



QEP ANNUAL REPORT

2014-2015

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Title and Brief Description of the QEP as Initially Presented. The Wallace Community College Quality Enhancement Plan (QEP) emerged from a collaborative effort of College stakeholders, including faculty and staff members, administrators, students and the community. After much data analysis and stakeholder discussion, it was determined that a significant number of students who enrolled in Wallace Community College (WCC) were underprepared for college mathematics and that WCC students would greatly benefit academically from a redesigned and restructured developmental math program. The name of the QEP was Hooked on Outrageous Technology (HOOT) and an owl was chosen as the mascot for the program as a promotional strategy.

The QEP called for a redesign of developmental math courses (MTH090, MTH091 and MTH092). A mastery learning approach was implemented using an Emporium-style learning environment along with a cutting-edge technology platform known as “Assessment and Learning in Knowledge Spaces” (ALEKS). Pedagogical modifications also included a flexible, self-paced program allowing students to move through the course material at their own pace. This model would facilitate more remediation for students in need of additional assistance and would allow faster progression for students who were able to master topics more quickly. Students would complete assignments presented through the ALEKS computerized delivery system which was available to students in the classroom computer lab or outside of the class through internet access. Students could acquire assistance and understanding by studying ALEKS examples, viewing related videos, and/or requesting instructor or tutorial assistance on a one-on-one basis. Key components of the QEP included a Notebook completion requirement to assist with organizational and study skills, ALEKS module completion to 80% mastery before testing, mini-lectures focusing on key topics, and students’ satisfaction surveys to provide student input on the redesigned courses. The QEP would involve additional staffing to include lab directors, case workers, and peer tutors for both WCC campuses (Dothan and Sparks). In addition, the Sparks campus would require a remodel to accommodate the QEP classes, and the Wallace Dothan campus would require construction of a new facility to house the program.

Initial Goals. The central goal of the QEP was to improve student performance and success rates in developmental mathematics courses by redesigning Basic Mathematics (MTH090), Developmental Algebra I (MTH091) and Developmental Algebra II (MTH092) in order to improve student performance in MTH100. To achieve this goal the QEP focused on the following objectives:

- (1) To ensure that knowledge and skills learned in a developmental mathematics course are adequate for success in the gateway mathematics course, Intermediate Algebra (MTH100).
- (2) To establish programs and services to strengthen students’ developmental mathematics skills and knowledge.
- (3) To implement tools, policies, and methods enabling students to improve their study behavior in mathematics courses.

Intended Outcomes.

- Students’ success rates for each redesigned course will meet or exceed national average.

- Students' success rates for each redesigned course will increase 5% annually from WCC baseline statistics collected prior to redesign (2010-2011 fall and spring).
- The percentage of students successfully completing MTH100 in the first attempt will meet or exceed the national average.
- Students successfully completing MTH100 in the first attempt will increase 5% annually starting from the baseline statistics collected prior to the redesign (2010-2011 fall and spring).
- 100% of students will complete 80% of each module prior to moving to subsequent module.
- Students enrolled in the developmental mathematics program will utilize the developmental math lab on average at least 1.25 hours per week.
- 80% of students will answer Satisfied or Very Satisfied to S³ question #2 concerning satisfaction with sufficient staffing.
- 80% of students will answer Satisfied or Very Satisfied to S³ question #5 concerning satisfaction with the benefits of supplemental resources.
- 80% of students will answer Satisfied or Very Satisfied to S³ question #8 concerning satisfaction with their increased math confidence levels.
- 100% of students taking a module exam will complete at least 85% of the notebook for that module. To allow for "fast tracking," students scoring 80% or better on the initial module assessment are exempt from this requirement.
- 80% of students will answer Satisfied or Very Satisfied to S³ question #7 concerning satisfaction with the improvement of their organizational skills.
- Completion rate in developmental mathematics courses will increase 5% annually from baseline data collected prior to redesign (2010-2011 fall and spring).
- Persistence rate for each redesigned course will increase 5% each semester.

Changes made to the QEP and reasons for making those changes.

- A) The original QEP required comparison of success rates of developmental math students to national averages and to WCC averages for baseline data. As the QEP team searched for baseline national averages for developmental math success rates, it became apparent that definable and comparable success rates would be difficult to obtain. The only success rate found for developmental math courses was 68% in the year 2007 (*National Study of Developmental Education II: Baseline Data for Community Colleges* written by: Katherine Gerlaugh, Lizette Thompson, Hunter Boylan, and Hildreth Davis as published in **Research in Developmental Education** Volume 20, Issue 4, 2007). This rate involved completers of developmental math coursework for students in the participating institutions of the study, and did not include students who withdrew or stopped attending classes prior to the end of the term, or students from nonparticipating institutions. The methods used for success rate calculation were not clear, and the student populations included in the data were not specified. The QEP for WCC was designed to use data for all students specifically enrolled in MTH 090, MTH 091 and MTH 092, so the data from this report was not feasible for comparison. A decision was made to use the WCC success rate data as the baseline for comparison for the redesigned developmental courses and to analyze success rate improvements from the WCC baseline success rates for developmental math students.
- B) The original QEP called for the inclusion of MTH100 in the Emporium model during the fourth year of implementation. An important Goal of the QEP was to improve student performance and success rates in developmental mathematics courses by redesigning Basic Mathematics (MTH090), Developmental Algebra (MTH091), and Developmental

Algebra II (MTH092). The first objective of the QEP was "To ensure that knowledge and skills learned in developmental mathematics courses are adequate for success in the subsequent mathematics course." Since the implementation of the QEP, the success rates of students enrolled for the first time in MTH100 (the first subsequent math course) has increased from a WCC baseline rate of 55.5% during the 2010-2011 academic year, to 74.8% during the 2014-2015 academic year. It seemed apparent that students completing developmental math coursework through the QEP model were being well-prepared for the subsequent math course. The decision was made to delay the inclusion of MTH100, as the goal of preparing students for that course was being obtained at that time. It seemed prudent to continue a focus on improving the success rates of the MTH090, MTH091 and MTH092 courses as these rates were not consistently showing the level of improvement as evidenced in the MTH100 course.

- C) Changes to specific components of the QEP were made based on student concerns, QEP survey results, and course success rates. The success rates for developmental courses on the Sparks campus, where the QEP was initially piloted, plummeted from 57% during the baseline year to 16% (based on data from that campus only) during the first year of QEP implementation. A decline in success rates was expected as preliminary research indicated that success rates typically fell during the first year of this type of redesign. Students voiced concerns about the amount of time and effort required to be successful under the redesigned program. Before the QEP was implemented, students had been able to sit in math classes and listen to lectures, choosing whether or not to take notes and complete assignments. They would be allowed to take tests without completing preliminary assignments and if the average of their coursework and tests was sufficient, they could get credit for a course with minimal effort. This model did not prepare students very well for subsequent math coursework. Under the redesigned program, students had to complete all assignments to progress through the coursework. If they did not work, they did not progress. This was a new mindset and required some time to make students believe that it would not go away. The requirement for mastery learning meant that students had to rework topics that they had previously mastered if at any time during the course, ALEKS determined that they had forgotten the concepts, requiring more work and study time than had been anticipated. It took time, restructuring and much effort to get students to buy-in to the new program and accept it as a better way to learn and retain skills for future use. In the process of restructuring, some of the components of the QEP were modified or discontinued to allow adequate time for students to complete the necessary coursework under the Emporium model.
- a) A course notebook was initially required in an effort to improve organizational and study behaviors in mathematics courses as well as across the curriculum. Students were required to complete sample math problems, access their textbook to answer questions, and keep notes in the notebook. In addition to the notebook, students were required to complete coursework in the ALEKS software program before testing to move to the next module in the course. It became apparent that time constraints would not allow students to complete the required notebook work and the ALEKS work during a given term. In the ALEKS learning mode, students were periodically required to complete assessments of knowledge recently gained. If they did not remember how to work previously-mastered problems presented in the assessments, then those topics were added back to their list of topics to rework for mastery. This cycle of learning required more time than initially expected as students were accustomed to learning information for completion of a specific assignment. The notebook requirement was modified to require less consumption of time while maintaining the intent of improving study behavior. Students

are now asked to maintain a notebook with tabbed dividers for the purpose of organizing instructor handouts, pacing guides, benchmark calendars, instructor goal sheets, ALEKS examples and notes, student work, and student notes. Students are encouraged to maintain the structured and organized notebook to assist them in locating information needed when completing assessments over previously mastered topics, studying for tests, verifying course and instructor requirements, and checking benchmark dates in the self-paced environment.

- b) The structure of the topics for MTH091 and MTH092 was modified in order to balance the amount of work and difficulty level in each of the courses and to prevent excessive overlapping of topics between developmental courses and MTH100. Students were becoming stressed with the length and difficulty level of the topics in module 2 of MTH091, and modules 5 and 7 of MTH092. In the self-paced Emporium model, it was imperative that the coursework expected to be completed by students, be presented in a reasonable fashion for the timely completion of the course during a term. Module 2 of MTH091 was split into module 2a and module 2b during the Spring 2013 term, allowing students to complete a portion of the original module 2 work and test on it more quickly. This change provided the feeling of better progression and seemed to improve student attitudes about the difficulty level as the information was being broken into smaller chunks. The number of topics required in MTH 091 and MTH 092 was also modified as a result of a collaborative effort between the Math Division and the Developmental Studies Division faculty and staff during the Summer 2013 term. The two divisions had strong views regarding topic removal from the developmental courses. The Developmental Studies division researched and visited area community colleges with similar student populations and determined that our developmental courses required more objectives, more overlapping topics from MTH100 content, and a higher-level of difficulty. After much deliberation and compromise, an agreed upon list of topics was removed from developmental math courses in an effort to make the requirements more in-line with courses being offered in other community colleges while robustly preparing our students for the successful completion of subsequent coursework. This modification assisted in easing the difficulties expressed with module 7. At the inception of the QEP, MTH091 and MTH092 were linked together in ALEKS offering a seamless progression when students completed MTH091 early and were moved into MTH092 during the same term. This meant that if students did not retain the skills mastered in MTH091, and took the initial assessment in ALEKS for module 5 (the first module of MTH092), they could be required to rework previously mastered topics from MTH091. Some students worked for excessive amounts of time to complete this cycle of assessing and reworking the same topics before mastering them again, and being able to move on. On the instructor side of this issue, there was disagreement between members of the Developmental Studies Advisory Committee about separating the courses so that students would no longer be required to rework forgotten topics from the previously mastered course. Members representing the Math Division worried that non-mastery of old math skills could cause failure in subsequent math courses and were reluctant to separate the course material, while Developmental Studies Division members believed that ALEKS assessment requirements for mastery of prerequisite skills for newly introduced topics, would be sufficient to insure adequate preparation. During the Spring 2014 semester, a MTH092 student registered a formal complaint with the Dean of Instructional Affairs, alleging that he was being required to rework material from the MTH091 course which he had successfully completed. The result of this complaint was a total separation of these two courses in ALEKS. This change helped to alleviate the issues with Module 5

and the repetitive nature of the combined courses.

- c) Mini-lectures were initially implemented to assist students voicing a need for a traditional lecture based environment and to ease the transition into an Emporium model. Although students voiced a desire for the lecture component, attendance for these lectures was very poor. It became evident, that students did not see value in the mini-lectures as they began to realize that they could get one-on-one individualized instruction at any given time during a class meeting or at any time that the lab facility was open (Mon.-Thurs. 8:00 a.m.-9:00 p.m., Fri. 8:00 a.m.-2:00 p.m. and Sat. 8:00 a.m.-11:00 a.m.) outside of their designated class meeting times. This component was terminated at the beginning of the Fall 2012 semester.
- d) Instructor-created videos were added to the supplementary materials as a result of an initiative promoted by the Dean of Instructional Affairs in Spring 2013. One short, concise video was created for each topic covered in the ALEKS syllabi for MTH090 and MTH091 initially, and videos were added for the topics in MTH092 during the following semester. A web-page was created to store the videos so that students could access them from any internet-capable computer. During the Fall 2014 term, an option became available to create videos which could be directly linked to individual topics within the ALEKS program. Instructors are currently working to replace the originally created videos with versions which use problems from ALEKS examples and that can be imbedded directly into ALEKS for more convenient access by students.
- e) Case workers were intended to be hired and charged with the responsibilities of working with students who were deemed to be at-risk of failing based on poor attendance and slow progression through the course material. Attendance was quickly viewed as a major obstacle to success under the Emporium model. Students seemed to falsely believe that they could work as well from home as they could in a class room setting, and that there was no apparent reason for attending class other than testing to move into a new module. Compounding this attitude was the fact that many of our courses had a hybrid component allowing students to complete a portion of the required class meeting time in our lab at their discretion. Required additional lab time was verified through a Campus Track card-swiping system for keeping attendance, and was accessed through a WCC-created data base. The hybrid component allowed these 4-credit hour classes to fit into the WCC scheduling with 3-credit hour classes. Students met with the instructor in a lab setting for the time equivalent to a 3-credit hour course and then completed the remaining time when it was convenient in the students' weekly schedules. On the Sparks campus, the smaller student population allowed the lab director to carry out the duties and responsibilities of the case worker. On the Dothan campus, an early intervention program was implemented in Spring 2013. In the place of a case worker, an academic coach was hired to work with developmental students in math, English and reading. Her responsibilities included handling instructor requested referrals based on slow progression through the program or other obstacles to learning (i.e. transportation issues, childcare issues, etc.) and poor attendance. A data base was designed to send a report to her each morning listing all students who were missing three consecutive classes or missing more than 70% of consecutive or nonconsecutive classes at any given time during the term. During her first partial term in the position, she contacted 113 developmental math referral students through email, telephone calls, and meetings, and had a 27% success rate of coaching those at-risk students through the completion of their course. The table below shows the numbers of students contacted in

subsequent years for the fall and spring semesters and the success rates she has achieved in assisting those students through the completion of their course.

Academic Year	Number of Students Contacted	% successful in completing the course after contact	Actual Number of students successful out of at-risk contacts
2013-2014	482	31.7%	153
2014-2015	785	38.3%	301

During the Spring 2014 semester, WCC administrators allowed the offering of a MTH100 **tuition waiver** for students completing multiple developmental math courses in one semester. As a result of the tuition waiver implementation, there was a significant increase in the number of students completing two or more developmental math courses in one semester. Self-pacing in the Emporium model allowed this option of completing one, two or three courses during one term, but the monetary incentive approved by WCC administrators caused a significant increase in the numbers of students taking advantage of this option. There was a 178% increase in the number of students completing multiple courses at the end of the first term of this incentive. The incentive speaks to the WCC goal of creating an environment conducive to completion of a certificate or diploma program. Prior to the QEP, developmental math was viewed as an obstacle to beginning a college program as it was prerequisite to many of the students' courses. Some of these students began math coursework through placement in MTH090, progressed to MTH091 and then to MTH092 before reaching a credit-bearing course. Many of them had to repeat one or all of these courses because their skills were so low when they began. Before the QEP, this process could take up to two years to complete and approximately 84% of WCC students were being placed in developmental math. With the QEP implementation, students were provided a pathway to move more quickly, through the developmental program to begin their credit-bearing course work and could complete their program of study in a timely manner.

f) One of the intended outcomes for the QEP stated that students would utilize the developmental math lab on average 1.25 hours per week. When the QEP was implemented, the developmental math classes were scheduled either in a computer lab or a computer assisted small classroom, so students met in that setting for 2.50 hours per week every week, exceeding this intended outcome as a requirement for attendance in the scheduled class.

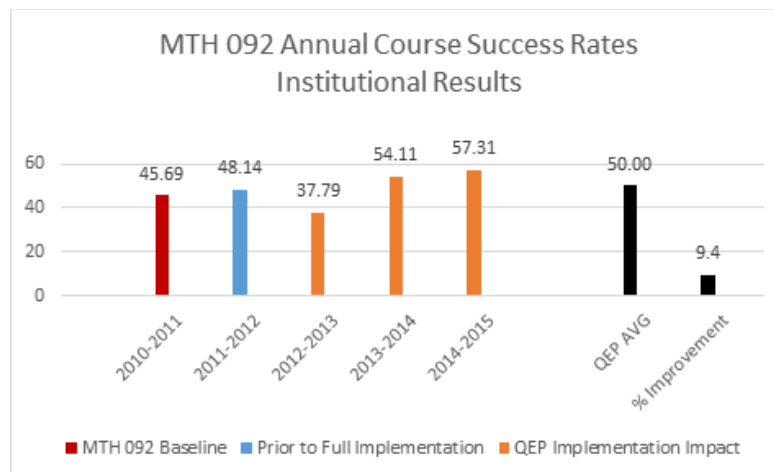
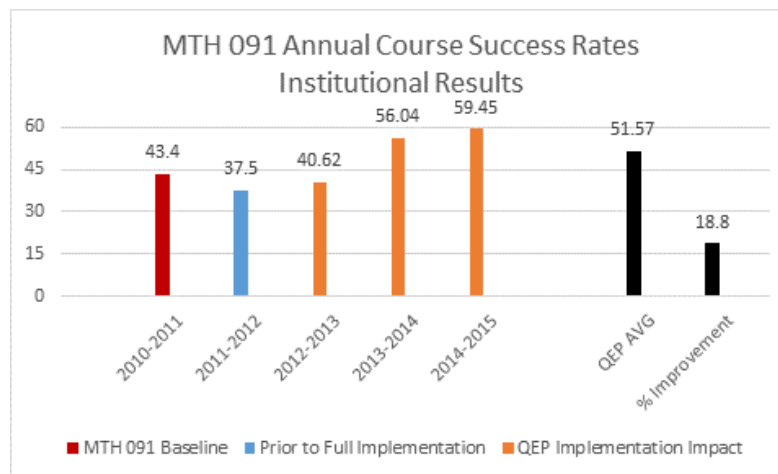
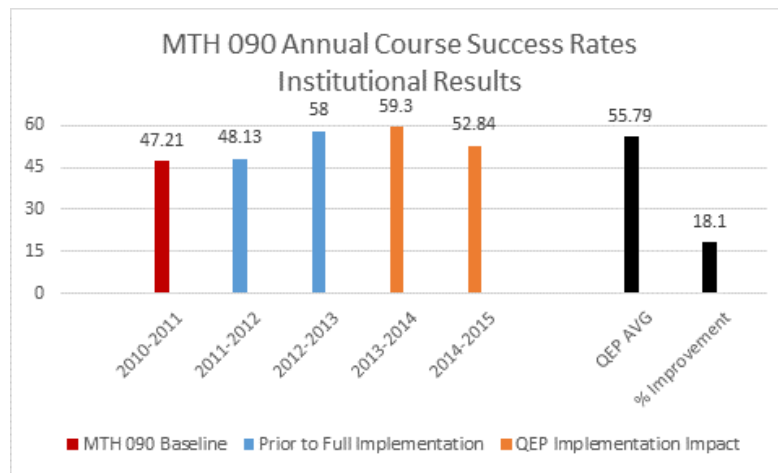
The impact of the QEP on student learning/and environment supporting student learning (including achievement of identified goals and outcomes, and unanticipated outcomes).

The central goal of the QEP was to strengthen student performance and success rates in developmental mathematics courses (MTH090, MTH091, MTH092) in order to improve student performance in MTH 100. To accomplish this improvement, a comprehensive redesign of these developmental mathematics courses was implemented. In an attempt to reach this goal, the QEP established three primary objectives, each with measurable outcomes.

Objective 1: To ensure that knowledge and skills obtained in developmental math courses are adequate for success in subsequent mathematics courses. (MTH100)

To measure the obtainment of this objective the following outcomes were established:

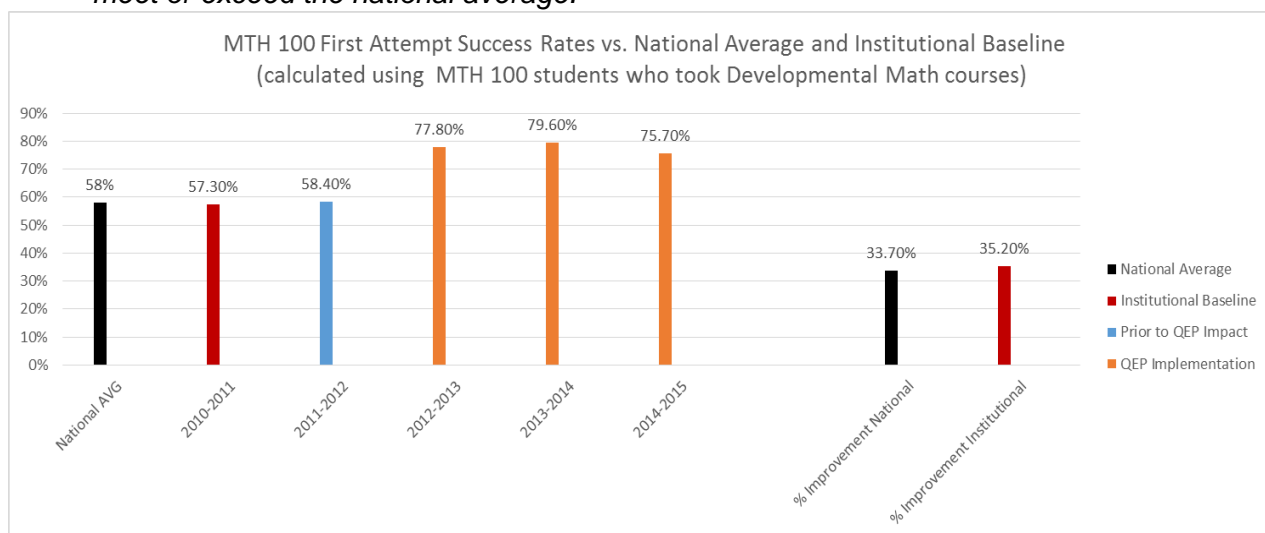
- a. Students' success rate for each redesigned course will show a percent of increase of 5% annually from WCC baseline statistics collected prior to redesign (2010-2011 fall and spring).



The implementation of the WCC QEP followed a “roll out” strategy with respect to both campus locations and the courses taught in the developmental sequence. The first year of implementation was accomplished on the Sparks campus. During the Fall 2011 term, MTH091 was initiated, then followed in the Spring term with both MTH091 and MTH092. Meanwhile, on the Dothan campus developmental math courses were still being conducted in the traditional face to face lecture model. The Dothan campus was awaiting the completed construction of a new Center for Academic Success which would house developmental course classes. MTH091 was first offered in the Emporium model during the Fall 2012 semester and MTH 092 followed during the Fall 2012 on the Dothan campus.

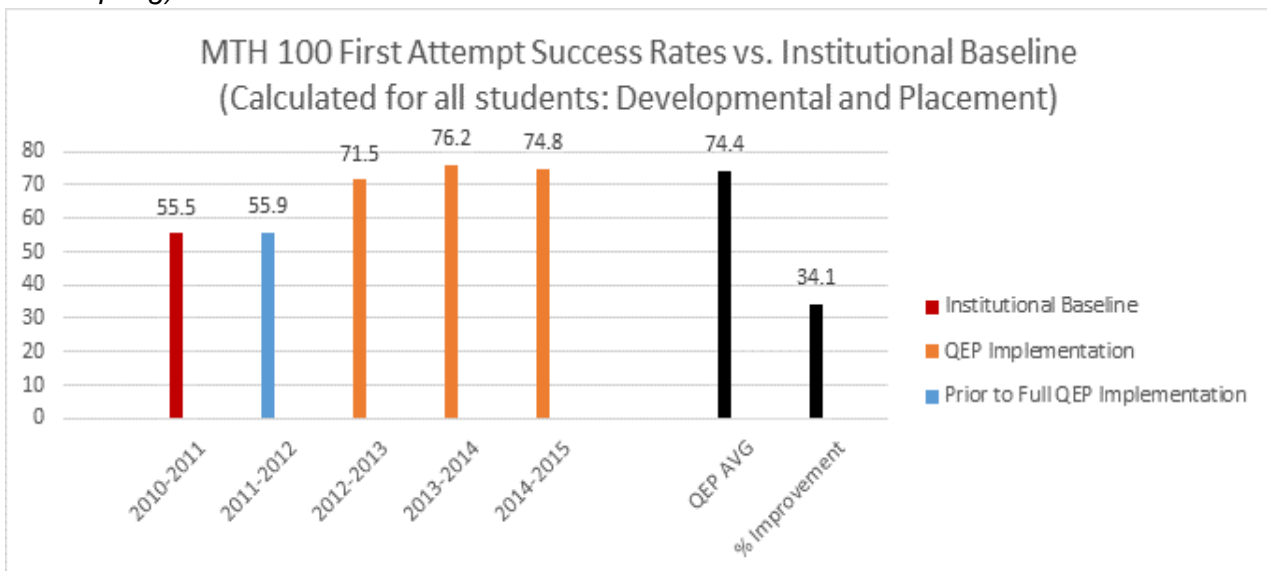
MTH 090 was included in the implementation for both campus locations in the Fall 2013 term. As noted in our data, when MTH091 and MTH092 were fully implemented for both campuses, there was a drop in some of the success rates. Research prior to implementation of the QEP suggested that this would be the case. Efforts were then made to address this drop in success rates which included adjustments to course requirements and adjustments to the curriculum and content organization of each developmental course in the QEP with the collaboration of the QEP team and the Math Division members. With these modifications and the improvement of student attitudes toward this new pedagogy, course success rates began to rise. The original QEP outcome for this objective implied that a 5% increase would be expected each year from the baseline year. The process for calculating this data was unclear. We had a large increase in success rates during the 2013-2014 year of implementation and then increases have been less substantial in successive years. Each year after implementation does indicate a 5% increase from the baseline year. We have chosen to average the success rates for the years after QEP implementation and to show comparison between the average of these years and the baseline year for a summary measure of success. The overall success rates show that MTH090 has increased 18.1%, MTH091 has increased 18.8%, and MTH092 has increased 9.4%. MTH092 shows a smaller increase because many of the successful MTH092 students are not counted in our statistics. Many of these students registered for MTH091 and completed both MTH091 and MTH092 in the same semester. They never registered for MTH092 so they were never counted as being successful in our data which is derived from the official rolls. Since students cannot place in MTH092, the majority of students who actually enroll in this course are students who were unable to complete MTH091 and MTH092 in one term and are typically weaker math students.

b. The percentage of students successfully completing MTH 100 in the first attempt will meet or exceed the national average.



The *National Study of Developmental Education II: Baseline Data for Community Colleges* written by: Katherine Gerlaugh, Lizette Thompson, Hunter Boylan, and Hildreth Davis as published in **Research in Developmental Education** Volume 20, Issue 4, 2007 was used for national average comparison data and was based on students successfully completing MTH 100 in the first attempt after completing developmental math courses prior to registration for MTH 100. These numbers do not include students placing in MTH 100. Using this criteria, the average of MTH100 success rates before implementation of the QEP were calculated to be 57.30% as compared to the national average in 2007 of 58%. If we compare the average of the MTH 100 success rates after full implementation of the QEP with the national average from the year 2007, we find a 33.7% improvement. This indicates that we are meeting the goal of exceeding the national average. If we compare the Math 100 success rates after QEP implementation to the baseline success rate for Wallace Community College we show a 35.2% increase in success rates for students taking MTH100 for the first time.

- c. *Students successfully completing MTH 100 in the first attempt will increase 5% annually starting from the baseline statistics collected prior to the redesign (2010-2011 fall and spring).*



The average success rate for all students (includes students from placement and from Developmental Math) enrolled in MTH 100 for the first time, increased by 34.1% from the baseline year.

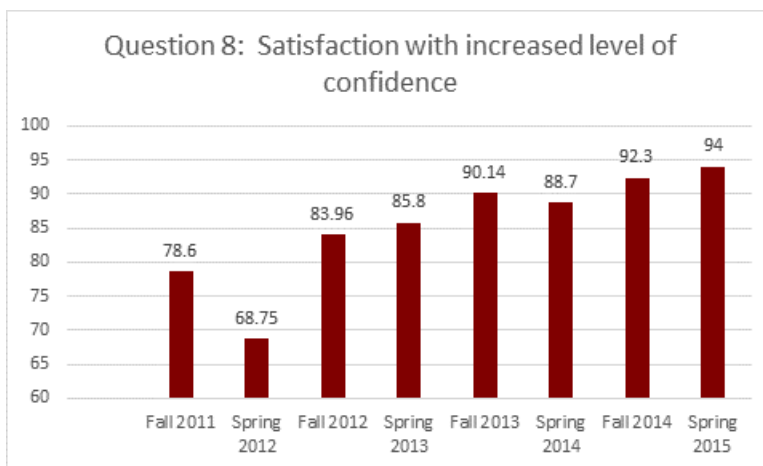
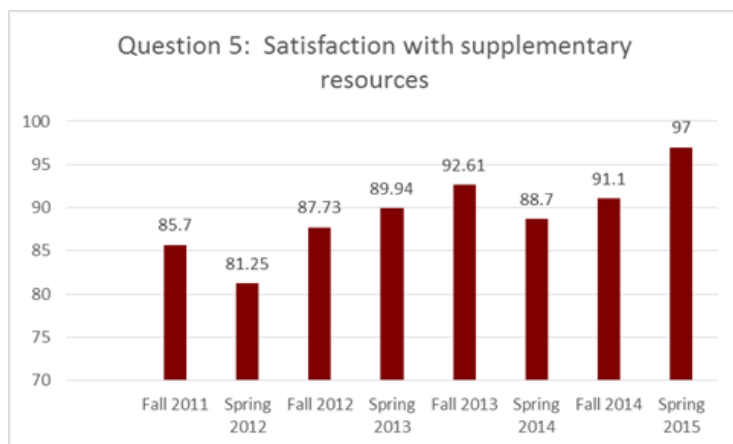
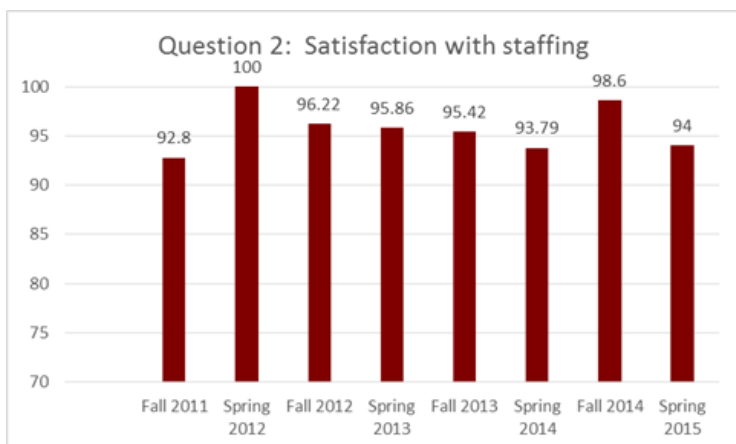
Objective 2: To establish programs and services to strengthen students' developmental mathematics skills and knowledge.

From the earliest days of consideration for the development of the QEP, conversations within the mathematics department often centered upon “how” to convince and encourage students to do more mathematics work. The experience of many of those in the Math Department was discouragement with respect to the amount of actual math being done by students in the form of homework and assignments. This was particularly acute in the developmental mathematics courses. The selection of ALEKS as a software platform provided the basis of a mastery

component which would ensure that students actually practiced and performed more mathematics as a requisite component of developmental math. In the Emporium style pedagogical model currently being used, students are required to demonstrate 100% (this was initially 80%) mastery in each learning module. After the successful completion of required coursework for a module, a student takes a module exam which requires a 70% and enough bonus points to obtain an 80% score in order for progression to the next learning module to occur. Each subsequent module exam includes previously learned topics (within the course), making each developmental course comprehensive in nature. Many students in developmental math courses have experienced little, if any success in previous mathematics courses. As a result, their confidence in their ability to succeed is lacking. Each semester, a survey is given to seek information about how the current program may be assisting students. Survey questions include the following:

1. Are you satisfied with the level of staffing in the mathematics QEP program?
2. Are you satisfied with the supplementary materials provided in the QEP program?
3. Is your level of mathematics confidence increasing as a result of this course?

To date, for each of these survey questions the responses of students indicates that we are meeting or exceeding the 80% goal established.



Objective 3: To implement tools, policies and procedures to encourage the development of better study behavioral habits in mathematics courses.

Many developmental math students, after 12 years of formal education, have not yet developed consistent and effective means and methods for learning, particularly with respect to the demands of college level expectations. Students in the developmental math program often need to be reminded of simple things that may increase their likelihood of success. Principles such as consistent and punctual attendance, organization of notes and study materials, and goal setting are essential. Strategies in the QEP have focused on the development of some basic tools to address these needs.

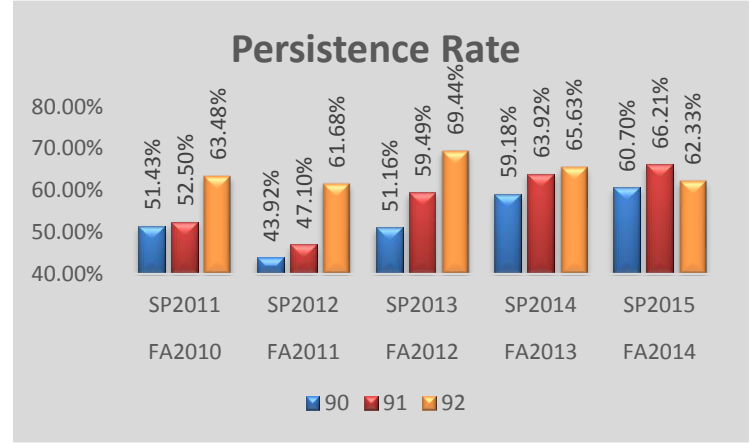
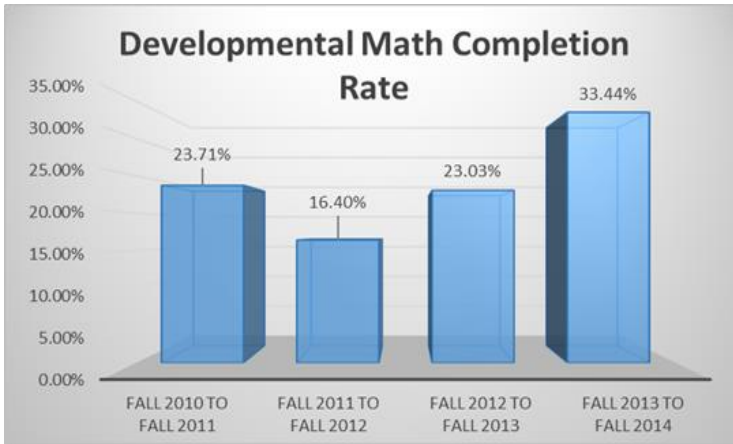
Benchmark calendars and test preparation guides have been developed and are distributed to students for placement in a required course notebook. Benchmark dates are provided to assist students in properly pacing their work in learning modules in order to successfully complete one or more courses in a given term. Test preparation guides are provided to assist students in practicing a structured method of studying for tests. In addition, instructors have designed and refined modular goal/testing forms. These forms provide an individualized set of goals and benchmarks to assist in motivating students toward early course completion.

The student course notebook has evolved over the life of the QEP. At present, students are required to keep a dedicated notebook containing the benchmark calendars and their current module goal sheet. In addition, students are asked to keep work in the notebook separated with respect to modules in that course. The goal of this requirement is to stress the importance and relevance of structure and organization in the learning process.



Also, as a result of some of the earliest student surveys extra part-time personnel were hired to facilitate Math Lab hours on Fridays, which are not typically instructional days for WCC.

In an effort to measure the success of our strategies for assisting at-risk students, we have calculated and compared completion and persistence rates.



Completion rates are measured annually by evaluation of the number of students who successfully complete their developmental math sequence and register for an upper level math course (MTH100 or MTH116). Completion rates initially showed a decline from the baseline year, but have improved each year since implementation of the QEP.

Persistence rates are measured by evaluation of the number of students who register for a Developmental Math course in a semester and then register in the next semester for the same course or a subsequent course. The persistence rates for MTH 090 and MTH 091 show considerable increases over the implementation time of the QEP indicating that our program is successfully encouraging students to continue to fulfill their Developmental Math obligations. The persistence rate for MTH 092 initially showed some increases in the first two years of implementation indicating the positive impact of the program. The third and most recent year has recorded a slight decline in the MTH 092 persistence rate. This can most likely be attributed to the acceleration impact of the Tuition Waiver initiative which successfully motivated large numbers of students to complete their Developmental Math without ever being required to register for MTH 092.

Unanticipated Outcomes.

A. Implementation of the Tuition Waiver. After the first year of QEP implementation it was clear that the multiple course completion option was not being fully utilized by the many capable students. Mr. David Cobb, the QEP director at that time, asked the Administrative Council to consider offering a tuition waiver for the subsequent MTH100 course, to students completing multiple developmental courses in one semester, and the administrators agreed to offer the waiver. Research indicates that students who complete developmental math obligations in an accelerated manner, increase their likelihood of obtaining a college credential. The waiver and adjustments to the program have since incentivized substantial increases in the number of students completing multiple courses and moving more quickly through the developmental math coursework. During the year prior to implementation of the tuition waiver, 64 students completed multiple courses in a single semester, but after the waiver was implemented, the number of students completing multiple courses in one term increased to 222 students during the first year (Spring, 2014-Summer, 2014) and 211 students during the second year (Fall, 2014-Spring, 2015).

- B. Increased collaboration between the Developmental Studies and Math Division Instructors and Staff.** Prior to implementation of the QEP, there was a Math Division at WCC which encompassed all math courses and instructors. After the QEP was implemented, it became apparent that there needed to be a division of the upper level math instructors and the instructors facilitating the changes for the developmental math program. A Math Division and a Developmental Studies Division were created to better focus on the needs of these students. In the process of revising and restructuring the developmental math courses, a great deal of give and take was required within the two Divisions of WCC. After much deliberation and compromise, a sense of collaboration began to form to the ultimate benefit of our students and our academic program as a whole.
- C. Database information is now being shared with other departments or programs across the campus.** After the creation of the database for our program, it became valuable to other WCC programs related to counseling services as a tool for tracking their students' progression while enrolled in our program. Athletes are currently being monitored and TRIO students (first-generation college students) are being monitored.
- D. Closure of the socio-economic success gap.** After realizing increases in success rates for the developmental math program as a whole, it was desirable to determine how the QEP had impacted subpopulations of our student body. Our Dean of Instruction, Mr. Tony Holland, took it upon himself to request statistics from the WCC Institutional Effectiveness department for the purpose of comparing success rates of low-income students (identified by their eligibility for Pell Grant) with success rates of average or high income students (students not eligible for Pell Grant). The official statistics indicated that during the Fall 2011 term, there was a 20% difference between success rates of low and high income students. As of the Fall 2014 term, there was no gap between the success rates of low and high income students.
- E. Impact of multiple course completion on success rates for the MTH 092 class.** It became apparent that MTH 092 success rates were not increasing as quickly as MTH 090 and MTH 091 success rates. In an effort to determine the cause of the slower increases, it was noted that the better math students completed MTH 092 in the term that they were registered for MTH 091 (completed both courses in one term). These students were only counted as successes in the official data for MTH 091, the course in which they were initially registered. Since they never registered for MTH 092, they were never counted as successes for MTH 092 and we were losing those students as successes in our data. The majority of the students registering for MTH 092, were students who progressed more slowly through the program and were generally weaker math students. This fact has obviously impacted the amount of increases in success rates for the MTH 092 courses.
- F. Student satisfaction with Instructors.** The Dean of Instruction implemented accountability measures regarding instructional methods and student perception during the 2011-2012 academic year. This ICAN Initiative was intended to focus attention on instructional pedagogy and student perception of instruction at Wallace Community College. The Developmental Studies Division has repeatedly produced the highest marks across the campus regarding whether students would recommend their instructor to other students or not. For the previous two academic years this division has averaged a 98% "Strongly Agree" student response for the Fall-Spring course evaluations with regard to this question. The nature of the emporium model lends itself to more one-on-one time between instructors and students, and seems to be creating an atmosphere of team work between students and developmental math instructors.
- G. Creation of a Writing Center.** Initial research for our QEP topic yielded academic concerns in both developmental math abilities and writing abilities. Since approximately

84% of our students place in developmental math, this area was chosen for the QEP. Because writing was also identified as a deficit area for our students, a grant was written to obtain funding for a writing center. This center was created to assist and support our students in need of supplemental instruction in writing skills and currently exists under the umbrella of the newly created Developmental Studies Division. Students can get assistance with structure, grammar and topic choice related to essays, research papers and general writing assignments through the instructors and tutors in this writing center.

Conclusion.

This QEP was developed as an ambitious attempt to support the mission of WCC in its efforts “to provide accessible quality educational opportunities, promote economic growth, and enhance the quality of life of its constituents.” In researching for the topic of this QEP, it was found that 84% of WCC students were required to begin their coursework in developmental mathematics. This percentage was much higher than the national average of approximately 58% (Attewell, Lavin, Domina, and Levin 2006). Many students who were not prepared to begin college level math were required to take 2 or 3 developmental math courses before beginning a credit-bearing math course which often delayed their entry into a program of study by more than one academic year. It seemed prudent to offer these developmental courses in a self-paced Emporium environment allowing for mastery learning and completion of multiple courses in one term for students who simply needed a refresher on math skills. This option would allow them to enter coursework in their degree plan sooner. The Emporium model allowed weaker students to work at a slower pace and obtain greater mastery of concepts to assist them in their future coursework. For the weaker students, this program offered the additional benefit of allowing those who failed a course to begin a new term by picking up where they left off, rather than having to start all over again.

We have seen our students grow into more independent learners as they have been guided through the decision-making processes to choose strategies for organizing their course materials and notes, to choose strategies for time management (as they could work and test outside of regular class times), and to choose best practices for studying in a mastery learning environment. We analyzed the data from the QEP to compare developmental students with placement students in MTH 100 and found that students working their way through developmental math outperformed students who placed in MTH 100 each year since the inception of the QEP. During the 2014-2015 year students attempting MTH 100 for the first time after coming from a development course had a 75.7% success rate while those coming from placement had a 73.7% success rate. This statistic indicates that students working through the QEP are better prepared than students enrolling in MTH 100 through placement. We believe that the mastery learning component of the QEP and the study skills obtained through the QEP not only promote better success and completion rates in math coursework, but will follow students into all of their coursework at WCC and support the mission of our institution in its efforts to provide accessible educational opportunities for students.