Creative Thinking in Higher Education

PSI's Elana Cooperberg and David Hoida, both experienced teachers with an expertise in the cultivation of students' creativity, co-authored the following piece on the power of strategic creative problem-solving.

Elana:

A student stops me as I walk up and down the aisles during an exam and asks, "Is this answer long enough, miss?" Pointing to the paragraph he's written, he is genuinely concerned and wonders if the number of sentences is sufficient to grant him a good grade. It is not the first time I have been asked this type of question. "How many words does the paper have to be?", "Is this going to be on the test?" Often, students are more concerned with the mechanics of their assignments and tests than with the deep knowing and understanding they can gain from their courses. They are for the most part strategic thinkers, focused on good grades, and not on learning. But who can really blame them? Historically, education has used grading systems to reward students, and indeed, in the minds of many students, strong marks are synonymous with mastery itself (Shepard, 2000). For centuries, education has been centred around the transfer of knowledge from expert to novice and the validation of learning by traditional testing methods. However, we must ask ourselves as educators in the 21st century: is this the best we can offer our students?

The competitive nature of a globalized world has expectations for students that differ dramatically from traditional ideas about education. Students must think in increasingly complex ways. They are expected to solve elaborate problems by employing critical and creative thinking strategies, making connections between and within disciplines, and showing a sophisticated level of cognitive processing and meaning-making (Haynes, 2002). While achieving these levels of cognitive engagement may sound unattainable, there are numerous steps we can take to help our students get there. Many of us already work with our students to build their meaning-making abilities, engaging them in ways that deepen their learning. Judy Ingerman and Jailson Lima are both involved in projects that work toward developing students' abilities to think beyond traditional learning approaches. Judy has developed an active reading workshop that builds students' deep reading and analytical skills. Jailson has built a repertoire of student work that develops creativity in the learning of science (Lima, 2011). For my part, the creativity workshop I have developed and the implementation of creative thinking exercises in my classroom have provided students with opportunities to expand their thinking within the business discipline.

Thinking creatively has long been discussed in the research on business education (Bleedorn, 1993; Chandler & Teckchandani, 2015; McIntyre et al., 2003; Schlee & Harich, 2014; Smith, 2003). It is a necessary requirement for business success. The development of innovative and novel approaches to building relationships with stakeholders, developing new products and services, and identifying opportunities within existing marketplaces all require creative and critical thinkers. As a Commerce teacher, I recognize the difficulty in teaching creative thinking skills. Students tend to be goal-oriented, concerned with acceptance into a university business faculty and pursuit of a career that grants them financial freedom. It is a linear path that they follow, relying on a traditional understanding of how the business world functions. Yet research consistently refers to increased levels of competition within our globalized world and the need for professionals to think critically and creatively (McIntyre et al., 2003). There seems to be a disconnect between how students learn and what they need for success within university business programs and later on in their careers. There are solutions, of course, and these can be found within our pedagogical understanding of what builds expertise within our disciplines. For business, expert knowledge includes critical and creative thinking elements. It also includes intuition and instinct, natural by-products of the strategic creative thinking process. Building strategic creative thinking strategies within the curriculum will lead students to understand, recognize, and acknowledge their intuitive skills (Weaver, 2014). Cultivating students' creative thinking can only benefit their learning and improve their understanding of themselves and the subject matter.

Dave:

I began working as a pedagogical counsellor at Vanier College in the autumn 2017 semester. In seeking out opportunities to connect with Vanier pedagogical culture, I discovered the *Unleashing your Creativity* workshop that Elana offered at the 2017 Social Science festival. As I sat in the workshop alongside Vanier students, it was striking how Elana's goals for her college-level students were similar to the expectations I hold for the graduate students I teach in my *Creativity and its Cultivation* course at McGill University.

My students, who are for the most part teachers themselves, have achieved academic and professional success by engaging in strategic, goal-oriented thinking, but in many cases, this success has been attained at the expense of the individuals' creativity. While my students are able to effectively analyze situations and efficiently respond to academic and professional demands by proposing tried-and-true solutions, they are simultaneously stifling their risk-taking instincts. My role as a teacher is to encourage my students'

redefinition of existing problems to support their development of innovative solutions. My goal is to foster that which is most difficult to capture: creative thought. The result of creative thought is the creative solution, a novel method that has value in the context in which it is applied (Halpern, 2003).

The first assignment I give to my McGill students is a reflective journal entry. The guidelines are very open ended; the critical criterion is to creatively (that is, in a new and valuable way), reflect on one's connection to the course material in a manner that provides evidence of an enduring change that will have positive ramifications in different future contexts. More simply put: they must reflect creatively on the impact of their learning. So when the most frequently asked questions I receive semester after semester are, "How long does the journal have to be?" and "What format would you like the journal to be in?", my conviction that the cultivation of students' creativity is vital to a successful educational experience is reaffirmed.

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Over time, I have realized that my goal of promoting and cultivating creative thought could best be achieved by triggering my students' intrinsic motivation for success and their desire for professional growth. Consequently, I shifted the focus from being creative for creativity's sake to employing creative thinking to develop strategies for success. I began to ask my students to engage in strategic creative problem solving. This engagement calls upon students to first analyze their process of creative thinking. They are then encouraged to frame this thinking as a skill to develop during course challenges that employ mastery goal characteristics. This process yields a newfound appreciation for creativity and the value it holds in the design of teaching and learning experiences that my students will put into practice in their own classrooms. The end result is quite dynamic. With the goal of fostering a deep integration of course concepts and skills, a teacher will find themselves designing innovative and accessible opportunities for students that allow them to acquire course competencies through the utilization of strategies such as Universal Design, Backward Design, differentiation, and cross curricular and inter-disciplinary collaboration. So how can one design a course that helps students achieve these creative goals? I propose considering creative thinking as a *skill* one can develop by targeting the components of creative thought that can be honed through opportunities directed toward a purpose.

Such components include:

- **Abstraction:** The ability to conceptualize.
- **Connection:** The ability to make links between ideas or things that are not obviously related.
- **Perspective:** The ability to shift one's understanding of a situation, in terms of space, time, and other people.
- **Curiosity:** The desire to question, change, or improve things that others accept as the norm.
- **Boldness:** The confidence to challenge accepted conventions and shirk fears about what others may think of you.
- **Paradox:** The ability to simultaneously accept and work with statements that are contradictory.
- **Complexity:** The ability to cope with large quantities of information, managing and manipulating the relationships between such information.
- **Persistence:** The ability to persevere in the pursuit of more and stronger solutions, even when good ones already exist (Surovek et al., 2015).

Elana:

In order to promote students' success as creative thinkers and deep learners, one must consider the context in which they are developing strategic creative problem solving skills, including unique discipline-specific challenges/demands and the individuals' relationships with creativity (Plucker et al., 2004). To put theory into practice, we will return to a consideration of the specific creative context of the business discipline.

I designed the Unleashing your Creativity *workshop to increase students' intrinsic motivation through application of creative and critical problem-solving activities. Intrinsic motivation is a necessary component of the time a student devotes to a task, which is directly related to the process of 'flow,' which is defined as full engagement in an activity (Csikszentmihalyi, 1997). This level of engagement not only builds deeper meaning; it increases personal satisfaction levels and leads to greater intrinsic motivation. Activities that encourage a state of 'flow' must be challenging to students – if they are too difficult, students will lose the flow. If activities are too easy, they will never attain it. Learning activities must thus be within reach of students' abilities while requiring them to use their cognitive skills, modify these skills as needed, and challenge their beliefs depending on the outcome. Introducing activities in a low-risk setting like a workshop, or within the classroom environment, encourages students to actively engage with one another and the pre-defined task, thereby increasing the skills needed to solve problems, and in turn, enhancing critical and creative thinking. The goal of the creativity workshop has been to reduce*

concerns over details of assignments, tests, and other summative evaluations, and push students to reflect meaningfully on their learning. Helping students develop a deeper understanding of their own learning and supporting them in making connections between disciplines has been at the forefront of my creative thinking quest as an educator.

There is a tremendous body of research in the field of strategic creative problem solving and higher education. Encouraging students through open-ended questions, reflection and journaling, brainstorming, group work, and in-class activities engages students in ways that connect them more deeply to their own learning. These opportunities then lead to higher-level processing of information, building mastery that is transferable to other disciplines. To build creative thinking skills in our students is to provide them with the opportunity to think boldly, solve innovatively, and grow in ways that will change their lives and the lives of others.

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