Transformative Learning Key to Career Preparation

Now, thinking about people on the job market today, which of the following comes closest to your view:

- Being well-rounded with a range of abilities is more important than having industry expertise because job-specific skills can be learned at work.
- Having specific industry experience is more important than generalized abilities because applied skills are key to early success in a new position.

<table>
<thead>
<tr>
<th>NATIONAL</th>
<th>BUSINESS LEADERS</th>
</tr>
</thead>
<tbody>
<tr>
<td>65%</td>
<td>73%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>NATIONAL</th>
<th>BUSINESS LEADERS</th>
</tr>
</thead>
<tbody>
<tr>
<td>35%</td>
<td>27%</td>
</tr>
</tbody>
</table>


TRANSFORMATIVE LEARNING

Transformative Learning as a 4-Stage, Brain-based Process

Dr. Dan Glisczinski of the University of Minnesota - Duluth became excited about examining the literature — from Aristotle and Confucius to findings from neuroscience based on functional magnetic resonance imaging studies — to integrate and synthesize a conceptual model of Transformative Learning practice. His writing (2011, 2012) examines the nexus where he finds connections between ancient wisdom about self-revelation and the insights coming fast and furious from cognitive neuroscience (and which will only
accelerate as we move into coming years of the Brain Activity Map Project.

(Dr. Glisczinski will be a keynoter at the 2014 Transformative Learning Conference.)

What happens in the brains of students when they have a Transformative Learning Experience (TLE)? Might knowing this enable us to better plan experiences and events likely to trigger transformative realizations?

Glisczinski thinks so:

Thanks to their exhaustive research, I have been able to develop a learning experiences questionnaire into four unifying experiences common among rational analyses of TLEs. The first is the sensory cortex-based trigger event. The second is temporal region-based reflective observation. The third is the prefrontal cortex’s critical analysis—and rational rejection—of assumptions often operating below conscious awareness. The fourth is the motor region’s work of engaging in committed action. (Glisczinski, 2012, p. 2)

When parsing Glisczinski’s contentions about the stages of neurocognitive function through which students pass when experiencing a transformation of perspective, it’s clear he relates the brain function of the “disorienting dilemma” to sensory intake by the learner. In other words, the trigger event for what eventually makes the student expand or change her previously-held perspective is perceived through hearing, seeing, touching, tasting, or smelling.

The next neuronal network involved resides in the temporal region because the process of reflective observation is a linguistically-based activity: “I have new information that seems at odds with what fits in my version of the world. Why is that? What do I do next? Is it worth spending time to resolve this dilemma?”

Answering such questions keeps the temporal region of the brain firing, but the next step also requires the addition of the pre-frontal cortex because synthesis, analysis, speculation, judgment, and other higher-order executive functions are required to devise answers that help the learner bring her world back into a congruent state, one that accommodates the new perspective.

(Of course, in this stage, the learner may reject such accommodation. This means she devalues the accuracy or credence of the disorienting information, finding a way to discredit it that makes sense to her.)

In the successful instance of transformation, the fourth stage requires actions
— actions that are new and which align with the newly expanded perspective. Taking action engages those areas of the brain that regulate motor activity.

In short, Glisczinski poses a 4-stage neurocognitive interpretation of the Transformative Learning Experience.

This model can be useful for faculty because it helps us better plan how and when we can provide opportunities that create disorienting dilemmas. Then the model provides clues to what we can do to shepherd students through the remaining stages of a successful perspective expansion.

While perhaps an oversimplification, here might be a brief “User’s Guide” for mentoring students through perspective transformation:

1. **Present students with perspective-expanding information.**

   Sometimes this occurs naturally because the course content forces it. For example:

   - evolution theory can disorient previously held beliefs
   - fact-based history can challenge previously held conspiracy theories
   - philosophical big questions can force reassessment of students’ worldviews

   At other times, faculty can route student learning through a Central Six Tenet to achieve a course learning outcome, and in so doing, students are exposed to different beliefs in an ancillary process that ties into their work along the Central Six route. For example:

   - Choosing Cultural Competency as the route to achieve a math outcome might mean exposing students to the way a different culture thinks about math and therefore approaches a math problem, ultimately deriving the correct solution even though the approach is decidedly not the way the Western mindset approaches the problem. This might prompt students to challenge previously held beliefs that Western culture’s approach is always the superior approach.
   - A business class structured around a service learning project to achieve a course outcome about marketing plan creation might mean students confront pejorative assumptions about socioeconomic classes and be forced to adjust those assumptions in the face of contrary evidence.

   **Bottom Line:** Create an opportunity for students to confront the ways
they make sense of the world. You won’t necessarily know if you have
designed a learning activity that challenges any student’s worldview,
but you definitely will accomplish this more often if you intentionally
look for opportunities that *might* prompt students to challenge their
beliefs than if you leave this completely to chance.

2. **Help students develop questioning skills.**

This is an age when it’s easy for students to devalue the ability to ask
good questions because finding answers to any question is so easy for
them; after all, there’s a reason Google has become a verb in today’s
parlance. We have the chance to help students re-experience the
magic in learning how to ask good questions. Some good strategies for
this include:

- **“What’s in it for me?”** Jean Twenge’s work, and others’, focuses on
  whether and why there is a *narcissism epidemic* among college-
  aged and younger students. Setting aside the implications of such a
  thing if it exists, at least students’ interest in their own lives and the
  lives of their friends (witness: Facebook) means we can use self-
  interest as a launching point for questions about meaning in one’s
  life.

- **Assign journaling activities in which students write out their answers**
  to questions you force them to confront. Then require them to pose
  a follow-up question which has arisen during the thinking needed to
  answer the required questions. (Side benefit: students often try to
  answer the question they’ve posed to themselves.)

- **Allow class time for thinking!** After a student presentation, for
  example, have students summarize the points made by the
  presenter, then give students time to individually generate
  questions related to the presentation. After that quiet time, put
  students into groups to share their questions, refining the ones they
  select as the best for their group to challenge points made in the
  presentation.

**Bottom Line:** Provide opportunities for students to generate questions
about their own perspectives and beliefs.

3. **Help students develop the skills of analysis, synthesis, and**
   **critical thinking — skills they must have for successful self-
   reflection.**

In Stage Three of a Transformative Learning Experience, students
must be equipped with the skills to judge a) whether the new
information they’ve been exposed to is trustworthy and therefore
demanding of resolution, and b) how to resolve the contradictions presented by the new information when compared to beliefs previously held.

**Bottom Line:** To teach critical thinking in college, we must provide students opportunities to practice doing it. If we repeatedly build learning activities that demand critical evaluation of new information that may be at odds with limiting perspectives, we do our students the service of providing the crucible within which to test their evaluative abilities. *But we must not leave them to stumble through this on their own!* We must model analysis, synthesis, critical thinking. One excellent way is thinking out loud for your students.

4. **Mentor students through the adoption of more expansive perspectives and ways of making sense of the world.**

Examples:

- Share your personal stories of perspective-expansion when you confronted a belief that you came to understand was limiting your ability to grow.
- Make it easy for students to find more information about others’ thinking on the topics that have prompted students’ perspective expansion. This isn’t necessarily easy for students to google because they often don’t have the background to pose the right search terms. You may need to point them to Thoreau or Wittgenstein or the film *Finding Forrester* or Dylan’s lyrics or the nearest place to sit and listen to the wind rustle the leaves or *Brave New World* or Yoda or Mark Twain or whether to choose the red pill or the blue pill or . . .
- Provide a safe place to confront inner self. Such work is done, of course, within students’ own minds, but for some students, it’s a scary process because their college experience is their first foray into an environment in which perspective-shaping is allowed to be a self-initiated and self-controlled activity.

**Bottom Line:** Accept the fact that, yes, you teach your discipline, but more importantly, you teach your students.

GREAT TEACHING

On Becoming a Teacher-Scholar

Jody Horn, Ph.D.

Central to UCO’s mission is to “help students learn by providing transformative education experiences…” Many of us provide this experience in the classroom. Yet, what happens in class? Do you consider yourself a good, if not great, teacher? Are you one of UCO’s teacher-scholars? Teacher-scholars are more intentional about making a transformative learning experience. They might deliberately select a teaching method to achieve a specific outcome. For example, using Analytic Memos (Angelo & Cross, 1993) as a teaching strategy can potentially increase students’ skills in analyzing and critical thinking.

In 1990, while Ernest Boyer was at The Carnegie Foundation he wrote the bestseller, Scholarship Reconsidered: Priorities of the Professoriate. This book was an examination of all types of scholarship occurring at a university, not merely the scholarship of discovery, commonly referred to as original research.

What are the other types of scholarship? Boyer suggested that there are four types of scholarship in higher education: scholarship of discovery, scholarship of integrating knowledge, scholarship of applying knowledge, and the scholarship of teaching. The last three types of scholarship are those types of scholarship that can flourish at a metropolitan university, like UCO. In particular, at an institution where teaching is a priority, the scholarship of teaching can excel.

What is the scholarship of teaching? Laurie Richlin (2001) suggests two areas make up the scholarship of teaching: The Teacher-Scholar and the Scholarship of Teaching & Learning (SoTL).
The major difference between these two categories of the scholarship of teaching is in the intent (Weston & McAlpine, 2001). The intent of teacher-scholars is to improve their own teaching and increase learning in their classroom. The intent of SoTL projects are to contribute new knowledge through formal, public, peer-reviewed communications. At UCO, we support both through CETTL's Active Learning and Transformative Learning Mini-Curricula and the SoTL Faculty Learning Community led by faculty teacher-scholar, Len Bogner.

Common to both types of areas is the on-going engagement with the teaching and learning literature. In some ways, the front half of a SoTL project can be seen as the work done by a teacher-scholar. A teacher-scholar typically goes through the following process:

- Observation of a problem or situation you want to address to improve student-learning
- An examination of the literature and research to see how others have handled it
- An intentional selection of a teaching method to increase learning
- Some comparison of learning before and after the new teaching method

For teacher-scholars that continue on to a SoTL project, they may then synthesize the results, write up a literature review placing their findings in context, prepare a manuscript, submit it for peer review, and publish it.

In comparing good teachers to teacher-scholars, Vajoczki et al. (2011) found in a sample of 2496 instructors that they were strongly correlated. Both types of teachers exhibit high levels of expert teaching and are learner-centered. However, one of the major distinctions between good teachers and teacher-scholars is the ongoing self-reflection teacher-scholars have with their own teaching and the literature on teaching and learning. Following a cycle of action, reflection, and improvement teacher-scholars are always working to increase student learning.

For example, a teacher-scholar might have a problem in student engagement in a course. She might look to the research on teaching and learning to improve her teaching strategies. Looking through a book on classroom assessment techniques (e.g., Angelo & Cross, 1993) might lead to several potential methods to improve student learning.

Weston and McAlpine (2001) have found that most faculty go through three phases to become experts in the scholarship of teaching. First, they intentionally reflect on their own teaching. As they become more aware of what they need to know, they display greater interest in the area of teaching
and learning. In the second phase, faculty transition from thinking about their own teaching to talking about it with colleagues. They begin to understand generic knowledge about teaching and learning. Finally, they evolve to scholarly understandings of their own teaching and become teacher-scholars by deliberately applying evidence-based teaching strategies to achieve their learning outcomes.


**READINGS OF INTEREST**

*Academic Dishonesty: Unauthorized Use of Prescription Medications*

The [Duke University Student Affairs Web page defining academic dishonesty](http://example.com) includes a bullet point under “Cheating” you may not have thought about:

- the unauthorized use of prescription medication to enhance academic performance

Did you know there is an entire industry based on nootropics — drugs, supplements, nutraceuticals, and functional foods purported to improve brain function. ([Smarternootropics](http://example.com), [Peaknootropics](http://example.com), [Xcel](http://example.com), [Alpha BRAIN](http://example.com), [Cerebral Health](http://example.com), the list goes on . . .)

Are we moving into a time when the economic divide among college students will sort high achievers from normal achievers because the rich kids can afford the best nootropics while everybody else makes do with coffee or Red Bull or the $10 hit of Adderall bought from a fellow student at midnight in the university library?

(Ten dollars a hit, of course, is during the semester. During finals, supply and demand drives the price to $150 [Schwarz, 2013, p. A12].)

Drug-enhanced human performance is nothing new, and it will not go away. Alex Rodriguez, Lance Armstrong, and Tyson Gay are world-class athletes whose abilities have been drug-enhanced according to self-admission and/or testing.

In the mental performance realm, college may be the upcoming test bed: one university already allows clinicians to order urine samples from students they suspect of using A.D.H.D. drugs off prescription (Schwarz, 2013, p. A12). In addition, there is another parallel between drug-enhanced athletic performance and drug-enhanced mental performance: the practice of “stacking.” Just as athletes learn the ways to dose correctly among multiple performance-enhancing drugs — something necessary because often there’s a need to use one drug to ameliorate the side effects of another drug, for instance — so, too, are purveyors of mental-enhancement drugs now pushing different “stacks” in order to better target a particular enhancement need.

And just as in the culture surrounding performance-enhancing drugs in the athletic world, there is word-of-mouth, street-wisdom, good advice, bad advice in the world of academic performance enhancement. Consider the following, which comes from the opening salvo in a post on a forum on a [web page](http://example.com) titled, “A total newbies [sic] guide to nootropics”:
You may not be aware of it, but academic steroids are real, completely legal, and clinically proven. I have spent the last 10 months researching, purchasing, and experimenting with nearly every single nootropic available. ([http://en.wikipedia.org/wiki/Nootropic](http://en.wikipedia.org/wiki/Nootropic)) The effects have been profound. First, with the help of a little caffeine, I am able to study for the bar exam all day with zero mental fatigue. Second, I am able to read vast quantities of information only one time and spit it back with pinpoint precision. It is the closest thing to a photographic memory I have ever experienced. The information is just there on command when needed. When I take practice tests most days I have nearly perfect recall and my only mistakes are analysis. (— posted by “Registered User,” 2010)

The above testimonial from a law student seems to indicate that his nootropic stack works wonders for factual recall.

Perhaps he needs to find a different stack to address that nagging “analysis” issue.

As you might expect, nootropics have found their way to the job sector, too, especially among Type A Wall Street types and others in professions with extreme production pressures:

In lieu of Adderall and eight-balls, hard-charging professionals are turning to a new class of nootropics (a type of smart drug) to score an edge at work. It’s a category of substances that includes prescription analeptics like Nuvigil and Provigil, as well as less-potent supplements like New Mood and Alpha Brain (both are sold on Amazon.com for around $30 a jar) that are made of vitamins, amino acids, and antioxidants, which purportedly stimulate your brain receptors. Devotees say nootropics are a wholly different experience from energy drinks, as they give you a mental edge, increasing memory, intelligence, motivation, and concentration—without the jitters or crashes that can come with stimulants. (Schaefer, 2013)

Within academe, though, making a call about nootropic usage by college students demands walking a very, very fuzzy line. If a good night’s sleep improves brain function, is a student cheating if he finds and uses a sleep medication that helps him fall asleep easily the night before his final exam? Perhaps the only difference between this situation and the student who pops an Addie bought from a friend in order to pull an all-nighter to finish a project due the next morning is legality: the Adderall abuser is committing a federal crime, but the student who bought over-the-counter sleeping pills is simply being prudent.
Perhaps Hippocrates’ suggestion — that we let our foods be our pharmacy — is the best advice.


eLEARNING

Using Inspiration as an eLearning Development Strategy

Bucky J. Dodd

Key Ideas:

1. Inspiration is an essential part of innovative elearning design practices
2. Inspiration helps explore new design opportunities
3. Using inspiration sources should be a transformative elearning development process

Beginning a new elearning project can be a daunting process. While this may be due to many different reasons, one of the more common might be a lack of inspiration to spark excitement and new ideas. It can be difficult to create something entirely new and even more challenging when there are existing ways of doing things that inherently guide our decision-making.

Inspiration and eLearning Development

Inspiration in elearning development serves an important role in innovative decision-making process. We often think of decision-making as narrowing in to the best approach or product selection. When designing elearning, it is important to also use decision-making as a tool for innovative practice by encouraging more divergent thought processes. Seeking and using sources of inspiration helps designers think about new ideas and transform these ideas into innovative elearning design solutions.

Inspiration for elearning development can come from a wide array of sources such as others' work, websites, infographics, conferences, workshops, or even nature. For example, take a walk and observe colors, organization, and textures in nature. Then think about how these patterns and interesting elements may inspire a new elearning design.

From Inspiration to Transformation

Finding and analyzing inspiration sources is only a first step in using inspiration as part of an innovation-centered elearning development strategy. Each designer should transform sources of inspiration into the particular learning context being developed. In simple form, the following list describes this Inspiration-to-Transformation process:

1. Define eLearning Idea/Problem
2. Explore Sources of Inspiration
3. Develop Transformative Design “Blueprint"

The Inspiration-to-Transformation process encourages the transfer and development of new ideas from inspiring sources. Creating a “blueprint” assist with developing a plan that incorporates the inspiration source as key design
considerations.

**Using Inspiration to Create Innovative eLearning**

One of the “products” of using sources of inspiration to develop elearning is a spirit of excitement which often leads to motivation. Inspiration is best thought of as an innovation tool that helps to guide our design decision-making process from a current to innovative state (Dodd, 2013). For this reason, each designer may find inspiration in different sources and each source of inspiration may have a different transformation based on the designer’s past experiences, interests, or interpretation. Using inspiration as a key element in elearning development creates an expectation of innovation and transformation.

**Inspiration Resources:**

One of the more predominate barriers to using inspiration as part of the elearning development process is finding relevant and useful sources of inspiration. Below is a list of websites and examples that contain sources of inspiration for elearning development.

- **eLearning Examples** ([http://elearningexamples.com/](http://elearningexamples.com/))
- **Articulate Community Forum** ([http://community.articulate.com/forums/t/19127.aspx](http://community.articulate.com/forums/t/19127.aspx))
- **Shift eLearning** ([http://info.shiftelearning.com/blog/bid/263933/7-Sure-Fire-Sources-for-eLearning-Inspiration](http://info.shiftelearning.com/blog/bid/263933/7-Sure-Fire-Sources-for-eLearning-Inspiration))
- **Scoop.it** ([http://www.scoop.it/t/elearning-innovations](http://www.scoop.it/t/elearning-innovations))

**References**