STRENGTHENING LEADERSHIP THROUGH ENHANCED CREATIVE PROBLEM SOLVING

Revised 4 August 2015

A Quality Enhancement Plan for Marine Corps University 2015-2020

On-Site Review: 10-12 March 2015

Executive Summary

As a result of reviewing data from five years of student and faculty surveys, in person focus groups, and on-line inputs from students, faculty, and staff from across Marine Corps University (MCU), the President of Marine Corps University selected *Strengthening Leadership through Enhanced Creative Problem Solving* as the topic for the university's Quality Enhancement Plan (QEP). The MCU QEP has one overarching goal: *to enhance students' creative problem solving skills.*

For over a decade, service posture statements and defense professionals have declared that future military leaders must prepare for an uncertain, complex environment in which multifaceted problems reign, resources dwindle, and unintended consequences dominate decision making. While a strong grasp of history, refined analytical capacity, and an appreciation of doctrine are key to succeeding in this environment, they are insufficient on their own. The Marine Corps and Joint Community require forums in which leaders can creatively explore divergent approaches to problem solving.

Strengthening Leadership through Enhanced Creative Problem Solving will provide this opportunity. Creative problem solving is the process by which individuals and teams develop effective, complete, and innovative solutions to complex, novel, intractable, or ill-defined problems. It is critical to the 21st century warfighter as both our adversaries and our operating environment grow more complex.

In order to achieve the QEP's overarching goal, the QEP specifies three objectives: (1) develop curricula that require students to solve problems creatively; (2) prepare faculty to create learning environments conducive to creative problem solving; and (3) provide integrated learning opportunities that challenge students to collaborate outside traditional cohorts and constructs.

Strengthening Leadership through Enhanced Creative Problem Solving calls for the establishment of the MCU Center for Applied Creativity (CAC), which will serve as a general support asset to MCU schools by assisting with curriculum and faculty development. The CAC will also coordinate learning opportunities for MCU faculty and students.

The QEP will enhance student learning by honing our students' capacities for creative thought and allowing them opportunities to apply creative thinking skills to solve concrete problems. This objective is aligned directly with the mission and vision of Marine Corps University and will position our students to be more competent leaders and decision makers in the challenging times ahead.

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I. PROCESS USED TO DEVELOP THE QUALITY ENHANCEMENT PLAN

Marine Corps University (MCU) undertook a wide-ranging and inclusive process to conceptualize, select, and develop the Quality Enhancement Plan (QEP). Since MCU is spread across the globe, the Quality Enhancement Planning Team (QEPT) utilized the university website and electronic surveys -- in addition to focus groups and meetings -- to solicit as broad a range of input as possible. This section describes the process used to select and develop the QEP from the formation of the Core QEPT in August 2013 to the ultimate launch of the QEP in 2015.

QEP planning began 13 August 2013 with the publication of the President's "Letter of Instruction (LOI) for SACSCOC Reaffirmation." The LOI called for the formation of a university-wide QEPT with representatives from each of the MCU schools and its Institutional Research, Assessment, and Planning (IRAP) Office. The LOI tasked the QEPT with identifying the QEP topic and preparing the final QEP Report.

University leadership appointed Dr. Rebecca Johnson, Associate Professor for National Security Affairs at the Command and Staff College and Chair of MCU's Faculty Council, to lead the QEP Team. Each college and school at MCU used its own internal process to identify its QEP representatives. These are listed in Table 1.

Table 1 Core Quality Enhancement Plan Team as of 13 August 2013

Affiliation	QEP Member
Expeditionary Warfare School (EWS)	Mr. Robert Fawcett, Chief Academics Officer
Expeditionary Warfare School (EWS)	Maj. Paul Johnson, Division Chief
Command and Staff College (CSC)	Dr. Rebecca Johnson, Associate Professor; QEPT Lead
Vice-President of Academic Affairs (VPAA)	Dr. Susan Johnston, Director of Institutional Research, Assessment and Planning
Command and Staff College (CSC)	LtCol Brian Ross, Faculty Advisor
School of Advanced Warfighting (SAW)	Dr. Gordon Rudd, Professor; Dean
College of Distance Education and Training (CDET)	Mr. Rolf Sandbakken, Assistant Dean
Marine Corps War College (MCWAR)	Dr. Tammy Schultz, Professor; Director, National Security Joint Warfare
Enlisted Professional Military Education (EPME)	GySgt Eddie Walker, Faculty Advisor

Institutional Context

The vision of Marine Corps University is "[t]o further the excellence of our Corps through an educational institution that facilitates the continuing development of leaders knowledgeable in the art and science of war, adept at critical and creative thinking, and possessing sound judgment and reasoned decision-making skills."[1] MCU pursues this vision through its core purpose: to develop the professional competence of its Marine, other service, international, and civilian students. As the Marine Corps proponent for Professional Military Education (PME), the university develops the leadership, warfighting, and staff operations abilities of the nation's

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[1] "MCU Vision Statement." *Marine Corps University*.
https://www.mcu.usmc.mil/SitePages/aboutus/Vision%20Statement.aspx.

military forces through resident and nonresident learning programs. Graduates are prepared to perform with increased effectiveness in service, joint, interagency, intergovernmental, and multinational environments at the tactical, operational, and strategic levels of war, across the range of military operations.[2] University faculty and staff fulfill this purpose by achieving MCU's mission "to develop, deliver, and evaluate professional military education and training through resident and nonresident programs to prepare leaders to meet the challenges of the national security environment. Preserve, promote, and display the history and heritage of the Marine Corps."[3]

MCU Schools and Supporting Entities

MCU is comprised of six schools and several supporting entities. The schools are the Marine Corps War College (MCWAR), School of Advanced Warfighting (SAW), Command and Staff College (CSC), Expeditionary Warfare School (EWS), Enlisted Professional Military Education (EPME), and College of Distance Education and Training (CDET). Other entities that make up Marine Corps University include the Center for Advanced Operational Culture Learning (CAOCL), the National Museum of the Marine Corps (NMMC), the Lejeune Leadership Institute (LLI), and the History Division. MCU is headquartered at Marine Corps Base Quantico, but it reaches military members around the world through satellite campuses and distributed learning.

MCU employs 261 full-time faculty, 249 adjunct faculty, and 201 staff members across its six campuses and eight distance education regional offices. While the degree-granting programs are located aboard Marine Corps Base Quantico, Marine Corps University conducts Enlisted Professional Military Education (EPME) at Staff Non-Commissioned Officer (SNCO) Academies at Marine Corps Bases Quantico in Virginia, Camp Lejeune in North Carolina, Twentynine Palms in California, Camp Pendleton in California, and Marine Bases in Hawaii and

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[2] "MCU Statement of Purpose," *Marine Corps University*. https://www.mcu.usmc.mil/SitePages/aboutus/Vision%20Statement.aspx.
[3] "MCU Mission Statement," *Marine Corps University*. https://www.mcu.usmc.mil/SitePages/aboutus/Vision%20Statement.aspx.

Okinawa. It also conducts a blended resident / non-resident program through its College of Distance Education and Training at four regional campuses across the globe as well as distance education equivalents of EPME, EWS, and CSC. All told, 7,461 students graduated from MCU resident courses in 2014 and 52,612 students graduated from MCU's distance education programs.

MCU is accredited by the Southern Association of Colleges and Schools Commission on Colleges (SACSCOC) and offers master's degrees in the following programs: Military Studies (Command and Staff College), Operational Studies (School of Advanced Warfighting), and Strategic Studies (Marine Corps War College). The Command and Staff College (CSC) graduates roughly 225 students – Majors, Lieutenant Commanders, International Military Officers, and mid-career US Government civilian employees – from its 10-month program each year. These students have 13-18 years in service and focus their studies on the ability to lead organizations that connect tactical actions to strategic aims. The School of Advanced Warfighting (SAW) graduates roughly 24 students – Majors, Lieutenant Commanders, and International Military Officers – from its 11-month program. These students have 13-18 years in service, have completed CSC (or their service's equivalent), and focus their studies on operational planning. The Marine Corps War College (MCWAR) graduates roughly 30 students – Lieutenant Colonels, Colonels, Commanders, Captains, International Military Officers, and Senior US Government civilian employees – from its 10-month program. These students have 17-22 years in service and focus their studies on strategy and policymaking.

In addition, these MCU schools provide Joint Professional Military Education (JPME) Phase I and Phase II through the Process for Accreditation of Joint Education (PAJE). This means that MCU's curriculum meets accreditation standards by providing both a civilian master's degree at three of its schools and JPME qualification at resident and nonresident Command and Staff College and Marine Corps War College. The Expeditionary Warfare School (EWS) is a nine-month non-degree granting career-level professional military education course

for approximately 250 Marine Captain, other service, and international officers. These schools

are all part of a PME continuum that builds from one level to the next and culminates at the War

College. Enlisted PME provides training and education to enlisted Marines ranging in grade

from Lance Corporal to Sergeant Major/Master Gunnery Sergeant.

MCU's broad geographic scope and diversity of educational outcomes challenged the

QEPT. MCU's former President and Commanding General (CG), BGen Thomas Weidley,

instructed the QEPT to develop a QEP that reached the entire university, not simply the degree-

granting schools. This required the QEP to be broad and flexible enough to be implemented at

the resident, non-resident, and distance education schools, and to reach all Marines at all levels

of rank. Using the *SACS Handbook for Institutions Seeking Reaffirmation*, the QEPT developed

a QEP that:

> … describes a carefully designed course of action that addresses a well-defined and
> focused topic or issue related to enhancing student learning and / or the environment
> supporting student learning and accomplishing the mission of the institution. The QEP
> should be embedded within the institution's ongoing integrated institution-wide planning
> and evaluation process and may very well evolve from this existing process or from
> other processes related to the institution's internal reaffirmation review.[4]

The Core QEPT met the first time on 12 September 2013 to review its mission, tasks,

and scope of work. The QEPT divided its work into three phases – Brainstorm, Refine, and

Develop. This three-phase process is delineated in Table 2.

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[4] SACSOC *Handbook for Institutions Seeking Reaffirmation*, August 2011, 39-40.

Table 2 Quality Enhancement Process in Brief

Phase 1: Brainstorm (Fall 2013) – the QEPT reviewed institutional data (student, faculty, and alumni surveys and institutional assessment reports from 2009-2013) and collected information from the wider MCU community through student and faculty focus groups and online input. The Brainstorming Phase concluded in December 2013 when the QEPT expanded to include students and alumni from each of the MCU schools and identified five thematic areas most likely to enhance student learning.

Phase 2: Refine (Spring 2014) – the QEPT grew to include potential implementers in each of the thematic areas in order to develop and evaluate five preliminary proposals for how best to enhance student learning across MCU. The Refining Phase concluded in May 2014 when the President, MCU selected the final QEP with input from the broader MCU community and Board of Visitors.

Phase 3: Develop (Summer-Fall 2014) – the QEPT shifted to develop and produce the final QEP Report. QEPT membership continues to reflect each of the schools at MCU, along with implementers and support staff across the university.

Phase 1: Brainstorm (Fall 2013)

The QEPT met monthly through the fall of 2013. The intent for the Brainstorm Phase was to identify areas where MCU could best enhance student learning and / or the environment to support student learning. Team members were instructed to not be concerned about resource requirements or assessment at this point;[5] rather, they were to focus their efforts on finding deficiencies to be addressed university-wide or opportunities to reinforce success across the university. The QEPT labeled these deficiencies and opportunities "Thematic Areas" to indicate they exist across the university and are not limited to specific schools. The fall semester was dedicated to identifying these "Thematic Areas" and culminated in the selection of the five most common and significant Thematic Areas on 19 December 2013.

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[5] Both feasibility and assessment are critical to a successful QEP, but those were the focus of Phase 2 of QEP development in Spring 2014. The goal for Phase 1 was to find the best ideas to enhance student learning. We wanted people to be focused on the best ideas, not simply the most implementable ideas. This would create a more robust body of suggestions for possible QEP topics as well as ideas that might not meet QEP requirements, but would benefit MCU and / or its schools outside of that context.

Given the requirements that the QEP topic should be developed within the context of university planning and assessment, Dr. Susan Johnston, Director of Institutional Research, Assessment, and Planning, served as a core member of the QEPT. At the first QEPT meeting in September, Dr. Johnston briefed the QEPT on the process of institutional assessment at MCU and how team members could interpret and evaluate institutional data.[6]

Team members reviewed MCU's mission statement and strategic vision; the SACSCOC *Handbook for Institutions Seeking Reaffirmation*; recently approved QEPs from other SACS schools; MCU's current QEP; student learning outcomes for all MCU schools; and all student, faculty, alumni, and staff survey data and institutional assessment reports from AY2009 – AY2014. Team members reviewed data related to their schools. The team was not given criteria by which to identify Thematic Areas but was required to identify what criteria they used when reviewing the data. These criteria included: number of mentions, length of time identified as a problem, significance of issue to student learning, etc. This process of institutional review continued throughout the fall.

Given the requirements that QEP selection and development should be a broad-based effort, the QEPT developed a QEP website[7] and invited members of the MCU community (students, faculty, staff, and alumni) to contribute their suggestions on how to best enhance student learning and / or the environment supporting student learning through a dedicated email account. Then MCU President BGen Weidley emailed the entire MCU community on 16 September 2013, inviting broad participation in the QEP process through the website and email account.[8] The President's message was cross-posted on MCU's Blackboard log-in page, which ensured that all students and faculty, resident and nonresident, would see it every time they

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[6] Minutes from First QEPT Meeting, 12 September 2013.

[7] "MCU's QEP," *Marine Corps University*, last modified August 31, 2014, https://www.mcu.usmc.mil/qep/SitePages/Home.aspx

[8] " Submit Your Proposal to Improve Education at Marine Corps University," *Marine Corps University,* last modified March 5, 2014, https://www.mcu.usmc.mil/qep/SitePages/Submit%20Your%20Ideas.aspx

logged into Blackboard. The QEPT received over thirty recommendations regarding how to

improve education at MCU, most of which were from students and faculty engaged in CDET.

Given our challenge of meeting with nonresident students and faculty during our meetings, this

input was invaluable to ensuring balanced representation and input into QEP topic selection.

Initial inputs are found in Appendix B.

To gain perspective from university leadership, Dr. Johnson briefed the Executive

Leadership Committee (ELC), Faculty Council, and MCU Board of Visitors (BOV) of the QEPT's

progress in October and November 2013. The Faculty Council recommended the QEPT explore

projects related to improving student writing and knowledge integration across the university.[9]

The ELC did not provide recommendations concerning the substance of the QEP topic, but

reinforced the need to adhere to the SACSCOC standards for the QEP and requested all

updates provide evaluation on the basis of those standards. Likewise, the BOV did not comment

on potential QEP topics, but reminded the QEPT of the need to demonstrate continued

improvement over the FiveYear Implementation Plan.[10]

Team members also held focus groups with both students and faculty at their respective

schools. They were given the same basic questions to ask their groups:

- What is one area of student learning where we're underperforming?

- What educational improvement could we make that would have the greatest benefit to our students? To the Fleet?[11]

QEPT members held student and faculty focus groups at the various MCU schools in

November and early December 2013. The QEPT shared its findings through typed minutes

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[9] Minutes, Fall 2013 Faculty Council Meeting, 21 October 2013.
[10] Minutes, Board of Visitors Meeting, 14-15 November 2013.
[11] "The Fleet" is the term used to refer to the operational forces of the Marine Corps and US Navy. Given our dual mission to prepare scholars and warriors, we base all our significant educational decisions on preparing our students to think better in order to serve their nation better.

posted on the QEPT Blackboard site as well as in discussion in the November and December

QEPT meetings.[12]

Finally, the QEPT expanded in November and December 2013 to include students and

alumni from each of the MCU schools. Each student and alumnus reviewed the institutional data

for his or her school as well as the minutes from the focus groups.

Table 3 Thematic Area Selection Team

Expeditionary Warfare School (EWS)	Mr. Robert Fawcett, Director of Academic Affairs
Expeditionary Warfare School (EWS)	Capt. Matt Halton, Student
Expeditionary Warfare School (EWS)	Maj Paul Johnson, Division Chief
Command and Staff College (CSC)	Dr. Rebecca Johnson, Associate Professor; QEPT Lead
Vice-President of Academic Affairs (VPAA)	Dr. Susan Johnston, Director of Institutional Research, Assessment, and Planning
Enlisted Professional Military Education (EPME)	Sgt Kelli Parady, Student
Command and Staff College (CSC)	Maj. William Polania, Student
School of Advanced Warfighting (SAW)	Maj. Misty Posey, Alumna
Command and Staff College (CSC)	LtCol Brian Ross, Faculty Advisor
School of Advanced Warfighting (SAW)	Dr. Gordon Rudd, Professor; Dean
College of Distance Education and Training (CDET)	Mr. Rolf Sandbakken, Assistant Dean
Marine Corps War College (MCWAR)	Dr. Tammy Schultz, Professor; Director, National Security and Joint Warfare
Enlisted Professional Military Education (EPME)	GySgt Eddie Walker, Faculty Advisor

The "Brainstorm" Phase of QEP development ended on 19 December 2013 when the

expanded QEPT met to identify the primary Thematic Areas. All members were told to come to

the meeting with their list of prioritized Thematic Areas derived from their review of the

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[12] Minutes, Focus Group Discussions. Minutes, QEPT Meetings, 15 November 2013 and 19 December 2013.

institutional data[13] and focus groups. Dr. Johnson identified priority areas from the emailed input from the broader MCU community as well as university leadership. When the team met, it agreed to weight ideas on the basis of the number of mentions and significance in relation to student learning. If the group could not agree on a core list of Thematic Areas, preference would be given to those areas identified by the degree-granting schools.

In the end, this was not necessary, as there was broad agreement on the educational deficiencies and opportunities among the Core QEPT members, students, and alumni. Each team member identified his or her prioritized Thematic Areas, listed in Table 4. Everyone present listed <u>Faculty Development</u>, <u>Writing</u>, and <u>Information Technology</u> as priority areas. These three priorities were selected unanimously as Thematic Areas. Through discussion, the group agreed that <u>Creative / Innovative Thinking</u> and <u>Knowledge Integration</u> were significant enough issues at all the schools – particularly according to students and alumni – to constitute a Thematic Area.[14] A capture of this process is available in Appendix C.

Table 4 QEP Thematic Areas

Faculty Development: How can MCU better prepare faculty to develop, deliver, and assess student mastery of school curriculum? What particular efforts can MCU take to prepare military faculty to excel in classroom instruction and student feedback?

Writing Instruction and Feedback: How can MCU improve student writing?

Information Educational Technology: How can MCU better leverage educational technology to enhance student learning? What information technology assets are required to that end?

Creative, Problem-Based Learning: How can MCU better challenge students to engage in creative, innovative, and complex problem solving?

Curriculum and Knowledge Integration across the Schools: How can MCU better integrate curriculum and faculty across its various schools and units? What duplication exists that can be eliminated, and what synergies exist that can be leveraged?

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[13] "Institutional Data" refers to all Academic Year student, alumni, faculty / staff, and employer surveys from AY2008-AY2013.
[14] Minutes, QEPT Meeting, 19 December 2013.

Phase 2: Refine (Spring 2014)

The Core QEPT grew in January 2014 to include potential implementers in each of the

Thematic Areas. The expanded QEPT members are listed in Table 5. Maj Misty Posey, a SAW,

CSC, and EWS alumna who works currently for MCU's parent command, Training and

Education Command (TECOM), also joined the Expanded QEPT in order to better nest QEP

development with TECOM's mission and resources.

Table 5 Expanded QEPT

Information Educational Technology (IET)	Dr. Robert Bromber, Educational Technology Branch Head
Leadership Communication Skills Center (LCSC)	Dr. Linda DiDesidero, Director
Expeditionary Warfare School (EWS)	Mr. Robert Fawcett, Chief Academic Officer
Vice-President of Academic Affairs (VPAA)	Dr. Kim Florich, Faculty Development and Outreach Coordinator
Vice-President of Student Affairs and Business Operations (VPSABO)	Ms. Diana Freiberg, Chief Financial Officer
Vice-President of Academic Affairs (VPAA)	Dr. Bruce Gudmundsson, Senior Fellow for Case Studies
Marine Corps University Foundation	Mr. John Hales, Chief Operating Officer
Expeditionary Warfare School (EWS)	Maj Paul Johnson, Division Chief
Command and Staff College (CSC)	Dr. Rebecca Johnson, Associate Professor; QEPT Lead
Vice-President of Academic Affairs (VPAA)	Dr. Susan Johnston, Director of Institutional Research, Assessment, and Planning
Training and Education Command (TECOM)	Maj. Misty Posey; EWS, CSC, and SAW Alumna; TECOM Branch Head
Command and Staff College (CSC)	LtCol Brian Ross, Faculty Advisor
School of Advanced Warfighting (SAW)	Dr. Gordon Rudd, Professor; Dean
College of Distance Education and Training (CDET)	Mr. Rolf Sandbakken, Assistant Dean
Marine Corps War College (MCWAR)	Dr. Tammy Schultz, Professor; Director, National Security and Joint Warfare
Enlisted Professional Military Education (EPME)	GySgt Eddie Walker, Faculty Advisor

The Expanded QEPT met for the first time on 15 January 2014. The group reaffirmed the QEPT's mission and reviewed the tasks for the Expanded QEPT during the Refine Phase – to develop QEP proposals within and across the five Thematic Areas, evaluate proposal submissions, and recommend the top proposals to the MCU President for selection of the final QEP. Between January and April 2014, the Expanded QEPT broke into proposal development teams to prepare initial proposals in each of the Thematic Areas. Table 6 lists members of these teams. Ms. Freiberg and Mr. Hales provided general support on financial supportability, and Dr. Johnston provided general support on assessability.

Table 6 Proposal Development Teams

Faculty Development and Improvement
LtCol Brian Ross*
Dr. Kim Florich
Maj Misty Posey

Writing Feedback and Support
Dr. Gordon Rudd*
Dr. Linda DiDesidero

Information Educational Technology (Teaching, Access, Infrastructure, and Support)
Mr. Robert Fawcett*
Dr. Bob Bromber
Maj Paul Johnson

Creative / Innovative / Problem-Focused Learning
Dr. Tammy Schultz*
Dr. Bruce Gudmundsson

Curriculum and Knowledge Integration Across the Schools
Mr. Rolf Sandbakken*
Dr. Bob Bromber
GySgt Eddie Walker

* = Team Lead

The proposal development teams were instructed to include anyone at the university who could provide insight into their topics; they should not remain restricted to QEPT

membership. Likewise, while financial considerations and assessability are hard constraints that

must be met, teams were directed to continue to focus on maximizing student learning. As initial

proposals were fleshed out into the final QEP, developers would work on tailoring the action

plan to meet available resourcing. To broaden input into the proposal development phase, the

QEP website was updated to invite submissions from the wider MCU community.[15]

During proposal development, the team members tasked with drafting the initial proposal

related to Writing Feedback and Support indicated that their Thematic Area was aligned too

closely with Goals 1, 2, and 4 of MCU's last QEP, *Strengthening Leadership Through*

Enhancement of Communication Skills, which focused specifically on improving student

communication knowledge, skills, and abilities (see Appendix D for the explicit justification).

Since the QEP must develop an action plan for work that is not currently being done, the team

argued that a writing-related QEP would be too close to current efforts of the MCU Leadership

Communication Skills Center and therefore ineligible for consideration. The individual proposal

development teams submitted four initial proposals by the 7 April 2014 deadline;[16] in addition, a

faculty member outside the QEPT submitted a proposal.[17] All initial proposals and executive

summaries were posted on the QEP website, along with a survey that had been sent to the

MCU community.[18]

Dr. Johnson briefed the MCU Board of Visitors (BOV) on 1 May 2014. BOV members

indicated a strong preference for *Creative, Innovative, Problem Focused Learning*, supported by

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[15] The criteria for all proposals may be found at
https://www.mcu.usmc.mil/qep/SitePages/Submit%20Your%20Ideas.aspx.
[16] "Enhancing Student Learning by Promoting Teaching Excellence," "The Case Method Center: Promoting Critical and Creative Thinking by Means of Decision-Forcing Cases," "Information Technology Support to Education," and Creative, Innovative, Problem-Focused Learning." You may view these proposals on the MCU QEP Website at
https://www.mcu.usmc.mil/qep/SitePages/Vote-the-QEP.aspx.
[17] "The Krulak Center for Experiential Education and Research." You may view this proposal on the MCU QEP Website at https://www.mcu.usmc.mil/qep/SitePages/Vote-the-QEP.aspx.
[18] https://www.surveymonkey.com/s/K2PFM59

a robust faculty development component.[19] On 5 May 2014, the Expanded QEPT met to evaluate the five proposals. They used the "Indicators of an Acceptable Quality Enhancement Plan" provided by SACS to evaluate the initial proposals, along with the results of the MCU survey and BOV input. The QEPT identified two finalists – *Creative, Innovative, and Problem Focused Learning* and the *Center for Excellence in Learning and Teaching* –as the most promising potential QEPs. The Expanded QEPT agreed with the BOV's recommendation to develop a combined proposal for Creative Learning that included sufficient faculty development to support teaching creativity and innovation.[20] Dr. Johnson briefed the ELC on 7 May 2014.[21] The ELC expressed a preference for the *Center for Excellence in Learning and Teaching* with a topic focus on creative learning. On 19 May 2014, Dr. Johnson briefed the QEP finalists to the Faculty Council, which expressed a preference for combining the two proposals.[22] On 20 May 2014, Dr. Johnson presented the two QEP finalists, along with the combined proposal, to the MCU President, School Directors, and Deans.[23] The MCU President selected the combined proposal to improve creative problem solving across MCU.

Phase 3: Develop (Summer-Fall 2014)

The QEPT grew again in May 2014 to include individuals knowledgeable in creative learning and assessments. The QEP Development Team met throughout the summer and fall to identify best practices for teaching creativity, finalize the QEP's program goals, prioritize outcomes on the Five Year Implementation Plan, identify assessment mechanisms, and identify necessary structure and resourcing. The full QEP Development Team met throughout this period, with sub-teams in each area (goals, literature review, action plan and timeline, assessment, and structure and resources) meeting more regularly to coordinate planning within the schools and across the university.

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[19] Minutes, MCU Board of Visitors Meeting, 1 May 2014.
[20] Minutes, QEPT Meeting, 5 May 2014.
[21] Minutes, Executive Leadership Committee Meeting, 7 May 2014.
[22] Minutes, Spring 2014 Faculty Council Meeting, 19 May 2014.
[23] QEP Decision Brief 05-20-14.

Table 7 QEP Development Team

Enlisted Professional Military Education (EPME)	GySgt Benjamin Causey
Leadership Communication Skills Center (LCSC)	Dr. Linda DiDesidero, Director
Expeditionary Warfare School (EWS)	Mr. Robert Fawcett, Chief Academic Officer
Vice-President of Academic Affairs (VPAA)	Dr. Kim Florich, Faculty Development and Outreach Coordinator
Center for Advanced Operational Culture Learning (CAOCL)	Dr. Kerry Fosher, Director, Translational Research Group
Vice-President of Student Affairs and Business Operations (VPSABO)	Ms. Diana Freiberg, Chief Financial Officer
Marine Corps University Foundation	Mr. John Hales, Chief Operating Officer
Vice-President of Academic Affairs (VPAA)	Dr. Lucas Hartman, Education Specialist
College of Distance Education and Training (CDET)	Mr. Dennis Haskin, Associate Dean, College of Distance Education
Expeditionary Warfare School (EWS)	Dr. Todd Holm, Communications Supervisor
Command and Staff College (CSC)	Dr. Rebecca Johnson, Associate Professor; QEPT Lead
School of Advanced Warfighting (SAW)	Dr. Wray Johnson, Professor; Dean
Vice-President of Academic Affairs (VPAA)	Dr. Susan Johnston, Director of Institutional Research, Assessment, and Planning
Enlisted Professional Military Education (EPME)	Dr. Vanessa Nason, Supervisor of Curriculum Development
Command and Staff College (CSC)	LtCol Brian Ross, Faculty Advisor
Marine Corps War College (MCWAR)	Dr. Tammy Schultz, Professor; Director, National Security and Joint Warfare
Enlisted Professional Military Education (EPME)	GySgt Eddie Walker, Faculty Advisor

The QEP Development Team completed a preliminary draft of the QEP Report in September 2014 and began the process of circulating it through the different schools and units at MCU.[24] The purpose of the conversation was to solidify input from the schools early in the drafting process. QEPT members gathered inputs from faculty and students at their respective

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[24] QEP Master Draft V1 (9 September 2014).

schools.[25] Dr. Johnson also briefed the BOV on the first draft on 1 October 2014. The BOV

strongly endorsed the university's QEP and affirmed its decision to implement through a

physical center.[26] The QEP Development Team sent its second draft to the schools and to MCU

President on 3 November 2014. On the basis of this round of inputs, the QEP Development

Team drafted the final version of the QEP Report and shifted focus to planning for the collection

of baseline assessment data January-March 2015 and pilot testing of faculty development April-

July 2015.

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[25] School input on QEP Master Draft V1.
[26] Minutes, Board of Visitors Meeting, 1 October 2014.

II. IDENTIFICATION AND IMPORTANCE OF THE TOPIC

For over a decade, service posture statements and defense professionals have declared that

future military leaders must prepare for an uncertain, complex environment in which "wicked"

problems reign, resources dwindle, and unintended consequences dominate decision

matrices.[27] Like members of other organizations working in high-stress, high-stakes settings,

Marines are acutely aware that "getting it right" is key to not only succeeding, but also to

preserving the lives of the individuals who are charged with accomplishing the mission. For the

military professional, operating in forward areas calls for vigilance and adherence to proven

models of success. As a result, there may be a tendency to rely on doctrine, regulations, plans,

past experience and prior training as the primary and most valued resources in responding to

threats. A strong grasp of history, refined analytical capacity, and an appreciation of doctrine

are essential to succeeding in this environment, but they are insufficient on their own. Without

creative problem-solving skills, today's Marines may confront tomorrow's challenges with

yesterday's solutions.

The Chairman of the Joint Chiefs of Staff acknowledged the significance of creative

problem solving in a memorandum sent to the Service Chiefs in June 2013, which called for

reinforcing six key Desired Leader Attributes across PME and training programs for all services

to prepare the United States Armed Forces to succeed in the coming decade.[28] Most of the

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[27] The phrase "wicked problem" was originally coined by Horst Rittel in "Dilemmas in a General Theory of Planning," *Policy Sciences*, (1973): 155-169. A wicked problem indicates a problem that is difficult or impossible to solve as a result of "incomplete or contradictory knowledge, the number of people and opinions involved, the large economic burden, and the interconnected nature of these problems with *other* problems." Jon Kolko, "Wicked Problems: Problems Worth Solving," *Stanford Social Innovation Review,* March 6, 2012. http://www.ssireview.org/articles/entry/wicked_problems_problems_worth_solving Accessed 07 September 2014.
[28] Chairman of the Joint Chiefs of Staff, "Desired Leader Attributes for Joint Force 2020," June 28, 2013. Accessed at http://www.ndu.edu/Portals/59/Documents/BOV_Documents/2014/CJCS%20Joint%20Education%20Review%20Implementation%20Memo%20only.pdf (retrieved September 7, 2014).

Desired Leader Attributes require creative problem solving, but four come closest to the focus of

the QEP:

#1 The ability to understand the security environment and the contributions of all instruments of national power (creativity improves problem framing by opening one's perception beyond traditional understanding of power dynamics and power players).

#2 The ability to anticipate and respond to surprise and uncertainty (while one may always be challenged to anticipate surprise, creative problem solvers are better positioned to respond to surprise and uncertainty quickly, confidently, and effectively).

#3 The ability to anticipate and recognize change and lead transitions (creative thinkers are less fearful of change because they can see the potential for positive growth through change. Given the level of turmoil within the services and the international security environment, this ability is critical for modern military leaders).

#6 The ability to think critically and strategically in applying joint warfighting principles and concepts to joint operations (critical thinking is the first step of creative thinking. By continuing to hone this skill, students are better able to adopt non-doctrinaire solutions to non-textbook problems).

The Marine Corps appreciates the complex challenges facing service members. *The*

U.S. Marine Corps 2006 Officer Professional Military Education Study and Findings (known as

the *Wilhelm Report*) notes:

> The United States and its Marine Corps confront an environment of accelerating political, economic, technological, social and military change. The world is becoming progressively more dangerous, and our nation's security is increasingly at risk…. Consequently, Marine officers will find themselves deploying to many different parts of the world, confronting different challenges, and operating among vastly different cultures.[29]

The previous Commandant of the Marine Corps (CMC), Gen James F. Amos, identified the

requirement to better educate Marines to succeed in increasingly complex environments.[30]

While MCU currently prepares its students to meet complex challenges and solve problems

creatively, the university must strive for continued improvement in order to continue to graduate

leaders prepared to meet contemporary national security challenges. To borrow language from

Marine Corps Vision and Strategy 2025, MCU "…must continually innovate. This requires that

we look across the entire institution and identify areas that need improvement and effect

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[29] *The U.S. Marine Corps 2006 Officer Professional Military Education Study and Findings,* 29 September 2006.
[30] Gen James F. Amos, *Commandant's Planning Guidance*, 2010, 9.

positive change."[31] The 36th Commandant of the Marine Corps (CMC), General Joseph F.

Dunford, echoes the need for continued innovation in his *Message to Marines*. In it, CMC

recognizes the importance of maintaining a flexible, versatile, and adaptable force. He also

notes PME's success in preparing Marines to this end. Still, Gen Dunford calls on the Marine

Corps to continue its efforts toward increasing excellence, "As Marines, we maintain the highest

standards and we constantly seek to improve."[32]

> This call is echoed in MCU's Strategic Plan:

> Providing relevant, current Professional Military Education has never been more important. The complex environment in which Marines operate requires strong leadership and a high level of competence in a wide array of subject matter. Marine Corps University is committed to providing a World-Class educational opportunity to fully prepare our leaders. We understand this educational experience requires a first-rate combination of faculty, students, curricula, and facilities.

> Achieving world-class status will be challenging in light of current and future budget constraints. Diminishing funding demands that we make the most effective use of our scarce funding. We will not sacrifice quality, so we must continually look for innovative ways to share assets and expertise.[33]

> Institutionally, MCU provides an environment that supports creative problem solving.

End of year student surveys going back to AY 09-10 demonstrate a general level of satisfaction

with instruction on this topic. Prior to graduation, students are asked to agree or disagree with

the following statement, "In the last year, while attending MCU, I have improved my creative

problem solving skills." Figure 1 displays student responses to this item for the last five years.

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[31] *Marine Corps Vision and Strategy 2025,* 19*.*
[32] *36th Commandant's Message for All Marines*, 17 October 2014.
www.hqmc.marines.mil/Portals/61/.../36CMC-Message.pdf
[33] *MCU Strategic Plan*, https://www.mcu.usmc.mil/SitePages/aboutus/Strategic%20Plan.aspx.
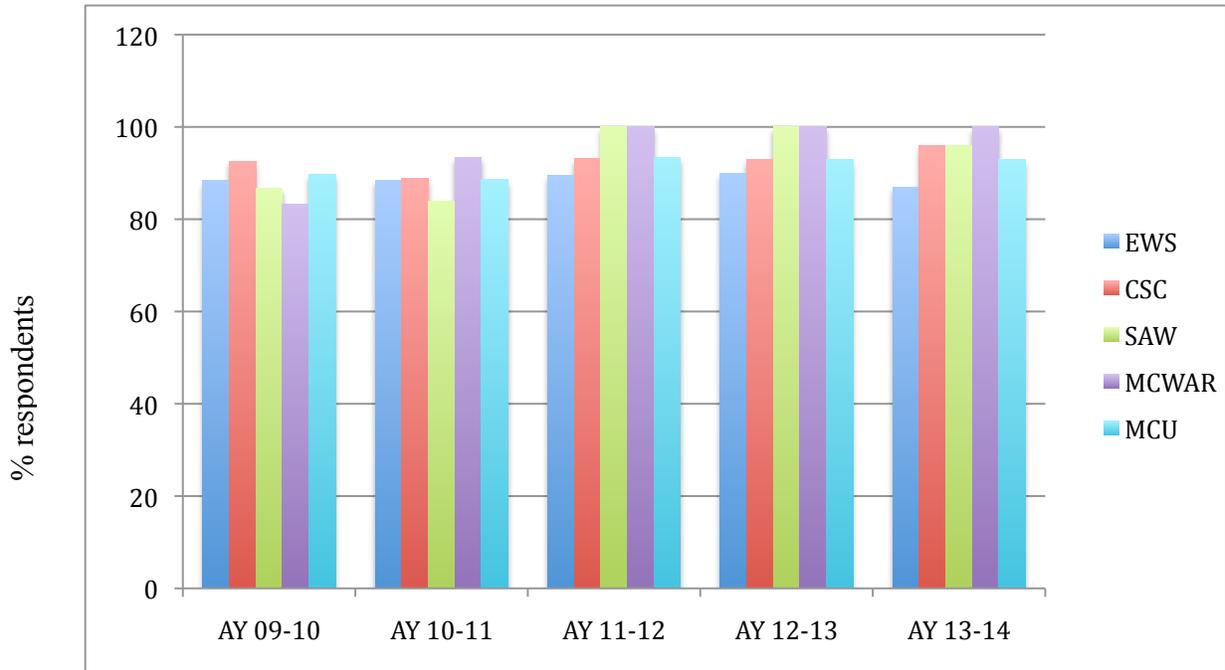
Figure 1 MCU Student Survey Results on Creative Problem Solving

This QEP grows from a desire to formalize success across MCU rather than overcome an institutional deficiency. Through the QEP, MCU will provide faculty with additional opportunity to be creative in how they translate core knowledge into experiential learning. Students routinely praise the university's focus on military history, warfighting, and critical thinking; they also call for additional opportunities to explore and create practical contributions to ongoing Marine Corps needs.[34] Students desire the opportunity to practice creative problem solving themselves, and –through experimentation, failure, and faculty and peer feedback – develop their abilities to both "connect the dots" in new and more useful ways as well as "see new dots" and how these connect to the larger picture.[35]

In the words of one student who responded to the QEP's proposal evaluation survey, "There definitely is a distinction between writing or learning about something that really has no consequence in your day-to-day profession and producing something that takes all aspects of

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[34] AY 10 MCU Annual Student Survey; AY11 MCU Annual Student Survey; AY12 MCU Annual Student Survey; AY13 MCU Annual Student Survey; AY14 MCU Annual Student Survey.
[35] David Brier, "What is Innovation?" http://www.fastcompany.com/3020950/leadership-now/what-is-innovation

your learning experience and produces something constructive. (think a project concerning

T2P2 reduction versus writing about the leadership style of Meade…).”[36]

While most students who respond to MCU's end-of-year survey indicate they were able

to improve their creative problem solving skills, one CSC student replied:

> While we were able to cover material that I was previously unfamiliar with (which contributed to staff officer proficiency and critical thinking ability), there were very few opportunities to approach a problem creatively. The design process doesn't really cut it - we are just going through the motions of approaching a military problem with a less structured method. There are few opportunities for us to study innovation, or attempt to be innovative.[37]

This perspective was echoed a year earlier by a student at MCWAR who noted, "We are asked

to think innovatively and creativity [sic]. In other words, 'outside the box'. Yet, in a lot of ways the

course builds the walls of the box we are attempting to get out of. Penned another way it's

called group think."[38]

One faculty member at EPME articulated the drive behind the QEP well when he called

for the importance of efforts "that will grow smart, sharp witted young leaders that can adapt to

an ever changing dynamic environment and make sound creative spur of the moment

decisions."[39] He highlights the benefit of providing students with consistent opportunities for

solving problems creatively. Daniel Kahneman's *Thinking Fast and Slow* has garnered much

attention since its publication in 2011.[40] University faculty members acknowledge the pattern

recognition that develops into System 1, intuitive thinking, can support creative problem solving.

If students practice solving problems conventionally, they will do so intuitively. If students have

the opportunity to practice solving problem creatively, they will do that as well.

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[36] "Training, Transients, Patients, and Prisoners," which is the percentage of the military population that is not deployable to units for one of those four reasons. When students graduate and go back to the Fleet, they will be tasked with questions like how to maintain a unit's ability to fight given a certain percentage of Marines who are not deployable for these various reasons. Providing students the ability to wrestle with concrete problems like this in the schoolhouse develops their creative abilities and prepares them for future success.
[37] AY13 MCU Annual Student Survey, 5.
[38] AY12 MCU Annual Student Survey, 16.
[39] GySgt ST Cavarretta, Letter to Core Quality Enhancement Plan Team, 15 September 2014.
[40] Daniel Kahneman, *Thinking Fast and Slow,* (New York: Farrar, Straus and Giroux, 2011).

This desire to focus on creative problem solving is even more pronounced in the survey that asked students and faculty to vote on their desired QEP proposal (See Figures 2 and 3).
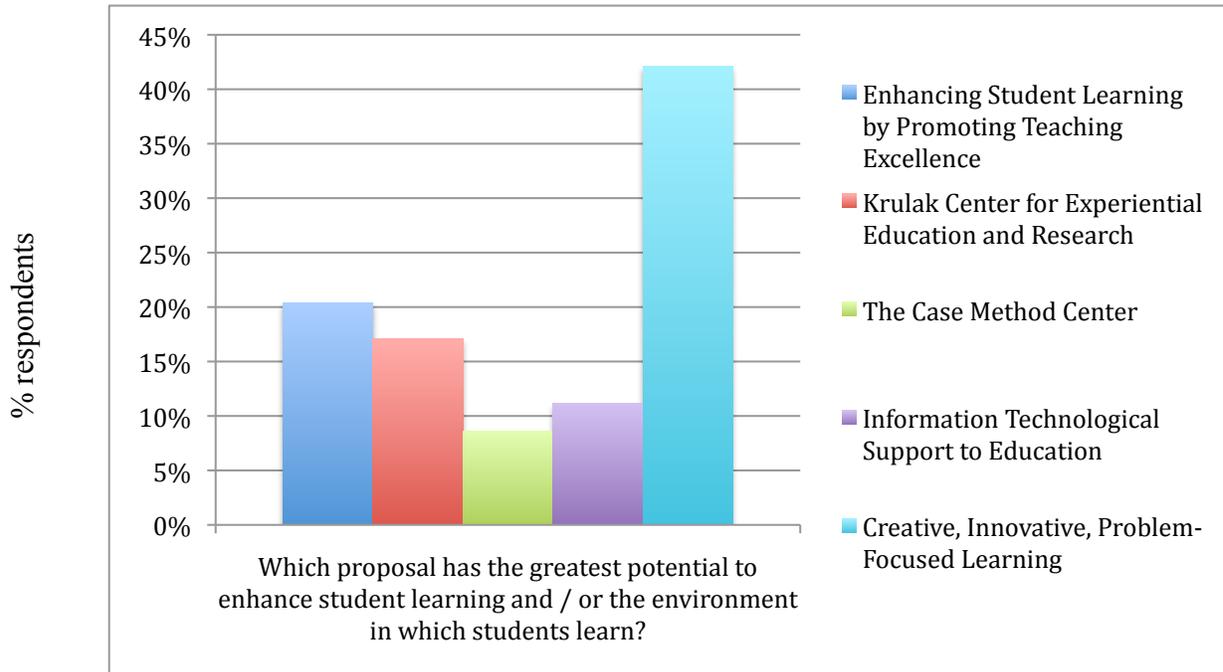
Figure 2 QEP Survey Results (1)

Likewise, faculty and student respondents evaluated creative problem solving as having the potential to best accomplish the mission of the MCU to "develop, deliver, and evaluate professional military education and training through resident and nonresident programs to prepare leaders to meet the challenges of the national security environment," addressing multiple thematic areas, and being implementable across the various MCU schools. Figure 3 displays this data.
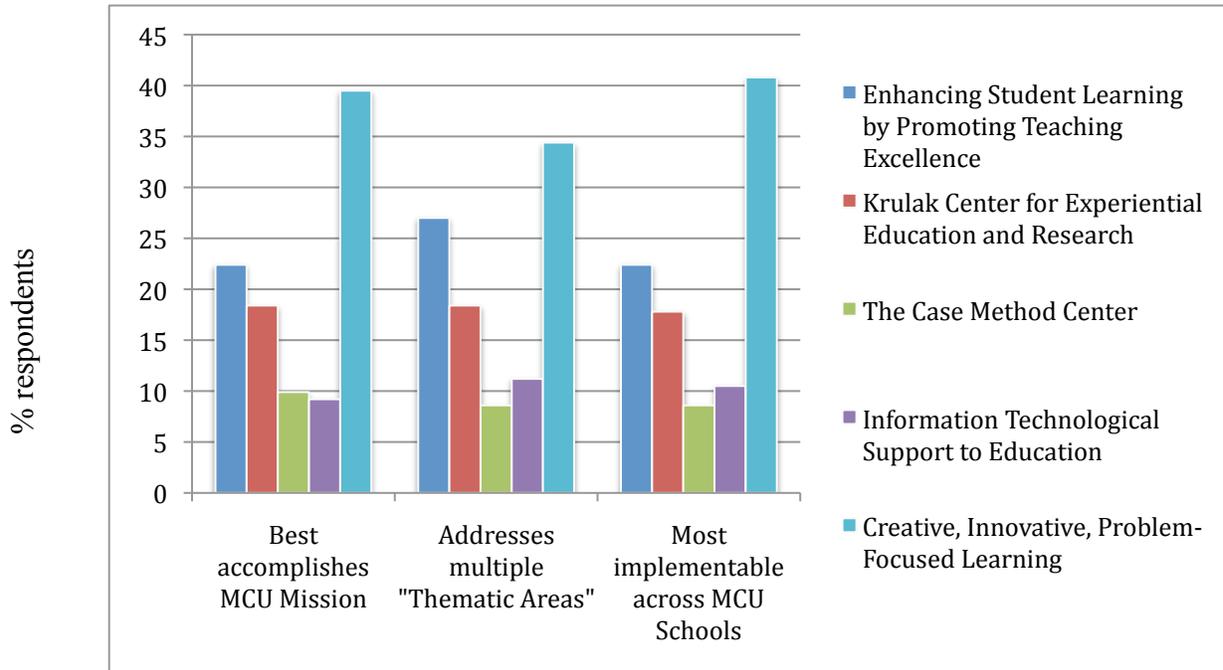
Figure 3 QEP Survey Results (2)

Former Marine Corps Commandant General Charles Krulak captured the spirit behind the proposed QEP in an email he sent the QEP Development Team. "When I became Commandant, I wanted a place where 'freedom of thought' was not only encouraged, but rewarded. The idea [is] that experimentation should be taken to the failure point….that only by reaching that point would we understand the 'unexpected'."[41] According to Gen Krulak, an environment conducive to creative problem solving would be "more than just a test bed of innovation, [but also] a test bed for educational ideas."[42]

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[41] Email from Gen. Charles C. Krulak to Dr. Benjamin Jensen, 29 April 2014.
[42] Email from Gen. Charles C. Krulak to Dr. Benjamin Jensen, 29 April 2014.

III. PROGRAM GOALS

MCU's Quality Enhancement Plan seeks to achieve one overarching program goal, which requires the achievement of three supporting objectives, all of which are depicted in figure 4. The overarching program goal is simple – *Enhance students' creative problem solving skills.* In order to achieve this goal, the QEP must establish three objectives: (1) develop curricula that require students to solve problems creatively; (2) prepare faculty to create learning environments conducive to creative problem solving; and (3) provide integrated learning opportunities that challenge students to collaborate outside traditional cohorts and constructs.

QEP Overarching Goal
Enhance students' creative problem solving skills

Objective 1	**Objective 2**	**Objective 3**
Develop curricula that require students to solve problems creatively.	Prepare faculty to create learning environments conducive to creative problem solving.	Provide integrated learning opportunities that challenge students to collaborate outside traditional cohorts and constructs.
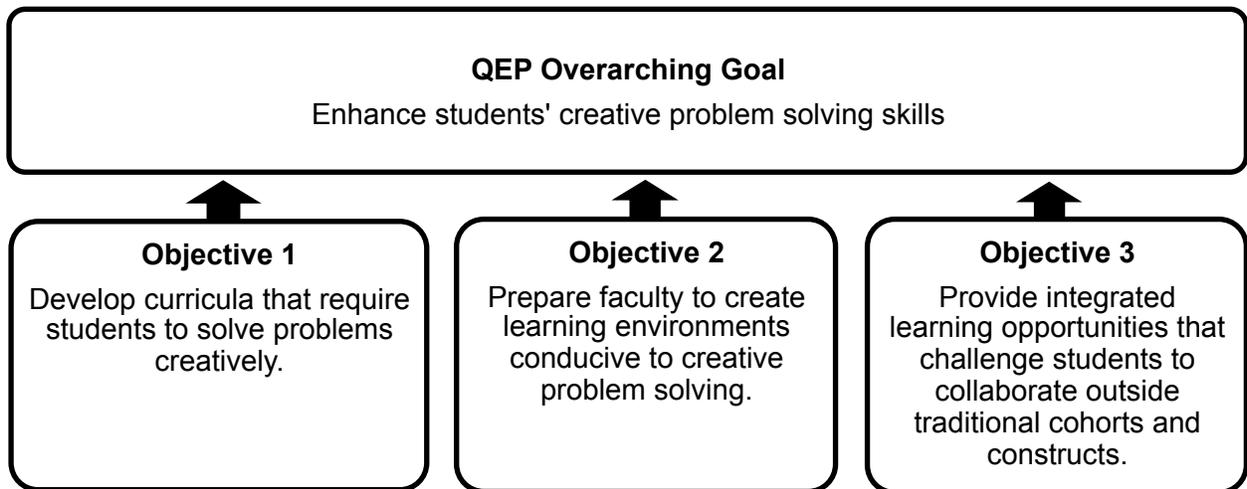
Figure 4 QEP Goal and Objectives

To ensure systematic and thorough implementation across MCU, the university will establish the Center for Applied Creativity to oversee achievement of the overarching program goal and three supporting objectives. The QEP Development Team recognized that developing new approaches to delivering curriculum would enhance creative problem solving. Additionally, the QEP Development Team reasoned that a Center would provide a hub for connecting faculty with new approaches to experiential education in a manner that fosters creativity and problem solving. Finally, the Team drew from the literature that demonstrates the positive effects that

changing routines, group composition, and environment have on creativity to develop integrated

learning opportunities as a robust means to enhance students' creative problem solving skills.[43]

The QEP Development Team deliberated at length over the outcomes expected from a

focus on creative problem solving. Schools identified existing student learning outcomes that

already focus on creativity or creative problem solving; these are noted in Appendix E. The QEP

Development Team suggested that, as students improve their creative problem solving skills,

they will achieve specific outcomes. While program-level student learning outcomes (SLOs)

vary in their specific focus and level of sophistication (in keeping with the varied professional

and educational requirements of Non-Commissioned, Company Grade, and Field Grade

Officers), the QEP Development Team designed one university-level SLO that would

demonstrate creative problem solving, regardless of curricular content: *Students will develop*

effective, complete, and innovative solutions to complex, novel, intractable, or ill-defined

problems.

Building from the Association of American Colleges and Universities' "Creative Thinking

VALUE Rubric," the competencies associated with this SLO are:

1. Student evaluates the problem using domain-appropriate criteria.

2. Student integrates alternate, divergent, and/or contradictory perspectives or ideas.

3. Student extends a novel or unique idea, format, and/or product to create a new solution
   or a solution that crosses boundaries or disciplines.

4. Student evaluates feasibility and effectiveness of proposed solution(s).

5. Student designs practices, processes, and procedures and/or reengineers processes to
   adapt to changing organizational/unit needs.

6. Student makes appropriate decisions under conditions of uncertainty.

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[43] Beth Comstock, "Want a Team to Be Creative? Make it Diverse," *Harvard Business Review*, 11 May 2012, http://blogs.hbr.org/2012/05/want-a-team-to-be-creative-mak/; Cody Delistraty, "How Environment Can Boost Creativity," *The Atlantic*, 19 September 2014, http://www.theatlantic.com/health/archive/2014/09/how-environment-can-boost-creativity/379486/

These elements represent the competencies students will develop as a result of this QEP being implemented. Students will demonstrate achievement of these learning outcomes – individually and in groups – directly in student performance on assignments and indirectly through student performance within each program of study. Schools may elect to utilize the rubric found in Appendix J to assess student learning on the program-level SLOs found in Appendix E. They may also elect to tailor the rubric or its content, provided they assess the identified components of creative problem solving.

IV. LITERATURE REVIEW

The US Marine Corps (USMC) has been a longtime proponent of innovation and creative problem solving.[44] Even though USMC leadership is deeply rooted in tradition, Marine Corps leaders need to demonstrate flexibility in adapting to complex and fluid situational dynamics. Therefore, it is critical that our senior enlisted and commissioned officers receive the education necessary to foster creativity to solve problems on the battlefield; in garrison; and in joint, interagency, or multinational headquarters. To facilitate this educational process, it is important to understand how creativity relates to problem solving and to recognize current best practices for fostering creative problem solving.

Defining Creative Problem Solving

Creativity is defined as the "*production of novelty*."[45] It encompasses developing an effective and unexpected departure from the familiar.[46] Creative problem solving is the process by which individuals and teams develop effective, complete, and innovative solutions to complex, novel, intractable, or ill-defined problems. This definition draws from Michael Mumford and Sigrid Gustafson's work on creative thought and problem solving in dynamic systems.[47]

In 1961 Mel Rhodes identified four key elements of creativity: Person, Process, Product, and Press (or environment).[48] A creative person demonstrates skills such as "fluency, capacity to make order from chaos, curiosity, elaboration, openness, risk-taking, flexibility, tolerance of ambiguity, originality, complexity, imagination, [and] independence."[49] Helen Haste has identified four additional skills creative people possess: flexibility, critical evaluation, taking

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[44] Victor Krulak, *First to Fight: an Inside View of the U.S. Marine Corps*, (Annapolis, MD: *Naval Institute Press*, 1984)*.*

[45] Arthur Cropley, *Creativity in Education & Learning: A Guide for Teacher and Educators*, (Sterling, VA: Cogan Page, 2001), 2.

[46] Teresa Amabile, "How to Kill Creativity," *Harvard Business Review* 76, (1998): 86.

[47] Michael Mumford and Sigrid Gustafson, "Creative Thought: Cognition and Problem Solving in a Dynamic System," in Mark Runco (ed.), *Creativity Research Handbook*, Vol. 2, (Cresskill, NJ: Hampton, 2007), 33-77.

[48] Mel Rhodes, "An Analysis of Creativity," *Phi Delta Kappan*, 42 (1971): 305-10.

[49] Michael Lee Scritchfield, "The Creative Person, Product, Process and Press: The 4P's," *Reading Room*, (1999). http://www.buffalostate.edu/orgs/cbir/readingroom/html/Scritchfield-99.html.

multiple perspectives, and exploring nonobvious options in the pursuit of producing something new.[50] Various scholars have identified different steps in the creative process, but they all share core ideas of "preparation, examining the challenge in all directions; incubation, thinking about the problem in a non-conscious manner; illumination, the emergence of a happy idea; and verification, a validity check on the idea and refining of it to a more precise form."[51] A creative product is one that meets Mishra and Henriksen's criteria of being novel, effective, and whole.[52] The creative press is the environment within which a person undertakes a process to create a product. According to Goran Ekvall, a creative environment is defined by resources (challenge and motivation, idea time, and idea support), motivation (trust and openness, playfulness and humor, and absence of interpersonal conflict), and exploration (freedom, dynamism, debates about the issues, and risk-taking).[53] Perhaps the best-known model for creative problem solving is that of Alex Osborne and Sidney Parnes, which identifies the iterative three-stage process depicted in Figure 5.
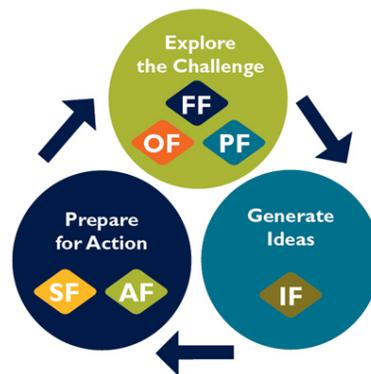
Figure 5 The Osborne-Parnes Model for Creative Problem Solving

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[50] Helen Haste, "Good Thinking: The Creative and Competent Mind," in Anna Craft, Howard Gardner, and Guy Claxton (eds.), *Creativity, Wisdom, and Trusteeship: Exploring the Role in Education*, (Thousand Oaks, CA: Corwin Press, 2008), 96.
[51] Michael Lee Scritchfield, "The Creative Person, Product, Process and Press."http://www.buffalostate.edu/orgs/cbir/readingroom/html/Scritchfield-99.html
[52] Punya Mishra, Danah Henriksen, and the Deep-Play Research Group, "A NEW Approach to Defining and Measuring Creativity: Rethinking Technology & Creativity in the 21st Century," *Techtrends: Linking Research & Practice To Improve Learning*, 57 (2013): 11.
[53] Goran Ekvall, "Organizational Climate for Creativity and Innovation, *European Journal of Work and Organizational Psychology,* 5 no. 1 (1996): 105-123.

In stage 1, individuals explore the challenge through fact finding (FF), objective finding (OF), and problem finding (PF). It is the stage where individuals come to understand the challenge they are facing and gather data to formalize their objective. In stage 2, they generate ideas through ideas finding (IF). This is the stage where individuals adopt perspective shifting and suspend judgment in order to see connections and possibilities that may be initially obscured. Finally, in stage 3, individuals prepare for action through solution finding (SF) and acceptance finding (AF). This is when individuals plan for action and develop the teams and processes necessary to translate their ideas into action.[54]

Currently, MCU curricula focus heavily on critical thinking, not creative problem solving. Stephen Brookfield describes the process of critical thinking as including four elements: identifying assumptions, validating assumptions, examining the situation from multiple perspectives, and taking informed action.[55] While serving as the essential bedrock for creative problem solving, critical thinking culminates with evaluation – the pinnacle of Bloom's original taxonomy.[56] This QEP challenges MCU to be systematic in directing students to take the next step of generating new, effective, and whole solutions to the Marine Corps's and nation's pressing national security challenges. In addition, it prepares students to solve the wide range of operational and tactical problems they will face in the conflicts of the future. In this way, the QEP prepares students to operate at the peak of Bloom's most commonly accepted revised taxonomy, which is to create something new on the basis of the judgments made during evaluation.[57]

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[54] As identified on the Osborne-Parnes website: http://www.creativeeducationfoundation.org/our-process/what-is-cps
[55] Stephen Brookfield, *Teaching for Critical Thinking*, (San Francisco: Jossey-Bass, 2012): 11-13.
[56] Benjamin Bloom, Max Englehart, Edward Furst, Walter Hill, and David Krathwohl, *Taxonomy of Educational Objectives*, *Handbook 1: Cognitive Domain,* (New York: David McKay Co., Inc., 1956), 201-07.
[57] Lorin W. Anderson and David Krathwohl (eds.), *A Taxonomy for Learning, Teaching, and Assessing: A Revision of Bloom's Taxonomy of Educational Objectives*, (New York: Longman, 2001).

While some would challenge whether creativity can be taught,[58] research suggests that all humans possess creative potential and, with appropriate instruction and opportunity, can develop the capacity to create something unexpected and effective within their fields.[59] The key is to provide students with an environment that supports their creative process and provide tailored guidance and feedback that cultivates their creative skills. Even though students encounter aspects of creativity while at MCU, schools can do more to consciously design curricula and educational environments that are proven to develop students' creative capacity. For its part, the university can do more to provide resources and opportunities for students and faculty alike to hone their creative problem solving skills.

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Best Practices for Creative Problem Solving

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The literature on creative problem solving provides concrete guidance on how to create learning environments that promote creative capacity in students. Existing experimental learning opportunities (practical applications, operations gaming, case studies, tactical decision gaming, exercises, etc.) provide a solid foundation for creative problem solving at MCU. The use of exercises such as these have proven effective in teaching undergraduate engineering students to be more creative and develop more elegant and creative products.[60] This sort of practical, resource constrained, and problem focused learning has obvious application in a PME setting.

The literature surrounding the development of creativity and creative problem solving gives particular attention to the environment in which creativity is fostered. The environment considerations are both physical and psychological. Because of the unique nature of the

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[58] Steven Harnad, "Creativity: Method or Magic?" *Princeton University Journal*, http://cogsci.ecs.soton.ac.uk/~harnad/ ftp://cogsci.ecs.soton.ac.uk/pub/harnad/ gopher://gopher.princeton.edu/11/.libraries/.pujournals

[59] Arthur Cropley, *Creativity in Education & Learning: A Guide for Teacher and Educators*, (Sterling, VA: Cogan Page, 2001), 10; Robert Sternberg, "The Nature of Creativity," *Creative Research Journal* 18 (2006): 87-98. This argument is supported by research from the MIT Media Lab, a national leader in creativity. See Mitchel Resnick, "All I Really Needed to Know (About Creative Learning) I Learned (By Studying How Children Learn) in Kindergarten," *Presented at Creativity & Cognition Conference,* June 2007.

[60] David H. Cropley and Arthur J. Cropley, "Fostering Creativity in Engineering Undergraduates," *High Ability Studies* 11 (2000): 207-219.

underlying thought processes of creativity, traditional motivators such as grades are not only

ineffective, but can actually be counterproductive.[61] As students seek to earn high marks, they

may focus their assignments on 'safe' or widely accepted answers—a strategy that would inhibit

creativity.[62] While schools can (and some have worked to) mitigate this tendency by specifically

evaluating unorthodox or creative thinking on papers and assignments, it is important to

recognize the potential effect assessment might have on creative thought. The use of iterative

or sequenced assignments – where faculty and peers comment on student drafts or for which

students produce prototypes to stress test and revise – is another useful way to create

environments where students are encouraged to experiment with ideas and approaches without

sacrificing intellectual rigor.[63]

Another important element of providing a creative environment relates to Ekvall's notion

of resources, specifically "idea time'" and "idea support." Robert Sternberg explores the ability of

creative problem solvers to "buy low and sell high," that is, to entertain and develop contrarian

or undefined ideas. Some individuals are naturally better able than others to take an unaccepted

idea and turn it into a viable solution. He argues that individuals with this capacity tend to be

more creative (and more successful in their creative problem solving) than those who lack this

skill. Sternberg notes the importance of time and intellectual space for this endeavor: individuals

who invest more time up front to pondering basic conceptual questions and entertaining

seemingly unfavorable positions do better at creatively solving poorly or undefined problems

than do people who rush past this element of problem framing.[64]

Providing sufficient time at all MCU schools to allow students to reflect on what they are

learning is essential to establishing the mental white space that underpins creative thought.

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[61] Teresa M. Amabile, Beth A. Hennessey, and Barbara S. Grossman. "Social Influences on Creativity: The Effects of Contracted-for Rewards." *Journal of Personality and Social Psychology* 50 (1986): 14-23.
[62] Amabile, Hennessey, and Grossman, "Social Influences on Creativity," 14-23.
[63] Twyla Tharp, *The Creative Habit: Learn It and Use It for Life*, (New York: Simon and Schuster, 2003), chapters 7 and 11.
[64] Robert J. Sternberg. "The Nature of Creativity." *Creativity Research Journal*, 18 (2006): 88.

There is no question that students need to be challenged to produce effective results in a time-constrained environment – this is a professional requirement – but idea time and idea support at school may translate into quicker, more effective decision making in the Fleet.

Additionally, calculated risk taking is highly associated with creative problem solving.[65] For MCU to be successful in teaching and fostering creativity in our leaders, we must create a physical and psychological environment that is accepting of creativity and risk taking behaviors associated with creativity. By focusing on creativity in the schoolhouse, students risk failure in a low-threat environment. While the stakes may be low, the importance of failure is not. In the words of President George W. Bush, it is in failure that "we will learn and acquire the knowledge that will make successful innovation possible."[66] Analysis and evaluation alone are not enough to build student capacity to innovate. Students must be allowed to create. This QEP focuses on building student creative capacity in order to hone student ability to solve pressing and significant military and security problems.

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[65] J. Daniel Couger, Lexis F. Higgins, and Scott C. McIntyre, "(Un)Structured Creativity in Information Systems Organizations." *MIS Quarterly* 17 (1993): 375-397.
[66] George W. Bush, "Remarks by the President at the U.S. Naval Academy Commencement," 25 May 2001, http://georgewbush-whitehouse.archives.gov/news/releases/2001/05/20010525-1.html (09 May 2014).

V. IMPLEMENTATION PLAN

Our faculty composition and turnover, the diversity of the missions of the different MCU schools, and the literature on how to foster creative problem solving make it clear that the best approach to implementation is through focused support to the schools. This support will be provided through the utilization of a Center located on the university's campus. The Center will also provide MCU-wide opportunities for students and faculty to engage in creative problem solving. It is through the Center for Applied Creativity that MCU will realize the three objectives of this QEP. Each school will be responsible for assessing accomplishment of the student learning outcomes (SLOs) it identified as related to the QEP (see Appendix E) and reporting their findings through their regular MCU Annual Assessment Process.[67] QEP staff will be responsible for assessing accomplishment of the university-level SLO, the overarching program goal, and the three supporting goals.

Objective 1: Curriculum Development

In order to create an environment that fosters creative problem solving, the Center will focus on assisting school-level efforts to refine and develop effective curricula. This could take the form of working with school-level curriculum developers, providing financial support for school's curriculum development, or assisting schools in pilot testing new curriculum.

Curriculum Development and Review

Improving students' creative problem solving skills starts with curriculum development. While the Center lacks the authority to direct school curriculum, it will provide support to the schools when requested to review existing curriculum or assist in the development of new curriculum. Just as students' efforts to create and innovate will include experimentation (and potential failure), schools will be encouraged to experiment with new ways of developing curriculum to foster creative problem solving. A core responsibility of the Center will be assisting the schools in this effort, as requested. Additionally, the Center will coordinate with the History Division and

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[67] MCU Academic Regulations, 31 October 2013, 23.

the Gray Research Center (HD-GRC) and the National Museum of the Marine Corps (NMMC) to find ways to leverage their collections in this process. HD-GRC and NMMC are invaluable resources for MCU schools, though faculty members are often unaware of how their collections could inform school-level curricula. Center staff can play a key liaison role to connect school-level curriculum developers with MCU's historical resources to provide primary source historical examples of the rich Marine Corps tradition of solving practical problems creatively.

As a general support asset, the Center will help each school explore how to best engage creative problem solving with its specific student population. While specific actions will vary by school, schools will be encouraged to utilize approaches known to foster creativity and innovation such as Oxford style tutorials, case methods, problem-based learning, experiential learning, or experimentation.[68] For example, MCWAR may adopt Oxford style tutorials as part of its National Security and Joint Warfare Course to focus student effort on exploring unconventional solutions to contemporary strategic problems in an intimate, conversational forum. They might couple this learning methodology with a move to a High Pass-Pass-Fail grading scale to incentivize risk-taking on the part of students. SAW may implement war games that are operational decision games to foster the kind of critical and creative thinking based on lessons learned that underwrite learning organizations--that is, the ability to question, challenge, and change operating norms and assumptions. CSC may incorporate adversarial wargaming into its planning exercises to challenge students' abilities to respond rapidly, confidently, and effectively to surprise. Individual faculty members who are responsible for specific aspects of the curriculum could approach the Center for assistance in crafting lesson plans and assignments.

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[68] For a review of how these specific approaches foster creativity and innovation, please see Shelton Goode, *So You Think You Can Teach*, (Bloomington, IN: iUniverse, 2011); Linda Nilson, *Teaching at its Best: A Research-Based Resource for College Instructors*, (San Fransisco: Jossey-Bass, 2010); Peter Sutherland (ed.), *Adult Learning: A Reader*, (London: Kogan Page, 1998).

Curriculum Development Grants

The Center will offer annual competitions for curriculum development grants in an effort to encourage the sort of creativity and intellectual risk-taking in curriculum that the university is trying to foster in its students. These grants will be used to build curriculum that supports creative problem solving by shaping the person, process, product, or press.[69] The goal is to create curriculum that allows for iterative exploration, generation, and preparation of creative solutions while achieving SLOs and PAJE requirements.[70] Grants may be used for a number of opportunities, including to foster experimentation through the use of modeling and simulations, create interactive games or cases for classroom instruction, extend the classroom through the use of social media, identify alternative assessment mechanisms to foster risk-taking and experimentation, etc. For example, a faculty member could seek funding to bring a panel of technical developers to discuss the military's progress in water generation as a means of sparking a discussion on innovation within resource constraints.[71] A different faculty member could use a curriculum development grant to develop an on-line platform that would allow resident students to collaborate in small groups with students at Norway's Defense College, or to allow US Embassy staff stationed abroad to provide injects into a planning exercise or wargame. Grant recipients will work with Center and school staff to develop proposed curricula prior to its integration into school curricula.

Pilot Testing

Center Staff will also support school-level efforts to pilot test curriculum and revised SLOs prior to adoption through the regular Course Content Review Board (CCRB) and Curriculum Review Board (CRB) processes. Pilot testing could come as part of the schools' elective programs, or

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[69] Mel Rhodes, "An Analysis of Creativity," *Phi Delta Kappan*, 42 (1971): 305-10.

[70] "What is Creative Problem Solving?" *Creative Education Foundation,* accessed September 7, 2014, http://www.creativeeducationfoundation.org/our-process/what-is-cps.

[71] Anita Hamilton, "This Gadget Makes Gallons of Drinking Water Out of Air," *Time,* April 24, 2014, accessed September 7, 2014, *http://time.com/75612/atmospheric-water-generator-watergen/* .

by adopting a new element of the curriculum, instructional technique, assessment method, or SLO in a certain number of classes prior to adoption across the school. For example, CSC currently has 16 conference groups with cohorts of 13-14 students each. Pilot testing could consist of two conference groups utilizing the new curriculum, while the remaining 14 conference groups use the existing curriculum, instructional technique, assessment method, or SLO. Upon request, Center staff will work with curriculum developers to evaluate the effectiveness of the pilot tested curriculum and make recommendations for adoption, revision, or rejection of the new curriculum.

Objective 2: Faculty Development

An essential step in enhancing students' skills as creative problem solvers is preparing faculty to (1) teach creative problem solving, (2) create learning environments that facilitate creative problem solving, and (3) provide useful feedback to students that inspires the iterative, risk taking processes that underlie creativity and innovation.

These three requirements are distinct and essential. Faculty development will acquire expertise in the substantive literature surrounding these subject areas; however, subject matter expertise is not enough. A key ingredient of learning creative problem solving is creating an environment conducive to risk taking, exploration, operating freely within boundaries, and combining disparate bodies of knowledge. Faculty must learn first what creative problem entails and then learn how to teach it. Finally, the iterative learning process works only to the extent that students receive appropriate and timely feedback on the learning process. Faculty development must focus concretely on how to use assessment opportunities to maximize student learning.

Given the general lack of teaching experience among new faculty and the rapid turnover in our military faculty (military faculty teach at MCU from 1-3 years), the QEP faculty development component will begin in Year 1 and endure for the duration of the QEP. This QEP

element will develop specific assessments to measure faculty effectiveness, which will be used to update and improve faculty development over the duration of the QEP.[72]

Initial Faculty Development

Every year, as part of the normal school- and MCU-level summer faculty development program, Center staff will provide initial faculty development on how to teach creativity and creative problem solving in the school curriculum. The approach will vary by school, but instructional techniques could include leading practical applications, utilizing prototypes, assessing the value of failure, or rapid decision-making. In addition, faculty development will cover how to provide feedback that promotes intellectual risk-taking. In AY 15-16 initial faculty development was provided for all faculty as part of the MCU Summer Faculty Development Conference, held July 22-23, 2015. In subsequent years, initial faculty development will host sessions for all faculty with specific break-out sessions for new faculty.

Continuing Faculty Development

A hallmark of professionalism is an on-going commitment to continual improvement. In addition to initial faculty development opportunities, the Center will provide faculty additional opportunities to develop instructional and assessment techniques related to creative problem solving. This form of faculty development could be delivered as lunch sessions over the course of the academic year, on-line tutorials on particular topics, or through collaborating with Marine Corps Archives, the NMMC, and the Case Method Senior Fellow to focus on how to integrate these resources into classroom instruction for the purposes of illustrating or engendering creativity, innovation, and complex problem solving.

Learning Library

Center staff will build and maintain a repository of best practices and research addressing applied skills including perspective taking, suspending judgment, adapting behavior to context, divergent thinking, risk taking, and iterative learning. In addition, the Center will collect

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[72] See Chapter IX, "Assessment" for more detail.

innovative seminar leading techniques and lesson plans that have proven effective in fostering a creative learning environment. The Center will provide specific resources to help EPME faculty foster creative problem solving during the compressed courses as well as resources tailored for fostering creative problem solving through distance education. The Center will leverage the expertise of The Center for Advanced Operational Culture Learning (CAOCL) in this area to construct a learning library for university faculty and students. To the greatest extent possible, materials will be accessible electronically and will be distributed quarterly in a Center newsletter.

Improving Learning Environments

While faculty development can provide instruction, faculty observation provides a concrete look at how faculty members create learning environments that support or hinder creative problem solving. At the request of individual faculty or school leadership, staff at the Center will observe faculty during classroom instruction and / or provide faculty an evaluation of their feedback to students. Center staff will also be available to coach school directors and deans on best practices for faculty observation and feedback to support school-level efforts. The purpose of observing faculty is to identify areas where faculty could better foster student creativity as well as to provide focused guidance on how to improve in those areas. Center staff will provide focused resources and / or instruction in areas of need as well as work with faculty to create an individualized action plan to be reviewed with the dean, deputy director, or director as appropriate. See Appendix F for the Learning Environment Assessment.

Coaching

While group instruction will be valuable, one-on-one instruction and mentoring allows faculty to tailor techniques to best match their individual personalities, their students' personalities, and their specific courses. The Center will coordinate with the schools to select civilian, military, and distance education faculty with a proven history of teaching excellence and creativity to evaluate faculty instruction and feedback in order to offer individualized coaching and mentoring. Coaching can result from one of two actions: a specific faculty member can ask to be coached

by Center representatives, or a dean or director may instruct a faculty member to seek additional coaching and mentoring from the Center's staff. The length of the coaching relationship will vary on the basis of faculty interest and Center capacity, but could extend for a full academic year. These relationships supplement existing coaching and mentoring that occurs at the school level. An example of a Coaching Worksheet may be found at Appendix G.

Objective 3: Integrated Learning Opportunities

Partnerships with External Organizations

The Center will work to cultivate relationships with organizations outside MCU for the purposes of bringing subject matter expertise to the classroom and – beginning in AY 2017-18 – MCU Innovation Summits. The Center will coordinate with schools to identify individuals and organizations that best embody creative problem solving to provide focused feedback to student projects. For example, CSC already maintains relationships with the Commandant's Strategic Initiatives Group and DOD's Office of Net Assessment. CAC will work to build similar relationships for other schools and will also look more broadly to partner with organizations such as Google, Partners in Health, and Ushahidi, which provide cutting-edge solutions to some of the world's most vexing problems.

MCUx

A key element of facilitating creative problem solving is introducing faculty and students to leading experts from outside military circles. In a program tentatively titled "MCUx," CAC will facilitate this exchange by inviting innovative junior and senior thinkers from business, medicine, the arts, and other fields to engage how they foster creative problem solving in their disciplines. Rather than large, formal speeches, these talks will be patterned on the more practical, conversational discussions modeled by the TEDx program of TED Talks and will be an opportunity for faculty and students to brainstorm and interact in an informal setting with creative

problem solvers from different backgrounds. MCUx events may appeal to both faculty and students or may be tailored to specific audiences within the university.

Integrated Learning across MCU

A key aspect of creative problem solving is looking beyond traditional actors to find new partners to build collaborative solutions. Beginning in AY2016-17, the Center will host integrated learning opportunities across MCU. This could take the form of a university-wide exercise that plans for a specific phase of conflict within nested command structures. It could also take the form of junior Marines playing the enemy role for senior Marines in an exercise or practical application. This inverted learning structure would open possibilities for fresh insights as well as provide important feedback on the clarity of senior Marines' communication. CAC staff will work with the schools in the initial year of the QEP to prepare options for this learning opportunity. The same spirit of experimentation and risk taking that is being encouraged in individual students at the school level will be incorporated into this element of the QEP at the university-level.

Innovation Summits

The Center will host annual "Innovation Summits" to marshal the power of experiential learning across and beyond MCU. The initiation of integrated learning opportunities across MCU (for example, an MCU-wide colloquium on a topic of importance to the Marine Corps or an MCU-wide exercise) allows students to learn from the experiences and perspectives of those senior and junior to them. This amplifies the potential for creativity and innovation by fostering flexibility, taking multiple perspectives, and exploring non-obvious options. The Innovation Summit will allow students and faculty from across MCU to share research with each other and the larger USMC and defense communities. These summits can either be "open" to include projects of student and faculty choosing, or they can focus on particular problems or domains identified by the MCU President, with input from the various schools. For example, the Commandant could ask MCU to identify the next emerging threat as the first Innovation Summit

topic in fall of AY 2017-18. CAC staff would coordinate logistics for the summit and invite outside participants. Schools would provide specific opportunities over the course of the academic year for students to explore the question. In late spring 2018, the Innovation Summit would host panels that include outside experts as well as student and faculty researchers to test and challenge participants' ideas. The Center could then coordinate with the Marine Corps University Press to prepare edited volumes of the Summit's best papers. It could also provide a brief-back to the Commandant of key themes or ideas to come from the Summit. The Center will provide $20,000 a year to support student projects in the Innovation Summit.

VI. IMPLEMENTATION TIMELINE

The Quality Enhancement Plan will be implemented in four phases.

Phase 0 (AY 14-15) will focus on validating assessment metrics, gathering baseline data on existing SLOs, and developing the initial faculty development curriculum. Each school will provide a snapshot of student artifacts associated with the school-level SLOs identified in Appendix E to the QEP Implementation Team. In addition, they will provide baseline assessment data using current assessment methods of student performance on the school-level SLOs identified in Appendix E to the QEP Implementation Team. Finally, the QEP Implementation Team will coordinate with the schools to develop and pilot test the curriculum to be used for Initial Faculty Development.

Phase 1 (AY 15-16) will focus on faculty development (through faculty development sessions, coaching, and evaluation of learning environments) and curriculum development (through curriculum development sessions, curriculum development grants, and pilot testing). It is also during Phase 1 that MCU will establish the MCU Center for Applied Creativity in order to facilitate QEP implementation.

Phase 2 (AYs 16-18) will focus on continued faculty and curriculum development. It will also focus on expanding opportunities for students to develop creative problem solving skills through the launch of Innovation Summits supported by student research grants, integrated learning opportunities across MCU, and partnerships with external organizations.

Phase 3 (AYs 18-20) will focus on continued faculty and curriculum development. It will continue to leverage university-wide opportunities for creative problem solving through the Innovation Summits.

Table 8 Proposed Implementation Timeline

	AY 14-15	AY 15-16	AY 16-17	AY 17-18	AY 18-19	AY 19-20
Phase	0	1	2	2	3	3
Objective 1						
Baseline Assessment	■					
Curriculum Development		■	■	■	■	■
Pilot Test New Curriculum		■	■	■	■	■
Objective 2						
Pilot Test Initial Faculty Development	■					
Initial Faculty Development		■	■	■	■	■
Continuing Faculty Development		■	■	■	■	■
Learning Library		■	■	■	■	■
Improving Learning Environments		■	■	■	■	■
Coaching		■	■	■	■	■
Objective 3						
Develop Partnerships with External Orgs		■	■	■	■	■
MCUx			■	■	■	■
Integrate Learning Opportunities across MCU			■	■	■	■
Host Annual Innovation Summits				■	■	■

Phase 0 ■
Phase 1 ■
Phase 2 ■
Phase 3 ■

VII. ORGANIZATIONAL STRUCTURE

MCU Center for Applied Creativity (CAC) will fall under the Vice-President of Academic Affairs (VPAA). VPAA oversees all academic programs, academic support, accreditation efforts, faculty development, and community outreach for MCU. Additionally, the Vice-President of Academic Affairs has oversight of the integration and incorporation of all resources and assets that are vital to the academic growth and credibility of the organization. Placing the Center under VPAA's umbrella best positions the Center to provide support to all MCU schools, leverage relationships with other MCU entities, and maintain consistency in assessments and SACSCOC reporting.

Despite the phased approach, the implementation and sustainment workload of the QEP is substantial, and the Center will require multiple positions to be effective: a full-time Director, a full-time Deputy, and four part-time civilian or military Faculty Coaches. The Director of the Center is a new position that was filled in July 2015. The Director will report directly to VPAA and will have specific position responsibility to oversee the QEP and SACSCOC reporting requirements. The Deputy Director is also a new position that was filled in June 2015. The Deputy will report to the Director and will manage the day-to-day operations of the Center. Four faculty members will be selected from across the university by the Deans and Center Director to serve as faculty coaches.

Director, Center for Applied Creativity

The responsibility of the Center Director is to oversee implementation of the QEP and SACSCOC reporting requirements. The Director will also sustain the QEP, which involves continual planning, assessment, and communication of QEP progress to the university community. He or she will closely monitor and evaluate the process in order to ensure that proper procedures and resources are in place to enable success. At a school's invitation, the Director will act as liaison between colleges/schools to facilitate curriculum review and development. The Director will be given primary responsibility for facilitating integrated learning

opportunities across MCU beginning in AY16-17. Beginning in AY17-18, the Director will carry primary responsibility for the Innovation Summit. With oversight of faculty development efforts, the Director will communicate with colleges/schools to improve the faculty's teaching skills, create educational opportunities to promote creative problem solving, and improve faculty feedback. The official position description may be found in Appendix H.

Position Requirements

The Director must hold a Ph.D. or Ed.D. with an emphasis in Higher Education, Organizational Management, Communication, Social Science, Curriculum and Instruction, International Relations, Human Behavior, Training & Development, or a related field from a regionally accredited college or university. The Center's Director must possess excellent verbal and written communication skills and be comfortable with public speaking. The Director must possess expert knowledge of adult learning theory and educational methodologies with a specific emphasis on fostering creativity and creative problem solving. Given the specific nature of this position, the Director must have proven excellence in curriculum development and teaching at the graduate level, in seminar, lecture, and working-group formats. In order to contribute to broader efforts to foster creative problem solving at the post-graduate level, the Director must possess a proven track record of scholarly research and publications along with a commitment to preparing and publishing lessons learned and QEP findings outside mandated SACSCOC reporting requirements. The Center's Director will exemplify a high level of professionalism and must demonstrate expertise and confidence in his or her ability to collaborate with colleagues. He or she must possess strong communication skills. The Director must also be organized, possess strong leadership skills, and scholarly research skills. He or she will possess a positive attitude and have at least 3-5 years related experience.

Deputy Director, Center for Applied Creativity

The Deputy will be responsible for day-to-day management of the Center and he or she will be the primary liaison for military faculty development. The Deputy will support the Center's Director for SACS reporting requirements. He or she will liaise with schools to facilitate curriculum reviews. In addition, the Deputy will serve as the Case Method expert for the CAC. Tasks will include support to the schools in developing curriculum to enhance creative problem solving skills, coaching and mentoring faculty on instructional techniques and student feedback, observing faculty in different educational environments, and coordinating with colleges/schools for schoolhouse faculty development.

Position Requirements

The Deputy must hold a master's degree with an emphasis in Higher Education, Organizational Management, Communication, Social Science, Curriculum and Instruction, International Relations, Human Behavior, Training & Development, or a related field from a regionally accredited college or university. Given the importance of developing military faculty to this QEP, it is strongly preferred that the Deputy Director have both military experience and experience teaching in a PME institution.

Specific job duties will include:

Faculty Coaches, Center for Applied Creativity

Faculty Coaches are current MCU faculty with a proven history of teaching excellence and fostering creative problem solving. These faculty members will serve as coaches and mentors to MCU faculty. They will consult on topics related to teaching creativity and innovation in support of complex problem solving, providing student feedback to maximize student learning, and creating educational opportunities that facilitate learning. CAC will utilize one civilian, officer, enlisted, and distance education Faculty Coach. Coaches will receive a stipend to compensate

for their additional workload and are expected to dedicate roughly 10 hours/week to their coaching responsibilities.

QEP Implementation Team

The QEP Implementation Team will serve as the bridge between QEP development and the formal establishment of the CAC. Each school will be represented in the QEP Implementation Team. In a collaborative and iterative manner, the Director and QEP Implementation Team will identify and prioritize school needs and help disseminate the QEP vision and mission. The Team will advise the Center Director on prioritization of efforts and will make recommendations on any modification or enhancement of the implementation plan. The Team, together with the faculty coaches, will serve as champions of the QEP effort to university entities. School Deans will coordinate with the Center Director at the start of each academic year to determine the continued utility of the QEP Implementation Team. Once the Deans and Center Director agree the CAC is fully operational, the QEP Implementation Team will disband.

Marine Corps University Partnerships

In addition to the aforementioned formal organizational relationships, the Center will benefit through informal collaborative relationships with existing MCU positions and offices. During the course of QEP implementation, sustainment, and growth, the Center will leverage existing Marine Corps University expertise in order to implement the QEP with a process of continual improvement. Specifically, the QEP Director will form working relationships with Marine Corps University's Director of Academic Support; the Director of Institutional Research, Assessment and Planning (IRAP); the MCU Faculty Development and Outreach Coordinator; The Director of the Center for Advanced Operational Culture Learning; the History Division and the Gray Research Center (HD-GRC); and the National Museum of the Marine Corps (NMMC).

Director, Academic Support Division

The Director of the Academic Support Division (DASD) is responsible for coordinating academic support for all MCU educational programs. DASD serves as the primary representative and liaison with SACSCOC and is responsible to ensuring that MCU meets all accreditation requirements. DASD is also manages MCU's CRB process. In these capacities, DASD will provide significant support to the Center in terms of overall coordination within VPAA, across MCU, and between CAC and SACSCOC.

Director, Institutional Research, Assessment, and Planning

The Director of Institutional Research, Assessment, and Planning (IRAP) will be a strong asset to the Center, in terms of the collection and analysis of assessment data. The CAC Director will work closely with the IRAP Director to administer relevant surveys and standardized assessment forms, to facilitate focus groups that provide feedback regarding the Center, to analyze assessment data, and to provide consistency in the communication of assessment results. The Center Director will also work closely with the Director, IRAP to refine and enhance the QEP assessment plan throughout QEP development.

MCU Faculty Development and Outreach Coordinator

The Center Director is ultimately responsible for faculty development and outreach associated with QEP-specific faculty development and partnership efforts. The Center will benefit, however, from a strong working relationship with Marine Corps University's existing expertise. MCU's Faculty Development and Outreach Coordinator is a valuable asset for implementation and evaluation of faculty development efforts specific to the Center's purpose; further, the Coordinator is a valuable asset for the outreach that will be required in executing the Annual Innovation Summit. The Center Director will coordinate with MCU's Faculty Development and Outreach Coordinator to ensure uniformity of faculty development and outreach efforts. Further, the two positions will exchange information and efforts to strengthen the work of each office while eliminating any possible overlap or conflict.

Director, Center for Advanced Operational Culture Learning

The Director of CAOCL, in coordination with the Director of IRAP, will support QEP assessment by leveraging government and contracted research assets in CAOCL's Translational Research Group. Support will take two forms, both related to assessment. First, CAOCL will advise the CAC Director on qualitative analysis methods for integrating faculty evaluations into assessment. Second, CAOCL will design and execute a program of interviews with samples of graduates and supervisors and will analyze and report on results to the QEP Team, the CAC Director, and MCU and school leadership.

Figure 6 depicts the formal and informal organizational relationships between CAC and its primary implementation partners.
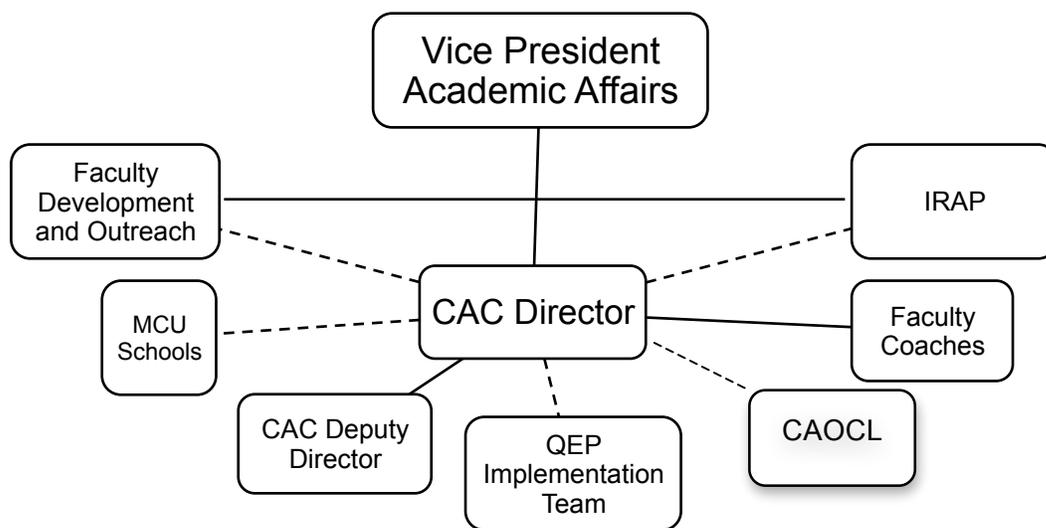

Figure 6 Center for Applied Creativity Organizational Relationships

VIII. RESOURCES

The Center for Applied Creativity will capitalize on existing resources. The space and administrative resource requirements of the center will be absorbed by VPAA. The administrative resource requirements -- such as printing, supplies, computer and miscellaneous administrative expenses -- will be absorbed within the VPAA budget. Additionally, MCU is currently constructing a new facility, the Warner Center. This will free up space in Breckenridge Hall for the CAC. VPAA will assign the Director and Deputy appropriate office space.

The resource requirements are predominantly related to personnel and programs. The bulk of the personnel funding requirement is necessitated by the pay and benefits requirements of a Center Director. The Deputy and Faculty Fellows also represent personnel resource requirements. The Center will also require appropriate monetary resources to administer research grants, faculty development, Innovation Summits and curriculum development.

Four primary funding sources exist to support the QEP. Military personnel are paid by a budget that comes from Manpower and Reserve Affairs, which is an organization external to MCU. MCU will include QEP program funding in its FY2016 budget request, which it submitted in March 2015. If approved, QEP operations will be funded by Operations and Maintenance (O&M) money. Since FY2016 funding will not be secured prior to the submission of the QEP Report, MCU has secured support from the Marine Corps University Foundation (MCUF) for personnel and operations for the first two years of the QEP. MCUF is a non-profit 501(c)(3) organization that provides enhancements for MCU educational programs.

MCUF has committed to fund the first two years of the QEP, with O&M funding the following three years. MCUF is a tremendous asset for MCU and has historically funded a significant number of important initiatives, to include large portions of MCU's 2005 QEP. MCUF provides support through its Command Support Program, Professional Military Education (PME) and Leadership opportunities to Marines and Sailors serving worldwide with the Operating Forces and the Supporting Establishment. However, its focus is with the university.

Table 9 represents the proposed budget based on personnel and program requirements.

Table 9 Proposed Budget

	2015	2016	2017	2018	2019	2020
Personnel						
Director	147,942	150,457	153,015	155,616	158,262	160,952
Deputy Director	109,968	111,837	113,739	115,672	117,639	119,639
Faculty Coach Stipend	8,000	8,136	8,274	8,415	8,558	8,704
Apportioned Salary Contributions of Civilian Faculty Coaches	55,000	55,935	56,886	57,853	58,836	59,837
Apportioned Salary Contributions of Military Faculty Coaches	36,000	36,612	37,234	37,867	38,511	39,166
CAOCL Assessment Support	26,210	44,110	44,860	45,622	46,398	47,187
Programs						
Faculty Dev	30,000	30,510	31,029	31,556	32,093	32,638
Research Grants			20,000	20,340	20,686	21,037
Integrated Learning & Summit			50,000	50,850	51,714	52,594
Curriculum Dev. Grants	20,000	20,340	20,686	21,037	21,395	21,759
Curriculum	7,500	7,628	7,757	7,889	8,023	8,160
MCUx	15,000	15,255	15,514	15,778	16,046	16,319
Assessment	1,350	1,373	1,396	1,420	1,444	1,469
TOTAL	**456,970**	**482,193**	**560,390**	**569,917**	**579,605**	**589,459**
	Marine Corps University Foundation					
	Manpower and Reserve Affairs					
	Operations and Maintenance					

IX. ASSESSMENT

Working with IRAP, Center staff will assess the QEP program and supporting goals through a variety of methods and measures. Table 10 delineates the QEP Assessment Plan. Additionally, Appendix I details the five-year assessment plan. The Appendix highlights research questions and methodologies associated with the overarching program goal and three objectives.

Table 10 QEP Assessment Plan

QEP Goal/Objective	Required Assessment Measure	Assessment Type
Program Goal: Enhance students' creative problem solving skills.	Consensual Assessment Technique (CAT) of student artifacts	Direct
	School-level assessments of SLOs identified in Appendix A	Direct
	Student and alumni evaluation of creative problem solving skills	Indirect
Objective 1: Develop curricula that require students to solve problems creatively.	Number of faculty requests for assistance	Direct
	Curriculum reviews	Direct
	School level assessments of SLOs identified in Appendix A	Direct
	CAC assessment of MCU-SLO	Direct
Objective 2: Prepare faculty to create learning environments conducive to creative problem solving.	Number of faculty attending faculty development	Direct
	School-level assessment of faculty performance	Direct
	Faculty evaluation of CAC faculty development programming	Indirect
Objective 3: Provide integrated learning opportunities that challenge students to collaborate outside traditional cohorts and constructs.	Number of MCU publications and talks on applied creativity	Direct
	Number of faculty and students participating in integrated learning opportunities	Direct
	Faculty and student evaluation of integrated learning	Indirect
	Consensual Assessment Technique (CAT) of student projects	Direct

Overarching Program Goal: Enhance students' creative problem solving skills.

The QEP's overarching program goal is to "Enhance students' creative problem solving skills." Center staff will assess whether the QEP achieves its overarching program goal, while schools will continue to assess student performance on program-level SLOs using their school-developed assessment techniques. This approach guarantees that faculty focus on providing students with focused, quality feedback on specific, curriculum-driven assignments, and Center staff can focus on assessing the different elements of the QEP. Since the overarching program goal is focused on increasing students' creative problem-solving skills, the specific knowledge required and the varied nature of the various schools' curricula demands a unique set of measures. The methods used in each setting will be based on each school's unique mission and tailored to curriculum demands, grounded in the underlying elements of creativity described earlier. School-level assessment will be discussed later in this chapter and a sampling of school-level rubrics may be found in Appendix K.[73]

The QEP developed one MCU-level SLO:

Students will develop effective, complete, and innovative solutions to complex, novel, intractable, or ill-defined problems.

The competencies associated with this SLO are:

1. Student evaluates the problem using domain-appropriate criteria.

2. Student integrates alternate, divergent, and/or contradictory perspectives or ideas.

3. Student extends a novel or unique idea, format, and/or product to create a new solution or a solution that crosses boundaries or disciplines.

4. Student evaluates feasibility and effectiveness of proposed solution(s).

5. Student designs practices, processes, and procedures and/or reengineers processes to adapt to changing organizational/unit needs.

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[73] The full collection of school-level rubrics may be found in Appendices C-E of the Response Report.

6. Student makes appropriate decisions under conditions of uncertainty.

These competencies and the MCU-level SLO are assessed by the CAC using an adaptation of the AAC&U's Creative VALUE Rubric, called the MCU Creative Rubric (Appendix J). The QEP will focus assessment on the attainment of the MCU-level SLO. The QEP will achieve its overarching program goal if 80% of students master the MCU-level SLO and the correlated competencies by scoring a "Creative" or "Transformative" on the MCU Creative Rubric.

To evaluate students' performance, CAC staff will employ the "Consensual Assessment Technique," a well-validated method for assessing creativity.[74] This technique engages a panel of subject matter experts working independently in assessment of the results of a creative problem solving assignment – specifically, school-level assignments that assess their QEP-related SLOs. CAC staff will utilize Blackboard to gather the first and last graded assignments that assess school-level QEP-related SLOs for the academic year. They will assemble a panel of experts to evaluate all students' performance for SAW and MCWAR and a representative sampling of CSC students' performance. Once the Innovation Summits are launched in AY 17-18, CAC staff will conduct CAT analysis of the student projects developed for the summits.

MCU utilizes the Four Column Matrix as its model for institutional assessment and has retained that approach for QEP assessment at the MCU- and school-levels. Table 11 summarizes assessment measures for achieving the overarching program goal.

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[74] Teresa Amabile, "Social Psychology of Creativity: A Consensual Assessment Technique," *Journal of Personality and Social Psychology*, 43 (1983): 997-1013.

Table 11 Assessment of Overarching Program Goal

Learning Outcome	Assessment Measures	Summary of Results	Use of Results
Students will develop effective, complete, and innovative solutions to complex, novel, intractable, or ill-defined problems.	CAC conducts Consensual Assessment Technique of student artifacts. (Direct)	[Success = 80% of student artifacts score "Creative" or "Transformative" on the MCU Creative Rubric]	[TBD June 2016]

[TBD June 2016] |
| | School-level assessments of school-level SLOs (Direct) | [Success = school-level measures. See pp. 17-22] | [TBD June 2016] |
| | Student and alumni evaluation of creative problem solving skills (Indirect) | [Success = 80% of students and alumni indicate stronger creative problem solving skills following program completion] | [Students TBD June 2016; Alumni TBD June 2017] |

MCU has gathered artifacts of student performance from each of the accredited MCU schools for AY14-15 and is in the process of conducting a baseline assessment using the Consensual Assessment Technique. While cohorts change year-to-year, rendering cross-year evaluation problematic, this baseline assessment will provide CAC staff and school leadership a picture of how students' creative problem solving skills develop without any intervention from the QEP. It will also help to norm and validate the MCU Creative Rubric. Moving forward, CAC will conduct a baseline assessment for each new cohort of students by conducting the Consensual Assessment Technique on the first assignment of each school-level SLO related to the QEP (Appendix E) and compare those scores to the last assignment that evaluates the school-level QEP-related SLOs in the academic year. This will provide greater clarity on the development of creative problem solving skills for each one-year cohort.

Objective 1: Develop curricula that require students to solve problems creatively.

Enhanced creative problem solving is affected by the way in which a program's curriculum is organized. This objective promotes active reconsideration and redesign of program curricula with an emphasis on fostering creative problem-solving skills. Performance on this outcome will be measured directly and indirectly in four ways. First, faculty applying for a curriculum development grant will be required to develop individual assessment plans as part of their application for funding. Second, the extent of syllabi change will be recorded. Third, the extent to which curriculum development grants result in curricular changes will be recorded. And finally, the extent of program change will be recorded through the CCRB and CRB processes. This data will be triangulated against student performance to determine whether students' creative problem solving skills are stronger in those students who receive curriculum focused on creative problem solving than in those students who receive curriculum that has less emphasis on creative problem solving.

As part of the curriculum development grant application, faculty will be required to complete an assessment plan. The Center Director and appropriate school dean will review the plan to ensure it meets appropriate levels of rigor. Specifically, as part of the application, faculty members must specify the design of the creative problem solving intervention, the implementation plan, and the assessment measure. Faculty will also provide a post-intervention report highlighting levels of success and how they will use feedback to inform future interventions.

Tables 12 and 13 summarize these measures of effectiveness.

Table 12 Measures of Effectiveness for Curriculum Development, Review, and Grants

Outputs and Outcomes	Assessment Measures	Summary of Results	Use of Results
Output: Faculty utilize curriculum development grants to assist with curriculum development.	Number of faculty requests for assistance. (Direct)	[Success = 90% of faculty who received for a curriculum development grant report using techniques or knowledge to enhance curriculum.]	[TBD June 2016]
Outcome: Grant-funded curriculum improves student creative problem solving skills.	School-level assessments of student performance on school-level SLOs. (Direct)	[Success = school-level measures. See pp. 17-22]	[TBD June 2016]
	CAC assessment of MCU-SLO. (Direct)	[Success = 80% of student artifacts score "Creative or Transformative" on the MCU Creative Rubric.]	[TBD June 2016]

Table 13 Measures of Effectiveness for Pilot Testing

Outputs and Outcomes	Assessment Measures	Summary of Results	Use of Results
Output: Faculty utilizes CAC support for pilot testing to assist with curriculum development.	Number of successful pilots incorporated into program curricula. (Direct)	[Success = 50% of pilot tested curriculum is incorporated into school's regular curriculum through the CCRB process.]	[TBD June 2016]
Outcome: Pilot-tested curriculum improves student creative problem solving skills.	School-level assessments of student performance on school-level SLOs. (Direct)	[Success = school-level measures. See pp. 17-22]	[TBD June 2016]
	CAC assessment of MCU-SLO. (Direct)	[Success = 80% of student artifacts score a "Creative" or "Transformative" on the MCU Creative Rubric.]	[TBD June 2016]

Objective 2: Prepare faculty to create learning environments conducive to creative problem solving.

Faculty enhance students' creative problem solving skills in part by providing learning environments that foster challenge, motivation, idea time, idea support, trust and openness, playfulness and humor, low interpersonal conflict, freedom, dynamism, debates, and risk-taking.[75] As described previously, the QEP approaches faculty development as a combination of initial and ongoing faculty development sessions, a learning library focused on creative problem solving and teaching practices, and a faculty coaching program. Faculty development and coaching that targets creative best practices will directly affect students. Assessment will target initial and ongoing faculty development sessions as well as the faculty coaching program to determine whether participation in faculty development initiatives correlates with stronger student creative problem solving skills.

Center staff will assess Objective 2 at various points throughout the academic year using a mix of direct and indirect measures, and will provide university and school leadership with a comprehensive evaluation following the end of each academic year. Tables 14-18 summarize measures of effectiveness for the programs associated with Objective 2.

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[75] Goran Ekvall, "Organizational Climate for Creativity and Innovation," *European Journal of Work and Organizational Psychology*, 5 (1996): 105-23.

Table 14 Measures of Effectiveness for Initial Faculty Development

Outputs and Outcomes	Assessment Measures	Summary of Results	Use of Results
Output: Initial faculty development held annually.	Completion of initial faculty development at both MCU- and school-level (Direct)	[Success = 80% of faculty attend the initial Faculty Development Conference.]	[TBD October 2015]
Outcome: Faculty improve ability to develop, deliver, and assess student performance on curriculum related to creative problem solving.	School-level assessments faculty performance in quarterly performance evaluation (Direct)	[Success = 60% of faculty utilize best practices identified in initial faculty development.]	[TBD October 2015]
	Faculty survey evaluation of initial faculty development (Indirect)	[Success = 80% of faculty assess development opportunity as improving their ability to foster risk-taking, imagination, perspective-shifting, and iterative learning.]	[TBD October 2015]
	Student survey evaluation of faculty performance (Indirect)	[Success = 80% of students indicate faculty incorporate creative space into classes, methodologies, and assessment.]	[TBD October 2015]

Table 15 Measures of Effectiveness for Continuing Faculty Development

Outputs and Outcomes	Assessment Measures	Summary of Results	Use of Results
Output: Continuing faculty development held quarterly	Number of faculty attending sessions (Direct)	[Success = average of 20 attendees at each session]	[TBD June 2016]
	Faculty assessment of sessions (Indirect)	[Success = 80% of faculty report using information from sessions in the classroom and/or assessments.]	[TBD June 2016]
Outcome: Faculty improve ability to develop, deliver, and assess student performance on curriculum related to creative problem solving.	School-level assessments of faculty performance in quarterly performance evaluation (Direct)	[Success = Dean/Director report faculty incorporating creative space into classes, methodologies, and assessments.]	[TBD June 2016]
	Faculty survey evaluation of continuing faculty development sessions (Indirect)	[Success = 80% of faculty assess development opportunities as improving their ability to foster risk-taking, imagination, perspective-shifting, and iterative learning.]	[TBD June 2016]
	Student survey evaluation of faculty performance (Indirect)	[Success = 80% of students indicate faculty incorporate creative space into classes, methodologies, and assessment.]	[TBD June 2016]

Table 16 Measures of Effectiveness for Learning Library

Outputs and Outcomes	Assessment Measures	Summary of Results	Use of Results
Construction of a creative problem solving learning library	Number of materials accessed annually (Direct) Faculty survey evaluation of learning library (Indirect)	[Success = 5% increase is materials accessed each AY] [Success = 80% of faculty reports using information in curriculum, the classroom, and/or assessments.]	[TBD June 2016]

Table 17 Measures of Effectiveness for Improving Learning Environments

Outputs and Outcomes	Assessment Measures	Summary of Results	Use of Results
Output: Faculty request CAC assessment of their learning environments.	Number of faculty, Deans, or Directors requesting faculty assessment (Direct) Faculty assessment of observation process (Indirect)	[Success = annual increase in faculty requests] [Success = 60% of faculty who requested observation report using feedback in classroom and/or assessments.]	[TBD June 2016] [TBD June 2016]
Outcome: Faculty improve ability to deliver curriculum related to creative problem solving.	School-level assessments of faculty performance in quarterly performance evaluation (Direct) Student survey evaluation of faculty performance (Indirect)	[Success = Dean/Director report faculty incorporating creative space into classes, methodologies, and assessments.] [Success = 80% of students indicate faculty incorporate creative space into classes, methodologies, and assessment.]	[TBD June 2016] [TBD June 2016]

Table 18 Measures of Effectiveness for Faculty Coaching

Outputs and Outcomes	Assessment Measures	Summary of Results	Use of Results
Output: Faculty request coaching from CAC.	Number of faculty requesting coaching (Direct)	[Success = annual increase in faculty requests]	[TBD June 2016]
	Faculty assessment of coaching process (Indirect)	[Success = 60% of faculty use ideas garnered from coaching in the classroom to facilitate more creativity.]	[TBD June 2016]
Outcome: Faculty improve ability to develop, deliver, and assess student performance on curriculum related to creative problem solving.	School-level assessments of faculty performance in quarterly performance evaluation (Direct)	[Success = Deans/Directors observe an increase in classes, methodologies, and assessment that target creative problem solving.]	[TBD June 2016]
	Student survey evaluation of faculty performance (Indirect)	[Success = 80% of students indicate faculty incorporate creative space into classes, methodologies, and assessment.]	[TBD June 2016]

Objective 3: Provide integrated learning opportunities that challenge students to collaborate outside traditional cohorts and constructs.

Enhanced creative problem solving is also affected by the extent to which best practices are shared and adopted internally and externally. The integrated learning opportunities initiative is intended to foster creative collaboration internally and externally. The initiative's focus is to enhance students' creative problem solving skills by fostering partnerships with external organizations, hosting an MCUx speaker series, providing integrated learning opportunities across the university, and creating an annual Innovation Summit. Fostering a collaborative

community is intended as a vehicle to share best practices and engage in the activities and scholarship of creative problem solving at the university level.

Center staff will collect descriptive statistics on grant applications and grant applications result in published research. The Center staff will also collect descriptive statistics on workshop attendance and offerings. Further, the Center will collect qualitative self-reports on internal and external exchanges, collaborations, and nature of relationships. The information will be collected and analyzed in order to identify growth and success with center workshops, MCU community integration, partnerships, and external relationships.

When the Innovation Summit begins, the Center will use a combination of survey measures and an assessment framework, to gauge effectiveness. Internal and external partners will complete surveys to illustrate participant perceptions of the Summit's utility in fostering creative problem solving. Additionally, faculty and student focus groups and interviews, along with faculty self-reports of creative problem solving approaches, will enhance metrics to assist the Center in identifying strengths and opportunities.

Tables 19-22 summarize these measures of effectiveness.

Table 19 Measures of Effectiveness for Partnerships with External Organizations

Outputs and Outcomes	Assessment Measures	Summary of Results	Use of Results
Faculty and students write and present papers on topics requiring creative problem solving.	Number of MCU publications and talks on applied creativity (Direct)	[Success = At least 5 faculty members and students from MCU schools and programs publish and/or speak on QEP-related topics annually.]	[TBD June 2016]
	Number of external partnerships developed and sustained by MCU schools and programs (Direct)	[Success = Each MCU school and program partners with an external organization annually.]	[TBD June 2016]

Table 20 Measures of Effectiveness for MCUx

Outputs and Outcomes	Assessment Measures	Summary of Results	Use of Results
Output CAC hosts MCUx events throughout the AY.	Number of MCUx events held (Direct)	[Success = A minimum of 2 MCUx events are held during the AY.]	[TBD June 2017]
	Faculty and student evaluation of MCUx (Indirect)	[Success = 80% of students and faculty provide positive review of learning opportunity in course review.]	[TBD June 2017]
Outcome Faculty demonstrate improved creative problem-solving skills.	School-level assessments of faculty performance in quarterly performance evaluation (Direct)	[Success = Faculty who attend MCUx show greater improvement in their Dean/Director assessments than faculty who do not.]	[TBD June 2017]
Outcome Students demonstrate improved creative problem-solving skills.	School-level assessments of student performance on school-level SLOs (Direct)	[Success = 5% improvement of attainment on SLOs over the course of the AY]	[TBD June 2017]
	CAC conducts Consensual Assessment Technique (CAT) of student artifacts (Direct)	[Success = 80% of student artifacts score "Creative" or "Transformative" on the MCU Creative Rubric]	[TBD June 27]

Table 21 Measures of Effectiveness for Integrated Learning across MCU

Outputs and Outcomes	Assessment Measures	Summary of Results	Use of Results
Output: Beginning in AY2016-17 CAC provides one MCU-wide integrated learning opportunity per AY.	Completion of MCU-wide integrated learning opportunity (Direct)	[Success = participation from faculty and students from multiple MCU schools]	[TBD June 2017]
	Student and faculty assessment of MCU-wide integrated learning opportunity (Indirect)	[Success = 80% of students provide positive review of learning opportunity in course review.]	[TBD June 2017]
Outcome: Students demonstrate improved creative problem-solving skills.	School-level assessments of student performance on school-level SLOs (Direct)	[Success = 5% improvement of attainment on SLOs than prior to implementation of Integrated Learning Opportunities.]	[TBD June 2017]
	CAC conducts Consensual Assessment Technique (CAT) on student artifacts (Direct)	[Success = 80% of students score "Creative" or "Transformative" on the MCU Creative Rubric]	[TBD June 2017]

Table 22 Measures of Effectiveness for Innovation Summits

Outputs and Outcomes	Assessment Measures	Summary of Results	Use of Results
Output: Beginning in AY 2017-18, CAC hosts an annual Innovation Summit in the spring semester.	Number of internal and external participants (Direct)	[Success = participation of faculty and students from multiple MCU schools]	[TBD June 2018]
	Number of students who apply for research support (Direct)	[Success = Annual increase in number of students applying for research support]	[TBD June 2018]
Outcome: Students and faculty provide creative solutions to the Summit's proposed problem.	Number of ideas briefed beyond MCU (Direct)	[Success = One or more of the ideas in the summit is briefed to problem owners and/or published to intended audience.]	[TBD June 2018]
	CAC conducts Consensual Assessment Technique (CAT) on student artifacts (Direct)	[Success = 80% of students score "Creative" or "Transformative" on the MCU Creative Rubric]	[TBD June 2018]
	Review by attendees and participants (Indirect)	[Success = 80% of attendees and participants surveyed indicate the Summit and its pre-work strengthened their creative problem-solving skills.]	[TBD June 2018]

School-Level Assessment Plans

MCU utilizes the Four Column Matrix as its model for institutional assessment and has retained

that approach for QEP assessment at the school-level. The tables below identify the school-

level SLOs targeted by the QEP, the assessment measures used at each school to evaluate

attainment of the SLOs, as well as columns to summarize each year's results and the ways in

which the schools will use their results to further improve student learning the following

academic year. Schools conduct annual Course Content Review Boards (CCRBs) following the completion of each course to assess student attainment of the SLOs. As a result of the CCRBs, schools revise curriculum, assessments, or both in order to improve student achievement of the current SLOs. Columns three and four of the Four Column Matrix will be populated at that time. Every two years, schools conduct Curriculum Review Boards (CRBs) that evaluate the continued relevance and effectiveness of school-level SLOs and recommend changes to SLOs to further enhance student learning. This allows for schools to evaluate the effectiveness of QEP implementation at both the course and programmatic levels.

School-level standards for success vary for a number of reasons. First, different schools at MCU have different missions and introduce students to different types of new knowledge. Some SLOs are fairly straightforward and are assessed multiple times over an academic year. One would anticipate student performance to be higher on these SLOs than on SLOs that are more challenging to master and that are assessed fewer times over the AY. Second, students are selected to attend the different schools at MCU through different mechanisms. All students who attend an MCU school have been screened for past success (our students are roughly the top 20% of their respective ranks). Because of this, individual schools anticipate a generally high level of performance by their students and graduates. Still, variation in the student bodies of each school warrants diverse measures of success at the SLO- and school-levels. Third, two schools – Command and Staff College and School of Advanced Warfighting –assess their SLOs using a traditional grade scale. The Marine Corps War College assesses its SLOs using a 4-point scale. While this may lead to some confusion when the tables are read side-by-side, this approach meets the needs of the individual schools and does not confuse CAC-level assessment of the QEP-related SLOs.

Table 23 Measures of Effectiveness for Command and Staff College

Learning Outcomes	Assessment Measures[76]	Summary of Results	Use of Results
Recognize the complexity and nature of problems. [SLO 4.1]	Think, Decide, & Communicate: (1) Seminar Contribution Rubric Joint Marine Corps Operations: (1) Seminar Contribution Rubric (2) Inter-Organizational Presentation Rubric Leadership 1: (1) Seminar Contribution Rubric (2) Organizational Dynamics Practical Application Rubric (3) Staff Ride Contribution Rubric Leadership 2: (1) Seminar Contribution Rubric (2) Negotiations Practical Application Rubric (3) Staff Ride Contribution Rubric Security Studies 1: (1) Seminar Contribution Rubric (2) Research Essay Proposal (3) National Security Enterprise Practical Application (4) Research Essay Writing Rubric War Studies 1: (1) Seminar Contribution Rubric (2) Analytical Essay Writing Rubric War Studies 2: (1) Seminar Contribution Rubric Complex Operational Problem Solving: (1) Seminar Contribution Rubric	[Success = 100% of students earn ≥ 85]	[TBD June 2016]

[76] Select rubrics are available in Appendix K. All rubrics are available in Appendix C of the Response Report.

Table 24 Measures of Effectiveness for Command and Staff College (cont.)

Learning Outcomes	Assessment Measures	Summary of Results	Use of Results
Frame and solve problems critically and creatively. [SLO 4.6]	Think, Decide, & Communicate: (1) Seminar Contribution Rubric (2) Analytical Paper Rubric Joint Marine Corps Operations: (1) Seminar Contribution Rubric (2) Inter-Organizational Presentation Rubric (3) Military Position Paper Leadership 1: (1) Seminar Contribution Rubric (2) Organizational Dynamics Practical Application Rubric (3) Staff Ride Contribution Rubric (4) Law of War Paper Rubric Leadership 2: (1) Seminar Contribution Rubric (2) Negotiations Practical Application Rubric (3) Staff Ride Contribution Rubric (4) Ethics Writing Rubric Security Studies 1: (1) Seminar Contribution Rubric (2) Policy Response Paper (3) Research Essay Proposal (4) National Security Enterprise Practical Application (5) Research Essay Writing Rubric Security Studies 2: (1) Practical Application Rubric (2) Policy Memo (3) Analytical Essay Writing Rubric (4) Analytical Essay Writing Rubric War Studies 1: (1) Seminar Contribution Rubric (2) Analytical Essay Writing Rubric (3) Analytical Essay Rubric War Studies 2: (1) Seminar Contribution Rubric (2) Analytical Essay Writing Rubric (3) Analytical Essay Writing Rubric Marine Corps Planning Process: (1) Stingray Thrust Exercise Rubric (2) Pacific Challenge III Exercise Rubric Complex Operational Problem Solving: (1) Seminar Contribution Rubric (2) Pacific Challenge IV Exercise Rubric (3) Tropic Thunder Exercise Rubric (4) DSCA Exercise Rubric Theater Campaign Planning: (1) Nine Innings Exercise Rubric Master of Military Studies: (1) Mentor evaluation of MMS	[Success = 100% of students earn ≥ 85]	[TBD June 2016]

Table 25 Measures of Effectiveness for Command and Staff College (cont.)

Learning Outcomes	Assessment Measures	Summary of Results	Use of Results
Apply the Marine Corps Planning Process and other planning approaches to develop collaborative solutions to complex operational problems. [SLO 4.7]	Marine Corps Planning Process: (1) Stingray Thrust Exercise Rubric (2) Pacific Challenge III Exercise Rubric Complex Operational Problem Solving: (1) Pacific Challenge IV Exercise Rubric (2) Tropic Thunder Exercise Rubric (3) DSCA Exercise Rubric Theater Campaign Planning: (1) Nine Innings Exercise Rubric	[Success = 100% of students earn ≥ 85]	[TBD June 2016]
Learning Outcomes	Assessment Measures	Summary of Results	Use of Results
Apply concepts of change and risk in order to lead organizational innovation and adaptation. [SLO 5.3]	Leadership 1: (1) Organizational Dynamics Practical Application Rubric Security Studies 2: (1) Seminar Contribution Rubric War Studies 1: (1) Analytical Essay Rubric	[Success = 100% of students earn ≥ 85]	[TBD June 2016]

Table 26 Measures of Effectiveness for School for Advanced Warfighting

Learning Outcomes	Assessment Measures[77]	Summary of Results	Use of Results
Devise alternative solutions to historical examples of campaign planning and design. [OA LO 3]	The "Operational Art" course uses multiple Operational Decision Games scored by rubric.	[Success = 65% of students earn ≥ 85]	[TBD June 2016]
Apply knowledge of operational art to complex planning problems using the Marine Corps Planning Process or other planning methodologies. [OP LO 1]	There are multiple planning problems and exercise in the "Operational Planning" course. Both are graded by observation of student contribution to the planning process as well as the production of deliverables, scored by rubric. The students also receive group grades determined by the quality of the deliverables associated with the planning problem or exercise (e.g., briefings, written plans, etc.).	[Success = group earns ≥ 85]	[TBD June 2016]
Lead an operational planning team (OPT) to develop and integrate war plans and operations orders at various echelons of commands. [OP LO 2]	In addition to the above, students assigned to be OPT leaders are evaluated for their demonstrated leadership and creativity using a rubric.	[Success = OPT leader earns ≥ 85]	[TBD June 2016]

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[77] Select rubrics are available in Appendix K. All rubrics are available in Appendix D of the Response Report.

Table 27 Measures of Effectiveness for School of Advanced Warfighting (cont.)

Learning Outcomes	Assessment Measures	Summary of Results	Use of Results
Formulate and assess a hypothesis regarding the future character of war. [FW LO 3]	In the "Future Warfighting" course, each student submits a 15-page Future War Paper evaluated by rubric. Assessment is performed by terminally degreed faculty.	[Success = 75% of students earn ≥ 85]	[TBD June 2016]
Evaluate the implications of paradigmatic change and its potential impact on operational art, campaign planning, and design. [FW LO 4]	There are two graded components: the paper (70%) and an oral presentation graded by rubric based on the paper (30%). The graded components of the paper are: a) Proposal (5%) b) Outline (5%) c) 1,000 word problem framing essay (10%) d) First Draft (30%) e) Second Draft (20%) f) Final Paper (30%)	[Success = 65% of students earn ≥ 80 on graded components]	[TBD June 2016]

Table 28 Measures of Effectiveness for Marine Corps War College

Learning Outcome	Assessment Measures[78]	Summary of Results	Use of Results
Demonstrate creative reasoning and problem solving at the strategic level, including the robust generation of imaginative, pragmatic proposals to address complex problems, especially those with interagency, multi-national, and cross-cultural dimensions. (CSLO2)	Diplomacy & Statecraft: (1) UN PKO Paper Rubric 1 (2) Seminar Participation Rubric 2 (3) North Korea Policy Memo Rubric 3 (4) Seminar Participation Rubric 4 Economics: (1) Paper Rubric 1 (2) Seminar Participation Rubric 2 Leadership & Ethics: (1) Ethics Paper Rubric 1 (2) Strategic Leadership Rubric 2 (3) Seminar Participation Rubric 3 National Security & Joint Warfare: (1) National Security Short Paper (2) Midyear Exam Oral Argumentation Rubric (3) NSJW Briefing Rubric (4) Narrative feedback on Journal Entries (5) Final Exam Writing Rubric (6) JLASS Exercise Rubric (7) Seminar Participation Rubric War, Policy, & Strategy: (1) Paper Rubric 1 (2) Seminar Participation Rubric 2 (3) Paper Rubric 3 (4) Seminar Participation Rubric 4	[Success = >50% of students score 3 on assessment rubrics]	[TBD June 2016]

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[78] Select rubrics are available in Appendix K. All rubrics are available in Appendix E of the Response Report.

X. CONCLUSION

MCU stands as a leader in quality Professional Military Education. While each school already leverages its exceptional faculty to develop outstanding curriculum to educate the nation's premier fighting force, *Strengthening Leadership through Enhanced Creative Problem Solving* continues the Marine Corps tradition of constantly improving and exploiting success. The Center for Applied Creativity will support school efforts to develop curricula that require students to solve problems creatively and prepare faculty to create learning environments conducive to creative problem solving. In addition, it will provide integrated learning opportunities that challenge students to collaborate outside traditional cohorts and constructs. It builds on students' desires to contribute in meaningful ways to meeting the Marine Corps' and nation's pressing national security challenges. It also reflects our faculty's commitment to providing the best education possible to our students.

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APPENDIX A. ACRONYMS

AAC&U   Association of American Colleges and Universities

AY   Academic Year

BOV   Board of Visitors

CAC   Center for Applied Creativity

CAT   Consensual Assessment Technique

CAOCL   Center for Advanced Operational Culture Learning

CCRB   Course Content Review Board

CDET   College of Distance Education and Training

CG   Commanding General

CMC   Commandant of the Marine Corps

CRB   Curriculum Review Board

CSC   Command and Staff College

DASD   Director, Academic Support Division

DOD   Department of Defense

ELC   Executive Leadership Committee

EPME   Enlisted Professional Military Education

EWS   Expeditionary Warfare School

HD-GRC   History Division and the Gray Research Center

IET   Information Educational Technology

IRAP   Institutional Research, Assessment, and Planning

JPME   Joint Professional Military Education

LCSC   Leadership Communication Skills Center

LOI   Letter of Instruction

LLI   Lejeune Leadership Institute

MCU   Marine Corps University

| MCUF | Marine Corps University Foundation |
MCWAR	Marine Corps War College
NMMC	National Museum of the Marine Corps
O&M	Operations and Maintenance
PAJE	Process for Accreditation of Joint Education
PME	Professional Military Education
QEP	Quality Enhancement Plan
QEPT	Quality Enhancement Plan Team
SACSCOC	Southern Association of Colleges and Schools Commission on Colleges
SAW	School of Advanced Warfighting
SLOs	Student Learning Outcomes
SNCOA	Staff Non-Commissioned Officer Academy
T2P2	Training, Transients, Patients, and Prisoners
TECOM	Training and Education Command
TTCT	Torrance Test of Creative Thinking
USMC	United States Marine Corps
VPAA	Vice-President for Academic Affairs
VPSABO	Vice-President for Student Affairs and Business Operations

APPENDIX B. INITIAL MCU QEP IDEAS

Source	Idea	Topic Area
CDET Faculty	Faculty development and revision of amphibious operations course in CSCDEP.	School Specific
CDET Faculty	Faculty development and revision of leadership and warfighting curricula in CSC.	School Specific
CDET Faculty	Revise distance manpower and hiring practices to better support instruction.	Manpower
CDET Faculty	Adopt the iPhone and iPad Blackboard app.	Technology
CDET Faculty	Develop a "Certified Postsecondary Instructor Program" to QC adjunct faculty (JSOU uses one now)	Faculty
CSC	Krulak Scholars Program to link the classroom and fleet. Connect MCU Students to other constituencies in the defense community in order to exampl contemporary operational problems.	Expansion/Curricular
CSCDEP	Assessment and investigation into disparities and value of residential and nonresidential programs. Alignment of programs to validate the distance value.	Curricular/ Technology
CSCDEP	Use technology to enhance distance education program and bridge the gap between programs.	Technology
CSCDEP	Use Adobe Connect / WebEx/ etc. for web conferencing (vice BB discussion boards)	Technology
CSCDEP	Increase number of seats at career level schools (NCOs & SNCOs)	Expand Opportunity
CSCDEP	Increase instructional design team and implement best practices.	Technology
CSCDEP	Incorporate adjunct faculty from Joint and USMC Staffs in the 8900 series to improve practical learning.	School Specific
CSCDEP	Arrange for CDET students to be eligible to earn masters degrees. The work merits it and other services allow it.	Expand Opportunity
CSCDEP	Improve consistency and quantity of feedback.	Faculty
CSCDEP	Evaluate the effectiveness of the MCU Command and Staff College	School Specific
CSCDEP	Provide distance students the same opportunities to earn graduate degrees as resident students.	Expand Opportunity
CSCDEP	Improve credit hour transfers w schools that accept MCU transfer credits	Expand Opportunity
CSCDEP	Expand use of E-books through NKO Library	Technology
CSCDEP	Grant on-line / seminar students access to GRC's online collection	Expand Opportunity
EWS	Information Management Center responsible for all social media, websites, newsletters and publications, chat rooms and learning management systems.	Technology
EWS	Highspeed Internet. Faculty expect ppts / use of technology for graded events. Tech should support.	Technology

	Technology advancements concerning network, access, device issue and curricula, as wel as	
EWS Student	relevant training.	Technology
MCWAR	Investment in programs, projects and materials that support experiential learning.	Curricular
MCWAR	MCU-wide elective program available to students at more than one school.	Integration
MCWAR	Feedback loops to improve formal and informal feedback.	Faculty
MCWAR	Concentrated Self-Study Program that allows students from each school 2-to-3 weeks of self study time in the middle of the academic year.	Curricular
MCWAR	Develop communities of interest, available to students from all MCU schools.	Integration
MCWAR	Piloting, testing and adoption of seminar-leading techniques.	Faculty
MCWAR	Key lectures maintained in video library.	Technology
MCWAR	Leadership Commujnication Skills Center: Phase II	Expansion
MCWAR	Advanced Self-Study Programs for top students to publish.	Curricular
MCWAR	Integrated War Games such as M&S.	Curricular/Technology
MCWAR	Applied Problem Solving using real-world security problems.	Curricular
MCWAR	MCU faculty offer students oxford-style tutorials.	Faculty

APPENDIX C. THEMATIC AREA SELECTION

The following provides a visual capture of the 19 December 2013 QEPT discussion surrounding thematic area selection. Each school identified and ranked their priorities for the QEP themes. The hash marks represent QEPT member support for non-consensus thematic areas:
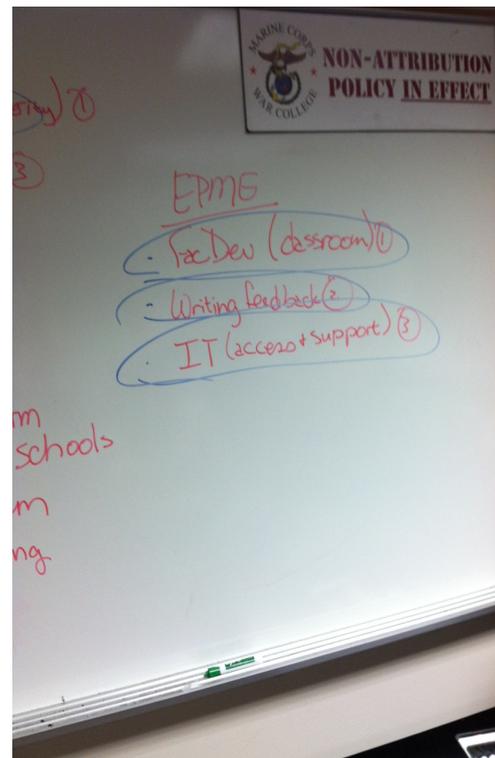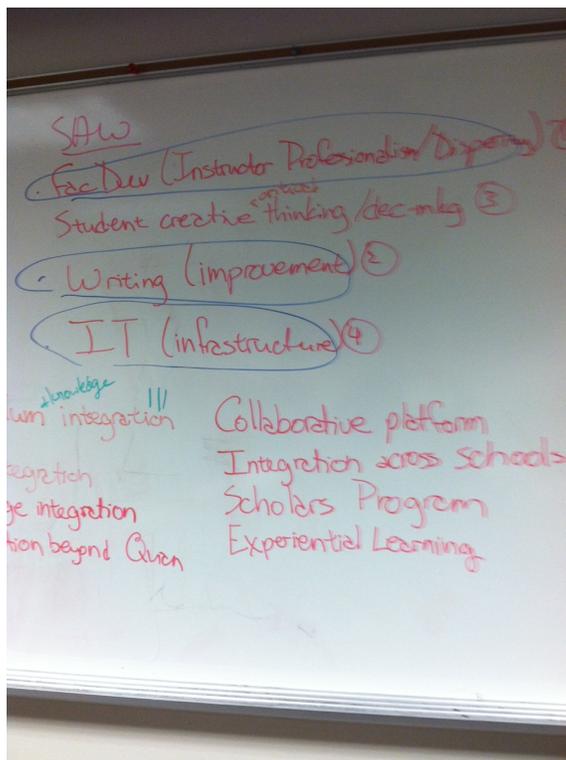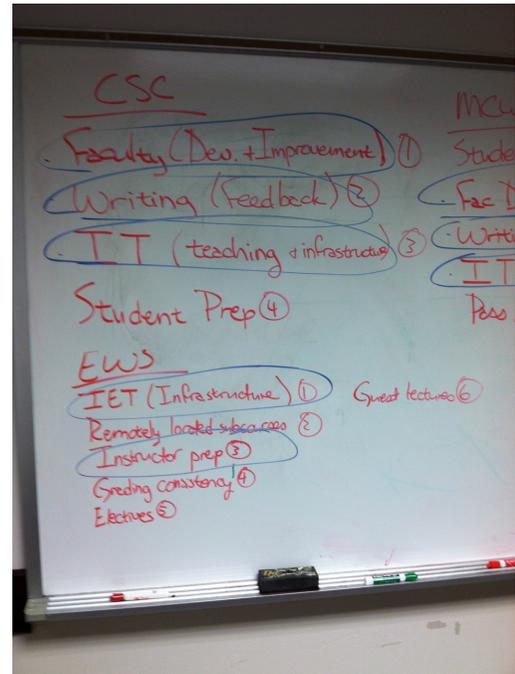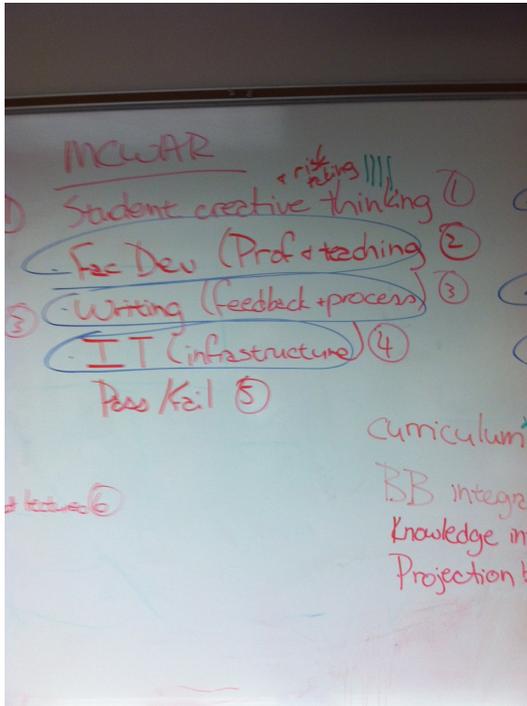
APPENDIX D. JUSTIFICATION FOR ELIMINATING WRITING AS A PROPOSAL DEVELOPMENT THEME

To: Dr. Becky Johnson, Chairperson Quality Enhancement Program Proposal Committee
From: Dr. Gordon Rudd, SAW
        Dr. Linda DiDesidero, LCSC
Date: 10 March 2014
Subj: Withdrawal of Writing as QEP Proposal Topic

This memo offers a rationale and explanation for the withdrawal of "Writing Process and Feedback" as a separate QEP proposal topic for 2014.

1. During the initial QEP discussions (2013), the committee agreed that writing should become one of the designated project proposal topics for the QEP. Writing process and feedback remains a concern for MCU faculty members.

2. Upon review of the theme and the requirements for the proposal, we determined that the 2005 QEP project had already been designed to comprehensively address writing needs, goals, and efficacies across the university. The four specific goals in the 2005 QEP were:

   a. Standardize and strengthen university-wide assessment of student communication skills.
   b. Improve student written communication skills
   c. Improve student verbal communication skills
   d. Provide MCU with a Leadership Communication Skills Center to support its curricula.

   Each goal delineated 4-8 outcomes which form the basis for MCU's approach to the teaching and learning of writing.

3. The specific goals and ensuing actions of the 2005 QEP were so inclusive as to render our new writing proposal redundant.

4. It is our view that, while writing as the primary QEP project might be inappropriate, writing might be usefully embedded into another QEP project. Specifically, the project that would seem the most appropriate for that role is the proposed topic of New Faculty Development. If additional resources will not be available to MCU to facilitate better writing programs in the schools, it should be possible to improve student writing as a component of new faculty development, which could facilitate the teaching efficacy of new faculty in order to improve student writing.

5. We have subsequently joined the New Faculty Development sub-group of the QEP, and we recommend New Faculty Development be selected as the QEP target as a potential means to improve the efficacy of MCU writing programs as well as to engender additional improvements in New Faculty Development.

APPENDIX E. SCHOOL STUDENT LEARNING OUTCOMES RELATED TO CREATIVE PROBLEM SOLVING

Command and Staff College

"Recognize the complexity and nature of problems." [SLO 4.1]

"Frame and solve problems critically and creatively." [SLO 4.6]

"Apply the Marine Corps Planning Process and other planning approaches to develop collaborative solutions to complex operational problems." [SLO 4.7]

"Apply concepts of change and risk in order to lead organizational innovation and adaptation." [SLO 5.3]

School of Advanced Warfighting

Operational Art 3: "Devise alternative solutions to historical examples of campaign planning and design." [OA LO 3]

Operational Planning 1: "Apply knowledge of operational art to complex planning problems using the Marine Corps Planning Process or other planning methodologies." [OP LO 1]

Operational Planning 2: "Lead an operational planning team to develop and integrate war plans and operations orders at various echelons of commands." [OP LO 2]

Future Warfare 3: "Formulate and assess a hypothesis regarding the future character of war." [FW LO 3]

Future Warfare 4: "Evaluate the implications of paradigmatic change and its potential impact on operational art, campaign planning and design." [FW LO 4]

Marine Corps War College

"Demonstrate creative reasoning and problem solving at the strategic level, including the robust generation of imaginative, pragmatic proposals to address complex problems, especially those with interagency, multi-national, and cross-cultural dimensions."

APPENDIX F. EXAMPLE OF LEARNING ENVIRONMENT ASSESSMENT

Course Number & Title: _____
Instructor: _____
Date: _____
Evaluator: _____

INSTRUCTOR:
A. Did the faculty member communicate lesson material in a manner that made it easy to understand? If not, explain and offer recommendations for improvement.

_____
_____
_____
_____
_____
_____
_____

B. Did the faculty member create a learning environment that encouraged experimentation, creativity, and unexpected thinking? If not, explain and offer recommendations for improvement.

_____
_____
_____
_____
_____
_____

C. Did the faculty member offer feedback to students in class that encouraged exploring alternatives, intellectual risk taking, and experimentation? If not, explain and offer recommendations for improvement.

_____
_____
_____
_____
_____
_____

STRENGTHS AND WEAKNESSES
A. What are three strengths this faculty member demonstrated today?
   1. _____
   2. _____
   3. _____

B. What are three weaknesses this faculty member should seek to improve?
   1. _____
   2. _____
   3. _____

APPENDIX G. EXAMPLE OF COACHING WORKSHEET

Coaching Worksheet
(To Be Completed and Returned to Faculty Mentor 48 Hours Prior to Session)

1) **Experience Fostering and Assessing Creative Problem Solving:** How do you self-assess your experience in this area?

Novice --- Proficient --- Expert

On what do you base this self-assessment?

2) **Self-Identified Strengths for Developing and Delivering Curriculum and/or Assessing Students' Creative Problem Solving Skills**

3) **Self-Identified Weaknesses for Developing and Delivering Curriculum and/or Assessing Students' Creative Problem Solving Skills**

4) **Prioritized Goals for the Academic Year (AY)**

5) **Obstacles to Improvement**

6) **Identifying Progress**: What would improvement look like in your priority areas this AY?

7) **Concrete Action**: What is one risk you could take in seminar (or lecture, exercise, etc.) to model experimentation to your students?

8) **Dean's Input**

9) **Next Steps**: (to be completed with your Faculty Mentor)
   -- Actions to implement in curriculum development
   -- Actions to implement in preparation time
   -- Actions to implement in class
   -- Actions to implement in assessment

10) **Date of Next Coaching Session**

APPENDIX H. SOLICITATION OF INTEREST, DIRECTOR, CAC

The Marine Corps University is seeking applicants for the Donald L. Bren Chair of Creative Problem Solving for Academic Year 2015-2016. Major duties of the Chair include:
- Directing the Marine Corps University Center for Applied Creativity
- Supporting school-level efforts to develop and deliver curricula to enhance creative problem solving skills, to include teaching electives and individual classes
- Teaching courses and leading seminars for students and faculty focusing on creative problem solving techniques and approaches
- Mentoring master's degree students at all levels and advising research papers
- Developing and conducting faculty development sessions to enhance expertise in problem solving
- Pursuing institutional outreach to the wider academic community at Marine Corps Base Quantico and other institutions of higher learning within the Professional Military Education arena and beyond
- Developing and conducting "Innovation Summits" and other opportunities for students to practice creative problem solving with interagency, non-profit, business, and international peers

The position is a two-year appointment, with an option for reappointment. The position begins with the academic year commencing during July 2015 and the two-year appointment ends during June 2017. To be eligible, candidates must demonstrate a strong record of scholarship in an applicable field. An earned Doctorate is desired but not mandatory.

Applications should arrive no later than 1 May 2015. To receive full consideration, applicants should submit curriculum vitae, official transcripts, and three letters of recommendation to: mcu_resumes@usmc.milmailto:. Or by mail to:

> MARINE CORPS UNIVERSITY
> ACADEMIC CHAIR SEARCH COMMITTEE
> ATTN: DR. KIM FLORICH (VPAA)
> 2076 SOUTH STREET
> QUANTICO, VA 22134-5068

MCU is located 35 miles south of Washington, D.C. MCU is accredited by the Southern Association of Colleges and Schools Commission on Colleges (SACSCOC). The Marine Corps University Foundation (MCUF), also located in Quantico, will compensate all aspects of the Academic Chair. For additional information on MCU or MCUF, please visit online www.mcu.usmc.mil or www.mcuf.org. Send inquiries to: mcu_resumes@usmc.mil.

The Marine Corps University is an Equal Opportunity Employer

Marine Corps University
QEP Five Year Assessment Plan

Overarching Program Goal: Enhance students' creative problem-solving skills

Year 0	Year 1	Year 2	Year 3	Year 4	Year 5
Baseline: CAT; Peer Evaluation for Group Assignments	Initial Assessment: CAT; Year-End Assessment: CAT; Peer Evaluation for Group Assignments; Surveys: Students/Faculty; Focus Groups (as needed)	Initial Assessment: CAT; Year-End Assessment: CAT; Peer Evaluation for Group Assignments; Surveys: Students/Faculty; Focus Groups (as needed)	Initial Assessment: CAT; Year-End Assessment: CAT; Peer Evaluation for Group Assignments; Surveys: Students/Faculty; Focus Groups (as needed); Field Data Collection/ Interviews with Graduates	Initial Assessment: CAT; Year-End Assessment: CAT; Peer Evaluation for Group Assignments; Surveys: Students/Faculty; Focus Groups (as needed); Field Data Collection/ Interviews with Graduates	Initial Assessment: CAT; Year-End Assessment: CAT; Peer Evaluation for Group Assignments; Surveys: Students/Faculty; Focus Groups (as needed); Field Data Collection/ Interviews with Graduates

Objective 1: Develop curricula that require students to solve problems creatively.

Year 0	Year 1	Year 2	Year 3	Year 4	Year 5
Syllabi Audit CCRB	Syllabi Audit Comparison CRB/CCRB	Syllabi Audit Comparison CCRB Grants/Reports	Syllabi Audit Comparison CRB/CCRB Grants Reports	Syllabi Audit Comparison CRB/CCRB Grants Reports	Syllabi Audit Comparison CRB/CCRB Grants Reports

Objective 2: Prepare faculty to create learning environments conducive to creative problem solving.

Year 0	Year 1	Year 2	Year 3	Year 4	Year 5
	Assessment of Faculty Development/Mentoring; Self-Report of engagement and CPS approaches used; Observation/Feedback; Student Performance: CAT	Assessment of Faculty Development/Mentoring; Self-Report of engagement and CPS approaches used; Observation/Feedback; Student Performance: CAT	Assessment of Faculty Development/Mentoring; Self-Report of engagement and CPS approaches used; Observation/Feedback; Student Performance: CAT	Assessment of Faculty Development/Mentoring; Self-Report of engagement and CPS approaches used; Observation/Feedback; Student Performance: CAT	Assessment of Faculty Development/Mentoring; Self-Report of engagement and CPS approaches used; Observation/Feedback; Student Performance: CAT

Objective 3: Provide integrated learning opportunities that challenge students to collaborate outside traditional cohorts and constructs.

Year 0	Year 1	Year 2	Year 3	Year 4	Year 5
	Collaboration with internal/external partners; Participant feedback	Submissions to Professional Conferences/Presentations; Collaboration with internal/external partners; Participant feedback	Submissions to Professional Conferences/Presentations; Collaboration with internal/external partners; Participant feedback	Submissions to Professional Conferences/Presentations; Collaboration with internal/external partners; Participant feedback	Submissions to Professional Conferences/Presentations; Collaboration with internal/external partners; Participant feedback

Marine Corps University

QEP Five Year Assessment Plan

Methodology

Overarching Program Goal

Research Questions:

Do interventions in teaching and learning methods and curriculum increase creative problem solving?

What interventions contribute to increases in creative problem-solving?

Dependent Variable: Creative Problem-Solving Skills as demonstrated by students through production of artifacts

Results of assessment by panel of experts using Creative Thinking VALUE Rubric

Independent Variables: Faculty Development Engagement (Faculty Development Sessions/Attendance by School, Individual, Total); Observation/Feedback sessions;

Curriculum Revisions - Results assessed through adapted Creative Thinking VALUE Rubric for metrics

Review of resourcing use and integration into curriculum by school and conference group

Method: Descriptive Statistics; Bivariate Correlation (Pearson's R); Multiple Regression; Hierarchical Linear Modeling;

Indirect: Faculty and Student Surveys; Interviews

Qualitative Data: Faculty and Staff Interviews, Field Interviews with Graduates

Objective 1

Research Questions:

What adjustments to curriculum are associated with increases in creative problem-solving?

Do curriculum development grants which result in adjustments to curriculum increase creative problem-solving?

Dependent Variable: See above

Independent Variables: Pre– and Post-assessment audit of syllabi/course cards; audit of curriculum through CCRB/

Method: Descriptive Statistics; Bivariate correlation (Pearson's R); Multiple Regression, Hierarchical Linear Modeling

Indirect: Faculty and Student Surveys

Qualitative Data: Faculty Interviews; Student Focus Groups

Marine Corps University
QEP Five Year Assessment Plan

Methodology (Continued)

Objective 2

Research Questions:

Does faculty development result in increases in Creative Problem Solving?

Does faculty development result in creating an environment that supports increases in Creative Problem Solving?

Dependent/Independent Variables: See above.

Method: Descriptive Statistics; Bivariate Correlation (Pearson's R); Multiple Regression; Hierarchical Linear Modeling

Indirect: Faculty and Student Surveys

Qualitative Data: Faculty and Staff Interviews; Student Focus Groups

Objective 3

Research Questions:

Do environmental factors associated with integrated learning influence students' creative problem-solving?

What environmental factors associated with integrated learning increase students' creative problem-solving?

Dependent Variables: See above;

Independent Variables: Number of Integrated Learning Opportunities as represented by jointly sponsored events focused on creative problem-solving (conference sponsorship, attendance, submission to conferences); Collaborative projects across schools; Research Initiatives; Published articles in refereed journals

Indirect: Surveys of Faculty, Students, Participants in CAC summits

Qualitative Data: Focus Groups/Interviews with Faculty and Participants in CAC summits

Comprehensive assessment will take place at the end of each academic year with a SACSCOC 5-Year Impact Study submitted in 2020.

APPENDIX J. MCU CREATIVE RUBRIC

	Transformative 4	Creative 3	Adaptive 2	Imitative 1
Acquiring Strategies and Skills (Competency 1)	Reflect: Evaluates creative process and product using domain-appropriate criteria.	Create: Creates an entirely new object, solution or idea that is appropriate to the domain.	Adapt: Successfully adapts an appropriate exemplar to his/her own specifications.	Imitate: Successfully reproduces an appropriate exemplar.
Embracing Contradictions (Competency 2)	Fully integrates alternate, divergent, or contradictory perspectives or ideas.	Explores alternate, divergent, or contradictory perspectives or ideas.	Includes (recognizes the value of) alternate, divergent, or contradictory perspectives or ideas in a small way.	Acknowledges (mentions in passing) alternate, divergent, or contradictory perspectives or ideas.
Connecting and Synthesizing (Competency 3)	Transforms ideas or solutions into entirely new forms.	Synthesizes ideas or solutions into a coherent whole.	Connects ideas or solutions in novel ways.	Recognizes existing connections among ideas or solutions.
Innovative Thinking (Competency 3)	Extends a novel or unique idea, question, format, or product to create new knowledge or knowledge that crosses boundaries.	Creates a novel or unique idea, question, format, or product.	Experiments with creating a novel or unique idea, question, format, or product.	Reformulates a collection of available ideas.
Solving Problems (Competency 4) (Competency 5)	Develops a logical, consistent plan to solve problem, recognizes consequences of solution, and articulates reason for choosing solution. Proactive in adapting to changing organizational/unit needs.	Develops a logical, consistent plan to solve the problem, having selected from among alternatives. Adapts to changing organizational/unit needs.	Considers and rejects less acceptable approaches to solving problem and/or adapting to organizational/unit needs.	Considers only a single approach to solve the problem. Fails to adapt to organizational/unit needs.
Taking Risks (Competency 6)	Actively seeks out and follows through on untested and potentially risky directions or approaches to the assignment in the final product. Makes decisions easily under conditions of uncertainty.	Incorporates new directions or approaches to the assignment in the final product. Makes decisions under conditions of uncertainty.	Considers new directions or approaches without going beyond the guidelines of the assignment. Seeks additional guidance before making decisions under conditions of uncertainty.	Stays strictly within the guidelines of the assignment. Fails to make decisions under conditions of uncertainty.

CSC WRITING RUBRIC

SLO	GRADED COMPONENT	UNACCEPTABLE C+ (76-79) or Below	MARGINAL B- (80-82)	SATISFACTORY B (83-86) / B+ (87-89)	ACCOMPLISHED A- (90-92) / A (93-96)	SUPERIOR A+ (97-99)
TBD	**CONTENT and SLO(s)** **Content:** Does the student answer the question posed by the assignment? **Evidence**: Does the student provide sufficient evidence of sufficient quality to support the paper's arguments? **SLO(s):** Does the student demonstrate comprehension of the SLO(s) evaluated by this assignment?	Paper fails to respond directly and completely to essay prompt. Paper fails to develop content in appropriate depth and breadth for this audience, level of study, and assignment. Evidence is not comprehensive and relevant for this argument. Evidence is not drawn from sources that are appropriate for this audience, level of study, and assignment. Student fails to demonstrate comprehension of the SLO(s) evaluated by this assignment.	Paper responds marginally to essay prompt. Paper is developed ineffectively or lacks appropriate depth and/or breadth for this audience, level of study, and assignment. Evidence is either irrelevant or incomplete for this argument. Evidence is drawn from resources that are not credible and/or appropriate for this audience, level of study, and assignment. Student demonstrates marginal comprehension of the SLO(s) evaluated by this assignment.	Paper responds fully and directly to essay prompt. Paper is developed to an appropriate depth and breadth for this audience, level of study, and assignment. Evidence is comprehensive, relevant, and complete for this assignment. Evidence is drawn from sources that are appropriate for this audience, level of study, and assignment. Student demonstrates satisfactory comprehension of the SLO(s) evaluated by this assignment.	Paper develops response to essay prompt that is original and contains appropriate depth and breadth for this audience, level of study and assignment. Counterarguments are addressed tangentially. Evidence is extensive, relevant, and complete for this argument. Evidence is drawn from sources that are sophisticated and appropriate for this audience, level of study, and assignment. Student demonstrates accomplished comprehension of the SLO(s) evaluated by this assignment.	Paper develops response to essay prompt that is original, sophisticated, and powerful. Paper is developed in extraordinary depth and breadth for this audience, level of study, and assignment. Counterarguments are addressed thoughtfully. Evidence is extensive, relevant, complete, and original for this argument. Evidence is drawn from sources that are sophisticated, original, and appropriate for this audience, level of study, and assignment. Student demonstrates superior comprehension of the SLO(s) evaluated by this assignment.
4.1	**ORGANIZATION AND STRUCTURE** **Thesis**: Does the student provide a single, coherent, organized argument for the paper? **Flow**: Does the student organize the paper so the individual sections and paragraphs flow in a logical and effective manner? **Structure:** Does the student provide an effective introduction, body, and conclusion?	The paper lacks a single, coherent, organizing argument. Paper's organization is illogical and difficult to follow. Introduction fails to provide a clear thesis and adequate background; sections and paragraphs fail to serve effectively as building blocks of argument; conclusion fails to include summary and implications of argument.	The paper's organizing argument must be inferred by the reader or is obvious only well into the paper. Paper's organization is either illogical or difficult to follow. The introduction provides minimal background and elements of a thesis; the sections and paragraphs fail to serve effectively as building blocks of argument; or, the conclusion fails to include summary and implications of argument.	Paper possesses a single, coherent, organizing argument communicated in the introduction. Paper's organization is logical and apparent to the reader and flows well (through the use of transitions, for example). Introduction provides background and contains a clear thesis; sections and paragraphs serve effectively as building blocks of argument; and conclusion includes summary and implications of argument.	Paper possesses a single, coherent, and feasible argument communicated in the introduction. Paper's organization is logical and sophisticated. Introduction contextualizes and problematizes thesis effectively; sections and paragraphs build a coherent and well-thought argument; and, conclusion summarizes and insightfully presents implications of the argument.	Paper possesses a single, feasible, and original organizing argument communicated in the introduction. Paper's organization is logical, original, complex, and sophisticated. Introduction contextualizes or problematizes thesis in sophisticated and original way; sections and paragraphs build a coherent, streamlined, and well-thought argument; conclusion summarizes and insightfully presents implications of argument.
4.6	**HIGHER ORDER THINKING SKILLS** **Analysis**: Does the student demonstrate the ability to distinguish between the component parts of an argument, idea, or concept and between facts and inferences? **Evaluation**: Does the student demonstrate the ability to justify a judgment about an idea/concept or to develop an argument? **Creativity:** Does the student demonstrate the ability to create an original argument, idea, or concept?	Paper fails to develop component parts of argument with clear connections and links between and among parts. Paper fails to justify judgment based on internal evidence and/or external criteria. Paper fails to develop original argument, idea, or concept.	Paper develops component parts of argument that are not clearly connected or linked. Paper marginally justifies judgment based on internal evidence and/or external criteria. Paper marginally develops original argument, idea, or concept.	Paper develops component parts of argument with connections and links between and among parts. Paper justifies judgment based on internal evidence and/or external criteria. Paper develops somewhat original argument, idea, or concept.	Paper develops component parts of argument with refined connections and links between and among parts. Paper justifies judgment based on extensive and relevant internal evidence and/or external criteria. Paper develops original argument, idea, or concept.	Paper develops component parts of argument with sophisticated and complex connections and links between and among parts. Paper justifies judgment based on extensive, relevant, and sophisticated internal evidence and/or external criteria. Paper develops a clear and highly original and feasible argument, idea, or concept.
7.2	**LANGUAGE AND FORMAT** **Language:** Does the student use language effectively in support of the argument? **Grammar and Mechanics:** Does the student use conventional grammar, punctuation, capitalization, and spelling consistently throughout the paper? **Style:** Does the student follow the format and conventions of the required style?	Paper routinely displays ineffective use of language. Multiple sentences are unclear and ineffective. Grammatical or mechanical errors are extensive and confuse the reader. Paper contains more than three typos, grammatical, or punctuation errors in any paragraph. Paper contains repetition of typos, grammatical, or punctuation errors corrected on previous assignments. Paper fails to follow format and conventions of required style.	Paper marginally uses language effectively to create an argument for this particular audience. Word choice may not be precise and specific; tone is borderline inappropriate or inconsistent; level of complexity is borderline inappropriate or uneven. Many sentences are unclear or ineffective. Grammatical or mechanical errors create some confusion for the reader. Paper may not follow format or conventions of required style.	Paper uses language that creates an argument for this specific audience. Includes precise and specific word choice, appropriate tone, and satisfactory level of complexity or sophistication. Sentences are clear and effective. Grammatical or mechanical errors are minimal and do not interfere with reader's understanding. Paper follows format and conventions of required style.	Paper uses language in effective and original way to create an argument for this specific audience. Includes precise and specific word choice, appropriate tone, and appropriate level of complexity or creativity. Sentences are clear and sophisticated, displaying writer's skill with language. Grammatical or mechanical errors are insignificant. Paper follows format and conventions of required style.	Paper uses language in an original and sophisticated way to create argument for this specific audience. Sentences are clear, sophisticated, precise, and persuasive, and indicate writer's mastery of rhetoric. Grammatical or mechanical errors are not present. Paper follows format and conventions of required style.

SAW OPERATIONAL DECISION GAME RUBRIC

Operational Decision Game Rubric

Student Name and Rank: _____ Planning Problem: _____ Date: _____

Levels/Criteria	Unacceptable (U)	Acceptable (A)	Successful (S)	Excelled (E)	Level	Score/Remarks
Identifies alternative (possible) COAs	Identifies COAs not relevant or shows limited understanding of the problem	Identifies relevant alternative COAs and basic understanding of the problem	Identifies relevant alternative COAs and developed insight into the problem	In-depth insight into the problem and possible alternative COAs		
Identifies criteria to select optimal COA and applies To possible COAs	Identifies only some or unimportant criteria	Identifies relevant and important criteria	Identifies the most important criteria	Identifies less obvious criteria demonstrating keen insight		
Selects COA and illustrates reasoning	Reasoning is limited, confusing, and shows little creativity	Reasoning is logical and persuasive	Reasoning is logical, persuasive, and shows creativity	Reasoning demonstrates keen insight and creativity		
Writing Mechanics	Multiple major errors	Generally effective with some major errors	Effective with minor errors	Effective and error free		
Presentation Mechanics	Illustration is confusing and crude	Illustration conveys COA adequately	Illustration conveys COA precisely	Illustration can stand alone		

C = < 80   B- = 80 − 82 / B = 83 − 85   B+ = 86 − 89   A- = 90 − 92 / A = 93 − 96 / A+ = 97 - 100

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MCWAR PAPER RUBRIC

<u>Common Learning Outcome Two</u>: *Demonstrate creative reasoning and problem solving at the strategic level, including the robust generation of imaginative proposals to address complex problems, especially those with interagency, multi-national, and cross-cultural dimensions*

3 - Thoroughly, extensively, and frequently demonstrates creativity and imagination with respect to the question of whether there is a realistic and practical alternative to UN-centric PKO, which by its nature is an interagency, multi-national, and cross-cultural enterprise. Reliably generates imaginative, prudent, carefully-reasoned alternative solutions that manifest cross-cultural and other dimensions.   The frequency, soundness, and imagination of problem solving displays higher order cognitive skills.

2 - Competently demonstrates creativity and imagination with respect to the question of whether there is a realistic and practical alternative to UN-centric PKO.   Usually generates imaginative, prudent, carefully-reasoned alternative solutions that manifest cross-cultural and other dimensions. Creative reasoning and problem solving lacks the frequency, soundness and imagination of higher order cognitive skills.

1 – Sometimes demonstrates creativity and imagination with respect to the question of whether there are realistic and practical alternatives to UN-centric PKO.

0 - describes but does not evaluate factors, including cultural factors, relating to the causes of instability, conflict, and cooperation, and how those factors influence UN PKO at the strategic level. Does not analyze the current systems vice new or revised models. Superficial in presentation and conclusions.