Creativity and Change Leadership Graduate Student Master's Projects

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Improving Professional Development with the Torrance Incubation Model

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Improving Professional Development with the Torrance Incubation Model

A Project in

Creative Studies

By

Susan Czyrny

Submitted in Partial Fulfillment
of the Requirements
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Abstract

The purpose of this project is to introduce and integrate creativity and creative problem solving

concepts and methods that are supported by the application of technology and digital media into

the professional learning and career development process. The current training framework

consisting primarily of instructor-led lectures supported by PowerPoint presentations is not

sufficient to provide students with depth and breadth of information needed to achieve

competence. Creativity and innovation are critical skills needed to succeed in a globally

competitive and changing marketplace and are now required competencies that need to be

demonstrated. Interweaving creativity skills training and facilitation with other content is an

opportunity to teach creativity within the specified domain's prescribed framework.

Keywords: Creativity, Communication, Collaboration, Critical Thinking, Catalyst,

Capability, Competency, Innovation, TIM, Incubation, Training, Development, Technology.

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SECTION ONE: BACKGROUND & PURPOSE

Innovation is vital if we as a society, as a workforce, and as a business community are going to be able to compete and grow the economy of the future. With the right environment, systems, and support in place, individuals can ignite their imaginations and bring to life alternative solutions to solve problems. They can develop and create new models, products and services, or by combining previously unrelated elements, they can add value to improve what exists today. Individuals who develop their creativity skills can become catalysts for sustainable change (Catalyst, 2014).

Catalysts are those individuals that help to facilitate positive change in our organizations. They connect the dots, bridge gaps, find common ground and manage to advance forward. My vision is for this project to develop a lesson plan that seeks to incorporate creativity and creative problem solving concepts and methods into resources that will foster creativity while delivering domain specific content to professionals for career development.

Many of the opportunities confronting us are directly focused on the workforce developing skills needed to succeed and for business to innovate, create and complete in a global marketplace. According to several business and industry group studies, organizations are having difficulty acquiring talent with the specific competencies and capabilities needed to address the accelerated pace of changing technology and the increasing complexity of the work environment (KPMG, 2015). "Nearly three out of four respondents (73%) said skills shortages will "have a major impact" on the workplace during the next five years, according to the SHRM Workplace Forecast (SHRM Research, 2015)".

Technology and the pace of change in technology is transforming the workforce and employment landscape. Work is becoming increasingly specialized, project-based, and time-

bound. These core competencies (creativity, creative problem solving, critical thinking, collaboration and innovation) are part of a highly valued skill set and have been identified as critically important in order for individuals and organizations to compete and succeed in a global economy (Partnership for 21st Century Learning, 2015).

Designed for career focused adult learners seeking professional development opportunities, this project will introduce and integrate creativity and creative problem solving concepts and methods into the career development process. This will be accomplished using the Torrance Incubation Model, a method for integrating creativity in training environments (Torrance, 1979).

The expected results of this project are as follows. First, the creation of well-formed lesson plan describing the creativity and content skills that will be developed through the learning and supported by various technologies. In addition, I expect to personally improve and continue to develop the following competencies: creativity, creative problem solving, critical thinking, collaboration and innovation.

SECTION TWO: RECENT LITERATURE REVIEW

In *The Search for Satori and Creativity* (1999), Torrance and Safter provides us with a model based on abilities, skills and motivation. In this model, we are provided a list of skills needed for teaching and training creativity. These are provided in Table 1 below.

Table 1
E. Paul Torrance – 'Beyonder' Skills for Teaching / Training Creativity

1. The Problem: recognition or awareness of a situation; definition of the problem and commitment to deal with it; recognizing the essence of the difficulty and identifying sub problems that are manageable or can be solved.

2. Produce and Consider Many Alternatives: fluency, amount; generating many varied ideas.

3. Be Flexible: creating variety in content; producing different categories; changing one's mental set to do something differently; perceiving a problem from different perspectives.

4. Be Original: moving away from the obvious; breaking away from habit bound thinking; statistically infrequent responses; the ability to create novel, different or unusual perspectives.

5. Highlight the Essence: identifying what is most important and absolutely essential; discarding erroneous or relevant information; refining are dealers, abandoning unpromising information; allowing a single idea to become dominant and synthesizing this all at the same time.

6. Elaborate But Not Excessively: adding details or ideas and developing them; filling in the details for possible implementation.

7. Keep Open: resisting premature closure; resist the tension to complete things in the easiest quickest way.

8. Be Aware of Emotions: recognize verbal and non-verbal cues; responding, trusting and using feelings to better understand people and situations.

9. Put Your Ideas in Context: putting parts of experience into a bigger framework; putting experiences together in a meaningful way; making a connection between things; giving situations and ideas a history, background and story.

10. Combine and Synthesize: making new connections with the elements within our perceptual set; combining relatively unrelated elements; hitchhiking; making the familiar strange and the strange familiar.

11. Visualize It Richly and Colorfully: using vivid, exciting imagery; creating colorful and exciting images that appeal to all five senses.

12. Enjoy and Use Fantasy: imaging, play and consider things that are not concrete or do not yet exist.

13. Make It Swing Make It Ring: using kinesthetic and auditory senses; responding to sound and movement.

14. Look at It Another Way: being able to see things from a different visual perspective; being able to see things from a different psychological perspective.

15. Visualize the Inside: pay attention to the internal dynamic working of things; picturing or describing the inside of things.

16. Breakthrough Expand the Boundaries: thinking outside the prescribed requirements; changing the paradigm or system within which the problem resides.

17. Let Humor Flow and Use It: perceiving incongruity; responding to a surprise; recognizing and responding to perceptual and conceptual discrepancies.

18. Get Glimpses of the Future: predict, imagine and explore things that do not yet exist; wonder and dream about the possibilities; view events as open-minded.

From: Torrance, E. P. & Safter, H. T. (1999). *Making the creative leap beyond.* Buffalo, NY: The Creative Education Foundation.

For this project, I will focus on the skill "identifying the problem". Torrance (1979) defines this skill as the *"recognition or awareness of a situation; definition of the problem and a commitment to deal with it; recognizing the essence of the difficulty and identifying sub

problems that are manageable and can be solved." In terms of professional development training, when referencing this skill, we describe it in terms of "sensing the gaps" and a realization that the current state is not the desired state (SHRM 2015).

Regardless of the discipline, and in order to clearly define a problem the first order of business is to conduct a needs assessment or analysis. While there are a number of models one can follow, most methods contain these common elements (Reed & Bogardus, 2015):

Define the objective or vision. A clearly articulated objective addresses where we want to be and includes inputs from stakeholders that take into consideration business goals, resources and an understanding of potential constraints.

Define the current situation. We want to ask the question, "Where are we now?" and take into account existing factors and resources.

Conduct a gap analysis. A gap analysis compares the current situation to the objective and results in a list of resources and actions necessary to achieve the desired goal.

Set priorities. Given that we have limited resources and time, it is essential to prioritize the steps that are most critical to achieving the goal in the time frame determined.

Investigate and develop options. During this step, we are looking for the optimum solution or the most effective and efficient way to address the challenge.

Evaluate options and determine the impact. At this stage we would want to determine the pros and cons or pluses and minus of each potential solution.

Recommend the solution(s). Document your thinking and reasons for the recommendation. It is essential to build a business case in order to get buy in from key decision makers.

The creative problem solving discipline (Firestien, 2019; Puccio, 1999, Puccio, Mance & Murdock, 2010) contains a wide variety of tools to execute a needs analysis. Brainstorming can be used to generate ideas. When you are first begin to evaluate an idea you will want identify the pluses, potentials, and concerns that may result upon moving forward. The process is then repeated to develop strategies to overcome any concerns. Concerns should be phrased as open-ended questions like "How to…" or "How might …" such as "How might we bridge the skills gap in order to generate more revenue?"

PPCo is a development tool used to evaluate the idea's potential. Repeat the (PPCo) process to overcome each concern individually. Dr. Roger Firestien provides templates for PPCo use at https://rogerfirestien.com/wp-content/uploads/PPCo-Pluses-Potentials-Concerns.pdf

Pluses, Potentials, Concerns— Overcome Concerns (PPCo)

Review your clusters of ideas and blend them into a "story." Imagine what your solution would look like when it is implemented. Create a picture with rich details in your mind.
Begin your story with the phrase, "What I see myself (us) doing is…" This is your idea phrase.

What I see myself (us) doing is:

_____
_____
_____
_____

List at least **three pluses or specific strengths** of your idea phrase.
What is good about your idea right now?

1. _____

2. _____

3. _____

List three **potentials, opportunities, speculations, spin-offs or possible future gains.**
What might be the result if you were to implement your idea?
Use the phrase, "It might," to list your potentials.

1. It might… _____
_____

2. It might… _____
_____

3. It might… _____
_____

Finally, list the **concerns** you have about your idea.
Be sure to phrase each concern as a question that will allow you to overcome each one and move forward.
Begin your concerns with "How to…"

How to… _____
_____

How to… _____
_____

How to… _____
_____

Review your concerns. Decide which one is the most important to you.
Generate at least 12 ways to overcome that concern.
Once you have enough ideas to overcome your most important concern, go to your next
most important concern and generate ways to overcome that concern.
Do this until all of your concerns have been overcome.

Issue 1. How to…
Ideas for overcoming concern one:

1. _____   7. _____
2. _____   8. _____
3. _____   9. _____
4. _____   10. _____
5. _____   11. _____
6. _____   12. _____

Issue 1. How to…
Ideas for overcoming concern two:

1. _____   7. _____
2. _____   8. _____
3. _____   9. _____
4. _____   10. _____
5. _____   11. _____
6. _____   12. _____

Issue 1. How to…
Ideas for overcoming concern three:

1. _____   7. _____
2. _____   8. _____
3. _____   9. _____
4. _____   10. _____
5. _____   11. _____
6. _____   12. _____

Now review the information that you wrote for Pluses, Potentials and Concerns on the previous page,
and especially the ideas that you generated for overcoming your concerns. Re-write your concern on the next
page beginning with the phrase, **"In order to…"**
Then select the best ideas to over your concerns and place them below the phrase, **"I will…"**

Strengthing Your Solution
Pluses, Potentials, Concerns— Overcome Concerns (PPCo)

In order to: _____
_____

I will: _____
_____
_____

In order to: _____
_____

I will: _____
_____
_____

In order to: _____
_____

I will: _____
_____
_____

Figure 1. PPCo Template

Card sort can be used to prioritize if multiple solutions will be implemented. Finally, you will want to develop a plan – a list of tasks, activities with assigned resources along a specified time frame. Additional information on the Card Sort is available in the FourSight Tool Cards https://foursightonline.com/product/foursight-tool-cards-new-edition/.

The Torrance Incubation Model or TIM (Torrance, 1979, Torrance & Safter, 1999, Murdock & Keller-Mathers, 2008) includes three stages and strategies for engaging throughout the model (See Figure 2 below). The intent is to promote incubation while teaching both a primary content and creativity at the same time.
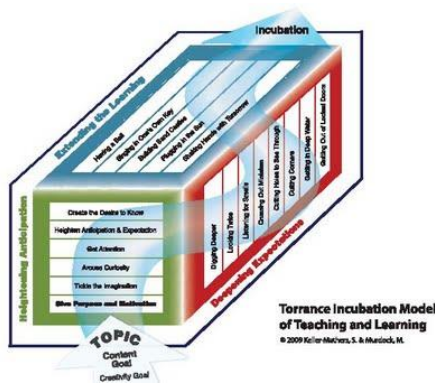

Figure 2. TIM

In support of two 'Beyonder' skills for Teaching and Training Creatively in an article published in the McKinsey Quarterly, authors Boaz and Ariel describe embracing change from both an inward and outward perspective.

From an inward perspective and in alignment with 'Beyonder' skill number eight, *being aware of emotions*, means recognizing one's own modes of operation including beliefs, values, goals and feelings and how this impacts the way in which you facilitate learning (Boaz & Ariel, 2014).

From an outward perspective and in alignment with 'Beyonder' skill number fourteen, *looking at it another way,* means finding unique alternatives to achieving learning objectives and subsequently behavior changes (Boaz & Ariel, 2014).

In the IBM report, Capitalizing on Complexity, creativity is identified as the single most important leadership competency for dealing with complexity. The organization describe leaders with the creativity competency as being "comfortable with ambiguity and experimentation" (IBM, 2010 p. 23).

Also in association with 'Beyonder' skill sixteen, *breakthrough and expand boundaries*, breakthrough thinking despite uncertainty and rewarding others for stepping outside of their comfort zones are highly encouraged (IBM, 2010 p. 32).

Additional literature informed my thinking. These are listed in the bibliography below.

Mayol, F. & Srinivasanv, R. (2013). McKinsey Quarterly. Decoding leadership: What really matters. Retrieved from:

http://www.mckinsey.com/insights/leading_in_the_21st_century/decoding_leadership_what_really_matters?cid=other-eml-nsl-mip-mck-oth-1501.

Meinert, D., (2015). *Major shift in HR's role predicted*. SHRM. Retrieved from

http://www.shrm.org/publications/hrnews/pages/john-boudreau-center-for-effective-organizations-hr-role.aspx

Mumford, M., Zaccaro, S., Harding, T., & Fleishman, E. (2000). Leadership skills for a changing world: Solving complex social problems. *Leadership Quarterly, 11* (1). 11-35.

Project Management Institute. (2015). *Pulse of the profession*. Retrieved from

http://www.pmi.org/learning/pulse.aspx

Self Employment Assistance Center. (2015). *Small Business Administration tool kit*. Retrieved from http://sea.workforce3one.org/more-resources/small-business-administration-toolkit/

United States Department of Labor. (2015). *The Workforce Innovation and Opportunity Act*.

Retrieved from http://www.doleta.gov/WIOA/

SECTION THREE: PROCESS PLAN

The process plan will be executed in accordance with the schedule below.

Deliverables:

1. Training and facilitation for 1 lesson plan with supplemental content.

    - Course Outline / Lesson Plan

2. Research and select technologies to support and enhance the learning.

    - SLACK – team collaboration

    - ZOOM – video conference, meetings, presentations.

3. Project Paper.

Project Time Line:

1. Final Concept Paper 2/25/2019

2. TIM (HDE) Content and Activity Development 3/15/2019

    a. Heighten
    b. Deepen
    c. Extend

3. Identify and test technology that will support TIM (HDE) 3/25/2019

    a. Research and Test applications
    b. Select two or three technologies for integration in training plan.

4. Finalize Training Content 4/20/2019

5. Complete Project Paper 12/12/2019

6. Maintain Journal – 5/8/2019 + ongoing

Personal Learning Goals

The first goal for this project is to develop content and a lesson plan for delivering a high quality creative learning experience for individuals pursuing professional development using the Torrance Incubation Model. The second goal is to improve and further develop my own creativity skills.

Now more than ever creativity, innovation, critical thinking, and problem solving are critical, in-demand skills. Although, outside the scope of this project, the ultimate vision is to create a purposeful, collaborative and flexible *curriculum* that will contribute to developing a more creative workforce.

Developing the skills to motivate participants to actively engage in learning is a challenge. How does one ignite the spark of curiosity and get students to dig deeper? This is where I think more practice with TIM can make a difference. This project is ongoing and will continue be used to prepare students to take their certification exams. In the spirit of TIM to deepen and extend the learning, I am hoping to experiment with additional applications that integrate with SLACK including Google Docs for team document collaboration, QuickQuiz for multiple choice questions, and Asana for task management.

SECTION 4: OUTCOMES

The results of this project are a lesson plan based on the Torrance Incubation Model (TIM) and an online content rich virtual collaboration site where participants can actively engage in learning and sharing. The summary of both are presented in this section.

TIM Lesson Plan

The TIM lesson plan is simple and direct. The plan interweaves specific domain knowledge with one or two creativity skills. In this particular case, the domain is human resources exam preparation and the creativity skill is problem finding or identifying gaps between the current state and the desired future state of exam readiness.

The lesson plan is based on the TIM model and is designed to accomplish three objectives. First the goal is to heighten Anticipation through creating a desire to know and arousing curiosity.

Arousing curiosity began within the SLACK team collaboration tool. Participants were asked to define a term or explain a concept in their own words for others to review and comment on. This interaction is designed to scratch the surface of learning while motivating a more in depth look at the material and providing the opportunity to drill into more detail.

Figure 3. SLACK Collaboration Tool

Second, we want to deepen expectations by digging past the surface and exploring the content through multiple perspectives. In order to dive into a concept or employment practice, students are asked to review employment law cases or business cases involving a human resources scenario and then examine the situation from both the employee and employer perspective.

Finally, the aim it to extend the learning by having participants apply this knowledge to a specific work or life situation. Participants are directed to apply their knowledge and report back to the group using a medium of their choice. This could be a word summary, audio clip, video clip, formal presentation, artwork, puzzle, game, or group facilitated discussion. The lesson plan overview is provided in the table below.

This lesson plan addresses the leadership and creativity competencies. Students are expected to demonstrate progress in learning the concepts of human resource management and applying their knowledge and skills creatively via the implementation or application in a work or life situation of their choosing. The lesson plan is provided in the table presented next.

Table 2.
TIM Strategy & Problem Finding Lesson Plan

Title	Human Resources – Strategy / Creativity: Problem Finding
Subject	Human Resources Certification Exam Preparation
Author	Susan Czyrny
Level	Adult Professional Development
Time duration	2 - 4 hours
Overview	This lesson will interweave the creativity skill of problem finding with strategic implementation, translating strategy into action through creative problem solving.
Objective	From a domain content perspective, this module is expected to increase participant knowledge in the following content areas: strategic management and the strategic planning stages (strategy formulation, development, implementation, and evaluation). The creativity skill introduced in this section is problem finding or identifying gaps between the current state and expected future state and is focused on fulfilling the mission and vision of the organization within the strategic planning process. The concept of dynamic balance, divergent then convergent thinking will be introduced to explore and refine problems or opportunities related to business strategy. TIM (Torrance Incubation Model) Goals: **1. Heighten Anticipation** a) Create the Desire to Know b) Arouse Curiosity **2. Deepen Expectations** a) Dig Deeper b) Look Twice (or look from multiple perspective) **3. Extend the Learning** a) Shaking Hands with Tomorrow
Competencies	Leadership, Creativity
Key Behaviors	Apply creative problem solving to address challenges. Developing solutions to overcome potential obstacles to successful implementation of organizational initiatives. Participants are engaged in the behavior of leadership by initiating and implementing a change.
Materials	TIM model, slide presentation, CPS Tool Cards, Post-it notes, flip charts, markers, stickers. Virtual or In person Brainstorming / Idea Generation …
Activities and procedures	Agenda, logistics, introductions, content slide presentation…more detail to follow.
Evaluation	Develop program evaluation – survey or other feedback instrument.
Notes	Creativity is a process occurring within a system that yields something novel of value. Creativity is occurs across four dimensions and results via the interrelationships of person, process, product, and press (environment).

Collaboration

The online collaboration site is built using SLACK. SLACK is a virtual collaboration hub for teams to learn from each other, share information, streamline communications and get things done. SHRM Competencies for consultation are described in Figure 4 below.
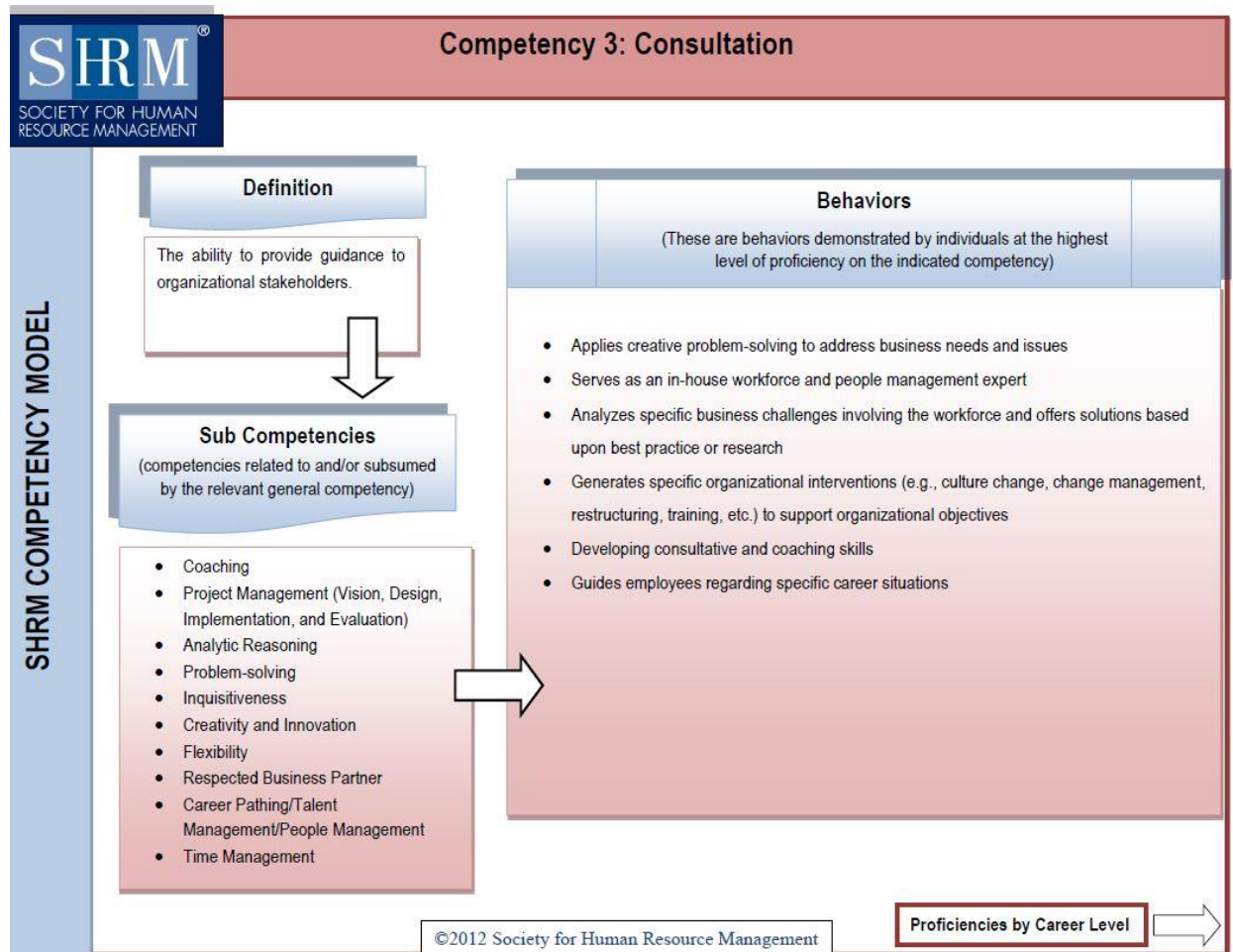

Figure 4. SHRM Competency: Consultation

Content is developed in bite size pieces and categorized in channels. Creativity content lives in its own channel. However, interweaving the process of creativity or using creative tools and methods to engage learning and transfer knowledge is dispersed throughout the other knowledge domains.

Engagement

Participants can interact in a variety of ways. They can read a specific thread and respond or insert an emoji or other image to convey how they are feeling. They can create a post or edit an existing post. They can also upload documents, communicate as a group or communicate one on one using the direct messaging feature.

By creating a "Post" in SLACK (Figure 1) that participants can read, react, add and edit to information that is chunked in bite size pieces. Emoji's can be used to express how participants feel or if they understand a particular concept. Students can reply to a post and engage in the conversation. They also edit and add to the post, as they develop a deeper understanding of the content or concept. I am using posts to operationalize TIM and get participants to dig deeper and share how they are applying these concepts.
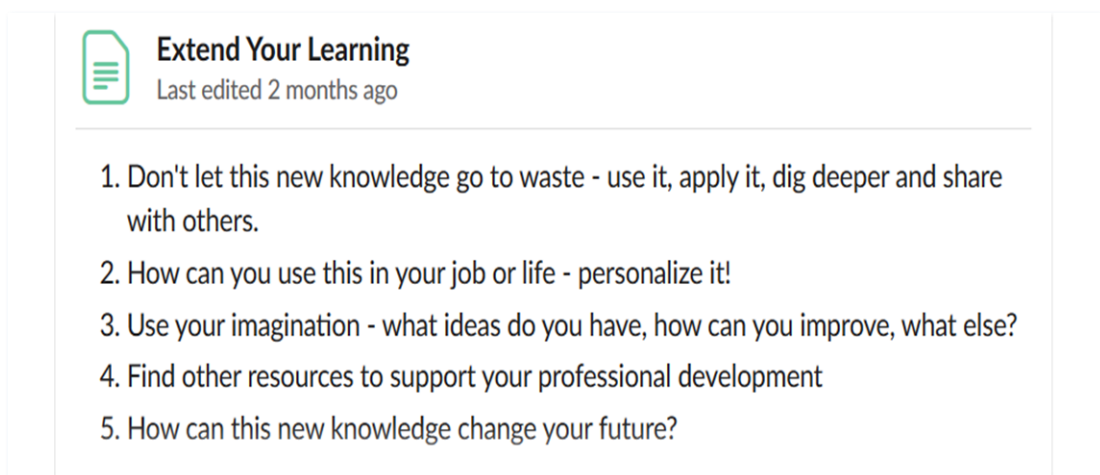
Extend Your Learning
Last edited 2 months ago

1. Don't let this new knowledge go to waste - use it, apply it, dig deeper and share with others.
2. How can you use this in your job or life - personalize it!
3. Use your imagination - what ideas do you have, how can you improve, what else?
4. Find other resources to support your professional development
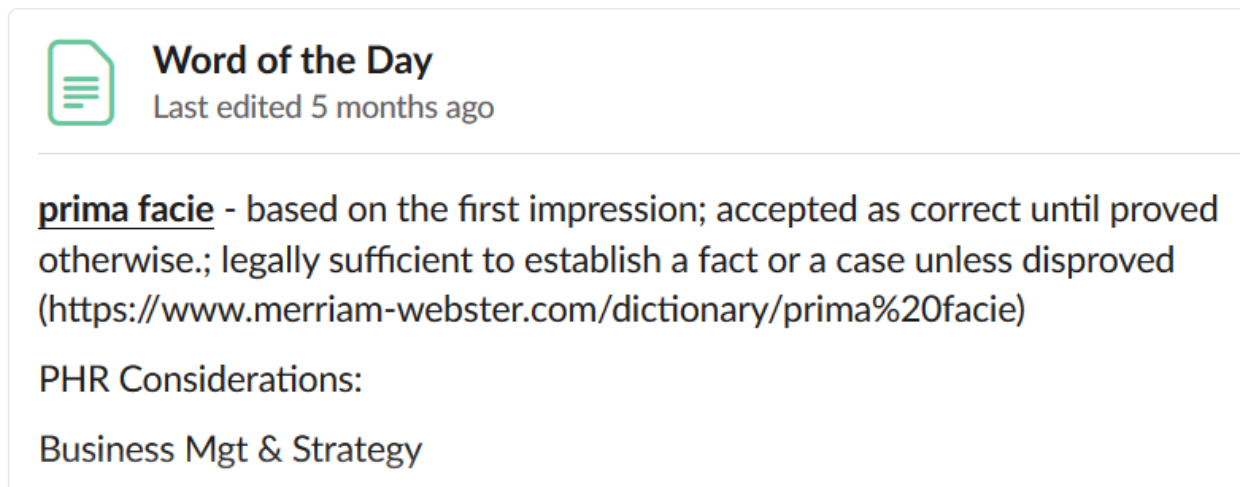5. How can this new knowledge change your future?

Figure 5. Post in SLACK

Experimentation

Experimentation is an important step when designing more effective ways to transfer knowledge. In an effort to condense and simplify course development into digestible chunks, I chose to explore the functionality SLACK provides and to observe how participants interact with the information. At first there was minimal interaction within SLACK and with each other. However, as we progressed through the material, participants started to engage more in both responding to the content and interacting with each other.

In an effort to dig deeper, this "post" (Figure 2) uses hyperlinks and key terms that are then defined and related to case law. Students were then challenged to seek out additional case studies and contribute to further developing the content.

Figure 6. Post in SLACK with hyperlinks

SECTION 5: KEY LEARNINGS

The first goal for this project is to develop content and a lesson plan for delivering a high quality creative learning experience for individuals pursuing professional development using the Torrance Incubation Model. The second goal is to improve and further develop my own creativity skills and ability to deliver content creatively.

Content and Lesson Plan

The team collaboration tool, SLACK is being used to store content and capture participant interaction. Using an online collaboration tool for training delivery has its challenges. Participants were reluctant at first to get in and learn how to use the application. We started with small chunks of learning and explored the functionality of the tool to engage the participants. To my pleasant surprise, engagement and interaction began to increase in a variety of ways.

The lesson plan is simple and succinct. It contains the TIM framework and suggests activities for getting participants engaged in each stage of the model. However, it is through facilitation that helps students transcend from Heightening Anticipation to Deepening Expectations to Extending the Learning. I will quote one participant who declared in an online post within SLACK, "Wow I have a LOT to learn.☺" I think I was able to set off some kind of spark or aha moment as she is now very engaged in rereading and responding to the material. I also feel I have peaked some interest because the questions I am getting require more depth of thought and the ability to connect concepts and ideas.

My Creativity Skills

The Creative Studies faculty makes teaching creativity and teaching creatively look easy. It is not. Like any other skill or competency this takes practice and plenty of trial and error. I am looking forward to a moment when I reach a state of "flow" and the delivery feels free and

effortless. Using an iterative approach allows for more flexibility and to quickly recover or pivot if something is not working.

Delivering Content Creatively

I feel that integrating technology, skilled facilitation – making the connection between concepts and practice, and small bit sized chunks of content is one avenue toward making progress. It is also important to engage in learning and to apply and experiment with ideas and methods on a regular basis.

Switching between projects for long periods of time where creative process falls by the wayside results in lost knowledge and skill. As a consequence, moving back into the creative space takes more time and rework. Serialization or compartmentalization seems to lead to better productivity, more effective methods and higher quality content. There is something to be said for the assembly line approach.

SECTION 6: CONCLUSIONS

It is encouraging to observe participation and engagement levels increase. I am personally motivated to continue to use SLACK and plan to integrate other technologies as we progress throughout the summer months.

I see myself continuing to experiment with the Torrance Incubation Model for a number of projects currently in the pipeline. My ultimate pursuit is to disassemble and recombine information, tools, technologies, systems, models and methods in order to deliver more effective learning and knowledge transfer creatively.

Today it is Torrance and technology. Tomorrow it may be CPS (Creative Problem Solving) and Agile. Down the road perhaps FOURSIGHT and artificial intelligence or machine learning.

References

Boaz, N. & Ariel, E. (2014). Change leader, change thyself. *McKinsey Quarterly* Retrieved from

    http://www.mckinsey.com/insights/leading_in_the_21st_century/change_leader_change_

    thyself.

Catalyst. (2014). *Inclusive leadership: The view from six countries*. Retrieved from

    https://www.catalyst.org/research/inclusive-leadership-the-view-from-six-countries/

Firestien, R. (2019). *Create in a flash: A leader's recipe for breakthrough innovation*.

    Williamsville, NY: Green Tractor Publishing.

IBM. (2010). Capitalizing on complexity: Insights from the global chief executive officer (CEO)

    study. IBM. Retrieved from: https://www.ibm.com/downloads/cas/1VZV5X8J

KPMG. (2015). Global CEO Outlook 2015: The growth imperative in a more competitive

environment. https://assets.kpmg/content/dam/kpmg/pdf/2015/08/global-ceo-outlook-2015.pdf

Murdock, M. & Keller-Mathers, S. (2008). Teaching and learning creatively with the Torrance

    Incubation Model: A research and practice update. *International Journal of Creativity*

    and Problem Solving, 18(2), 11-33

Partnership for 21 Century Learning. (2015). *Framework for 21st century learning*. Retrieved

    from http://www.p21.org/our-work/p21-framework

Puccio, G. J. (1999). Creative Problem-Solving preferences: Their Identification and

    implications. *Creativity and Innovation Management, 8,* 171-178.

Puccio, G., Mance, M. & Murdock, M. (2010). *Creative leadership: Skills that drive change*.

    (2nd ed.). Thousand Oaks, CA: Sage Publication.

Reed, S. & Bogardus, A. (2015). *PHR / SPHR deluxe study guide*. Indianapolis, IN: John Wiley

    & Sons Inc.

SHRM. (2015). *SHRM Research: Workforce Retrieved from Readiness and the Skills Shortage.*

http://www.shrm.org/Research/FutureWorkplaceTrends/Documents/Workforce%20Readiness%20and%20Skills%20Shortages.pdf

Torrance, E. P. (1979). An instructional model for enhancing incubation. *Journal of Creative Behavio*r, 13 (1), 23-35.

Torrance, E. P. & Safter, H. T. (1999). *Making the creative leap beyond*. Buffalo, NY: Creative Education Foundation.

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