youth down in Australia. That was the volunteer work I was doing at the time. So, I took that job, moved to Australia, and life kind of fell apart there. And it was a good thing because I realized, you know, maybe I can do more than creative work for kids. I started talking to an old friend about "what are you doing in your life now?"

He was someone who had always really inspired me. One thing that we had done together, back when I worked in the graphic design and communications position, was work on this idea around volunteerism and this sort of leads to what I do now. This was a sense of how, when people are empowered at the appropriate level, and when they're sort of guided through certain experiences, they become recruiters, advocates, the things that non-profits need. And we started thinking "what if we offered this to non-profits as consultants" and developed this business idea. So, I left Australia, teamed up with him, and we started thinking about our new business idea. And in all of that, I just kind of opened up my world about what was possible for me in terms of my career. So, I started a cleaning business to support us and our other business. We had no investors, no advertising, no anything. So, we built that up, and I learned more about business in my cleaning business than I did when I got my M.B.A. later. Truly. And then, a few years later, when we felt ready to move forward with the consulting company, I sold the cleaning business, and we started taking in clients and focusing on this idea about volunteerism. But we didn't offer it to non-profits, we offered it to companies in the context of corporate social responsibility. And then learned—well we didn't know we were learning—about Transformative Learning theory, but we were, among other bodies of research. And focused on the idea that the transformation that happens in an individual who volunteers is more key to changing the world than actually doing impact work in the community and focusing on the non-profit.

Jacie: *That's really great.*

Andi: *Okay, so could you tell us your definition of Transformative Learning?*

Angela: Yeah, absolutely. Well, I don't usually talk about it in terms of a definition of Transformative Learning. I usually talk about a definition of transformation, which would be when you begin to see a change on three levels, which would be psychological, convictional, and behavioral. Psychological being your view of self. Convictional being a view of the world. Behavioral being, you know, behaviors and attitudes. Transformative Learning, I guess, is the space—since we can't force transformation—it is the space in which people are invited to challenge their assumptions and move to a place where changes in those three categories are possible.

Jacie: *So, now, tell us about your program of practice, what you do, and how that links to Transformative Learning now.*

Angela: Okay, so on a big scale—if you were a potential client and I was pitching to you—I'd be like, "we design and implement employee volunteer programs. We'll work with you on strategy and growth, scale, and impact!" But when

we're doing training with employee volunteer leaders, the first thing we do is find people that are already kind of keyed into this idea of community impact, but more so of—you know when you talk to people and they go and volunteer, or they go on some mission-trip or some international-something, or even just go downtown and serve at a soup-kitchen and they come back and say, "I feel really weird because I feel like I got more out of it than I gave." And they have this moment of, "I don't know what to do with that." Those people we're like, "Okay, you! We want to work with you." Because they understand that there's something essential to receive when you volunteer. And I talk to people who say they volunteer for therapy. There's always a decent percentage of people who are already high-level—we call them stage-three, stage-two people—and then we put them in charge. We train them—this is the key part that's *perfectly* related to the transformative part of learning, of the Ten Steps—we train them to do three things: the brief at the beginning of an event, guide volunteers throughout the event, and then they do a de-brief at the end. And during the brief, their point is to give people an opportunity to think about different things during the volunteer project than they would have otherwise. So, it's connecting people with the "why" and the "who". And usually, what that does in the moment is present the disorienting dilemma. It's when you go to serve food at a soup-kitchen and someone says, "we are not going to make a dent in hunger today." You are not here to serve a meal and help the community. You're here to be with these people and tell them, "my time here today, when I could have been doing anything else, says something about your value."

Andi: *Have you had any other experiences with Transformative Learning? Either before or after finding this theory?*

Angela: Well, I got really excited upon finding this [Transformative Learning Conference]! I couldn't believe that there were other people who talked about this stuff! It was just so validating! Since then, a couple people I really connected with there have kept me involved, so I've had the opportunity to be on the editorial council for your guys' Journal of Transformative Learning, and spoke at your conference.

Jacie: *So, what is the most practical advice you would give other people on how to implement your approach to volunteerism?*

Angela: Ok, so, the worst thing I think we can do to ourselves is live only in theory. We were in the Dominican Republic, and—this is so crazy—the guy gathered us into a circle at the beginning and he asked us why we were all there, and they all said, "[Angela] made me come," basically. And then he said, "I just want you to know that your presence here today is entirely unnecessary, and we can paint our own homes. This community, we get donations, we can afford paint. They don't need you to paint for them.

They're fine." And then he said, "But, your purpose here today is to know these people and be known. To change your idea of who they are and to let their idea of who you are change." And, I mean, he did this whole thing with us, I had not set this up! My team was like, "nice, you set up this whole 'disorienting dilemma'" and I was like, "I don't know what's happening right now, I did not set this up." Afterwards, he told us he teaches Transformative Learning at Washington University. Unreal!

Andi: *It seems like you believe Volunteerism should be in most workplaces, is that true?*

Angela: Yah, I mean, for much of the middle and upper-class, the corporation, or our workplaces have a terrible amount of influence on our lives, you know, more than eight hours a day. We are who we are to our families because of our workplaces. You have memories of your parents that aren't really about who they are, but about how their work made them feel. I think that's a terrible power, and companies need to take responsibility for that and say, "Maybe we can't fix the fact that we're asking you to work ten hours a day, but we can connect you with what you think matters. And if they can do that in a bigger way, if they can make people think they're just volunteering, they're just giving back to the community; in that space, they set up this space for transformation, which is what we're trying to say to companies. Then the value they provide is almost a secret. We infiltrate humanity with the power of companies. I think companies should volunteer because I don't think there's any easier way for them to invite their employees to live with meaning, challenge assumptions, and become better people.

Andi: *How much of that do you think should be the employer, and how much of that do you think should be the employee?*

Angela: That's a great question. I think that if the employee can do that on their own, and be just as effective, then the company doesn't matter. The employee should be able to say, if someone in their family, or their friend, says "Why do you volunteer with your company?", they should say, "What do you mean? There's no way I could be as effective as I am without my company backing me. My company gives me resources and training. They match me dollar for dollar, they donate $20 an hour per hour I volunteer" – they should be able to say all of these things, and not want to leave their company. Because otherwise, they wouldn't be able to be as effective as volunteers. But again, if they can do everything they do without their company, then their company should not be claiming they do employee volunteering.

Jacie: *How do you recommend that organizations or companies implement your approach? What does that look like?*

Angela: One of the problems companies face is, they have the same percentage, the same literal group of people, showing up to volunteer over and over. That's true anywhere, it's true for non-profits too. They're like, "How do I expand beyond this core group?" So, what we start working with them to do is, identify those high-level, stage 2 and stage 3 people, and put them in positions of leadership. This is just good management; you delegate, you trust people to lead the way you would lead, and you manage a system, not individuals.

Jacie: *What do you think the future of Transformative Learning looks like?*

Angela: You know how emotional intelligence, and employee engagement, and work-life balance- these theories, that were once just psychological theories, are completely known lexicon in corporate spaces, that's where I want to see this go. Even the word transformation is familiar lexicon in companies, and empathy is too. Empathy is huge, but nobody seems to be clear on how to get there. Even diversity and inclusion. There was this great [Harvard Business Review] article, maybe in the Spring, that the front cover says something about diversity and inclusion. The whole article is about how there's all these programs, these trainings, these classes- cognitive learning percentages, statistics, what people need to know- and how it's not working anywhere. In fact, it's often keeping people from becoming inclusive and appreciating diversity because, again, it's cognitive, and we can't translate that to our attitudes and behaviors. We can't translate what we've learned in our heads, we translate what we experience. So, this whole article advocates for experiences where people have to face their implicit bias.

Andi: *So, the value in Transformative Learning and volunteerism is, that in the workplace, the people will become better people and employees?*

Angela: Absolutely. One of the things that we train has to do with how empathetic leaders are the most effective leaders, and even the way you approach transformative learning, like setting up the brief and guiding volunteers, and setting up the debrief- that stuff is applicable everywhere. In business school, we didn't talk once about empathy. I think we should be talking about behavioral science, and psychology, and poetry. That's essential for guiding other human beings in the world, but business school is just like, "Here's your HR policies."

Andi: *Do you feel like there is anything else that you would like to add?*

Angela: I wrote this researcher, Lasana Harris (2006), yesterday. There was this study where he measured people's brains. He measured it against the way our brains respond to inanimate objects when we look at them, and then he

showed all these photos of people in different social circles, different races, different religions. He measured their brains against the original set, and it was normal – fireman, student, lawyer, all types of religion- our brains spike. And then a homeless person went across the screen, and it was like the same as an inanimate object. This was a preconscious response. It was everyone. It wasn't like, just some really bad people view homeless people as less than human. Basically, when we want to avoid the negativity we feel around a certain people-group, then we will register them as less than human. The only way we can adjust this preconscious response is through experience. I think this is deeply important stuff, and I think that what you're doing in terms of Transformative Learning, and even learning from other people, and how they apply it in real life, is going to move us that much farther. We've got to have this kind of anecdotal, and real, research to get us to the next level.

Andi: *Well, I think that's it. Thank you so much, that was great.*

Angela: Good, good. It's fun to talk about. Let me know if I can do anything else for you, okay?

Jacie: *Great, thank you. It was great talking to you.*

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Author's Note: Andi Ullrich was a JoTL editorial research assistant and Diverse Student Scholar at the time this research was conducted; she graduated from the University of Central Oklahoma with a Bachelor of Arts in English and a minor in Mass Communications. Jacie Harvel was a JoTL editorial research assistant and Diverse Student Scholar at the time this interview was conducted; she graduated with a Bachelor of Arts in English at the University of Central Oklahoma. Anna Dore is a JoTL editorial research assistant and Diverse Student Scholar pursuing her Masters of Arts in English.

Citation: Ullrich, A., & Harvel, J., Doré, A. (2018). Using transformative learning theory to achieve sustainability in education and business: An interview with Angela Parker. *Journal of Transformative Learning, (5)*1, 9-14.

JOURNAL OF TRANSFORMATIVE LEARNING
The Journal provides a forum for perspectives on the practice and application of transformative learning.
JoTL is an Open Access journal published by the University of Central Oklahoma at jotl.uco.edu.

Mentored Undergraduate Research and Creating Lifelong Transformed Learners: An Interview with Doreen Sams

ANNA DORÉ
University of Central Oklahoma

This editorial interview was conducted with Dr. Doreen Sams, who is a professor in the department of management, marketing, and logistics at Georgia College and State University (GCSU), where she teaches undergraduate and graduate courses along with a Global Marketing course in Spain every other summer. She is the faculty coordinator for Mentored Undergraduate Research and Creative Endeavors (MURACE) at GCSU and serves as a Council on Undergraduate Research Councilor. She was interviewed by editorial research assistant, Anna Doré.

Keywords: mentored undergraduate research, study abroad, culture, transformative learning

Anna: *Tell me a little bit about yourself.*

Doreen: I came out of the business world where I worked in management and marketing for both government and private sector companies over my career. I became part of the Georgia College & State University faculty in 2005 as a tenure track assistant professor. In 2010, I was tenured and promoted to Associate Professor, and in 2015 became a full professor. I have been the faculty lead for the global business course in the Georgia WebMBA since 2008. I have taught 15 different marketing courses since 2003, but predominately teach Marketing Research and Digital Analytics to undergraduates. I have been a graduate professor for the Masters of Business Administration courses both on-campus and in the Georgia WebMBA since 2006. I teach a Global Business course and Advance Marketing course for Masters' students. I also teach undergraduates every other summer in Spain duing the month of June. I take between 12-17 GCSU students to Spain to study Marketing in Spain and also a course in Global Marketing. We arrive in Madrid and visit cultural sites, then travel to Granada, again visiting cultural sites. We then move on to Sevilla for the rest of the program where I lecture, we visit companies, marketers visit our classroom, we work on our marketing projects and blogs, and we also visit more cultural sites. It is my firm belief that business does not occur in silos and in order to be great at marketing or doing business in other countries, researching the country and its culture and subcultures, are imperative. While teaching in Spain, I also teach Global Business for the Georgia

WebMBA. I serve on the Graduate Curriculum committee, the Institutional Review Board, and lead a Professional Learning Committee on undergraduate research. I have served on several Faculty Search Committees (chair two), the University Senate & chaired a Senate subcommittee, Promotions and Tenure committee, and was a Faculty Advisor for the International Business Club for years. I have served on various other committees at GC.

I became the faculty coordinator for MURACE in 2012. I handle a $100,000 budget that supports student presentations at conferences including Campus SRC, COPLAC, GURC (steering committee), NCUR and discipline specific conference, supports summer research with funding, student research circles, CUR Councilors, annual faculty/student symposiums, planning and implementation grants, and research on a regional journal to name a few things. I attend many CUR Institutes and bring the knowledge back to GC. I also present at CUR conference. I am the first marketing professor in 13 years at Georgia College to receive paid professional leave to conduct research. My professional leave begins in January 2019 ending at the end of May 2019. I will be conducting research on brand communities.

I seriously began my undergraduate degree once my children were in school. I took courses part-time while working full-time at a university. Then, after a devastating automobile crash in 1996, I returned to school in 1997 full-time and finished my BA in Marketing (1998), MBA (1999)—finished in Costa Rico, and PhD (2005). Since 2004, I have authored or co-authored 23 journal articles (many are interdisciplinary). Many of those articles are pedagogical. I have presented and been published in 67 conferences and conference proceedings since 2001. My very first presentation was in Hong Kong, China. Since then, I have presented across the USA, in Puerto Rico, France, Greece, Portugal, and Spain. I serve on the editorial review board for several journals and am a reviewer for several journals, conferences, and textbooks. I love being involved as an editor and reviewer because I am able to see the forefront of research that is happening.

Anna: *Tell me about your definition of transformative learning.*

Doreen: TL is an active process of learning that encourages seeing new things, seeing old things differently, and re-conceptualizing mindsets for everyone, including me as the teacher/mentor, by creating a shared vision for a course (I provide the clients and they select the project that best fits with their interest for marketing research). It is a form of learning in which we, as professors, provide a safe space where students are able to learn through various lenses and not just the lens that their life has afforded them. One of the greatest and most important factors as far as I am concerned as to transformative learning comes from working and learning with people in places where others are "not just like me." My courses have been described

as challenging, but fair. I provide my students with experiential learning in all courses and promote preflection (looking at what the project is, will mean to the client, will mean to them) and reflection using mind mapping.

For example, study abroad. It has opened the world to my students as they see the old and the new come together providing a depth of understanding that books and lectures cannot provide alone. Hands-on, not hands-off! I am always thrilled to hear them say things like "wow, I had no idea," or "I would have never learned this in a classroom." Several of my study abroad students have reflected on the experience, stating, "I learned more in a month than I have learned in a year in the classroom." As to undergraduate research, it is often a struggle to help students realize there are so many factors that impact decisions. Once they are introduced to research, they start the process of realizing that life is not the ying or the yang, but everything in between matters. They learn to take personal feelings out of their work and base their statements on scientifically collected facts. It is a life changing experience, which moves them forward in self-efficacy and self-awareness.

Anna: *How were you introduced to transformative learning theory and/or practice?*

Doreen: I was first introduced to formally to transformative learning theory when I began working at Georgia College (a liberal arts university). Although I had engaged in transformative learning in the last years of my undergraduate degree and my MBA, I was not aware of the "theory" behind it or that it was an official teaching style until arriving at GC.

Anna: *How did you decide upon transformative learning as a useful theory for your personal research and/or practice?*

Doreen: I didn't. It was already part of my life and I just learned there was a theory behind what I already did and believed. Ph.D. programs do not typically teach you how to teach; they teach you to research. I was fortunate to have a teaching component to my Ph.D. program and to have great mentors. If they mentioned transformative learning theory per se, I believe I would remember it.

Anna: *Tell me about your program of research and/or practice, how it is linked to transformative learning, and what made you care about it?*

Doreen: I approach my research with an openness to alternative approaches to living and the sense of possibilities that one discipline alone cannot offer. Co-authoring with others from different disciplines allows me to expand my knowledge and avoid biases from examining a topic from one perspective. You ask what made me care about TL, well, one of my colleagues once said that the research conducted by theatre professors isn't real research. That

narrow minded thinking made me even more determined to be sure my students and mentees realized how important the perspective of all disciplines are to learning. I have started a student research circle to start in August 2018, in which students from multiple disciplines share how they research what they are researching and how their research could be related. No one in the circle is permitted to say anything negative toward any student researcher. There will be faculty at the circle (new and experienced) to observe but not to comment. Further, they will be asked to bring freshmen or sophomores to the circle and then mentor them.

Anna: *What other experiences have you had with Transformative Learning along with your program of research?*

Doreen: When teaching, I use business clients (international, nonprofit, or for-profit). They partner with my students in which they learn from the students, the students learn from them, and I provide a safe space to learn. The students benefit by working with others "not like them." This provides the opportunity for shifts in consciousness and changes their relationship with others, and through exploring projects with people of varying levels of power, they learn about the social structures that they will work in once they graduate.

Anna: *Why is research and mentoring research at the undergraduate level important to you? How does it differ from mentoring students/professionals beyond the undergraduate level?*

Doreen: Because I was a first generation college student. I came from a home where education was not valued if it was acquired by females. I grew up in a very negative household in which my great grades in school only served to cause embarrassment because it set me apart from my friends in a not-so-positive way. It wasn't until I started helping my husband study for his college degree that I realized I could do it too. I earned honors all the way through college. My champion and role model was my husband. I did not have any other role models in school until I was in master's program. I had several mentors in my Ph.D. program, but one who believed in me as a researcher the most did what she could to be sure I succeeded was Dr. Miriam Stamps. So, it matters because I did not have a mentor when I was an undergraduate and believe I could have accomplished even more if I would have had a mentor sooner. My husband was my champion, but he spoke the language of "computer programmers" and I was a marketing student. I mentor students in getting good jobs in our discipline, but that is about taking the right courses, networking, and resumes, not about life skills to be lifelong learners that mentoring in undergraduate research is.

Anna: *I read that you "emphasize synergy and balance between service, research, and researching." What advice would you offer to faculty seeking to integrate undergraduate research mentorship into their workloads?*

Doreen: My advice is find the balance that works best for where they are in their career path, but to commit to all three, not just one or two aspects of their job, and to do it because you love it and want the next generation of graduates to love it too. Most schools dictate the balance needed for tenure and promotion. This is a very important guideline as a newly minted, yet-to-be-tenured faculty. However, it is just a guideline. How a faculty member balances their work life will depend on the type of institution. Although we are a balanced school, our first focus is teaching, then research, and then service. What many miss is that research and service can be a strategic part of teaching when combined through experiential learning projects. There is service in mentoring and supervising students who are providing a deliverable for a client. Mentoring an undergraduate student's research and co-authoring with them encompasses teaching, researching, and providing a service to the student. Often, as in our case, there is no pay for mentoring undergraduate research. Although there are discussions at the T&P committee level, it is not fully embraced across campus yet and for some universities it is not moving toward the T&P process yet. A couple of examples for you: I had a student that was considered a "throwaway" by others. I took her under my wing and we worked on research together; before she graduated, she was published in a conference and a journal, and her GPA increased significantly. She has gone on to be the head of marketing for an international company. I had another student who was struggling a bit, but was still a great student who found his footing in the collaborate research that we conducted. He just needed to find his passion in life to move him from good to great (FYI, I use the book, *Good to Great*, in many of my MBA classes). He is now a top salesperson in the Business-to-Business world just two years out from graduation. Mentoring student research is a way to share your love of learning while serving students and society serving the greater good, which demonstrates that you really do care about the students and the communities' future, and it improves your teaching. See my work with the City of Milledgeville's Waste Water Treatment Facility (FOG). It shows that as faculty you are not just a sage on the stage in the classroom. You get to change lives.

Anna: *What role has teaching, both in your classroom and study abroad experiences, played in the development of your current beliefs/practice in Transformative Learning?*

Doreen: Study abroad informs my classroom teaching, and teaching in the classroom informs my study abroad. The study abroad is a combination of experiential

(visiting companies and cultural venues), classroom lectures, and projects that finish with a reflection piece. One or two students typically conduct research while we are there as they are seeking additional credit in the Honor's program or just want to participate in research. We work to publish their research at a conference (E.g., Kate Butcher presented our research at the GC Gala for donors last year). Then, I bring the knowledge from the study abroad programs back to the classroom and share it where appropriate and use it to inspire others to study abroad.

Anna: *What impact do you believe your work has had on the transformation of your students as well?*

Doreen: I have been fortunate to see at least one to two students each semester go on to get their Masters in Marketing Research at the Terry College of Business at the University of Georgia (very hard to get into). This behavior is very unusual for our students, most in Marketing head straight to business careers. I have had many of my study abroad students go on to travel the world and seek international job placements. Many of my students stay in touch through Linkedin and Facebook and share with me how much my teaching style and mentoring has changed their lives. I do not look for any one type of student to mentor as to GPA, I look for students hungry to learn, even if their GPA is at the danger level. I also provide an internship through MURACE and the students who have engaged in that internship credit what they learned to helping them get good jobs after graduation.

Anna: *What differences do you see in how college courses are taught when you were an undergraduate student vs now? How many elements of transformative Learning theory (even if they didn't have a name for it at the time) did you see as a student vs now?*

Doreen: Well, since I have been in college off and on virtually all of my adult life, finishing my Ph.D. in 2005; I have experienced many different learning styles. In the 70s and 80s, it was a lot of memorize and spit back and I am great in that role. That is evident by my GPA and honors (Alpha Sigma Lamba, Golden Key, Beta Gamma Sigma, Phi Kappa Phi, Omicron Delta, University Honors – I may have missed one or two). But I am also the queen of core dumps. If I do not need it or do not perceive needing it, the information is gone to the deep recesses of my brain not to be raised to consciousness again. It was pretty much the same at the research institute I studied at in the 90s except for my international marketing strategy and my Marketing Research course where Dr. Miriam Stamps and Dr. David Ortinau gave us real world projects. Once I entered my MBA in 1998, it was track-based and our capstone was a "real world" project that crossed two semesters. This is where I fell in love with experiential learning. And, I

was also able to take two courses in Costa Rica (although not the best experience as I was sick a lot of the time), and I fell in love with understanding how business was conducted in other countries. The one missing element was "culture"—going to the hot springs was not culture or going to the beach on the Pacific side was not culture (I am a Floridian so beaches are beaches). Living there on a college campus in dorms was not culture. So, I decided that culture would be a "key element" in the study abroad course I teach because without the cultural aspect it is just another set of business tours. That is not to say that I did not learn about the business culture, but I needed to understand the *why* behind what they did differently from how we in the US do things and that was missing.

Anna: *Do you think it is realistic to think of a future where most companies incorporate Transformative Learning theory while emphasizing social responsibility into their business? If so, what will it take to achieve this?*

Doreen: As I am guessing from your questions, you know where most of my passions are housed. Corporate social responsibility is a big part of most college curriculums in business today. It is typically taught in Business Ethics and Business and Legal Environment; however, many of us infuse it in all of our business courses (especially in marketing). Since, we at GC are all about the GC Journey of Transformative learning and other colleges and universities have an increased emphasis on experiential learning, study abroad, undergraduate research, leadership, etc.; the leaders of the 21st century will hopefully take that learning style into their businesses. I have seen many changes in the business world itself over the 20th and 21st centuries and most of those changes came right out of MBA programs. Although, these days, I primarily teach MBAs online, I wrap as much transformative learning into their program as possible. I do not give quizzes for credit only, but for practice to assure that students are gaining an understanding of the material (no points). I have discussions that do *not* permit opinions, that *only* permit interpretation of facts gathered from reliable, relevant and valid sites. The purpose is to add value to my lectures and the textbook by exploring research and not believing through fake anything. I provide them with a journal article that I have paraphrased, give them a set of questions, and encourage them to add their own questions as they find articles pro or con to the topic. I also strategically choose their case studies to include social responsibility in every case study.

Anna: *How do you see Transformative Learning, as a theory and practice, evolving in the upcoming years?*

Doreen: I am not sure what you mean by "evolving," but I do see it becoming mainstream in the field of college education. I am not familiar with what is occurring in K-12 now, but I would think it should start there as well. Unfortunately, some see it as too much work and may push back, but so be

it. Although, I had a Dean once tell me we need all styles of teaching, I do not agree that we need teaching that doesn't allow the learner to retain knowledge and learn to love learning.

Anna: *That's all of my questions, thank you for participating in the interview.*

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Author's Note: Anna Doré is a JoTL editorial research assistant and Diverse Student Scholar pursuing a master of arts in English Literature at the University of Central Oklahoma.

Citation: Doré, A. (2018). Mentored undergraduate research and creating lifelong transformed learners: An interview with Doreen Sams. *Journal of Transformative Learning, (5)*1, 15-22.

JOURNAL OF TRANSFORMATIVE LEARNING
The Journal provides a forum for perspectives on the practice and application of transformative learning.
JoTL is an Open Access journal published by the University of Central Oklahoma at jotl.uco.edu.

Development and Validation of an Instrument for Assessing Transformative Learning: The Transformative Learning Environments Survey (TLES)

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Abstract

The purpose of this study was to develop and validate a new transformative learning survey instrument. The Transformative Learning Environments Survey (TLES) was developed using a three-stage approach and field tested with a population of 649 postsecondary students. The new validated instrument consists of 52 items allocated to four scales: (1) Disorienting Dilemma, (2) Self-Reflection, (3) Meaning Perspective and Critical Discourse, and (4) Acting. Each scale is subdivided into (a) students' apperception and (b) their perception of the learning environment for a total of 8 subscales. Each item had a minimal factor loading of 0.50 with its own scale. Cronbach's alpha coefficients ranged from 0.85 to 0.93. The TLES was used to explore bivariate correlations between its subscales and a scale of student satisfaction where the outcomes ranged from -0.29 to 0.49. The TLES is an instrument that can be utilized for efficient small- and large-scale quantitative investigation into transformative learning.

Keywords: Transformative learning, TLES, adult education

Introduction

In 1978, Jack Mezirow, a professor emeritus of adult education at Teachers College, Columbia University, introduced a new idea to the world of adult learning—he called it "perspective transformation" (p. 107). He went on to write that the prevailing model of adult education at the time involved conducting needs assessments and then designing a program of change in behavior in what he outlined as a very mechanical prescription. Conversely, he purported that perspective transformation involved adult learners becoming critically aware of their assumptions—both cultural and psychological—and reflecting upon how those assumptions influence how we view ourselves and the world around us. He coined this pattern "meaning perspectives" (p. 101). In Lewin's (1936) early seminal work in psychology, he developed the representative formula of $B=f(P,E)$, whereby B represents behavior, f is function, P is the person, and E is the person's environment was the longstanding and prevailing behavioral model of the time. However, in the

modern context of transformative learning, Mezirow's representative formula might read B=f(P_{ex}+N_{ex}), where B represents behavior, f is function, P_{ex} is a person's past experience, and N_{ex} is one's new experience. In this case, the formula reads that a meaning perspective of an adult student is a function of the "cultural assumptions within which new experience is assimilated to—and transformed by—one's past experience" (Mezirow, 1978, p. 101) that leads to a more meaningful, self-created change in behavior. This paper presents the steps in development of a new instrument designed to assess adult learner perspective transformation. I present an overview of transformative learning followed by survey instrument-based research in transformative learning, the stages of development of the new instrument, and the validity and reliability results of the new *Transformative Learning Environments Survey* (TLES), as well as the results of a first exploratory study applying the TLES.

Transformative Learning

"Transformative learning has arguably become one of the most generative and provocative ideas in adult learning" according to Dirkx (2012, p. 399). "Generative" in that the original theoretical basis has taken on an expanding life of its own, and "provocative" in that, as the premise has developed since the late 1970s, it has been criticized for encompassing too many aspects of too many learning ideas (Hoggan, 2016; Newman, 2012). Nonetheless, in 1978, Mezirow presented a new theoretical concept of perspective transformation and has consistently defined transformative learning since as "the process of effecting change in a *frame of reference*" (1997, p. 5), as have others (viz. Apte, 2009; Duerr, Zajonc, & Dana, 2003; Fetherston & Kelly, 2007; Morrice, 2012). Examining change in how one views the world is the foundation of this idea.

Mezirow (1997) went on to state that as adults we define our world through our frames of reference—our past experiences and how we comprehend those experiences—that is, our preconceptions of the world. The problem with this, in terms of formal learning, is that we tend to rebuff ideas that do not fit into our preconceived notions, and we label them as "unworthy of consideration—aberrations, nonsense, irrelevant, weird, or mistaken" (Mezirow, 1997, p. 5). When we create understanding solely within our own preconceived notions based on past experiences we can prevent new answers to new questions and challenges that ask us to do things differently (Apte, 2009). Or, as Glisczinski (2007) put it, what is predominantly apparent in higher education is that we breed a "richness of information and poverty of understanding" (p. 318) of the world in which we exist. Taylor (2008) purports a similar notion that in higher education there is often an importance placed on students completing tasks in lieu of reflective dialogue.

If we accept the notion that our adult understanding is created under the influence of the hegemony of socio-cultural constructs, beliefs, and suppositions that may not necessarily be in our best self-interest (Dirkx, 2012), then it behooves us to look toward altering our perspectives in order to make sense of the world and of ourselves through a shift in consciousness—a *transformation* as it were. The problem though, as it has presented itself in the generative literature related to transformative

learning, is that when we consider these ideas deeply and ponder how to effect these changes in our adult students, a variety of theories related to learning begin to come into play that are supportive of this general idea. Over time, transformative learning has come to mean several things at once (Hoggan, 2016): It is the (1) behavioral outcome of a perspective transformation, (2) a process of learning, and (3) an educational event, or series of events, aimed at fostering the learning experience that produces the desired outcome (Stevens-Long, Schapiro, & McClintock, 2012). Further, adding complexity to nuance, a number of differing concepts have been identified (Hoggan, 2016; Lange, 2015; Taylor, 2008). These overlapping concepts suggest that there is not one singular transformative learning, rather, as Taylor suggests, there are at least seven concepts. He goes on to outline literature supported views of transformative learning as psychoanalytic, psychodevelopmental, socio-emancipatory, neurobiological, race-centric, cultural-spiritual, and positional (2008). Likewise, Stevens-Long et al. (2012) outline transformative learning as four intersecting theoretical perspectives based on: a cognitive-rational approach, a depth psychology approach, a structural developmental approach, and a social emancipatory approach.

Whether one views transformative learning as single theory, seven conceptions, or four approaches, there is yet another set of categories investigators have deconstructed from the literature: (1) the *transformation* itself, (2) transformative *learning*, and (3) transformative *education* (Stevens-Long et al., 2012). Heddy and Pugh (2015) add (4) transformative *experience* which they define as a focus on small shifts in students' perspectives associated with learning in a given content area. Transformation, when viewed through these different theoretical lenses, appears to shift from the simply defined practice of modifying a frame of reference to a finer grained look at what that change is. Further, the process of learning (i.e. what students are processing/doing in their minds) and how that learning is established within a formal higher education environment (i.e. how instructors construct learning activities and the learning environment) comes into the picture. For instance, Stevens-Long et al. (2012), in their study of doctoral level education, developed the categories summarized in Table 1, where *T* is the transformation of the learner, *TL* is the learning process (student process), and *TE* is the education provided (instructor-developed activity).

Table 1 Transformation, Transformative Learning, and Transformative Education within Four Approaches

Cognitive-Rational approach T=shift in perspective of meaning TL=practice of cognitive dissonance, reflection on one's way of thinking, dialogue, and some action based on new ways of thinking TE=promoting critical reflection and discourse on prior experience/ways of thinking through intentional disorienting dilemmas
Depth Psychology approach T=Jungian-type individuation based on resolving personal predicaments and developing a consciousness of individual differentiation

TL=integration of innate discrimination of and openness to individual and collective unconsciousness TE=group or intrapersonal discourse with the subliminal aimed at the integration of affect, intuition, and imagination
Structural Development approach T=postformal thinking that involves epistemological shifts and more complex ways of knowing that are inclusive and integrative TL=confrontation with the limitations of prior thinking and exposure to more adequate forms of ways of knowing TE=provision of balance between challenge and affirmation through the engagement of relationships, interconnectedness, and interdependency
Social Emancipatory approach T=critical consciousness development or conscientization TL=expanding ones awareness of socio-cultural reality through action, reflection, and discourse TE=development of realization of hegemonic social tendencies, socio-cultural freedom, and understanding ways to take constructive action

Note: T=transformation, TL=transformative learning, TE=transformative education. Adopted from Stevens-Long et al., 2012.

Taylor's (2008) deconstruction of transformative learning into seven conceptions is framed somewhat like Stevens-Long et al. (2012). Nonetheless, Taylor establishes that in transformative education it is important to create opportunities for adult learners to learn both inside and outside of the classroom. Apte (2009) takes this idea further and confronts the notion that instructors who call themselves transformation educators often are trying to work their way through multifaceted processes of transformation themselves. Thus, in transformative learning perspectives, we have complex definitions, radical shifts in how higher education is conducted, and instructors who themselves must struggle with the conceptualization of the theory and development of a classroom environment that supports learning in terms of perspective transformation. What is evident here is that the notion of transformative learning is varied, complex, and fraught with a range of shades, variations, and subtleties, which can be difficult to pin down. Adding to this complexity are ways in which scholars investigate the varying aspects of transformative learning. The next section considers a perspective on the research that attempts to make clear the multifaceted vectors in this field.

Transformative Learning Research

Newman (2012) calls into question both the educational theory of transformative learning as well as the research associated with it. His premise is that, while researchers in the field have claimed more investigative sophistication since its onset, studies continue to be based predominantly on qualitative design. He stresses that qualitative research is mere storytelling, perhaps insightful, yet, just as much "invention" as "record" (p. 40). These stories, he suggests—to the consternation of

many, no doubt—are not reliable as research. King (2009), a veteran of adult education and research, inadvertently supports Newman by noting that in the past, as well as today, transformative learning research typically consists of "3-12 participants in in-depth qualitative studies" (p. xvi). Newman (2012) goes on to call into question quantitative survey instrument research too, due to the nature of self-reporting. He states that survey research "affirmations have no guaranteed validity" (p. 40). Nevertheless, research validity is never guaranteed absolute; it can only be demonstrated on a statistically-based scale of low validity to high validity, yet one must design investigations where validity can be measured to begin with. Romano's (2017) investigation of the only four empirical studies using quantitative instruments yielded none that produced validity and reliability results as they pertained to transformative learning as a theoretical concept.

Other scholars uphold the notion that transformative learning research has been predominately qualitative in nature as well, and examples of these studies proliferate. For instance, Snyder (2008, p. 160) reviewed 10 empirical "functional" transformative learning studies, all of which were qualitative. Morrice (2012, p. 257), taking a different qualitative approach, conducted a 4-year life history study of 10 refugees through 58 interviews. Smith, McAuliffe, and Rippard (2014) analyzed 17 reflection papers from master's and doctoral students who had participated in a study abroad program. Christie, Carey, Robertson, and Grainger (2015) report on an action research project involving 12 Papua, Indonesian teachers. A unique case study approach, with 28 interviews of post-trauma victims, was conducted by John (2016). Other such studies certainly exist, and the point here is not to present a meta analysis or synthesis of this aspect of transformative learning research, rather it is to place the present study in the context of the broader picture.

Further, others have conducted studies to include what are sometimes referred to as surveys, but more closely resemble open-ended questionnaires. For instance, Glisczinski (2008) incorporated Brookfield's (1995) *Critical Incident Questionnaire* (CIQ), a 5-question, open-ended questionnaire with 54 preservice teacher participants. He analyzed the responses through phenomenological thematic clustering to tease out emergent themes in the responses. Stevens-Long et al. (2012) utilized a questionnaire of their own design in their study of 59 doctoral students. However, they did not elaborate on how many questions the questionnaire consisted of or much about the questionnaire itself aside from the following: Through "intercoder review and consistency checking" they categorized the responses within a "pedagogy framework" of process, relationships, and content (p. 186). Meanwhile, others have developed mixed-method studies that triangulate questionnaire responses with interviews. Duerr, Zajonc, and Dana (2003) conducted one such study designed to "uncover programs based in accredited institutions in North America that focus explicitly on transformative learning" (p. 180). Respondents answered 32 questions related to demographics, spiritual principles and practices (presumably of the programs), and teaching and evaluation methods. They then followed with 14 interviews. Of note, they stated that their questionnaire should be considered exploratory, not "intended to be a definitive quantitative measure" (p. 181).

The above examples perpetuate Newman's (2012) accusation that transformative learning research is fundamentally qualitative in nature and also

supports King's (2009) assertion that most research in this field is likewise qualitative in nature and conducted with a low number of participants. In contrast, a handful of researchers have attempted to develop survey instruments to collect quantitative data as a beginning point for follow-up qualitative research. One such study was completed by Glisczinski (2007) whereby he modified a survey used by King (1997) in her doctoral dissertation research. This 9-item instrument considers 153 preservice teachers' (1) disorienting dilemmas (three items), (2) challenges to existing assumptions (four items), and (3) critical reflection-based behavior change (two items). Seven additional items collect participant demographics. He conducted basic descriptive analyses to determine that overlapping portions of this study population fit into four transformative learning quadrants of (1) Disorienting Experiences (73%), (2) Critical Reflection (43%), (3) Rational Dialogue (47%), and (4) Action (35%). Unfortunately, Glisczinski offers neither reliability nor validity analysis of the modified instrument.

King (2009) went on to refine the instrument she presented in her 1997 doctoral dissertation and named it the *Learning Activities Survey* (LAS). The LAS is designed to quantitatively preview students' perspective transformation and then be followed by interviews. This rather complex instrument contains 14 items, 7 of which gather respondent demographics. Two of the items are open-response designed for respondents to elaborate on the previous items, and one of the items is primarily instructional, i.e. "If 'Yes," please go to question #3…" (p. 20). One item actually contains two *yes/no* questions, while another contains three questions with essentially a set of *if/then* statements. Interestingly though, two of the items seek to gather information about the learning environment in which the learning took place rather than simply considering the participant's apperception. King fails to report reliability, although, she vaguely states, "the reliability question was addressed from a hermeneutical perspective" (p. 42). Instrument validity is not addressed.

Approaching transformative learning from a socio-cultural angle in a first-year undergraduate course in conflict resolution, Fetherston and Kelly (2007) developed a survey they administered to 82 students. Their research method was of a pre-/post-class design, mixed with 16 interviews, and demographic characteristics. While their discussion of their survey instrument is limited, they developed a unique set of clusters of the transformative learning experience. They identified students who are not "getting it" (Cluster 1), students who experience transitional challenges (Cluster 2), student who "get it" and change (Cluster 3), and students with transitional disruptions (Cluster 4). Like Glisczinski (2007), this study resulted in categorizations of students, or students' perceptions, based upon a framework of transformative learning.

Stuckey, Taylor, and Cranton (2013; see also Stuckey & Taylor, n.d.) have developed the *Transformative Learning Survey* (TLS) that measured 136 participants' responses. The generic study population of convenience from Canada, the United States, and "a wide variety of nationalities" (p. 218). Participants were asked to respond based on a major life event. The TLS has two parts: Part One-Learning Outcomes has two free-response items related to life-changing events, followed by items with a four-point response scale ranging from *mostly disagree* to *mostly agree*.

Part Two-Learning Process has the same response scale. In all, there are 20 scales with a total of 110 items. Stuckey et al. reported on their pilot study with Chronbach's alpha internal consistency reliability ranging from 0.52 to 0.90, with four scales falling below their acceptable values of 0.70 or greater. They also analyzed the scale-level data for interitem correlations using Spearman's *p* and cross-scale correlations using Pearson's *r*, however, they did not report the quantitative results of the interitem correlations and their cross-scale correlations vary radically from 0.27 to only 0.77. They outline revisions to their pilot instrument, but they do not address the reliability and validity results of those revisions.

Given the above general outline, what is apparent is that transformative learning research is primarily grounded in qualitative studies with some movement toward research design approaching the topic from a somewhat more quantitative perspective. Nevertheless, within qualitative educational research circles there is ongoing debate over reliability, validity, objectivity, and generalizability, rephrased in the postmodern era as credibility, dependability, confirmability, and transferability (Lincoln & Guba, 1985; Lub, 2015). According to Cho and Trent (2006), qualitative research can demonstrate greater credibility through design that includes transactional validity and transformational validity. None of the authors I read in my review of the literature made note of these validity design measures that would add credibility to the body of work. Thus, without attention to accurate reflections of reality (Cho & Trent, 2006), naysayers of qualitative research will continue to have fodder for their arguments.

Thus, placed in the broad field of transformative learning research, the present study was established grounded in the viewpoint that higher education instructors can design and reliably measure a classroom environment such that it promotes transformative learning in terms of Mezirow's initial definition of "effecting change in a *frame of reference*" (1997, p. 5). And, that, in order to do this, perspective transformation involves adult learners becoming critically aware of their cultural and psychological assumptions through disorienting dilemmas, discourse, and reflecting upon those assumptions before any internally motivated behavior change can take place (Apte, 2009; Fetherston & Kelly, 2007; Lotz-Sisitka, Wals, Kronlid, & McGarry, 2015; Stevens-Long et al., 2012).

Moreover, we have begun to hear a call for quantitative transformative learning research in the adult learning literature. For example, we find Brock calling for a broad-based survey instrument with which to investigate quantitative aspects of transformative learning (2015). Given that few quantitative instruments demonstrating substantial validity and reliability exist in the milieu of transformative learning research (Romano, 2017), and especially that none consider measuring the extent to which the post-secondary education classroom environment supports transformative learning, I have developed the *Transformative Learning Environments Survey* (TLES). Its purpose is to explore large numbers of students' apperceptions of their own transformation (if any), as well as the extent to which the classroom setting supports, or fails to support, students' shifts in their frames of reference in any post-secondary subject area. Hoggan (2016, p. 71) called for exploring "depth" of transformative outcomes, and it was Taylor (2008) who noted that it is just as important to investigate the reasons behind the lack of adult learner transformation as it is to study

transformation itself, regardless of the approach or conception. Furthermore, this new instrument directly considers students' views of their own internal experience with that of their view of the external classroom influence. To expand on this notion, we can consider the longstanding concept of environment *press* not found elsewhere in quantitative transformative learning research. Press, in this case, is the directional influence the environment has on one's behaviour. Press has a directional tendency with properties not obtainable by the sum of the parts of the learning environment (Fraser, 2012; Murray, 1938). With the TLES, both the *docile* and the *autonomous* press are considered, whereas press is labelled docile when it is regulated by the person and autonomous when regulated by the external environment. If we can measure the extent of the characteristics of large numbers of transformative learning environments—both the docile and the autonomous—it is potentially possible, based on the results of such measurement, to manipulate those environments in ways that promote transformation within that setting (Fraser, 2012; Murray, 1938; Nahemow & Lawton, 1973). If nothing else, we can establish a base from which to ask further questions using qualitative methods. Further yet, a new instrument of this nature can assist investigators in gaining insight on the *beta* press (a person's interpretation of the environment based upon his/her apperception), rather than just limited aspects of the alpha press (the actual press only as far as it can be determined by the limitations of an outside observer).

Qualitative observation, inquiry, ethnography, student and teacher interviews, and case studies, among other qualitative forms of assessment and evaluation, have commonly been used by researchers to gather information on transformative learning. However, in order to bridge the gap between the third-party observer/researcher's etic views and students' own emic perceptions of what goes in on their environments, a less subjective, quantitative, and economical means of measurement exists through the use of valid and reliable survey instruments. This research method is based on validated, efficient, and broadly relevant questionnaires students complete for researchers' gathering of perceptions of transformative learning from the stakeholders' perspectives (Fraser, 1998; 2012). This has yet to be done in transformative learning research, thus the justification for the new TLES.

Further, given the multi-faceted growth in how learning environments have been conceptualized since 1978, in this study I focused on what Stevens-Long et al. (2012) identified as the cognitive-rational approach (Table 1) in the development of a new instrument. And, because intentional disorienting dilemmas might be uncomfortable to some students and critical reflection may not be the way they are accustomed to learning, I have included an additional scale of student affect, in this case *student satisfaction* in the first exploratory application of the refined TLES. Generally, student satisfaction in relation to transformative learning environments has gone unexplored. Like worker productivity in relation to job satisfaction, student satisfaction can presumably lead to increased student outcomes (So & Brush, 2008; Zandvliet, 1999) or shifts in behavior. Further, student satisfaction is consistently used in post-secondary education to measure how effectively a program or institution delivers what students expect, need, and want, and it is associated with student achievement (Fraser, 2012; Lizzio, Wilson, & Simons, 2002; Kuh, 2001a, 2001b).

Additionally, with the inclusion of an attitudinal scale in the exploratory application of the TLES, the relationship between students' satisfaction and their perceptions of the extent of their transformative learning and that to which the learning environment supports it can be investigated (Fraser, 1981; So & Brush, 2008).

Data Collection

The target population for this study was higher education students enrolled in human geography and cultural anthropology classes in a two-year, public community college that serves nearly 17,000 (National Center for Education Statistics, n.d.) urban and suburban students in the greater San Antonio, Texas, USA region. These classes are typically made up of 25 students who are predominantly Hispanic (62%) (NCES, n.d.). The sample was a non-probability sample of convenience drawn from 649 voluntary participants in my department. The survey instrument, the *Transformative Learning Environments Survey* (TLES), was available on the World Wide Web using a proprietary commercial online survey service. It was administered to students over a two-week period toward the end of an academic semester after they had time to develop perspectives related to transformative learning in their classes. The surveys were administered during classes on classroom computers.

Stages in the Development of the Transformative Learning Environments Survey (TLES)

The development of the TLES followed an established three-stage approach grounded in the seminal work of Fraser (1986; 2012) used for creating learning environment instruments. Stage 1 involved the development of salient learning environment scales that, in this case, addressed transformative learning in its broad terms. Stage 2 development was the writing of the items to represent the scales identified in Stage 1. Stage 3 involved field-testing the instrument as well as reliability and validity analysis procedures. Each of these three stages is described in more detail below.

Stage 1 – Identification and Development of Salient Scales

The first stage consisted of two steps to identify and develop salient scales. Step one involved a review of the literature related to transformative learning with the aim of identifying key components considered important in transformative learning. The second step involved consideration of prior transformative learning instruments, of which there are few, to identify if any prior scales could be modified. While I was not able to modify any previously developed scales, Fetherston and Kelly's (2007) framework of transformative learning informed the scale development, as did Glisczinski's (2008) four-quadrant results. The scales thus became: *Disorienting Dilemma*, *Self-Reflection* (Illeris, 2017), *Meaning Perspective and Critical Discourse*, and *Acting*. Unique to this instrument though is that it considers both the participants' apperceptions related to their own transformation and their perceptions of the environment in which they were learners, thus it has two components for each of the four scales: (1) a student apperception component (the extent to which they perceive

their own transformation) and (2) the perception of the student regarding the extent to which they perceive the instructor having established a transformative learning environment.

Stage 2 – Writing Individual Items

The second stage consisted of three steps to writing items to capture the essence of each scale. Step one was writing the items themselves. Each item was constructed to investigate the extent to which the participant perceived the scales. Step two consisted of a review of the items by two faculty members versed in transformative learning in order to ascertain the face validity of the items. Step three involved a pilot test by a group of 75 students to assess and provide feedback regarding the feasibility of the layout, terminology, and general usability of the online instrument and resulting data.

Stage 3 – Field Testing and Analysis

The third stage consisted of two steps. The first step was a field test of the draft instrument with a sample from the population so that a statistical analysis could be performed on the instrument's integrity. The second step consisted of factor analysis to determine factor structure and which items might be removed in order to enhance the factor structure, as well as a test for internal consistency reliability.

In addition to the four scales related to the learning environment, an additional scale of affect was included in the exploratory application of the new instrument. The aim was to gather data to investigate associations between the classroom environment, student transformation self-perception, and satisfaction. The frequency response categories were identical for all of the items: Never, Seldom, Sometimes, Often, and Always.

Reliability and Validity of the TLES

I approached the development of the Transformative Learning Environments Survey from an intuitive-rational perspective (Fraser, 2012) whereby only the items with strong internal consistency remained in the instrument. Likewise, I followed what Hase and Goldberg (1967) referred to as an internal strategy in which only items with strong factor loading within their own scales and weak loading on other scales would remain in the instrument. This section outlines the methods in which I refined the TLES and how validity and reliability were determined.

Factorial Validity

I explored construct validity using principal component factor analysis with equimax rotation (Brown, 2009) and Kaiser normalization with the aim of determining the fundamental factor structure of items loading on their a priori scales. This is done to analyze if items within a given scale are measuring that scale, to what extent, and that they are not measuring another scale.

Table 2 presents the rotated component matrix of individual items after faulty items were removed. Eight scales were originally developed and all eight remained after factor analysis. However, the original field-tested instrument was made up of 56 items, and four were removed because their factor loadings fell below the 0.50 threshold on their own scale or were distributed too strongly across more than one scale. The scale of Disorienting Dilemma-student (DDs) began the field test with seven items and lost one. The Disorienting Dilemma-environment (DDe) lost two items. On the Self-Reflection-student (SRs) scale, one item was lost, and none were lost on the Self-Reflection-environment (SRe) scale. The scale of Meaning Perspective and Critical Discourse-student (MPCDs) lost no items nor did the Meaning Perspective and Critical Discourse-environment (MPCDe) scale. The scale of Acting-student (ACTs) and Acting-environment (ACTe) both lost no items in the factor analysis. After factor analysis, 52 items remained (Table 2). Example items and a description of each scale are in the Appendix.

Additionally, I calculated the percentage of variance of each factor (Table 2). The scale of Acting-environment—the extent to which the instructor creates and environment for student to demonstrate change in behavior—accounted for the highest proportion of variance at 37.7%. The scale of Meaning Perspective and Critical Discourse-environment explained 15.8% of the variance. These two scales accounted for more than half (53.5%) of the variance in the items in the TLES.

Table 2 Rotated Component Matrix

Item	Factor Loading							
	ACTe	MPCDe	MPCDs	ACTs	SRs	DDs	DDe	SRe
DDs1						.801		
DDs2						.785		
DDs3						.567		
DDs4						.729		
DDs5						.684		
DDs6						.504		
DDe7							.636	
DDe8							.516	
DDe9							.777	
DDe10							.829	
DDe11							.781	
DDe12							.725	
SRs13					.680			
SRs14					.718			
SRs15					.592			
SRs16					.574			
SRs17					.575			
SRs18					.565			
SRe19								.707
SRe20								.706
SRe21								.571
SRe22								.574
SRe23								.610
MPCDs24			.763					

Table 2 Rotated Component Matrix *continued*

Item	Factor Loading							
	ACTe	MPCDe	MPCDs	ACTs	SRs	DDs	DDe	SRe
MPCDs25			.787					
MPCDs26			.600					
MPCDs27			.818					
MPCDs28			.766					
MPCDs29			.525					
MPCDe30		.731						
MPCDe31		.750						
MPCDe32		.745						
MPCDe33		.728						
MPCDe34		.764						
MPCDe35		.793						
MPCDe36		.738						
ACTs37				.577				
ACTs38				.634				
ACTs39				.659				
ACTs40				.676				
ACTs41				.654				
ACTs42				.670				
ACTs43				.576				
ACTs44				.543				
ACTe45	.655							
ACTe46	.662							
ACTe47	.720							
ACTe48	.717							
ACTe49	.661							
ACTe50	.700							
ACTe51	.691							
ACTe52	.723							
Eigenvalue	3.01	1.26	0.78	0.70	0.65	0.59	0.52	0.48
%Variance	37.7	15.8	9.8	8.8	8.1	7.4	6.5	6.0

Note: Factor loadings smaller than 0.50 have been omitted. Extraction was principal component analysis with equimax rotation and Kaiser normalization. *N*=649. DDs: Disorienting Dilemma Student, DDe: Disorienting Dilemma Environment, SRs: Self-Reflection Student, SRe: Self-Reflection Environment, MPCDs: Meaning Perspective & Critical Discourse Student, MPCDe: Meaning Perspective & Critical Discourse Environment, ACTs: Acting Student, ACTe: Acting Environment.

Reliability

In addition to testing for validity, I assessed each scale for internal consistency using Chronbach's Alpha coefficient as presented in Table 3, where 1 is the strongest. The TLES scales ranged from 0.87 to 0.93, while the additional scale of Satisfaction had a coefficient of 0.97. The overall reliability of the TLES instrument as a whole (without the Satisfaction scale) was 0.96.

Discussion of the Results of the Development of the Transformative Learning Environments Survey (TLES)

Above, I have presented the rigor involved in the three-stage development of the TLES. In terms of construct validity—the degree to which an instrument measures what it claims to measure—the new TLES demonstrates strong results with factor loadings of 0.50 or greater (Table 2) on 52 of the 56 original items, where the "conventionally accepted value of 0.40" (Fisher & Waldrip, 2002, p. 32) was exceeded. Four poorly loading items, below my 0.50 threshold on their a priori scales, were dropped. Likewise, in order to establish a stable factor pattern for the factor analysis, a sample of 649 students was used, where 300 is considered "good," and 500 is considered "very good" (DeVellis, 2012, p. 158). Nevertheless, despite these strong construct validity results the best solution for demonstrating the generalizability of the TLES would be to replicate this factor analytic solution with a different population (DeVellis, 2012).

Further, internal consistency reliability of the TLES—the consistency of results across items—was strong across each scale and the instrument as a whole (0.96). The scale-level alpha coefficients ranged from 0.87 to 0.93 (Table 3), where, for group data, coefficients of <0.65 are considered undesirable, 0.65 to 0.70 are somewhat acceptable, but minimally so, and those from 0.70 to 0.80 are more acceptable. Alpha coefficients ranging from 0.80 to 0.90 are typically very good, and those above 0.90 are excellent and that scale could be shortened by the elimination of items (DeVillis, 2012). However, in scale development, it is common to aim for high alpha coefficients because they tend to deteriorate under different research circumstances (DeVillis, 2012).

The Transformative Learning Environments Survey (TLES) has been demonstrated as a strong survey instrument that can be applied to examine students' perceptions of their own transformation and the extent to which the learning environment supports their perception transformation. Further research could include testing the instrument under different circumstances to include, but not be limited to, larger/smaller populations, different secondary and post-secondary education levels, and with different student demographics. It could also be applied in investigations where a school, program, or department is striving to increase transformative learning instructional methods in classrooms. Likewise, this instrument could be combined with scales from other psychosocial learning environment instruments to investigate a variety of aspects of transformative learning. Following this notion, the next section outlines the first auxiliary application of the TLES as related to student affect where the affect scale was modified from Fraser (1981).

Table 3 Scale reliability using Chronbach's alpha coefficient for the TLES and affect scale of Satisfaction

Scale	Actor	Number of items	Alpha Reliability
Disorienting Dilemma	Student	6	0.87

	Environment	6	0.85

Scale	Actor	Number of items	Alpha Reliability
Self-Reflection	Student	6	0.89
	Environment	5	0.89
Meaning Perspective & Critical Discourse	Student	6	0.89
	Environment	7	0.92
Acting	Student	8	0.90
	Environment	8	0.93
Affect	Satisfaction	8	0.97

N=649

First Analyses Using the Transformative Learning Environments Survey (TLES)

Using data from the population surveyed during the development of the TLES, I conducted an initial trial investigation in order to explore associations between the scales of the new TLES and students' satisfaction. This section, secondary to the examination of the TLES as a valid and reliable instrument, explores those analyses and the results thereof. The additional scale of Satisfaction is an eight-item scale modified from Fraser's (1981) *Test of Science-Related Attitudes*. It uses the response options of: Never, Seldom, Sometimes, Often, and Always—also modified from the original so that this response scale is congruent with the TLES response scale. I conducted the investigation using simple correlation and multiple regression analyses (Table 4).

Table 4 Associations between the eight scales of the TLES and student satisfaction using simple correlation and multiple regression analyses

Scale	Actor	*M*	*SD*	*r*	*ß*
Disorienting Dilemma	Student	3.44	1.10	0.17*	0.04*
	Environment	2.48	1.28	-0.29	-0.08**
Self-Reflection	Student	3.51	1.09	0.23*	0.05*
	Environment	3.65	1.03	0.28*	0.06**
Meaning Perspective & Critical Discourse	Student	3.96	0.88	0.29*	0.05*
	Environment	4.36	0.83	0.49*	0.38**
Acting	Student	3.64	1.00	0.33*	0.10**
	Environment	3.91	0.93	0.41*	0.16**
Satisfaction		4.34	0.92		

Multiple correlation (*R*)	0.59**
R^2	0.34**

*$p < 0.01$, **$p<0.001$, N=649

In Table 4, the simple correlation (*r*) corresponds to the bivariate relationship between Satisfaction and the eight TLES scales. The standardized regression coefficient (*ß*) represents the association between Satisfaction and the TLES scales when all other scales are mutually controlled. The coefficient of multiple correlation (*R*) indicate the multivariate relationship between Satisfaction and the TLES scales where 1.0 would be a perfect correlation. Meanwhile, the coefficient of multiple determination (R^2) indicates the proportion of variance in the Satisfaction scale accounted for by the TLES scales. The mean (*M*) of each scale is also presented alongside the standard deviation (*SD*) of each scale.

The mean of the responses for each scale range from a low of 2.48 (*SD*=1.28) to a high of 4.36 (*SD*=0.83), where 1 is the possible lowest and 5 is possible highest (1=Never, 2=Seldom, 3=Sometimes, 4=Often, and 5=Always). In terms of student apperception, Meaning Perspective & Critical Discourse (MPCD) was viewed the strongest (*M*=3.96) by the students. This indicates they perceived that they *sometimes* made meaning through discussion. The lowest student apperception of transformative learning fell to the scale of Disorienting Dilemmas (*M*=3.44). Students found that the classroom environment *often* (*M*=4.36) promoted opportunities for MPCD and *seldom* (*M*=2.48) offered Disorienting Dilemmas.

One can interpret the above results considering two views of the beta press (i.e. students' apperceptions): (1) the students' views of their own experience (docile press; labeled as student as the Actor in Table 4), and (2) the students' views of the psychosocial environment in which they were a part (autonomous press; labeled as environment as the Actor in Table 4). The autonomous press/psychosocial learning environment can be manipulated by an instructor, thus, the instructors in this sample might note that the means for the scale of the environment's Disorienting Dilemmas are low, occurring just above Seldom (*M*=2.48) as the students report it. The results of this scale, defined as "the extent to which the instructor used disorienting dilemmas as a part of instruction," might clue instructors into the fact that they may not be challenging students' worldviews and, if it is their aim to do so, they could increase the use of challenges to students' preconceived notions of the world. Likewise, the scale of Meaning Perspective & Critical Discourse—"the extent to which the instructor creates opportunities for critical discourse"—appears strong (*M*=4.36), just above Often occurring. This could be interpreted as students having the opportunity to discuss among themselves or write responses to particular transformative-oriented prompts, which could be interpreted as good in terms of student learning—an instructional activity that should continue. Student apperceptions, however, appear to hover between Often and Sometimes (*M*=3.64) across each of the student-as-actor scales. This may be acceptable in some higher education scenarios; however, if stronger transformative learning is the aim of a program area, department, or course,

then instructors might want to follow these quantitative results with questions to the students about how they are viewing their own learning and thinking.

Further refined by introducing analysis of student affect is that the simple correlation between Satisfaction and the TLES scales ranges from -0.29 to 0.49. All are positive and statistically significant ($p < 0.01$) with the exception of the relationship between the scale of Disorienting Dilemma-environment and students' Satisfaction. The multiple correlation between the set of TLES scales and Satisfaction is 0.59 and statistically significant ($p<0.001$), while the proportion of variance is 0.34. What we are seeing here is that there is a negative association between students' perceptions of disorienting dilemmas being presented to them and their satisfaction (r=-0.29). In other words, it is likely that students do not like to have their worldviews disrupted. In contrast, students seem to have a strong, and statistically significant, positive association between Meaning Making and Critical Discourse and Satisfaction (r=0.49).

In order to determine which of the TLES scales are independently associated with Satisfaction, I examined the standardized regression coefficient. With the exception of Disorienting Dilemma-environment (-0.08), the TLES scales are independent, positive, and significant in relation to students' Satisfaction. The TLES scale of Meaning Perspective and Critical Discourse-environment indicated the strongest association (0.38) with Satisfaction, followed by Acting-environment (0.16). Given that each of the simple correlation and regression weights are positive, except for Disorienting Dilemma-environment, it indicates that a stronger mean on a TLES scale is associated with stronger student satisfaction. On the contrary, when considering the scale of Disorienting Dilemma-environment as it is associated (r) with Satisfaction, when one scale mean increases, the other decreases. Likewise, the negative standardized regression coefficient ($ß$ = -0.08) indicates that a one unit positive standard deviation change in students' perceptions of the Disorienting Dilemma-environment scale results in a negative change in Satisfaction.

In this brief discussion of the first application of the Transformative Learning Environments Survey (TLES), I have offered a demonstration of how the results of the TLES can be rich with information resulting from the data of a given population. In this particular population, where each of the instructors commonly use collaborative learning instructional methods, it is evident in the results, especially when one considers students' satisfaction in association with Meaning Perspective & Critical Discourse (M=4.36, r=0.49, and $ß$=0.38). However, the lack of disorienting dilemma use and students' dissatisfaction with such instructional methods demonstrates that more could be done in terms of applying transformative learning theory into practice with this population.

Conclusion: Unique Contributions of this Study

This study adds three unique contributions to the body of transformative learning research: (1) a new valid and reliable research instrument, (2) an instrument that considers both apperception and perception of the classroom environment within

the context, and (3) an indication of which transformative learning aspects are associated with student satisfaction.

First, in a field of andragogy study that is dominated by qualitative means of investigation, the development and validation of an instrument for assessing transformative learning in higher education, the Transformative Learning Environments Survey (TLES), adds a quantitative dimension to the body of research. The TLES builds upon the framework of Fetherston and Kelly's (2007) survey instrument, as well as that of Glisczinski (2008) whose instrument has roots in Brookfield's (1995) *Critical Incident Questionnaire* (CIQ). Meanwhile, the scale of student Satisfaction has foundations in Fraser's (1981) seminal work in learning environment research. Based on analysis of data from 649 postsecondary students, the TLES has exhibited strong factorial validity and internal consistency reliability. Transformative learning practitioners and researchers now have a new instrument with which they can measure the extent students perceive changes in themselves and the support of the learning environment.

Second, this study is unique in establishing an instrument that captures student apperception (self-cognition) as well as their perception (beta press) in four harmonious categories of disorienting dilemmas, self-reflection, perspective on meaning and critical discourse, and behavior change. Likewise, perception of the learning environment is important because as educational practitioners we can manipulate the learning environment to emphasize certain aspects such as those that are strongly associated with student satisfaction by creating increased opportunities for critical discourse in our classrooms. Or, we can focus on creating situations where cognitive dissonance is done carefully through disorienting dilemmas so that we do not push students too far in to cognitive dissonance, yet still promote an environment of perspective change. Future research could be conducted to investigate what associations are most strongly/weakly evident and educators could emphasize or deemphasize those characteristics depending upon their particular situations and/or educational goals.

Third, in the first research application of the TLES, I have added to the notions of which transformative learning characteristics are positively and negatively associated with student satisfaction. It is apparent within this population that students' perspectives on the extent to which there are opportunities in a class for critical discourse and meaning making are strongly influential on how satisfied they are with their learning experience. Perhaps it could be stated simply that when adult students have the opportunity to speak up, examine their assumptions in light of others, and defend their thinking in a supported manner, they are more satisfied with their learning practice. Likewise, when students perceive that they are given an opportunity to demonstrate changes in their behavior, to express themselves, and to reveal their new ways of thinking, they are similarly more satisfied. In contrast, the TLES has revealed, with this population, that being in a learning environment where disorienting dilemmas (i.e. unsettling information, different frames of reference/points of view, stimulation of uncertainty in their prior worldview) are used as a part of the instruction, students are less satisfied with the learning environment. It may well be that pushing students into disorienting dilemmas where they are uncomfortable with their status quo worldviews is the most beneficial aspect of the learning environment

for them—however, we, their instructors, should offer opportunities for them to discuss and demonstrate their changes in thinking to complete a transformative cycle.

Perhaps this notion that discomfort in thinking comes before perspective transformation is what is needed to provide overall positive educational outcomes is a good area of study to follow in a future line of research for transformative learning educators. Likewise, future lines of study could expand on the TLES with additional scales representing other constructs argued to be considerably pertinent to transformative learning such as emotions, feelings, and relationships.

Appendix Description of the Transformative Learning Environments Survey (TLES)

Actor	Scale	Scale Description	Example Items
Student	1) Disorienting Dilemma	The extent to which students perceived a disorienting dilemma.	In this class… …My assumptions were challenged. …My viewpoints were challenged.
Environment		The extent to which the instructor used disorienting dilemmas as a part of instruction.	In this class, the instructor… …Provided me with unsettling information. …Used a different frame of reference than I would have.
Student	2) Self-Reflection	The extent to which students critically perceived their subjective perceptions of knowledge.	In this class I… …Had to think about my position on the topics. …Had to look closely at my own values.
Environment		The extent to which the instructor created opportunities for student critical self-reflection.	In this class, the instructor… …Asked me to think about where my ideas came from. …Asked me to reflect on my ways of thinking.
Student	3) Meaning Perspective & Critical Discourse	The extent to which students perceive their meaning perspectives.	In this class… …I became aware of the perspectives of others. …I realized other students' perspectives.

Environment		The extent to which the instructor creates opportunities for critical discourse.	In this class… …I had full information. …I felt comfortable defending my way of thinking.
Student	4) Acting	The extent to which students perceive a change in their behavior.	As a result of this class, I… …Adopted new ways of thinking about class topics. …Have made different decisions related to class topics.
Environment		The extent to which the instructor creates an environment for students to demonstrate change in behavior.	In this class, the instructor… …Helped me make any new ways of thinking obvious. …Set up situations where I could express any new viewpoints.

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Citation: Walker, S. L. (2018). Development and validation of an instrument for assessing transformative learning: The Transformative Learning Environments Survey (TLES). *Journal of Transformative Learning*, *(5)*1, 23-46.

JOURNAL OF TRANSFORMATIVE LEARNING
The Journal provides a forum for perspectives on the practice and application of transformative learning.
JoTL is an Open Access journal published by the University of Central Oklahoma at jotl.uco.edu.

Time: The Invisible Frame of Experience

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Abstract

This article is a conversational engagement with Michel Alhadeff-Jones' recently published book, Time and the Rhythms of Emancipatory Education. The book makes the argument that we live in a milieu of multiple, competing, even alienating, temporalities. This is contrasted with a hegemonic concept of time as objective and measureable—one identical moment following another into eternity. The prevailing dominance of this latter concept elides awareness of multiple temporalities and the impact they have on human experience. Given this state of affairs, we remain ignorant of the temporal causes that contribute to incoherent and fragmented selves. This book aims to alleviate that ignorance, while furthering the goals of emancipatory education by teaching us temporal literacy. In this respect, it furthers the work of Mezirow (2000), who encouraged us to critically examine the assumptions that control us. Understanding that challenge, and employing the methods of psychotherapy, I outline a process whereby individuals can first understand and possibly author an emancipatory relationship with time. I expand on the author's thesis by bringing in the notion of liminality to articulate the existential challenges encountered in such a project.

Keywords: critical distance, liminality, temporality, transgression

Overview

Michel Alhadeff-Jones (2016) has written and published a book with the intriguing title, *Time and the Rhythms of Emancipatory Education.* The task he sets for himself is to theorize the medium through which we live. That medium is time. In particular he wishes to examine how various temporalities condition what can occur in education. For example, conflicting, but unthematized, temporalities work against the emancipatory goals of education. Conceptualizing those temporalities increases the potential for, but doesn't guarantee, emancipatory outcomes. He situates his contribution within current and past European thought on temporality and rhythm—the work of Bachelard (1931, 1936), and Lefebvre (2002, 2004), and, more currently, the work of Sauvanet (2000) and Michon (2005, 2007). The book offers a comprehensive framework for thinking about time and, consequentially, provides some transformative potential (Alhadeff-Jones, 2012; Mezirow, 2000). It is divided into three parts. The first part employs an epistemological lens; the second, offers a genealogy of conceptions of time and rhythm; the third, and final part, focuses on the implications for educational practices.

Rather than presenting a traditional book review, I will respond to his text with an essay that articulates and responds to those ideas that I found to be heuristic. For example, by foregrounding temporality rather than spatiality, he makes *event*, rather than the object, his unit of study. All else follows from this assumptive ground. For him, life is a process of becoming that can be characterized by a rhythm or pattern of continuities and discontinuities. In fact, these continuities and discontinuities are what constitutes rhythm. Next, he argues that time is not a homogenous medium. Rather, there are multiple temporalities which can be compared to tides, currents, wave action, rip tides, etc. These various rhythms can interact in competing and/or synergistic fashions. His claim is that we are disturbed, even alienated, by the temporal turbulence buffeting our lives. We are beset by individual, social and institutional temporalities that often make competing demands on us such that to respect one temporality; for example, institutional time, means to ignore or deny our individual or idiosyncratic learning rhythms.

Hetero- Versus Homogeneous Temporalities

What makes navigating these contending demands even more difficult is our inability to recognize and conceptualize these heterogeneities. Alhadeff-Jones (2016) makes the argument that when we *assume* homogenous time, we have little chance of extricating ourselves from the conflicting imperatives that these multiple temporalities impose. To simplify, homogenous time is clock time: discrete, identical moments, one following the other in an endless procession—a conception of time that is impersonal and "objective" and elides nuanced, experiential conceptions of duration. Alhadeff-Jones is endeavouring to overcome the resultant conceptual blindness—an aporia—by articulating the temporal force field in which we find ourselves. In so doing, he performs what he eventually prescribes. That is, the first step in liberating ourselves from hegemonic time is to separate from it—to take some critical distance from it in order to "know" it. It is a movement from *being* to *knowing*. When we transgress the parameters of hegemonic time, we can consciously experience, perhaps for the first time, a different temporality. For example, if a person raised in a family where mealtime is "refuel as fast as you can," meets a partner whose family considered mealtimes an occasion for leisurely conversation, then each has an opportunity to step outside a hegemonic time. And that fresh experience can become the basis for a different *concept* of time. Once in possession of the concept of heterogeneous time, we can begin to understand and exercise the choices implied by that term. For example, we might be able to move from experiencing time as tyrannical and scarce to a sense of time as abundant. Or we might be able to understand the existential truth behind phrases such as "killing time" and "making time."

Knowing Time Rather Than Being Time

The process I am describing is parallel to the statement that a fish couldn't possibly know water because it is their uniform environment. That is, in order to "know" water they would have to contrast their experience of it with another medium—air, for example. In a similar manner, it is difficult for us to conceive of the

rhythms of our culture if we've never lived in another. It is the contrast that allows us to make what formerly implicit, explicit. Through being made explicit, our experience of time is given conceptual form.

This process of taking one's psychic distance from the immediacy of experience in order to know it conceptually is similar to the processes that occur within psychotherapy—my profession. Whereas, my professional focus is primarily on the self, Alhadeff-Jones highlights the competing temporalities and rhythms encountered in social circumstances in general and education in particular. Of course, self and circumstances exist in a dialectical relationship. Whereas, I explore the faulty beliefs that distort one's perceptions of one's circumstances, he explores how invisible temporalities produce *incoherent* selves. Alhadeff-Jones' argument is particularly relevant when we consider that time is utilized as a framework for bringing order to our lives. Time structures our biography into before, during and after phases; a beginning, a middle and an end—producing a coherent narrative. According to Mezirow (2000), "[a] defining condition of being human is our *urgent need to understand and order the meaning of our experience*, to integrate it with what we know, in order to avoid the threat of chaos" (emphasis added, p.3). When we are not aware of the conflicting demands of multiple temporalities, that task of bringing order to our experience becomes even more challenging, if not impossible.

Through articulating these simultaneous, but competing temporalities, Alhadeff-Jones reveals the challenges of bringing order to our lives and thus contextualizes education's emancipatory project. This project might benefit from an examination of the processes that occur in successful psychotherapy. People often begin therapy because they are unable to actualize the kind of life they desire. Although they can describe their ideal life—the life they "should" have—they are unable to describe nor understand their "natural" or pre-reflective self. Because of this lacuna in their self-knowledge, they are often unaware that their actual self might be frustrating the strivings of their ideal self. For example, their natural self might prefer solitude, whereas their ideals compel them to be ambitious and gregarious. If they were to acknowledge and accept their spontaneous or natural preference they could consciously construct a life style in which their nature might flourish. Unfortunately, however, their *conscious* strivings are instead directed toward a cultural ideal—a photoshopped depiction of a celebrity's life, for example. The inarticulate, but "real" self is in conflict with their fully articulate, idealized self. They are working at cross purposes. The idealized self's goals are favoured because they've been given a clear and distinct form; whereas, the actual self's goals are tacit and require reflection in order to take on a conceptual form. Frustration, disappointment and anxiety often signal this *unrecognized* conflict. Perhaps an example drawn from an early developmental stage will make my point clearer. A child who has yet to learn that tiredness conditions their perceptions assumes that their reactions to obstacles are appropriate and reasonable. However, once they develop the concept that tiredness skews perception, they can consciously compensate for its distortions. Psychotherapy formalizes this natural learning process by making the client's pre-reflective self an object of inquiry. Contemplating their prereflective self, the client begins to know it. With that knowledge, they might begin to reduce the gap between their actual and idealized selves.

Alhadeff-Jones comes at this issue from the opposite end of the self/circumstance interactional pattern. He is conceptualizing the temporal "force field" in which we find ourselves. When we don't know that we are being riven by competing temporalities we might attribute our difficulties to some kind of personal failing. Alhadeff-Jones' book helps us to avoid that error of attribution by explicating the source of our distress. His work is particularly significant for us today as it seems that time is accelerating as well as multiplying. Our contemporary ethos seems to expect the same amount of productivity within a shorter time. Furthermore, because consultancy and self-employment are becoming more prevalent in the West, many individuals move through multiple contexts each with their own time signature.

Transgression: A Possible Path to Emancipation

As stated earlier, Alhadeff-Jones helps us to first understand, and possibly emancipate ourselves from the resultant confusion. Let me offer a concrete example of such a process. Students could come to know institutional time by "skipping classes"—a transgressive move that might "refresh" their awareness of their own idiosyncratic rhythms and temporalities. Their teachers, however, will likely be offended by what they interpret as a normative trespass. Perhaps that affect, if critically reflected upon, could be a signal that teachers have also been confined within a hegemonic conception of institutional time. That could open the possibility for designing a temporal environment that had the effect of reconciling institutional, instructional, and idiosyncratic rhythms. At the very least, they might develop a compassionate understanding of the tensions involved.

My example of skipping classes is illustrative of the transgressive move that Alhadeff-Jones considers necessary for emancipation. Although he is aware of the troubling connotations of "transgression," he uses the term intentionally. Furthermore, he doesn't mute its radical implications. Rather he deepens our understanding by returning us to its denotative meaning. "The Latin etymology of the term opens up . . . a richer space of meaning; *trans-gredior* literally signifies 'walking' or 'moving through,' 'beyond,' 'above' or 'on the other side.'" (Alhadeff-Jones, 2016, p.196). Transgression is necessary to break through the boundaries of hegemonic time. I find his etymological, "space of meaning" useful as it qualifies the connotation of the term—which has come to imply a normative trespass—while legitimatizing its necessity.

Emancipation, therefore, is dependent upon the initial transgressive act. However, if I understand Alhadeff-Jones correctly, this operation must be repeated a number of times in order for this self-authored temporality to replace the hegemonic, alienating one. By self-authored, I am not suggesting (and neither is Alhadeff-Jones) that the individual has total control over the temporalities through which he or she lives. Some can be authored, while some cannot. However, with the knowledge and acceptance of rhythms outside of one's control, one can attribute the resultant stress to one's circumstances rather than to the self. This is an empowering move because it calls attention to the troubling circumstance rather than to self-doubt. This is important because a potent self is required for emancipation—especially for the first transgression. The first is the most difficult as the individual has no concept of an

alternate temporality. One is plunging into the unknown because this particular present can no longer be lived. However, having made this breakthrough once, and discovering that alternate temporalities do exist, subsequent "transgressions" could be embarked upon with more confidence.

Alhadeff-Jones gives a comprehensive catalogue of the various temporal rhythms through which we live. His argument is particularly relevant when we consider that we use time to bring order to our lives. Time structures our biography into before, during and after moments; a beginning, a middle and an end. According to Mezirow, "[a] defining condition of being human is our urgent need to understand and order the meaning of our experience, to integrate it with what we know, in order to avoid the threat of chaos" (2000).

The Challenge of Liminal Time

Here, I wish to challenge his account as requiring a more nuanced description of the transition from hegemonic to emancipated temporalities. Alhadeff-Jones account could be enriched by employing the anthropological concept of liminality. That concept highlights the loss of certainty entailed when one "overthrows" or relinquishes the previously assumed framework in favour of authoring one's own. After all, the previous temporality structured one's life in predictable ways that allowed a fit with other social actors. With the overthrow of previous certainties, however, one finds oneself in an unstructured space, a kind of limitless space, in which, nevertheless, one must respond to the relentless challenges of daily life. The inadequacies and incompatibilities of one's previous temporal map have been revealed but the demands of living continue. One risks a new way of being with no guarantees of success. Because the stakes are so high, the existential engagement is total. One commits to one's decisions and thereby is informed, or "stamped" by those decisions. A new temporality is authored. One emerges "on the other side" as some new form. The literature on liminality does justice to the existential demands of transgression and thereby highlights the courage required to see the process through.

Nevertheless, Alhadeff-Jones has performed a service in mapping the temporal force field in which we find ourselves. The journey from alienation to emancipation will be less daunting because of the signposts that he offers.

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Citation: Green, L., (2018). Time: The invisible frame of experience. *Journal of Transformative Learning*, *(5)*1, 47-52.

JOURNAL OF TRANSFORMATIVE LEARNING
The Journal provides a forum for perspectives on the practice and application of transformative learning.
JoTL is an Open Access journal published by the University of Central Oklahoma at jotl.uco.edu.

Transformative Learning: A Review of the Assessment Tools

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Abstract

In this review essay[1], I try to explore the following question: How can we evaluate the process and the outcomes of perspectives transformation? Where is the research on the assessment of transformative learning outcomes today and where it is going in the future? I will describe the most popular tools (see Stuckey, Taylor, Cranton, 2013) for the evaluation of the outcomes of learning activities that may be conceptualized as transformative experiences. The four instruments compared are:
1. Kember's Critical Reflection Questionnaire, a 16-question, four-scale questionnaire (Kember et al., 2000, p. 392);
2. Learning Activity Survey (Learning Activities Survey, King, 2009) questionnaire, based on the theory of the ten steps precursors to transformative learning (King, 2009);
3. Transformative Learning Survey (Stuckey, Taylor, Cranton, 2014);
4. VALUE rubric (Valid Assessment of Learning in Undergraduate Education) (AACU, 2013), whose variation Student Transformative Learning Record (Barthell et al., 2010) was created for the assessment of students' own authentic work.
Those instruments represent the effort of (a) going beyond the qualitative retrospective approach and (b) finding indicators for the critical reflection engaged by people (students or professionals) in their learning experiences. The purpose is to appeal to faculty members, adult educators, professional coaches, mentoring experts, healthcare professionals in Counselling and Psychotherapy, offering them a review of both qualitative and quantative approaches that they could adopt in their professional practices.

Keywords: transformative learning, survey, quantitative methods, assessment

[1] Part of the review here offered was published in the article "Romano A. (2017). The challenge of the assessment of processes and outcomes of transformative learning. *Educational Reflective Practices, 1*, 184-219."

Current Trajectories of Transformative Learning Theory

The popularity of transformative learning theory (TL) over the last several decades speaks to the interest in understanding highly impactful learning experiences. Mezirow used the terms transformative learning and perspective transformation to refer to the process of "becoming aware of one's own tacit assumptions and expectations and those of other and assessing their relevance for making an interpretation" (Mezirow & Associates, 2000, p.4). Mezirow (2000) limited transformation to those learning experiences whereby one's preconscious mental schemas are laid bare and scrutinized through the process of critical self-reflection: "Transformative learning refers to the process by which we transform our taken-for-granted frames of reference in order to make them more inclusive, discriminating, open, emotionally capable of change, and reflective so that they may generate beliefs and opinions that will prove more truth or justified to guide action" (2000, p. 7-8). In the last decade, transformative learning theory has been accused of stagnation and lack of theoretical progression, due to:

- a confusion about research paradigms,
- an overreliance on a research methodology in which participants are interviewed retrospectively and in which is carried out just as thematic inductive analysis,
- the misinterpretation of kinds of data as research paradigms and the reliance on secondary sources (Taylor, Cranton, 2012).

In educational research on transformative learning the basic interpretive methodology is mostly adopted. The researcher interviews a small number of individuals in specific environments or related to specific issues (retrospectively), does a thematic analysis of the interview data, and reports on four or five themes that appear in the data. Some unresolved issues persist, such as: how to evaluate the perspectives transformations in adult people? How to disambiguate the field of the evaluation of transformative learning experiences? How can we track and support the processes of perspectives change?

The Post-Mezirow Approaches of Transformative Learning

Mezirow's theory finds its home within adult education and its expansion has come through its intersection with other theories about transformation and development. The cross-fertilization (Schapiro et al., 2017) between different approaches and disciplines continues to help TL theory evolve far beyond its first conceptualization.

Following Taylor's categorization (1998), Hoggan (2016) recognizes four approaches to transformative learning theory: psychocritical, psychodevelopmental, psychoanalytic, and social emancipatory. The Psychocritical Approach (Taylor, 1998) considers that people have habits of mind, a set of assumptions which dictate how they make meaning of the world. The

Psychoanalytical Approach stems from the work of the analytic psychologist Jung and focuses on the expansion of one's ego consciousness. The psychodevelopmental approach defines transformative outcomes as an increase in cognitive capacity. These approaches describe different, although partially similar, ways to interpret how people can change. The trajectory of approaches to transformative learning continues to expand, as evidenced by Taylor (2007), who added neurobiological, cultural–spiritual, race-centric, and planetary.

How Can We Evaluate Quantitatively Perspectives Transformations Outcomes?

Most research on the outcomes of transformative learning have been qualitative in nature and relied on retrospective interviews as a means of data collection. Methodologically, there is a growing specificity in the type of qualitative design, such as action/teacher research, narrative inquiry, autoethnography, and case study (see Merriam & Kim, 2012). In addition, participants writing in journals, students writings, photography, and portfolios have continued to be viable data sources. The predominant qualitative inquiry on transformative learning has become more sophisticated through the use of longitudinal designs, action research, scales, surveys, content analysis of various documentation (e.g. emails, journals, portfolios) and the use of video recorded interviews. In a review of the methods for the evaluation of transformative learning, Cranton and Hoggan (2012) indicate self-evaluation methods, interviews, narratives, metaphor analysis, art-based techniques, surveys, and checklists.

Table 1 Methods of Evaluation of Transformative Learning

Methods	Description
• Evaluation Methods	Self-evaluation methods are especially congruent with the philosophical foundations of emancipatory learning that have influenced the theory of transformative learning.
• Interviews	Interviews are frequently used for evaluating transformative learning. Interviews can focus on learners' story of a particular experience to gain insight into the processes or outcomes of learning, as well as to track learners' perspective changes

Table 1 Methods of Evaluation of Transformative Learning *continued*

Method	Description
• Narratives and Journals	Narratives are learning practices that include learning journals, concept-focused autobiographical writing, and case studies. Journals can take many forms, such as: imagined dialogues between the learner and someone else; real dialogues among multiple learners.
• Art-based Techniques	Arts-based techniques include photography and collage, creative writing, music, improvisation, body movement, and visual imagery. Arts-based techniques, when used in evaluation of transformative learning, are designed to help learners gain personal insights, recognize ways in which they have changed, and help crystallize ways in which they may potentially change.
• Metaphor Analysis	Metaphor theory asserts that metaphors actually represent maps that people use to understand concepts. Metaphor analysis is the process of recognizing, "unpacking," and critiquing the metaphors we tacitly use to understand our world and ourselves.

The Critical Reflection Questionnaire: How to Engage in the Assessment of Critical Reflection's Outcomes

Based on Mezirow's definition of reflective thinking, Kember, Leung, Jones, Like, McKay, Sinclair, Tse, Webb, Wong, Wong, and Yeung (2000) designed a 16-question, four-scale questionnaire, the Reflection Questionnaire, to measure "the extent to which students engage in reflective thinking in professional preparation courses" (Kember et al., 2000, p. 392).

In developing a protocol for assessing the level of reflection in journal writing, Kember et al. (2001) found the work of Mezirow provided a comprehensive, logical and workable framework for developing a method to assess reflective thinking. From theoretical elements, Kember et al. (2000, 2008) proposed tools to identify quantitatively and qualitatively reflection levels. In the qualitative proposition, Kember et al. (2008) proposed writing texts in which students were asked to write about learning processes in their professional practice. To analyze the texts, the authors developed an analysis log based on the four reflection levels, used as guide for the analysis of the reflection level in written works. The quantitative instrument assessed four constructs: habitual action, understanding, reflection, and critical reflection. Kember (2001), after a rigorous literature review, recognized that

- the subject matter of reflection is an ill-defined problem—the type of issues and cases dealt with in professional practice;
- in professional practice, the process of reflection may be triggered by an unusual case or deliberate attempts to revisit past experiences;
- reflection can occur through stimuli other than problems or disturbances to the normal routine. The stimuli may be encouraged or arranged;
- reflection operates through a careful re-examination and evaluation of experience, beliefs and knowledge;
- reflection most commonly involves looking back or reviewing past actions, though competent professionals can develop the ability to reflect while carrying out their practice (Kember, 2001).

Kember et al.'s (2000) Reflective Questionnaire needs to be combined with an additional instrument (maybe one of the surveys described below) to fully capture the perspective transformation: first, because perspective transformation happens on so many levels (e.g., individual, organizational, cognitive, affective, behavioral) that it may be impossible to develop a single scale to capture every aspect; second, because it is focused on the process of critical reflection, and it doesn't consider the outcomes of learning in terms of change of meaning perspectives.

The Learning Activity Survey: A Questionnaire for the Evaluation of Perspectives Transformations

The Learning Activity Survey (King, 2009) is a questionnaire constructed and tested by the research group directed by King (2009), and implemented in more than ten years of studies.

The Learning Activity Survey has two major purposes: identifying whether adult learners had a perspective transformation in relation to their educational experience; and if so, determining what learning activities have contributed to it (King, 2009, p. 14). The assessment tool has four major parts. Part one identifies the stages of perspective transformation and asks participants for a brief

description of their experience. Part two determines which learning experiences have promoted a perspective transformation. Part three is a series of questions determining the learning activities in which respondents were involved. Lastly, part four collects information on demographic characteristics. The LAS survey is a self-report survey totally filled out by participants all by themselves. Item 1 uses Mezirow's original ten stages of perspective transformation as a guideline for presenting carefully paraphrased and texted statements for the respondent's consideration. For Mezirow's stage one, a disorienting dilemma, the tool has the following statement that could be selected: "I had an experience that caused me to question the way I normally act." The learners from a checklist may select the ten stages of perspective transformation individually. Item 2 has three purposes: it improves the validity of the tool by summarizing and rephrasing Item 1, it assists the respondent in completing the tool, and it focuses the items on one experience of perspective transformation. If respondents did not have a perspective transformation experience, they are directed to Item 2 to go directly to the last two sections of the assessment tool.

Until this point, the tool has used closed-response, while Item 3 and Item 5 require free responses. Item 3 seeks a basic description of the perspective transformation experience in order to verify that the perspective transformation was in fact related to the respondent's educational experience. Items 1, 2, 3, and 5 guide the respondent to reflect on an experience of change and delve into what exactly it was, how it happened, and what contributed to its occurrence. The educator uses the information from these items to determine a score for each participant on a scale from one to three. This PT-Index scale indicates whether learners had a perspective transformation in relationship to their education, PT-Index = 3; whether they had one not associated with their education, PT-Index = 2; or whether they did not have a perspective transformation experience, PT-Index = 1. The PT-Index is classified according to multiple literature sources (King, 2009, p. 16). The PT-Index provides three concise categories for representing who have experienced perspective transformation and who have not. Learning activities assessed by the instrument are classroom assignments and support (of the teachers, of the facilitator, of the colleagues). Classroom assignments are divided into five sub-categories: critical thinking assignments, class discussions, student self-assessment, discovery of one's voice, and miscellaneous learning activities. One may use all six of these categories to group the learning activities listed in Item 4 and 7 of the instrument:

1. Critical thinking assignments: term papers/essays, personal journals, period of deep thought, assigned readings, and personal reflection.
2. Discussions: class/group projects and discussion of concerns
3. Students self-assessments: self-evaluation in courses and Personal Learning Assessment (PLA's).
4. Discovery of one's voice: writing about concerns, class discussions, and personal journals.
5. Support by: teacher, advisor, student, classmate, or other person.

6. Discover of own voice: logbooks, self-report.
7. Miscellaneous learning activities: nontraditional structure of courses, experiential workshops, and laboratory experiences.

The researchers who administer the Learning Activity Survey can use the Data Summary Table published with the original version of the handbook (King, 2009) or may use an Excel Page to tabulate the data. Each response on the LAS has a variable code assigned to it as listed before the administration of the survey. Each learner that completed the LAS comprises one record of data, and each response entered in the system is likewise coded per field. The simplest analysis is descriptive statistics in the form of frequencies.

More detail is needed to configure the Dataset for statistical program of choice in order to distinguish between schools/organizations, class/group/individual respondents. Examining frequencies and rankings of the entered data is possible to identify characteristics of the respondents, including age, college, affiliation, semester of enrollment, or the percentage of individuals experiencing a perspective transformation within their education. Individual effects are studied with the use of crosstabulations and chi-squared tests of significance between each of the demographics and those with PT-Index of 1 and 3. As final check, these data should be examined for adult learners having the opportunity to participate in learning activities: the educator/teacher should note which learning activities are much less available than others.

The pilot studies for the construction of the instrument included interviewing adult learners using critical incidents and collecting data about participants' perspective transformations. There was an iterative pattern of repeated sampling, formative adaptation of the instrument, and successive member-checking interviews repeated cyclically in three different educational institutions (King, 2009, p. 41). In addition, a panel of experts critiqued the tool and made suggestions. The method of supplementing the quantitative instrument with structured interviews especially improved the internal validity of the instrument (*ibidem*).

As told by King (2009, p. 18), the Learning Activity Survey can not isolate the specific impact of other variables that may have a role. Data gathered with the LAS questionnaire should be compared with data collected with other instruments, such as interviews for a small part of the sample, logbooks and journals. The Learning Activities Survey Questionnaire (LAS) saw applications in a variety of contexts over the last decade (Brock, 2010; King, 2009). Brock (2010) used the LAS Survey in her study on transformative learning experiences in undergraduates in business school; Glisczinski (King, 2009) adopted both quantitative and qualitative methods for the evaluation of transformative learning experiences in participating teachers. King's survey (2009) lacks construct validity, which raises questions about which inferences can be legitimately made and what was operationalized in the survey. Even though King reports that experts reviewed the instrument: there is no statistical evidence demonstrating its validity and reliability. In addition, the survey lacks factorial validity. Additional questions allow the researcher to perform a factor analysis to determine the degree of

relatedness between the questions and the construct. When there is a high correlation between the questions, then researchers can infer factorial validity. These concerns and others should remind scholars of the limitations of similar instruments until validity and reliability has been established. (Taylor, Snyder, 2012)

The Transformative Learning Survey: Methods of Evaluation

The Transformative Learning Survey (Stuckey, Taylor, Cranton, 2013) is a validated quantitative survey that assesses outcomes of experiences of transformative learning in college-educated adults. Survey development included a comprehensive literature review, external review by experts in adult education, focus groups for clarification of the items, the calculation of interitem correlations for each scale and cross-scale correlations, and the calculation of Cronbach's reliability coefficients (Stuckey, Taylor, Cranton, 2013, p. 211). Its purpose is to assess both common outcomes in transformative learning and variety of processes for reaching those outcomes. The survey instrument could help educators and scholars determine more accurately what strategies have the potential to foster transformative learning. The 112 items of this survey reflect and include three dominant conceptions of transformative learning (Cranton, 2006):

1. Cognitive/rational perspective (Mezirow, 1991) that emphasizes rationality, critical reflection, and ideal conditions for discourse, according to a constructivist and universal view of learning;
2. Extrarational perspective (Dirkx, 1998; Lawrence, 2012; Tisdell, 2006), which emphasizes the emotive, imaginal, spiritual, and arts-based facets of learning beyond rationality, and which recognizes personal, intuitive, and imaginative ways of knowing that lead to individuation;
3. Social critique perspective (Brookfield, 2012; Freire, 1970) that emphasizes ideological critique, unveiling oppression, and social action in the context of transformations, understood in terms of social change by "demythizing" reality, where the oppressed develop critical consciousness. This emancipatory approach is based on four broad concepts/methods, such as i) the centrality of critical reflection for helping learners develop an awareness of agency to transform society and their own reality; ii) the maieutic teaching couched in acts of cognition; iii) the problem-posing and dialogical methodology; and iv) a horizontal student–teacher relationship where the teacher works on equal footing with the students. All those elements concur in promoting a social transformation over personal change.

The survey can provide feedback to individuals on the extent of their perspectives transformation as well as feedback on whether change of perspectives was fostered in a particular group. The questionnaire includes qualitative elements to investigate participants' transformative experiences and the kind of changes they observed that may be missed through quantitative methods. The constructs described were grouped into three processes: i) for cognitive-rational process, five scales were developed to represent: critical reflection, action,

experience, disorienting dilemma, and discourse; ii) extrarational process is comprised of six subscales, namely arts-based learning, dialogue with others, emotional reactions, imaginal learning, spiritual learning, and soul work; iii) social critique includes four subscales, namely ideology critique, unveiling oppression, empowerment, and social action. Outcomes of transformative learning experiences were grouped in acting differently, having a deeper self-awareness, and having more open perspectives and experiencing a deep shift in worldview. The survey was tested in United States and Canada in a pilot study with 136 people[2] and was not tested cross-culturally.

A person who engages in replying to the survey receives a score on each scale by combining his/her responses to the items representing the scale. Outcome scores indicate the degree to which the person has engaged in transformative learning in general; the process scores indicate the probable processes a person undergoes during a revision of perspectives.

The survey may be useful for educators to describe the extent to which a specific class, in the context of a course, engages in transformative learning and to convey it in an educational experience (Stuckey, Taylor, Cranton, 2013). The limitations of this survey are that the qualitative approaches were translated to quantitative form to perform measurements with tools and techniques that appear to produce numerical and binary answers. The survey represents the most precise effort to operationalize the construct of the transformative learning, even if future tools may be closer to quantifying the outcomes on a graduated scale and assessing the process of transformative learning experiences or activities. The instrument has the merit of allowing defining transformative learning on several dimensions, considering the individual and the social dimension of change and both the internal and the behavioral dimension of transformation.

The Valid Assessment of Learning in Undergraduate Education: A Tool for the Assessment of Students' Transformative Learning

The VALUE (Valid Assessment of Learning in Undergraduate Education) is a campus-based assessment initiative sponsored by AAC&U as part of its Liberal Education and America's Promise (LEAP) initiative (http://www.aacu.org/value/rubrics/). VALUE rubrics and scoring guides provide tools to assess students' own authentic work, produced across their diverse learning progressions and institutions. The scope is to determine whether and how well students are meeting graduation level achievement in learning outcomes that both employers and faculty consider essential.

The Student Transformative Learning Record (STLR Rubric) is based on VALUE rubrics created by the Association of American Colleges and Universities. In 2007, after several years of experimentation and development (Cunliff & Hughes, 2011), UCO (University of Oklahoma) formulated an initiative called "Transformative Learning" (TL), articulated at UCO as a

[2] For more details about the development of the survey, see Stuckey, Taylor and Cranton, 2013.

learning-centered education model for all students (Barr & Tagg, 1995). Since students' transformative experiences (and hence students' learning) can take place both in and out of a traditional classroom, UCO's approach to TL encompasses all aspects of students' learning including curricular, co-curricular, and extra-curricular activities (Barthell et al., 2010). Students' transformative experiences are included in a set of six developing practices, all of which promote high levels of students' engagement, high-impact educational practices, service learning and civic engagement practices of Astin (Astin & Sax, 1998). These six practices are called the Central Six Tenets of Transformative Learning: 1) Discipline Knowledge; 2) Leadership; 3) Research, Scholarly, and Creative Activities; 4) Service Learning and Civic Engagement; 5) Global and Cultural Competencies; and 6) Health and Wellness.

Assessment of Transformative Learning according to VALUE rubrics is accomplished with the STLR (the Student Transformative Learning Record) Rubric. Based on the willingness to create learning activities and expanded learning environments, following Mezirow's idea of fostering transformative learning as teaching for change, the STLR Rubric helps to evaluate students' progress in the associated Central Six Tenets. The assessment offers a standardized rating of students' achievement towards transformative learning and is documented in transformative learning record. According to the instrument, student's major field of study is central to the learning experience and is a vital part of the Central Six. STLR measures and records students' transformation across the five core tenets: Global and Cultural Competencies, Health and Wellness, Leadership, Research, Creative and Scholarly Activities, Service Learning and Civic Engagement.

These experiences are recorded in University databases and displayed via students' online Dashboard and in their student-built ePortfolios. STLR utilizes three badge levels for each tenet: exposure, integration and transformation. To earn a TL badge in Leadership at the exposure level, for example, a student must successfully demonstrate achievement of the criteria for that badge as measured with the rubric. Faculty and staff who manage the curricular, co-curricular, and extra-curricular programs identify activities suitable to meet badge criteria. Artifacts producted (virtual and material) associated with badge learning outcomes are captured in e-portfolios along with assessments of student work. The STLR process is designed to promote student's participation in transformative learning experiences, as well as the development of workplace and life skills competencies. As a student progresses beyond the exposure level, badge criteria reflect deeper levels of learning, much as upper level courses are more challenging and complex than lower level courses. Whether students pursue multiple badges or focus on just one, they will develop many skills and abilities that employers indicate as critical to successful job performance (Hart Research Associates, 2013). The connection of so-called "soft skills"[3] (often achieved

[3] The promotion of the soft-skills required for the labour market are now one of the main interests of the European educational research, according to the European Qualifications Framework of 2008.

outside the classroom) to success in the workplace is increasingly well established among surveys of employers (Stratford, 2013). STLR provides a tangible method for verifying the skills that employers indicate are crucial to career success, thus providing demonstrable evidence to students, employers, and the public of the critical added value that high-impact practices bring to a student's preparation and career readiness. The evidence of students' transformative learning as automatically captured within the STLR e-portfolio may also be replicable by other colleges. It provides other graduates a means of substantiating to prospective employers their workplace-ready skills as they customize the presentation of themselves both on their résumés and as they select key evidence from their e-portfolios. One of the main values of VALUE Rubric and STLR portfolio is to take into account students' process of learning in academia for future professional development and for their employability.

Conclusions and Future Trajectories

How does one prevent the risk of misuse of transformative learning theory as an abstract framework for framing each kind of reflective process? Using multiple data collection pathways, opting for thematic embedding, clarifying the use of transformative learning theory and attending to feelings are all good strategies. The instruments presented here sustain educators and teachers to "unpack" purposes and practices of fostering transformative learning. They assess dimensions and variables of so-considered effective practices for promoting transformative learning in formal and informal settings, putting in evidence successes, strengths and outcomes of transformative educational activities and risks, challenges and caveats when doing the effort of "teaching for change" (Taylor, 2009, p. 3).

These instruments represent the effort of going beyond the qualitative retrospective approach and finding indicators for the critical reflection engaged by people (students or professionals) in learning experiences. How much of the new role and new perspectives opened will be integrated into the person and will shape new pattern of actions? How can we really evaluate the level of significance of an experience measuring people's level of change? These tools for the assessment give good feedbacks for the facilitator/teacher who is involving students in learning activities, giving the opportunity for tracking the on-going change. Considering that each educational setting differs from another, transferability of instrument is not well ensured by just adopting it, but implies considering sociomaterial conditions, features of the research and educational contexts of use. Because perspective transformation happens on so many levels (e.g., individual, organizational, cognitive, affective, behavioral), it may be impossible to develop a single, generic scale to capture every aspect. Rather, a more useful approach would be to use instruments that are specific to the type of change sought. Researchers who would like to commit in assessment of transformative learning through surveys should first consider factorial validity of instrument, high correlation between questions, and all the limitations of similar instruments until validity and reliability has been established. Future research is recommended to

extend these quantitative surveys to other schools and other populations of learners.This can be the track for next development in transformative learning theory. The open-inquiry, multi-modal nature of transformative learning defies most traditional assessment strategies. For example, we could develop a theory-based list of facets of transformative learning process from a variety of perspectives, and a theory-based list of outcomes of transformations. A rigorous psychometric approach could be used to develop, standardize, and validate instruments that could be used in further research. Surveys can be adopted in conjunction with other data collection techniques such as interviews or storytelling.

Triangulation of observation, written, and verbal accounts increases the chance that our coding efforts actually result in meaning-making. Using multiple data collection tools enables researchers to understand more of individuals' social environment in which reflection takes place. In a study conducted on transformative potential of the Theatre of the Oppressed methods, used in educational and formal settings (Romano, 2016), the author adopted a mixed-methods design with these three instruments:

1. self-reports, journals, logbooks of participants
2. LAS Survey
3. questionnaire on the Theatre of the Oppressed methods (Vittoria, Strollo, Romano, Brock, 2014). The author combined, for each participant, the outcome of the administration of the two surveys compared with the analysis of self-reports. The research questions were whether and how participants had gone through a process of critical reflection on their assumptions and had an experience of transformations of meaning perspectives.

According to this review, I suggest the following questions as a track for future research:

1. When establishing a conceptual transformative learning framework, are you looking at different traditions and perspectives of critical reflection research?
2. When setting up the research design, are you using multiple data collection pathways to record and capture meaning-structures on participants' reflection processes and outcomes?
3. When stimulating reflection recall during data collection, are you embedding questions in study-relevant themes?
4. And finally, how are you attending to participants' feelings in the overall meaning perspectives' transformation process?

The search for quantitative survey is the counterpart of deny of the qualitative retrospective approach that dominated transformative learning theory until now. However, the search for quantitative measurement of what changed can foster the mythization of the factish (Gherardi, Landri, 2014) of quantitative assessment in transformative learning theory. From this perspective, quantitative

surveys are factishes of the effort in standardizing outcomes of perspectives transformations. In transformative learning theory, perspectives transformations are "matter of fact," traces of changes, and result from negotiations of different perspectives and triggering events. A quantitative survey appears to be means of validations and promises of statistic accountability for perspectives transformations. How do quantitative surveys describe and represent contemporary dilemmas of the discourse of post-Mezirow approach to transformative learning theory in empirical research and studies? Could surveys guarantee as garancy of scientific rigor in the future? Right now, it is quite known that there's no unanimous agreement between the research community in transformative learning on what perspective transformations mean.

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Citation: Romano, A. (2018). Transformative learning: A review of the assessment tools. *Journal of Transformative Learning, (5)*1, 53-70.

JOURNAL OF TRANSFORMATIVE LEARNING
The Journal provides a forum for perspectives on the practice and application of transformative learning.
JoTL is an Open Access journal published by the University of Central Oklahoma at jotl.uco.edu.

Becoming an Agent of Memory: Using Visual Literacy to Move beyond Tourism in Study Abroad

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Abstract

In this article, we use an interdisciplinary, short-term study abroad program in Berlin, Germany, "Memorializing the Holocaust," as a case study to demonstrate the use of visual literacy as a medium for transformative learning in a short-term study abroad course curriculum. By focusing on visual literacy, the program helps students navigate beyond their initial touristic relationship to the iconic images and sites in Berlin, allowing them to re-envision and reflect upon their significance. Through digital storytelling and counter-monument projects, students engage in critical reflection about, and elaboration upon, their knowledge of Holocaust remembrance and their experience abroad, allowing them to move from passive observers to empowered participants. As agents of memory, the students learn to map their own intellectual journeys through unfamiliar intellectual and geographic terrain, creating a new material reference for memory.

Keywords: visual literacy, elaboration, transformative learning, digital storytelling, counter-monument

Introduction

A scene familiar to study abroad faculty unfolds even before the airplane leaves the tarmac. With cell phones in hand, students begin capturing the experience with their cameras. From a selfie, to a group photo, to a panorama of the surroundings, these scholars-turned-travelers begin navigating their new experience by taking photographs. Interestingly enough, the photos that 21st century students take aren't primarily for an archival account like a scrapbook. Instead, they are designed for an external, digital audience that often consumes the images immediately and intermittently, resisting the critical reflection that transformative learning requires. While traveling abroad enhances learning for students as viewers of historical images, it amplifies students' touristic attitude/relationship toward capturing those images. Traveling abroad is exciting, and it is natural that students want to take photographs

and document their experiences. Taking photographs and sharing them via social network sites such as Instagram and Facebook offers potential for creating and sustaining their learning experiences beyond the classroom. However, a study abroad course requires careful design in the curriculum so that the travel experience, and the excitement that comes along with it, will not eclipse the learning experience. In addition, faculty must design assignments that intentionally incorporate visual literacy as a tool that allows students to elaborate on the experience in reflection, mapping not only their geographic journey but also their intellectual landscape, too. Using our own short-term study abroad program as a case study, we will demonstrate how incorporating visual literacy into international education can facilitate transformative learning.

Our students belong to the digital generation, and digital photography plays a significant role in their daily lives. According to the survey conducted by Pew Research Center, 83% of U.S. American teens take photographs with their cell phone (Baker, 2012, p. 44), and 91% of the teens post photos of themselves via social networking sites (Pew Research Center, 2012). Yet, as Hattwig et al. (2013) correctly points out, "this participation in visual culture does not in itself prepare them [college students] to engage critically and effectively with images media in an academic environment." In fact, "taking photographs seems no longer an act of memory … but is increasingly becoming a tool for an individual's identity formation and communication" (Van Dijck, 2008). How can we turn students' tendency and desire to take photographs into a strength, rather than a hindrance, within the study abroad curriculum? If "using photography [is] an instrument for peer bonding and interaction" among the younger generation, how can we utilize this characteristic to benefit them educationally? (Vivienne & Burgess, 2013).

Visual Media Literacy and Transformative Learning

Students arrive at college classrooms as adult learners with a set of assumptions, beliefs, and habits of mind framing the ways in which they experience course materials. In order for learning to be transformational, Jack Mezirow (1997) asserts, we need to engage students in critical reflection, changing their frames of reference. This change requires deep learning, a process through which an adult learner connects new information and experiences with the old and familiar ones. Cognitive psychologist, Kate McGilly (1994), applies the elaboration likelihood model of persuasion[1] to education and explains it as follows:

Learning occurs when information is transferred from WM [working memory] to LTM [long-term memory]. A mechanism called "elaboration" is important in this transfer process. Elaboration is the process of using facts stored in LTM to embellish on new, to-be-learned information; this connects new information to existing

[1] Originally developed by Richard Petty and John Cacciopo in their study of persuasion, the Elaboration Likelihood Model explains two processes (central and peripheral) through which people develop and change their attitude toward an issue or information.

information, making it more memorable (Anderson 1982; Anderson & Reder 1979). Elaboration provides the learner with multiple 'hooks' or routes for accessing information LTM. Elaboration is a key process in building interconnected knowledge networks; information acquired without elaboration tends to be in the form of less memorable, isolated pieces of information. (p. 6)

From this perspective, designing and delivering a study abroad course is like a weaving of threads that connect the dots of students' isolated and dispersed pieces of knowledge gained through their academic and personal lives prior to joining the course. Visual media literacy (2011) facilitates this elaboration process. By designing assignments that allow students to develop this set of cognitive abilities, we encourage the kind of critical reflection that Mezirow (1997) and Cranton (1994) endorse. With a new frame of reference, students become "both a critical consumer of visual media and a competent contributor to a body of shared knowledge and culture" (ACRL, 2012), interpreting, evaluating, using and creating visual images.

Visual literacy can serve as an effective pedagogical tool to facilitate deep learning of the subject area, particularly among students who live in a media-rich society. Jenkins et al. (2006) describes this environment in which students live as a "culture of participation." Cole et al. (2012) explains that "Increased access to tools and opportunities for interactivity and co-construction also means increased generativity, i.e., more capturing, crafting, telling, retelling, editing, publishing, processing, and meaning making. These are the activities upon which literacy in general, and digital literacy in particular, depends." As mentioned above, participation in media rich culture does not necessarily mean that students have appropriate visual media literacy. Rather, the incorporation of visual media literacy brings along the culture of participation and integrates it into the curriculum. As Cole et al. (2012) put it, "A participatory culture is also one in which members believe their contributions matter, and feel some degree of social connection with one another." We invite students to shift "the structure of assumptions through which we understand our experiences" (Mezirow, 1997) by shifting their frame of reference.

Visual literacy allows instructors to re-frame the classroom and the study abroad program as a learning community, where learning is seen as a process of co-constructing knowledge. It "redirects the flow of communication in the classroom so that students can interact, through text and graphics, in constructing a communal knowledge base. They write for each other to extend their common understanding of subject matter. This gives learning, not just writing, a larger shared purpose" (Bruer, 1994). Conceptualizing the dynamics of studying abroad as a learning community brings to the fore the interactive, cooperative, and social nature of learning (Zhu & Baylen, 2005); especially in the higher education context, where students are challenged to think more critically and analytically, "communal interactions allow students to share and distribute the cognitive burdens of thinking" (Bruer, 1994). Being out of their comfort zone and exploring new ways of thinking in a foreign country also adds to the cognitive challenges. As Felt et al. (2012) writes, "Managing cultural [and cognitive] shifts can feel disorienting, and demystifying new practices and products can take time and energy. But educators' embrace of participatory culture can facilitate students' social and emotional growth.

This ability of visual literacy to bring about participatory culture aligns perfectly with the conceptual framework that guides our own short-term study abroad program: "Memorializing the Holocaust." Focused on the Holocaust memorials, our courses invite students to engage with multiple genres of Holocaust representation, including film, photography, memoir, fiction, poetry, art, and music. The centerpiece of the program is a spring break trip to Berlin, Germany. As a context of learning, study abroad provides both strengths and challenges in learning and teaching about the Holocaust. Importantly, traveling provides a fresh vantage point for students who learn about the Holocaust predominantly through visual representations. As David Bathrick notes, "Visual representations of the Holocaust have proved to be an absolutely integral but also highly contested means by which to understand and remember the Nazi atrocities of World War II" (Bathrick, 2004). The photographic images allow students an opportunity to visualize, and, therefore, verify the atrocities.

However, Bathrick and others warn against the possibility that the viewer may become desensitized to the reality of the Holocaust if the images become iconic. Not surprisingly, many students assume that their familiarity with these iconic images—the piled-high shoes and bodies from liberated concentration camps—means they know what happened in the Holocaust. Through the readings and class discussions, however, students begin to shift their "expectations, perceptions, cognition, and feelings" (Mezirow, 1997). Indeed, one of the activities we do on the first day of the program reveals the pre-conceived frame of reference students bring to the program. On the first day of the class, we provide students with 20 black and white images related to the Holocaust and ask them to select only 10 of those images to tell the story of the Holocaust. Interestingly, most of the students select the most iconic images to narrate the Holocaust as a historical event. At this early stage of learning, the students use the images to frame only the familiar stories that they have been told, rather than articulating narratives that are deeply grounded in their own learning or reflecting meaning for their own generation.

While in Berlin, students will view many of these iconic images again; however, now they are situated in a different context and rooted in the geographic location of their origins. For example, before students enter the Sachsenhausen concentration camp and pass through the iconic wrought iron gates emblazoned with *Arbeit mach frei*, they will observe the ordinary houses that surround it. Such material context allows students to reconsider the meaning of photographic images of the concentration camps, which often depict only the inside of the camp, tempting the viewers to treat what was going on in isolation from the lives taking place around it. Our digital storytelling and counter-monument assignments invite students to elaborate on the contextualized meanings of these images, the iconic images they have seen in textbooks and other sites prior to traveling abroad, seeing them anew within a different frame. While they previously assumed their position as a post-Holocaust generation precluded them from any obligation of memory, the study abroad assignments provide them the opportunity to re-situate their significance in relationship to their own acts of post-memory.

Our program draws its theoretical underpinning from James Young's conception of counter-monument. Counter-monuments respond to traditional monuments, rejecting the monument's representation of stability and permanence.

Instead, counter-monuments return the responsibility of memory to the viewer. By challenging the preconceived notions of the viewer, a counter-monument requires an engaged interaction. Consider, for example, two monuments on the national mall in Washington, D.C.—the World War II monument and the Vietnam War memorial. In contrast to the World War II monument's traditional columns and imposing dominance, Maya Lin's counter-monument design, the Vietnam Wall, emerges like a V-shaped scar in the landscape. The simple engraving of the names on black stone invites viewers to approach the wall, rubbing fingers or crayons over the letters. The concept of counter-monument is useful particularly for students who do not have immediate personal and cultural connections to the Holocaust. It encourages them to elaborate on their relationship to the representations of Holocaust memories, providing room for imagining new ways of taking responsibility and of becoming an agent of memory production through visual literacy.

Studying abroad can be overwhelming and disorienting. It is filled with new experiences of learning about the Holocaust from the perspective of counter-monument, being surrounded by a foreign language, walking through an unfamiliar space and exploring a number of Holocaust memorials and museums, etc. The "disorienting dilemma" of traveling abroad, however, gives students richer experiences related to the course subject, as Boase (2008) correctly points out, "[e]xperience does not automatically assume narrative form, but rather we construct stories through the process of reflection on experience. Storytelling is the bread and butter of everyday interpersonal experience, providing a means of communication, interaction, organizing, perception, reflection, thought and ultimately action." After returning home from Berlin, students construct digital storytelling and counter-monument projects. These visual-based learning projects allow the students to engage in a more public "reflective discourse" (Mezirow, 2000). Our students host a National Day of Remembrance event, inviting members of the campus community and the public at-large to gather and engage in acts of memory about the Holocaust. While the observances across the country often include stories from survivors, our public observance allows our students to engage the community in the memory work of a post-Holocaust generation. These visual based presentations are then shared with the public on the National Day of Remembrance, allowing the students' narratives to connect their own experiences and memories with an audience beyond our program participants.

Digital stories are "short (3–5 min) autobiographical multimedia narratives in video form, combining personal photographs and/or artworks, narration voiced by the participants themselves, and sometimes music" (Vivienne & Burgess, 2013). We ask our students to use the photographs they have taken during the trip to Berlin, as well as archival images available at the USHMM and other archives and historical societies, to craft a narrative that explores what it means to belong to the post-Holocaust generation by articulating the meaning of learning about the Holocaust memorials. As Avgerinou (2011) puts it, visual literacy is "a cognitive ability but also draws on the affective domain." Holocaust is an emotion-laden topic. Digital storytelling incorporates students' emotional responses as an anchor for reflecting on their learning experiences abroad and sorting ideas to communicate their experience to others, acknowledging the key role that students' thoughts and feelings play in

transformational learning (Baumgartner, 2001). It allows the various learning processes to "center on learners and their experiences" (Boase, 2008), and this is advantageous to make topics such as Holocaust remembrance more personal to the students. When students' knowledge about the Holocaust is limited, uncritical and unreflective, photography taking can subvert the intended learning objectives. It is likely to facilitate a more touristic relationship to a travel site such as the Memorial for the Murdered Jews, and may risk disrespecting the victims and survivors, however unintentional it might be. Digital storytelling, however, calls upon students to consider the social role of their personal photographs taken during their trip abroad, and engage in the process of elaboration through which students "clarify their ideas and come to better understand what they have learned" by "looking at their own work and their motivation and relationship to it" (Ivala et al.).

The effectiveness of digital storytelling in education has been well documented by scholars and educators (Wang & Zhan, 2010). Elaborating on the work by McDrury & Alterio (2003), Boase (2008) explains the effectiveness of digital storytelling succinctly as follows:

> The process of constructing a story requires numerous cognitive strategies to come in to play, such as comparing, selecting, inferring, arranging and revising information. […] Making and telling the story transforms it from the unspoken perhaps unformed nature which it had while it was latent in the mind, and makes it more real. Storytelling requires the active use of prior knowledge and experience, thus enriching the cognitive resources that are available for future narrative thought and analysis. (p. 4)

This effectiveness applies to the case of Holocaust education as well. For instance, Cole et al.'s (2012) study of users of IWitness, a new online program that engages secondary students in viewing Holocaust survivors' testimonies, clearly demonstrates how digital storytelling can serve as an effective means to "help students draw connections between the past and present" (Baylen & Butler, 2012) by "fostering social-emotional development and an impact on empathy and behavior" (Cole et al., 2012).

The digital storytelling project shifts students from mere tourists to storytellers with a sense of ethical obligation about their experience of the city of Berlin and their encounters with the Holocaust memorials. By design, the project converts students from consumers of memorial sites to producers of their own memory as members of the post-Holocaust generation. The counter-monument project, adapted from Michael Rothberg's (2004) original assignment, asks students to design a "counter-monument" in our local city and present its visual design, mapping their learning abroad onto the city of their residence. The project applies Young's notion of counter-monument to the pedagogical context in higher education by asking students to design a counter-monument on their campus and extends Rothberg's project by asking students to situate their design in the city where the university is located. This assignment makes students' learning visible by transposing impressions from abroad onto their living context at home. As Hattwig et al. (2013) puts it, "image production is sometimes seen as a pathway to interpreting and understanding

visual materials" (Hattwig et al., 2013, p. 63). Much like real memorial design competitions, this assignment requires students to share their counter-monument designs with the class through a more traditional form by using visual presentation tools, such as Power Point, Prezi, etc. This format of oral presentation both reflects and gauges students' understanding of the concept of counter-monument as well as the integral role of visual literacy in understanding the concept. As McGilly (1994) says, "students' verbalization often reveals more about what they do and do not know than a teacher can determine from answers on tests." By articulating the connections between their design and Holocaust memory, students will display both their proficiency with visual literacy and their reflective journey of knowledge production.

Furthermore, unlike the digital storytelling component, this assignment gives students freedom for selecting the medium of presentation. As Katsioloudis (2010) rightly points out, being a participant in media-rich culture does not necessarily mean that students know how to select the most effective medium of visual presentation for their purposes. Allowing students to choose the specific technological means to present their visual design of the counter-monument, this assignment integrates into the curriculum an assessment of students' knowledge about the role of technology itself in the shaping of messages.

We believe that this counter-monument is what Bruer terms "an anchor for learning" about the Holocaust remembrance in our study abroad program. It would **"**generate interest, allow students to formulate as well as define problems, and see the relevance of the material to their extracurricular lives" (Bruer, 1994). In selecting a site to place the counter-monument in the city, students have to think and reflect concretely about the relationship of the Holocaust remembrance and their own city. They must engage in detailed self-reflection, elaborating the new knowledge about the Holocaust remembrance by referring to what they know about the city, its population, history, and their own relationship to it. By its very nature oral presentation is short-lived; however, the experience of visualizing the city with a memorial monument will remain in their memory. The particular location they have selected, be it a river bank or the center of a downtown music concert hall, these places gain new layers of personal meaning intertwined with the curriculum, providing the "anchor" to continue students' elaboration of the Holocaust memories just as their lives continue to unfold in the city.

Case Study in Context

Our study abroad program is a 16-week, semester-long curriculum, which includes a week-long travel to Berlin, Germany. Students take up to six credit hours in English and communication courses. As an interdisciplinary program, the subjects of communication and English are integrated together under the theme of Holocaust remembrance, and we co-teach each class throughout the semester. Our curriculum design reflects the visual literacy competency standard for higher education developed by the Association of College and Research Libraries, and Moon's Map of Learning (1999), which is designed to assess students' reflections in the process of learning. As Jenkins & Lonsdale (2007) demonstrated, Moon's mode is more effective in locating

reflection in storytelling—digital or oral—than the one developed by McDrury and Alterio (2003).

Unit 1. Pre-Departure: Weeks 1-6

During the first half of the semester, students are introduced to the study of Holocaust remembrance and the concept of counter-monument. The class meetings are conducted like a seminar, guided by the notion of "reciprocal teaching" as a model (McGilly, 1994). For instance, while one instructor leads the discussion on her expert content area, the other instructor joins other students as an active participant in the learning process. This practice makes the flow of information and communication less hierarchical and more fluid, turning the classroom into a community of learners, where we share our insights, knowledge, questions and discussions.

As a part of our discussions, we use photographs of Holocaust memorials to introduce visual literacy. For instance, we use a photograph of the Holocaust memorial in New York. The first slide shows a close up image of the statue itself, and we ask students what message this particular monument conveys. Then, we show another image of the same statue, captured in long-shot that shows the Statue of Liberty in its background. This time, we direct students' attention to the concept of frame and discuss how contextual information that is present or absent within the frame shapes the meaning of the image. Discussion of visual literacy, such as this one, will be further elaborated during the trip in Berlin. For instance, when we visit museums and see historical photographs, particularly the iconic ones often seen in textbooks and popular media, we discuss how details in the photographs tell us that they were taken by Nazi officials for the purpose of propaganda.

Prior to departure, we study the memorials we will visit in Berlin and engage students in our "mapping activity." After dividing students into small groups, we hand them a map of Berlin. Each group receives a name and address of a specific monument, and they are asked to locate it on the map. Then, students outline a travel route to the monument, using public transportation. This exercise not only gives them an opportunity to become familiar with the map of Berlin, but it also helps them visualize these memorials' location. For example, "Bibliothek," designed by Micha Ullman, is located in Bebelplatz off the busy Unter den Linden. A memorial to the National Socialists' 1933 burning of the books, the memorial is located in the heart of Humboldt University and next door to the Staatsoper Under den Linden. Even before students travel to Berlin, the students may begin thinking about the significance of location in memorial design.

Unit 2. Learning Abroad: Week 7 in Berlin, Germany

On the first day of our stay in Berlin, we travel with the students to the Friedrichstrasse Railway Station to view Frank Meisler's monument to the Kindertransport, "Trains to Life—Trains to Death," which juxtaposes the two radically different fates of the children, facing opposite directions. As one walks around the sculpture and takes photographs, it becomes clear that there is no one single frame that captures the historical moment in ways that "represent" or match

closely with the knowledge about the past as we now know it. In the midst of a busy train station, it is very difficult to take a long shot to include the sculpture in its entirety. If one takes a photograph from the side to capture the two opposite directions the children faced, one cannot see the facial expressions and concrete details of either group. Through this experience, these concepts of visual literacy such as frame, perspective, the relationship of figure and ground, begin to gain more concrete and experiential meanings in understanding the selective nature of historical representation in general, and visual image specifically.

After viewing this monument, students receive their first assignment to be completed by the end of the day, allowing them to put the in-class mapping activity to use. Each pair of students has to find their assigned monument, take a photograph, and share it with us at the end of the day. This assignment has been tremendously effective in personalizing their encounter with the Holocaust monuments. The students have to think on their feet, navigating the city to find them. Many students discover that this experience embodies the "disorienting dilemma" that prepares them for the process of transformative learning. Some of them get lost, and some of them do not find the monument, taking a photograph of something entirely different. There is no one "right" way to get to the memorials. By finding and mapping a path to the monument in their own way, the encounter they have with the Holocaust memorial becomes a personal one. Rather than being taken to the monument by instructors, the monument comes to have personal significance in their study abroad experience. At the end of the day, when students show us the monument's photograph, their impression of the monument is filled with a sense of personal journey. This exercise activates students' initiative for self-discovery throughout their stay in Berlin. They begin noticing small details in the city, such as Guenther Demnig's, Stolperstein, little "stumbling stones" that are buried as a part of the pavement and are easy to overlook if one is not paying attention;[2] and they engage more and more in self-generating discussions about whether a particular site or object can be considered as a counter-monument.

During their stay in Berlin, students are asked to keep a detailed journal about their photographs. What prompted you to take a photograph of this scene, monument, etc.? What was there around this particular object? Why did you take this photograph from this angle? This journal will become a resource for students as they later reflectively articulate their learning experiences through designing their digital stories and counter-monuments. As participants in the formal program excursions, students visit Sachsenhausen, the Jewish Museum, the House of the Wannsee Conference, the German Resistance Museum, the Memorial to the Murdered Jews of Europe, the Topography of Terror, the Jewish Memorial at Grosse Hamburger Strasse, and the Gleis 17 Memorial at the Grunewald Train Station.

[2] Guenther Demnig, a Berlin artist, installs brass bricks in the cobblestone sidewalks of Berlin's Charlottenburg district. The name and details of death of the Holocaust victim are inscribed on each brick.

Unit 3. Post-trip: Weeks 8-14

Once we return from the journey abroad, students begin working on their digital stories and counter-monuments. They share their drafts in class, apply the visual literacy learned during the pre-departure period in discussions, and revise their presentations, synthesizing their impressions. On National Remembrance Day, students share their digital stories, recite verses from Holocaust poetry, and present counter-monument designs to an audience open to both the campus and the community at-large.

From pre-departure to the post-trip, students' learning about Holocaust remembrance is reinforced through visual literacy in cyclical processes. For example, the concept of figure and ground relationship introduced in the pre-departure unit through the image of the Holocaust memorial in New York is reinforced as we closely examine the iconic historical photograph of the Sachsenhausen concentration camp. The same concept gains salience, again, as students struggle to take satisfying photographs at the "Trains to Life—Trains to Death" memorial in Berlin. Because these encounters with Holocaust remembrance are multimodal, ranging from two dimensional visual images to three dimensional sculptures, each occasion not only underscores what they have learned but also serves as the opportunity for further elaboration. To continue with the previous example, the concept of figure-ground relationship takes on a new dimension because now its role shifts from an analytical tool for a static object to a dynamic practice driven by the desire to communicate about the memorial. As students design counter-monuments and craft digital stories in the post-trip unit, the production processes reflectively engage them again in elaboration of the new information and knowledge about the Holocaust remembrance and visual literacy. Who and/or what is the main figure in my design of counter-monument? How does this photograph from the trip frame your experience? Can one use colored triangles, which were used by Nazis to mark prisoners' identities, to create a counter-monument? How can I communicate about silence and absence in my digital story?

As Daniel Suther (2001) writes, "[t]he ability to facilitate learner's elaboration is important because substantial psychological research shows that elaboration leads to positive learning outcomes, including memory for the knowledge unit and understanding of its significance." Throughout the three units outlined above, students in our program go through complex processes of elaboration: applying concepts of visual literacy learned through two-dimensional images to three-dimensional objects; translating visual literacy from an analytical tool of historical images to reflective and ethical guidance for representing objects, people, historical events and themselves, articulating what it means to remember the Holocaust through their own personal journeys. The instructions and exercises necessarily traverse diverse dimensions of teaching and learning about Holocaust remembrance as well as visual literacy. By focusing on the practice of producing visual content, students will also be able to develop visual literacy competency and visibly demonstrate the new knowledge they learned through classroom and personal research.

Reflection

In his essay "When the Last Survivor is Gone," Michael Berenbaum writes: "the Holocaust will become about the past and recede into the past . . . We are not witnesses; we have lived in the presence of witnesses. Future generations will not even be able to say that" (cited in Lindquist, 2010). In such a context, how can we help contemporary students imagine themselves as agents of memory, as those who self-reflexively take on the responsibility for keeping alive the memories of the Holocaust? As Michael Rothberg (2004) notes, our challenge is "encouraging awareness of one's simultaneous implication in and distance from the events under consideration." Most of our students have little personal connection or access to the lived stories of struggling for survival in the face of atrocities, but we believe our program was able to provide a unique learning environment to help students become "intentional learners," – "for whom learning is a goal rather than an incidental outcome of cognitive activity" (McGilly, 1994). Because the courses included in this short-term study abroad program were from two disciplines focused on rhetoric and argument—English and communication, we were keenly aware of the importance of equipping students with the skills described by the National Council of Teachers of English (NCTE) as essential elements of a 21st century education: the ability to "create, critique, analyze, and evaluate multimedia texts." After successfully completing our program requirements, the students also demonstrated proficiency in skills that are the hallmarks of self-directed critical reflection: "defining the need, finding and assessing, interpreting and analyzing, evaluating, using, creating, and understanding ethical and legal issues" (Hattwig et al. 2013). For instance, a senior biology student began his digital story with an image of an animal in the Berlin Zoo. As an aspiring biologist, his story intertwined the Nazi discourse of eugenics and biological experimentations with his reflection on the role and power of biology in our contemporary life. Through the transformative process of critical reflection, he navigated through his own relationship to the past and the present, understanding his own responsibility for using knowledge in an ethical and responsible manner. Similarly, an academically high achieving history student reflected on the role of intellectuals in the unfolding of German history, demonstrating her critical awareness about the ethical potential, both positive and negative, of leadership. Significantly, our learning community dispelled her previously held notion that education, culture, and art could protect society from misguided and destructive potential of unbridled power. A music major designed a counter-monument that invited participants to reflect on all the unwritten music lost to the world when countless composers and performers perished in the Holocaust.

After moving through the "disorienting dilemma" of the study abroad experience and engaging in critical reflection about the course readings and assignments, our students produced the projects described above as tangible evidence of a future course of action informed by a new understanding of their relationship to a world-altering historical event. Significantly, we also engaged students in thinking about the broader, ongoing work of memory in America today. For example, after learning about Germany's long, arduous process of wrestling with and acknowledging

its role in the atrocities of the Holocaust, students started thinking about and questioning why the United States does not have a memorial to slavery. In these conversations, the difficult work of transformative learning--coming to terms with one's own preconceived notions and assumptions—confronted our students. Similarly, we explored the work of memory involved in memorializing the unfathomable loss experienced by the United States in 2001 on September 11th. As witnesses to this atrocity, the students started to recognize the distinctions between the memory work of survivors and the memory work of the post-atrocity generations.

By incorporating visual literacy in our study abroad program, we offer students the opportunity and the platform to articulate their experience of navigating unfamiliar terrain—both intellectual and geographic. They learn to go beyond a touristic reading of a map of a city or a text; they create their own. Through the digital storytelling project and the counter-monument assignment, the students map their own intellectual journey, incorporating the questions, ambivalences, confusions, and transformations that occur along the way. During this process, the "disorienting dilemma" enables them to revisit the familiar narratives and reflect critically on their previous knowledge. In place of these iconic images, students use their own images and experiences to reshape their frame of reference as more responsible thinkers. They become agents of memory empowered to tell the story.

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Citation: Skaggs, C., & Izumi, M. (2018). Becoming an agent of memory: Using visual literacy to move beyond tourism in study abroad. *Journal of Transformative Learning, (5)*1, 71-85.