



## **QEP IMPACT REPORT**

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## TITLE AND DESCRIPTION

Mitchell Community College's Quality Enhancement Plan (QEP) is designed to improve student learning by using Contextual Teaching and Learning (CTL) strategies. CTL enhances student learning through activities that connect academic concepts to relevant life experiences. The QEP, which launched in 2007 as *Math Rules: The Art of Contextualizing Math 060*, focused on improving student performance in MAT 060 and was based on:

- National research findings indicating mathematics is often a barrier to student success
- Significantly higher enrollment in MAT 060 than in other developmental courses
- Baseline data indicating a low MAT 060 completion and passing rate (48)
- Baseline data indicating that over 40 percent of students who passed MAT 060 performed poorly or withdrew from MAT 070

Since the launch, the QEP has expanded to other academic areas.

## INITIAL GOALS AND INTENDED OUTCOMES

The three initial goals were:

1. Improved academic performance in MAT 060
2. Improved performance in subsequent mathematics courses
3. Improved student attitudes toward math

The initial intended outcomes were:

- The MAT 060 course completion rate and combined course failure/withdrawal rate will steadily improve, with a course completion rate at least five percent higher than the baseline average by fall 2013.
- For each MAT 060 CTL project, SLO competency will be demonstrated, with a class average at a 2.5 level or better (A 2.5 level is the median between a C and a B average).
- Student portfolios will demonstrate that 85 percent of MAT 060 students are "proficient learners" by 2013 (Proficiency means the student has at least a B average for the assignments included in the portfolio).
- Enrollment in subsequent math courses will steadily increase, with MAT 070 enrollment expected to grow approximately five to six percent by fall 2013.
- Success in subsequent math courses will steadily improve with the infusion of CTL in MAT 060, with average course completion rates expected to be approximately five percent higher than baseline data by fall 2013.
- Responses to surveys concerning student engagement, student attitudes toward math, faculty perceptions and faculty experiences will reflect positive change with the infusion of CTL in MAT 060.
- Project improvements will be made on a timely basis as a result of focus group input.

## CHANGES MADE TO THE QEP BASED ON ONSITE TEAM RECOMMENDATIONS

When SACS reviewed Mitchell Community College's initial QEP in 2007, they accepted it on the condition that certain changes are made. Specifically, SACS recommended the following:

- Review, revise, and update the plan to include an implementation timeline and specific plans for expansion of the pedagogical approach (CTL) beyond the pilot project
- Review and revise the assessment plan in order to determine that the student learning outcomes of the QEP have been achieved

In its Response Report, the College added seven additional goals to the QEP to address the two recommendations made by the Onsite Team:

4. Clarify the baseline data in MAT 060
5. Expand the QEP beyond MAT 060 (with a timeline for implementation of each expansion)

6. Use CTL-related activities as a part of professional development
7. Develop CTL resources
8. Promote the College's commitment to CTL
9. Collaborate with local community agencies
10. Create student CTL portfolios

### Clarification of Baseline Data in MAT 060

Between fall 2007 and fall 2009, students at the College who scored below 30 on the ACCUPLACER arithmetic placement test were placed into MAT 050. SACS expressed concern that exposure to MAT 050 may have had an extraneous impact on the performance of MAT 060 students. In order to get an accurate picture of the QEP's direct impact on student learning, all students who received an ACCUPLACER arithmetic placement test score below 30, regardless of whether or not they took MAT 050, were excluded from both the baseline and CTL intervention data pools in the analyses of the impact of MAT 060 CTL projects.

### Expansion of the QEP Beyond MAT 060

**Expansion One.** A CTL-infused course entitled HUM 120 (Race in America) was introduced in fall 2008. Students in this course complete a collaborative multi-media project; complete a research paper on a race-related work of popular culture; take field trips to museums, festivals, universities, and theatre productions; and complete personal experience papers. These CTL activities help students understand the cultural, social, economic, political, and personal aspects of race in a variety of cultures.

**Expansion Two.** In fall 2009, five new CTL projects were added.

- **Accidents in the Workplace:** Students in ISC 112 (Industrial Safety) work in teams to create safety videos based on given scenarios related to topics in the textbook.
- **Titanic:** Students in BUS 115 (Business Law) learn legal concepts by taking part in a mock trial of White Star Line, the operator of the HMS Titanic, vs. Carla Jensen, the wife of a man who died on the Titanic.
- **Managing the Care of the Whole Person:** Human services students in HSE 123 (Interviewing Techniques) videotape interviews with HSE 110 (Introduction to Human Services) students playing the role of clients. The HSE 123 students then generate bio/psycho/social evaluations of the clients. Students in HSE 220 (Case Management) use these evaluations to develop client-centered service plans.
- **Can You Build It?:** Students in DDF 252 (Advanced Solid Modeling) acquire the knowledge and skills necessary to create duplicates of physical parts by reverse engineering Lego® modeling kits.
- **Crime Scene Investigation:** Students in MAT 151 (Statistics I) investigate the case of a stolen trophy. Students have the evidence of an 11-1/2 inch shoeprint found near the glass case and the height of each suspect. They use the correlation between shoe size and height to determine the most likely culprit.

The Accidents in the Workplace project was discontinued after fall 2009 when the course was only offered online.

**Expansion Three.** In 2010-11, four new CTL projects involving collaboration between different academic disciplines were implemented.

- **BUS 260 and COM 231:** Students in BUS 260 (Business Communication) prepare and deliver presentations designed to sell a product or idea to customers. Students in COM 231 (Public Speaking) evaluate the videotaped presentations and make recommendations for improvements.
- **HSE 240 and CJC 132:** Students in HSE 240 (Issues in Client Services) develop a set of policies and procedures for handling dangerous clients. The policies and procedures are then submitted to students in CJC 132 (Court Procedure and Evidence) for legal review.
- **HSE 123 and COM 110:** Students in HSE 123 (Interviewing) complete a videotaped interview with another student, and create a bio-psychosocial assessment from the interview. Students in COM 110 (Introduction to Communication) critique the videotaped interviews.

- **MKT 225 and ENG 114:** Students in MKT 225 (Marketing Research) conduct a survey for an actual business. Students in ENG 114 (Professional Research and Reporting) prepare a written research report for the business based on survey results.

Expansion Three collaborative projects were discontinued due to difficulties involved in the coordination and evaluation of the projects. Faculty indicated that they may again collaborate on CTL projects in the future.

**Expansion Four.** In 2011-12, all fulltime faculty were asked to include at least one CTL project. All complied with the request and submitted documentation describing the project and its results.

### Use of CTL-Related Activities as Part of Professional Development

Since the 2007-08 QEP launch, the College has offered relevant professional development activities. Below is a list of workshops and training sessions intended to address SACS recommendations that the College:

- Continue to use professional development activities to encourage interdisciplinary collaboration
- Conduct college-wide activities each semester that reinforce the College’s commitment to CTL

Development Activity	Participants	Date
“Practical Applications for Contextual Teaching and Learning,” a CORD-sponsored workshop facilitated by Dr. Ken Hurley, Teemus Warner, and Holly Doughty	<ul style="list-style-type: none"> <li>▪ Faculty involved in Expansion One and Two projects</li> </ul>	Feb. 2008
“Designing and Assessing Assignments for Small Groups,” a CORD-sponsored workshop facilitated by Dr. Charles Walker of St. Bonaventure University	<ul style="list-style-type: none"> <li>▪ MAT 060 faculty</li> <li>▪ Faculty involved in Expansion One and Two projects</li> <li>▪ Technical program faculty</li> </ul>	Mar. 2008
“Developing Partnerships Between Schools and Industry,” facilitated by Debra Mills, Vice President for Partnerships, CORD	<ul style="list-style-type: none"> <li>▪ MAT 060 faculty</li> <li>▪ Faculty involved in Expansion One and Two projects</li> <li>▪ Technical program faculty</li> </ul>	May 2008
Lecture on CTL by Dr. Elaine Johnson, author of <i>Contextual Teaching and Learning: What It Is and Why It’s Here To Stay</i> .	<ul style="list-style-type: none"> <li>▪ All fulltime faculty</li> </ul>	Oct. 2009
Workshop on cooperative learning facilitated by Dr. Roxanne Newton, Dean of Humanities	<ul style="list-style-type: none"> <li>▪ Expansion Three faculty</li> </ul>	Apr. 2011
Workshop on effective rubric development facilitated by Dr. Mary Allen, author of <i>Assessing General Education Programs</i>	<ul style="list-style-type: none"> <li>▪ All fulltime faculty</li> </ul>	May 2011
Eportfolio workshop facilitated by Dr. Helen Barrett	<ul style="list-style-type: none"> <li>▪ All fulltime faculty</li> </ul>	Aug 2012
Overview of CTL and examples of projects implemented as part of the QEP	<ul style="list-style-type: none"> <li>▪ New fulltime and adjunct instructors</li> </ul>	Oct. 2012
Workshop on the creative class and twenty-first century skills facilitated by Dr. Jeannie Justice	<ul style="list-style-type: none"> <li>▪ All fulltime faculty</li> </ul>	Jan. 2013

Although the College did not meet SAC's recommendation of college-wide activities reinforcing the commitment to enhancing student learning *each semester*, the amount of professional development offered was deemed sufficient to meet faculty needs. The high quality of the majority of the CTL projects at the College indicates that most of the faculty can correctly apply the basic concepts of CTL to their classes. In addition, the QEP Department has consistently provided one-on-one assistance with the development and refinement of CTL projects.

### Development of CTL Resources

A variety of resources have been made available to faculty in response to the SACS recommendation to continue to develop contextual learning resources for faculty and staff. These include:

- An Intranet QEP webpage that provides links to QEP documents, reports, recommendations, project descriptions, implementation instructions and SACS recommendations.
- An MCC-CTL Moodle website that contains links to the CTL Project Worksheet and the Project Recap form, instructors' summaries of CTL projects, and general information about CTL and the QEP.
- A Blackboard site developed by a group of instructors that describes their CTL projects and rubrics. This can be viewed through the NC-NET website ([www.nc-net.info](http://www.nc-net.info)). From the "Teaching and Learning" page, locate and log onto the NC-NET Blackboard server. Then enter the site entitled "Contextual Teaching and Learning -- Mitchell Community College."
- Copies of Dr. Elaine Johnson's book *Contextual Teaching and Learning: What It Is and Why It's Here To Stay* given to all fulltime faculty upon request. The book serves as a guide for the development of CTL projects, as well as a rationale for why CTL is an effective strategy for increasing student learning.

### Promotion of the College's Commitment to CTL

Promotion of the College's QEP is ongoing. In 2011, the College adapted the logo to include the tagline "Connecting Life to Learning" on all College-branded marketing materials. Other promotions include:

- Presentations to the Board of Trustees and Endowment Board
- Articles and "QEP Quips" in the internal Columns newsletter
- An eportfolio of the College's CTL projects (<https://sites.google.com/site/ctlatmitchellcommunitycollege/>)

In addition, the CTL director collaborated with Dr. David Bond, director of the National Career Pathways Network, on an article describing five CTL projects published in the *National Career Pathways Network Connections* newsletter ([www.cordonline.net/connections/22\\_2/22\\_2\\_print\\_version.pdf](http://www.cordonline.net/connections/22_2/22_2_print_version.pdf)). The College's use of CTL is also mentioned in *The Career Pathways Effect: Linking Education and Economic Prosperity* (Bond & Navarra, 2012).

### Collaboration With Local Community Agencies

Input from the business community was a key element to the selection of CTL for the College's QEP. That partnership continues to be a critical piece as faculty work to ensure that course content is relevant to area employers. Examples include:

- Coordinators for the mechanical engineering, nursing, early childhood education, and cooperative education (CO-OP) programs collaborate on a regular basis with local community agencies. These interactions lead to projects, internships and job-placements that can be categorized as CTL activities.
- Advisory boards for academic programs provide opportunities for collaboration on program content.

### Creation of Student CTL Portfolios

Portfolios of student work in MAT 060 and HUM 120 have been collected since the QEP began. In order to inform other instructors about the potential benefits of portfolios, the College contracted with eportfolio expert Dr. Helen Barrett to facilitate a workshop on how to use eportfolios to create a showcase of student work. Since then, several instructors have incorporated an eportfolio component into their CTL projects. For example, in spring 2013 student portfolios were used in

- Advanced Solid Modeling (DDF 252)
- Administrative Office Management (OST 289)

- Educational Technology (EDU 271)
- Complex Health Concepts (NUR 213)
- The Associate in Fine Arts program (where eportfolios are encouraged for all visual arts students)

## CHANGES MADE TO THE QEP BASED ON ASSESSMENT OF PILOT RESULTS AND UNANTICIPATED STATE MANDATES

The Recipe Project, which was piloted in five sections of MAT 060 in spring 2008, provides a recipe for Chex Mix<sup>®</sup> to serve six people. Students are required to adjust the recipe to serve different numbers of people (e.g., three-fourths of the original number, two-thirds of the original number, etc.).

### Changes Based on Assessment of Pilot Results

Based on student performance, written reflections, surveys, and faculty focus groups used to assess the impact of CTL on student learning, the team made the following changes in the 2008-09 academic year.

- Modified the two assignments that were associated with the Recipe Project: (1) a quiz assessing proficiency at the same skills being addressed by the Recipe Project, and (2) a homework assignment assessing these skills
- Triangulated other MAT 060 CTL projects with quizzes and homework assessing the same skills
- Discontinued student focus groups because sufficient data on student attitudes and perceptions was being received through pre-CTL and post-CTL student surveys.

The Recipe Project continued and the team added three new projects:

- **House Project:** (fall 2009) Students design a house floor plan on graph paper, and then calculate the installation of tile, carpeting, molding and other materials. The exercise requires students to apply arithmetic operations and geometric concepts.
- **Village Project:** (fall 2010) Students calculate the number of people in their class expected to have particular traits and characteristics based on the proportions in David Smith's book, *If the World Were a Village*. This project was discontinued after one semester due to difficulties in translating the proportions from the book.
- **Big Math and Fries Project:** (spring 2011) Students use menus from fast food restaurants to plan a day of meals that meet the guidelines of the Zone Diet (40 percent carbohydrates, 30 percent protein, and 30 percent fat). The exercise provides realistic applications for understanding decimals and percentages.

### Changes Based on Unanticipated State Mandates

In fall 2012, MAT 060 was discontinued at the College due to the state-mandated conversion from sixteen-week developmental math courses to four-week developmental math modules. Therefore, the last semester of data collection in MAT 060 was spring 2012.

## QEP IMPACT ON STUDENT LEARNING

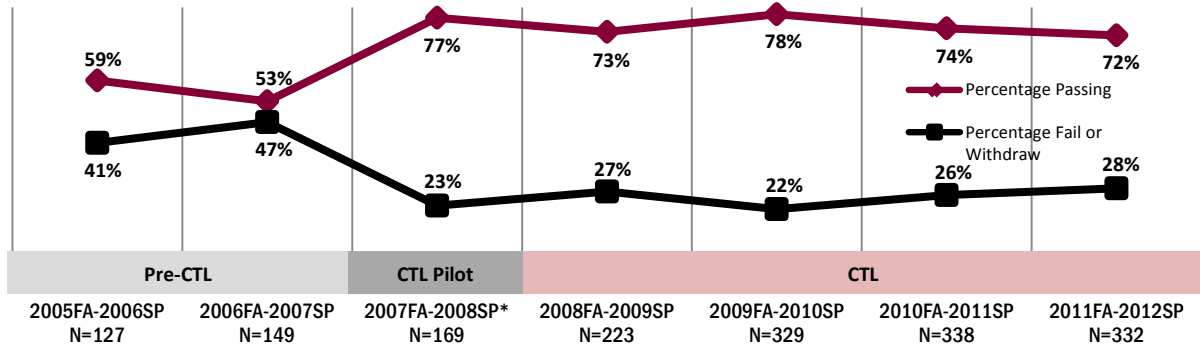
### Impact on Student Learning in MAT 060 and Subsequent Math Courses

#### Academic Performance in MAT 060

**Completion Rate and Passing Rate:** Excluding MAT 050 eligible students, the intended outcome "The MAT 060 course completion rate and combined course failure/withdrawal rate will steadily improve, with a course completion rate at least five percent higher than the baseline average by fall 2013" was partially achieved.

Although the course passing rate has been at least 16 percent higher than the two-year baseline average of 56 percent every year since the Recipe Project was piloted in 2007-08, data revealed an immediate peak followed by a flat but consistently high plateau rather than steady improvement. This trend of a dramatic increase in MAT 060 passing rates in the CTL pilot year (2007-08), followed by a maintenance of consistently higher passing rates than in the pre-CTL years (2005-06 and 2006-07), is found for males, females, whites, blacks, and students age 24 and under.

**MAT-060 Students Passing Rates**  
Fall 2005-Spring 2012 -- Excludes MAT-050 Eligible Students

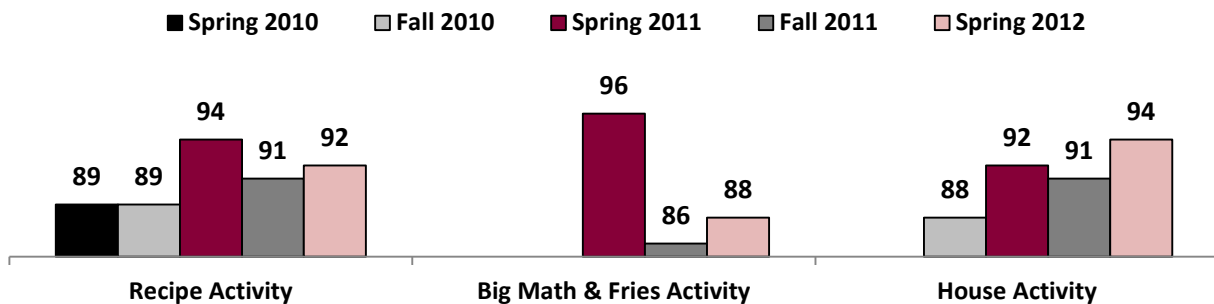


**SLO Competency on MAT 060 CTL Projects:** Because passing a course does not always mean that students have actually mastered the material, additional indicators of student learning must be assessed before conclusions can be made about the relationship between CTL and student learning. One such indicator is performance on assignments designed to assess particular student learning outcomes, such as CTL projects.

Excluding MAT 050 eligible students, the intended outcome *“For each MAT 060 CTL project, SLO competency will be demonstrated, with a class average at a 2.5 level or better”* was fully achieved every semester for all recurring projects (the Recipe Project, the House Project, and the Big Math and Fries Project). An average of 2.5 corresponds to an 80 average (the median between a C [75] and a B [85]). Students exceeded this every semester for the three MAT 060 CTL projects, with the lowest project average being an 86 for the Big Math and Fries Project in fall 2011.

**MAT-060 CTL Activity Average Scores\***  
Spring 2010 - Spring 2012

\*Excludes MAT-050 Students



**Percentage of Students at Proficiency Level on MAT 060 Portfolios:** MAT 060 portfolios include CTL projects, as well as homework assignments and quizzes designed to assess the same student learning outcomes. The intended outcome *“Student portfolios will demonstrate that 85 percent of MAT 060 students are ‘proficient learners’ by 2013”* was partially achieved. Although spring 2013 data are unavailable because MAT 060 was no longer being offered, at least 85 percent of students scored at proficiency level (85 or better) on the following MAT 060 portfolio items in the final semester of data collection (spring 2012):

- Homework related to the Recipe Project (94 percent proficient or better)
- Big Math and Fries Project (94 percent proficient or better)
- House Project (85 percent proficient or better)
- Homework related to the House Project (86 percent proficient or better)

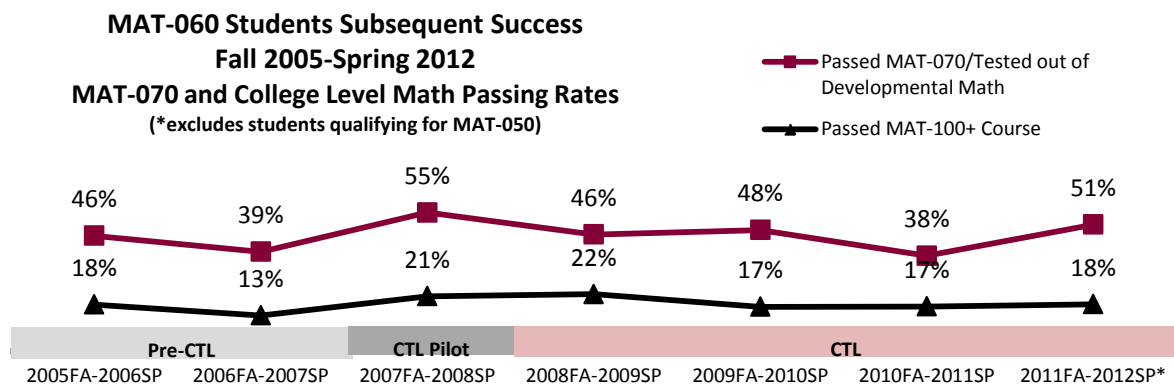
Furthermore, the intended outcome of 85 percent of students scoring at proficiency level or better was almost achieved in spring 2012 for the Recipe Project (82 percent) and for homework related to the Big Math and Fries

Project (82 percent). However, the percentage of students scoring at proficiency level or better for the three quizzes related to each CTL project was significantly lower, not only in spring 2012 but in all previous semesters. Despite this relatively poor performance on project-related quizzes, the majority of students scored at proficiency level or better on all three quizzes for the first time in 2011-12 (with the lowest percentage being 58 percent for the House Project quiz in fall 2011), indicating quiz grade improvement over time.

### Enrollment and Performance in Subsequent Mathematics Courses

**Enrollment in MAT 070:** The intended outcome “Enrollment in subsequent math courses will steadily increase, with MAT 070 enrollment expected to grow approximately five to six percent by fall 2013” was partially achieved. A comparison of pooled baseline data (2005FA through 2007SP), CTL pilot data (2007-08), and subsequent post-CTL intervention data (2008FA through 2011SP) reveals that enrollment in MAT 070 increased significantly during the pilot year (from 46 percent at baseline to 60 percent) and maintained a fairly consistent rate (57 percent) in subsequent years. Enrollment data from 2011-12 was not included in the analysis because MAT 070 enrollment was unusually high that year (with 80% of students taking MAT 060 in fall 2011 enrolling in MAT 070 the following semester), due to the fact that students were frequently advised to take MAT 070 in spring 2012 before the course was scheduled to be replaced with four-week developmental math modules in fall 2012.

**Success in Subsequent Math Courses:** The intended outcome “Success in subsequent math courses will steadily improve with the infusion of CTL in MAT 060, with average course completion rates expected to be approximately five percent higher than baseline data by fall 2013” was partially achieved. The passing rate in MAT 070 for students who took MAT 060 during the last year in which it was offered (2011-12) was 51 percent, which exceeds the goal of a five percent improvement in the passing rate of MAT 070 from either of the baseline years. However, evidence does not suggest that MAT 060 CTL projects are associated with consistent improvement in subsequent math courses. Whereas passing rates in MAT 070 and MAT 100 + (college level, non-developmental math courses) improved for both groups who took MAT 060 during the CTL pilot year, they declined in subsequent years and actually dropped below pre-CTL rates in 2010-11.



### Student Attitudes Towards Math

Although many students continue to indicate that they do not enjoy math despite the use of CTL in MAT 060, comparisons of pre-CTL surveys administered prior to completion of CTL projects and post-CTL surveys administered after project completion reveal a general trend in which a higher percentage of MAT 060 students report that “math is fun” after they’ve completed their CTL projects. Furthermore, the gap between enjoyment of math before exposure to CTL and after exposure to CTL appears to be widening. In 2008-09, the number of MAT 060 students reporting that the subject is fun increased five percent (from 59 percent at pre-test to 64 percent at post-test). By fall 2011, there was a 13 percent increase from pre-test to post-test in MAT 060 students reporting that the subject is fun (from 53 percent to 66 percent). This gap increased even more in spring 2012, when there was a 16 percent increase between pre-test (50 percent) and post-test (66 percent).



### Student Attitudes Towards the Use of CTL in MAT 060

The following items were assessed on post-CTL surveys as indirect indicators that students benefitted from their CTL projects:

- Understanding CTL project expectations
- Belief that what was learned will apply to one’s career
- Belief that what was learned will apply to one’s daily life
- Belief that the CTL project enhanced understanding of how to use what was learned to solve other problems
- Belief that the work completed was a good representation of one’s knowledge

The following four items were assessed on post-CTL surveys as indicators that students agree with some of the typical components of CTL as described by Elaine Johnson (2002):

- Applicability to real-life situations
- Active, hands-on learning
- The freedom to be creative
- Self-regulated learning in which students are challenged to find their own answers

Each semester, a large majority of MAT 060 students has responded positively to all nine of these survey items, indicating that most MAT 060 students perceive their CTL projects as beneficial, and most MAT 060 students agree with the use of CTL as a pedagogy.

MAT-060 Essential Mathematics Projects Student Surveys					
		SP 2009	SP 2011	FA 2011	SP 2012
I think the subject is fun	<i>Pre CTL Activity Survey</i>	59%		53%	50%
	<i>Post CTL Activity Survey</i>	64%	69%	66%	66%
<b>Student perception that students learned or benefited from CTL projects</b> Percentage of students responding positively					
I understood what was expected of me.	<i>Post CTL Activity Survey Only</i>		99%	98%	99%
I will use what I have learned in my career.	<i>Pre CTL Activity Survey</i>	77%			
	<i>Post CTL Activity Survey</i>	84%	83%	74%	76%
I will use what I have learned in my daily life.	<i>Pre CTL Activity Survey</i>	83%			
	<i>Post CTL Activity Survey</i>	88%	80%	76%	80%
The project helped me understand how to use what I have learned to solve other problems.	<i>Post CTL Activity Survey Only</i>		90%	84%	92%
The work completed was a good representation of my knowledge.	<i>Post CTL Activity Survey Only</i>		90%	93%	92%
<b>Student agreement with the use of CTL as a pedagogy</b> Percentage of students responding positively					
I enjoy assignments that allow me to apply what I am learning to real-life situations.	<i>Pre CTL Activity Survey</i>			94%	95%
	<i>Post CTL Activity Survey</i>		95%	89%	96%
I learn more when I am provided with a hands-on activity to apply what I am learning.	<i>Pre CTL Activity Survey</i>			98%	96%
	<i>Post CTL Activity Survey</i>		92%	94%	97%
I enjoy having the freedom to be creative.	<i>Pre CTL Activity Survey</i>			97%	97%
	<i>Post CTL Activity Survey</i>		96%	91%	97%
I like being challenged to find my own answers.	<i>Pre CTL Activity Survey</i>			79%	77%
	<i>Post CTL Activity Survey</i>		83%	83%	85%

## Impact on Student Learning from Each Expansion Effort

**Impact of Expansion One:** Expansion One, which involved the creation of a thoroughly CTL-infused course, HUM 120 (Race in America), has been associated with student success. With the exception of the fall 2008 pilot semester (when only 52 percent passed the course), the pass rate has consistently been almost double the failure/withdrawal rate every time the course has been offered (with 68 percent passing in spring 2009, 65 percent passing in spring 2010, and 64 percent passing in spring 2011). In addition, student performance on the various CTL projects included in HUM 120 (Race in America) is generally impressive. In spring 2010, the average of oral report grades, group research project grades, and group presentation of multimedia project grades was 93. Even with changes in the required projects, the spring 2011 average of the racism paper grades, popular culture research project grades, and group multimedia project grades remained high at 89.

**Impact of Expansion Two:** Data indicate that the Expansion Two projects are associated with enhanced student learning. First, Expansion Two CTL projects are positively correlated with course pass rates. When yearly data are combined into two dichotomous categories (“before CTL implementation” and “after CTL implementation”), all Expansion Two course pass rates have been higher since project implementation.

Second, available data consistently indicates that Expansion Two students perform well on other assessments of the same learning objectives for which the CTL projects were designed. In a legal terminology quiz, BUS 115 students who participated in the Titanic Project in spring 2011 were able to identify the correct definitions of all terms at higher rates than a comparison group from ECO 252 (Principles of Macroeconomics). In spring 2012, the same quiz was given to two sections of BUS 115 prior to completion of the Titanic Project (pretest) and after project completion (posttest). In both sections, the average score was at least 12 points higher at posttest. In 2010-11, the triangulation average of the DDF 252 “Can You Build It?” CTL project portfolio, a related midterm exam, and a related final exam was 90. In 2011-12, the DDF 252 triangulation average was 97; and in 2012-13, the triangulation average was 99. For two semesters in MAT 151 (spring 2011 and summer 2011), questions related to correlation and regression on the chapter five test and the final exam were compared for students in sections that included the MCC-CSI Project and sections that did not include the project. (*This comparison could not be made in more recent semesters because all sections of MAT 151 now use the CTL project.*) In both semesters and for both tests, students in MAT 151 sections that included the CTL project outperformed students who were not exposed to the project on correlation and regression questions.

**Impact of Expansion Three:** Because Expansion Three was discontinued after one year, data on the impact of these CTL projects on student learning is very limited. In several cases, the Expansion Two course pass rates were actually higher before the implementation of the projects, but this may have been due to problems associated with the interdisciplinary nature of the projects. Because these projects were abandoned after one year, there may not have been sufficient time to resolve any problems that may have arisen.

**Impact of Expansion Four:** The most significant impact that Expansion Four had on students was that it resulted in a dramatic increase in their exposure to CTL. In 2010-11, there were 1101 student enrollments in courses with CTL projects. After the implementation of Expansion Four in 2011-12, there were 3830 student enrollments in courses with CTL projects. This is a 347 percent increase in one year! The trend towards students participating in increasingly higher numbers of CTL projects continued in 2012-13, with approximately 6310 student enrollments in courses with CTL projects.

Expansion Four data from 2011-12 and 2012-13 is promising. Project recap forms reveal that most students are meeting the measurable performance goals that instructors set for their CTL projects. In fall 2011, 82 percent of Expansion Four instructors reported that their project goals were met; and in spring 2012, 90 percent reported that their goals were met. In fall 2012, 92 percent reported that their project goals were met; and in spring 2013, 94 percent reported that their goals were met. Furthermore, most instructors indicated that they would continue to refine their projects.

## SUMMARY/REFLECTIONS ON WHAT THE COLLEGE HAS LEARNED FROM THE QEP EXPERIENCE

In March 2013, five of the College's instructors voluntarily participated in a focus group session dealing with CTL and its impact on the College. Two days later, all fulltime faculty received an online survey asking the following:

1. How did the process of reporting the CTL project affect your teaching?
2. What did you learn from your CTL project?
3. What effect has the use and/or promotion of CTL had on the College's community?

The focus group session and online survey revealed that the College has learned a great deal from doing the QEP. Most faculty indicated that they view CTL as an effective tool for engaging students, and that they believe it has had a positive impact on the College as a whole. The following are direct quotes:

- "I have learned that students appreciate relevant material."
- "I've learned that my students are more engaged when they're doing a CTL-type activity."
- "The CTL project has made me realize the importance of putting thought into the work I assign and in determining its value to the student according to the components of CTL."
- "I believe CTL has assisted faculty with greater knowledge of what students want and need from their courses of study."
- "I think instructors are becoming more innovative and creative."
- "I think this is probably moving us in the direction of building a culture of assessment."

Quantitative data, student survey responses, and personal reflection have convinced the College's faculty and administration that CTL is worthwhile and effective. As a result, it has become an integral part of the College culture. Every fulltime instructor has completed at least one documented CTL project, affecting thousands of students. Many instructors have gone far beyond expectations. For example:

- A former physics instructor started a rocketry club at the College to help physics and engineering students apply the course concepts towards the creation of high-altitude, high-tech model rockets. The club, now managed by a mechanical engineering instructor, competes at national rocketry events.
- An accounting instructor created a board game that she intends to copyright. "The Ledger Mania Game" demonstrates the accounting cycle of a typical company.
- A cosmetology instructor developed the Build a Salon Project that requires students to simulate the negotiation of a building loan, calculation of operating costs including equipment and staff, and the creation of business cards and service menus.
- A biology instructor created a field ecology class that meets entirely in the woods rather than in the classroom to study topics such as local bird and insect diversity.

In conclusion, Mitchell Community College's work with the QEP has resulted in the College embracing Contextual Teaching and Learning as its instructional philosophy. The College recognizes that there should be a strong and porous connection between what occurs in the real world and what is taught in the classroom. We are truly Connecting Life to Learning and providing a very relevant education so that our students can be successful, not only in their educational pursuits, but in the real world. The use of CTL at Mitchell Community College will not end when SACS approves the College's Fifth Year Report. Rather, CTL has become a permanent part of the College.

### References

Bond, D., & Navarra, R. (2012). Teaching and learning. In CORD and NASDCTEc (Eds.) *The career pathways effect:*

*Linking education and economic prosperity* (pp. 221-256). Waco, TX: CORD Communications.

Johnson, E. (2002). *Contextual teaching and learning: What it is and why it works*. Thousand Oaks, California: Corwin Press, Inc.

Martin, T. (2012). Postsecondary contextual teaching and learning. *National Career Pathways Network Connections*, 22(2), 2-3. Retrieved from

[http://www.cordonline.net/connections/22\\_2/22\\_2\\_print\\_version.pdf](http://www.cordonline.net/connections/22_2/22_2_print_version.pdf).

Smith, D. (2007). *If the world were a village: A book about the world's people*. Tonawanda, NY: Kids Can Press, Ltd.