

## **D. INNOVATE Overview**

### **D. INNOVATE**

**Red River College graduates apply research techniques, leading edge technologies, creative processes, and innovative approaches to local and global environments. They employ inquiry methods, exploration, and divergent thinking.**

#### **1. Definition/description.**

Innovation is described as “responding well to personal, organizational and social requirements and demands and opportunities, modifying or introducing new elements into processes and results”.<sup>1</sup>

Innovation is strongly connected to both creative and critical thinking. Critical and creative thinking are fundamental to human intellectual progress and artifacts produced through innovation.

#### **2. Importance of this competency for academic, personal and professional life.**

Innovation is the key to addressing changing conditions and environment in a positive manner. It is what supports individuals, organizations and communities to move forward and progress. It relates to personal, economic and social undertakings and can be a key factor in research, productivity, efficiency, and sustainability.

“Creative thinking generates new ideas within or across domains of knowledge, drawing upon or intentionally breaking with established symbolic rules and procedures. It usually involves the behaviors of preparation, incubation, insight, evaluation, elaboration, and communication.

In the context of college teaching and learning, creative thinking deliberately and actively engages students in a search for innovation through:

- Bringing together existing ideas into new configurations;
- Developing new properties or possibilities for something that already exists; and
- Discovering or imagining something entirely new.”<sup>2</sup>

Divergent thinking (generating multiple related ideas) is part of the structured process of innovation, along with the use of critical thinking to analyze and evaluate realistic, effective and possible solutions and outcomes.

### **3. Listing of levels of *Innovate* along the continuum of development at RRC.**

#### **Level 1 *Generate Ideas***

Graduates use multiple sources of information to generate creative solutions.

#### **Level 2 *Build on Ideas***

Graduates collaborate to determine the best plan of action to implement new concepts and affect positive change. They exchange information, build on ideas, generate creative options, and evaluate risks.

#### **Level 3 *Transform Environments***

Graduates respond to demands and opportunities with innovative ideas and processes that improve and transform individual, organizational, and community environments

### **4. Interaction/connectivity with other college-wide learning outcomes.**

Innovation is an important component in all of the college-wide learning outcomes as it – in conjunction with critical thinking – can initiate improvement and progress. Therefore it needs to be supported and encouraged through leadership, integrated into community engagement activities to plan community improvement, and be a strand of any communications where persuasion, learning or progress is an objective. It is the complement to critical thinking when reflecting on current practices and seeking to create new paths or improve processes and results. A key strand of the RRC Mission and Strategic Plan is applied research to which innovation is central.

Innovation can be considered a ‘way of thinking’ or an approach to issues and opportunities. As such, it should be integrated into programs as part of achieving many discipline-related outcomes.

#### **5. Rubric for mastery of *Innovate* and incorporation of the learning outcome in programs.**

See rubric chart.

- a. The rubrics provide the indicators for the outcome, plus a rubric descriptor for each indicator at each level.
- b. The rubrics provide benchmarks for programs to reference their own program outcomes when developing or revising a program.
- c. The rubrics provide detailed information for faculty to incorporate into their program/course assessment rubrics for student assessment. They are not intended for grading individual students.
- d. The rubrics also provide a measurement for the evaluation of program and college-wide attainment of meeting the stated college-wide learning outcomes – on a composite basis.

#### **6. Faculty Resources.**

Faculty resources have been gathered to assist faculty in:

- a. Increasing their knowledge about learning outcomes at various levels (institutional outcomes, program outcomes and course outcomes), and of how programs and courses relate to institutional outcomes.
- b. Reflecting on the meaning and indicators of each of the college-wide learning outcomes.
- c. Referencing some sample student assessment rubrics related to the outcome (competency) or some component of it. These resources may assist faculty to develop their own course rubrics for assessment of students.
- d. Accessing some teaching resources related to the outcome (competency) or components of it.

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<sup>1</sup> Adapted from *Competence-based learning. A Proposal for the assessment of generic competences. Tuning*. University of Deusto.. Sanchez & Ruiz (Eds) 2008

<sup>2</sup> Adapted from NC State University definitions of Critical and Creative Thinking, based on definitions from *John Dewey; Richard Paul and Lind Elder; Mihaly Csikszentmihalyi, and M.A. Rosenman and J. S. Gero.*

## D. INNOVATE Rubric

Red River College graduates apply research techniques, leading edge technologies, creative processes, and innovative approaches to local and global environments. They employ inquiry methods, exploration, and divergent thinking.

	Levels		
<b>Competency Levels</b>	<b>1. INTRODUCTORY learning</b>	<b>2. COLLABORATIVE learning</b>	<b>3. INTEGRATIVE learning</b>
	RRC graduates will be able to:	RRC graduates will be able to:	RRC graduates will be able to:
<b>Level descriptors</b>	<p><u>Level 1</u> <i>Generate Ideas</i></p> <p>Graduates use multiple sources of information to generate creative solutions.</p>	<p><u>Level 2</u> <i>Build on Ideas</i></p> <p>Graduates collaborate to determine the best plan of action to implement new concepts and affect positive change. They exchange information, build on ideas, generate creative options, and evaluate risks.</p>	<p><u>Level 3</u> <i>Transform Environments</i></p> <p>Graduates respond to demands and opportunities with innovative ideas and processes that improve and transform individual, organizational, and community environments.</p>

**Indicators (on table below):**

- Indicators provide examples of the types of behaviours expected to demonstrate the competency and the level.
- These indicators need to be viewed as defining the broad college-wide outcomes - but also form the basis from which programs can identify more specific and detailed expectations of the outcome related to the field and their specific program. Discipline specific aspects of the outcome may be greatly enhanced and detailed in program outcomes.
- Programs/courses do not need to include all the indicators of a particular level (and indeed may have their own additional indicators for their program or course based outcomes), but it is expected that they would incorporate the majority of the indicators of the CWLO at that level.

Indicators	<u>Level 1</u> <i>Generate Ideas</i>	<u>Level 2</u> <i>Build on Ideas</i>	<u>Level 3</u> <i>Transform Environments</i>
<b>1. Inquiry, exploration</b>	a. Exhibit openness to change through consideration of novel ideas or different perspectives.	a. Search for novel or unique ideas for specific situations through process of organized inquiry.	a. Constantly search for new methods or ideas, displaying an attitude of constant discovery and seeking continuous improvement.
<b>2. Creative thinking, developing new ideas/approaches or alternatives</b>	a. Identify new options or organize information in new ways in basic situations or processes.	a. Participate in brainstorming processes and respectful and creative collaboration to identify new methods and approaches for organizational improvement and to overcome antagonism.	a. Systematically use creative thinking in group processes to create new knowledge, solve problems or build/improve methods or processes. Build partnerships and address broad issues of occupation/profession or community.
<b>3. Flexibility and adaptability</b>	a. Adapt to changing requirements and information, and respond constructively.	a. As part of a team, explore and assess creative and innovative solutions to problems and changing situations.	a. Reflect on and analyze situations from various perspectives, identifying multiple ways of reacting to changes in conditions while identifying benefits and challenges.

<p><b>4. Risk-taking</b></p>	<p>a. Identify risks related to innovative activities or solutions.</p>	<p>a. Evaluate risks related to possible solutions. Consider implementing solutions and ideas, including some with a limited degree of identified risks.</p>	<p>a. Constantly introduce unique and sometimes untested, but well-considered approaches with manageable risks as possible options for situations or community issues.</p>
<p><b>5. Assessment and implementation</b></p>	<p>a. Identify and suggest realistic alternative ways to achieve goals and get the job done.</p>	<p>a. Analyze and evaluate viability and risk of potential innovative activities or solutions through critical thinking and collaboration to make recommendations or decisions regarding personal, workplace and community issues.</p>	<p>a. Using applied research techniques and leading edge technologies, transform and consolidate creative ideas and new solutions into viable innovative approaches and concepts which have the potential for improvement of work, personal and social community and support sustainability.</p>

**Terminology usage in rubric:**

**Creative thinking:** a way of looking at problems or situations from a fresh perspective that may suggest unorthodox solutions. It produces new ideas within or across domains of knowledge, drawing upon or intentionally breaking with established expectations and procedures Creative thinking can be stimulated both by an unstructured process such as brainstorming, and by a structured process such as lateral thinking. It usually involves the behaviors of preparation, incubation, insight, evaluation, elaboration, and communication.

**Critical thinking:** the active, persistent, and careful consideration of a belief or form of knowledge, the grounds that support it, and the conclusions that follow. It involves analyzing and evaluating one’s own thinking and that of others.

**Community:** people or groups with a common interest who collaborate to share ideas, information and other resources.

- People or groups implies formal or informal
- “Common interest who collaborate” – self-organized network is implied
- Virtual community is included as there is no physical component in the definition
- Community members can play an active or passive role

**Divergent thinking:** the process of generating multiple related ideas for a given topic or solutions to a problem. Divergent thinking occurs in a spontaneous, free-flowing, ‘non-linear’ manner. Divergent thinking is also loosely called ‘lateral thinking’, a term coined by the thinking guru Edward De Bono – author of ‘Six Thinking Hats’. The idea of divergent thinking has become important in the scientific study of creativity because many widely used tests for creativity are measures of individual differences in divergent thinking ability.

**Sustainability:** Meeting the needs of the present without compromising the ability of future generations to meet their own needs. Sustainability is an evolving process to improve the economy, the environment and human health & well-being for the benefit for current and future generations. Sustainability requires a long- term perspective, a systems approach (systems that connect space and systems that connect time), fairness, and creativity & innovation.

#### **References for *Innovate* Rubric development**

- Competence-based learning. A Proposal for the assessment of generic competences. Tuning. University of Deusto. Sanchez & Ruiz (Eds) 2008
- Creative Thinking VALUE Rubric. Association of American Colleges and Universities at <http://www.aacu.org/VALUE/rubrics/>
- Critical and Creative Thinking Rubric. University of Guelph Undergraduate Degree Learning Outcomes, Skills and Rubrics, Nov 2012 <https://uoguelph.civicweb.net/Documents/DocumentDisplay.aspx?ID=68908>