Wayne Community College
Quality Enhancement Plan

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WAYNE COMMUNITY COLLEGE

QUALITY ENHANCEMENT PLAN

The Quest for Success: Slaying the Developmental MATH Dragon

Executive Summary

The Quest for Success: Slaying the Developmental Math Dragon examines developmental education at Wayne Community College (WCC) and seeks to improve student achievement of learning outcomes in developmental math. Since more students test into developmental math than any other developmental subject and fewer are successful at it, the Quality Enhancement Plan Steering Committee has chosen to place its focus on developmental math. The project will devote four years to developmental math and programs and services that support the developmental student. A model for examination of core issues, improvement of student outcomes, and evaluation of results has been developed. The QEP Steering Committee has identified the following goals as core to the plan:

- Improve student-learning outcomes in developmental mathematics by enhancing the structure, policies, procedures, and practices that support the values and goals of student learning in developmental education.
- Improve student achievement of learning outcomes in developmental mathematics.

The QEP Steering Committee and its subcommittees have set specific outcomes for each goal, identified strategies to be used in achieving the goals, developed implementation plans and timelines, and specified assessment criteria. The College is committed to providing the necessary administrative, fiscal, and human resources to support the implementation of the Quality Enhancement Plan.

The College is dedicated to improving its developmental math program, a process that demands a close examination of current policies and procedures, a determination to incorporate best practices, an open-minded approach to the process, and a rigorous plan of action.

CHAPTER 1. INTRODUCTION

Institutional Context

Wayne Community College (WCC) is one of 58 community colleges in the growing North Carolina Community College System. The College will celebrate fifty years of service to Wayne County and North Carolina in June 2007. WCC offers 40 degree (AA, AS, AFA, AAS), 14 diploma, and 20 certificate programs to over 4,000 students a year. The College also offers approximately 100 continuing education courses to almost 10,000 students annually. The College averages 3,323 FTE on an annual basis. In 2003 – 2004, WCC employed 92 full-time and 85 part-time curriculum faculty members. Within the state and local community, the College has an excellent reputation for the quality of its programs, services, faculty, staff, and facilities.

The College is located in Goldsboro, the largest city in the eastern North Carolina county of Wayne. The Wayne County 2000 census population was reported at 113,329 people with the following race designations: 61% White, 33% African American, and 5% Hispanic. The increase in both African American and Hispanic populations from the 1990 census was approximately 6% each. The county's $17,020 annual per capita income remains below the NC state average of $20,307. Wayne County families are 10.2% below the poverty level compared to the NC state average of 9.2 %. A survey conducted by Wayne Action Team for Community Health (WATCH) revealed that 21% of the population struggle to meet their needs, 14% can not fill their needs, and 12% have to use credit to meet their needs. Twenty-three of 27 public schools in the county have 30% or more of their students receiving free or reduced lunches. Wayne County is designated a Tier three county, which is considered "economically distressed" by the North Carolina Rural Economic Development Center.

The majority of the College's curriculum students (76%) are from Wayne County, and the College's student population reflects the diversity of the county. A more thorough discussion of WCC's demographic data is provided in Chapter 2, pages 19-20. However, it is important to note that the typical WCC student is most likely to be 17 to 25 years of age, white, female, working part- time or unemployed, receiving financial aid, and has been or is currently enrolled in at least one developmental course. The results of the College's most recent

environmental scans have led to a number of planning assumptions relevant to the student population. For example, the number of students with multi-cultural backgrounds and different languages, particularly Hispanics, will continue to grow. According to data provided by WCC's Office of Student Development Services, 39% of the local Wayne County Public School graduates enter WCC within the first two years of graduation from high school, and 62% require one or more developmental courses. Therefore, given the growing number of students with multicultural backgrounds and the growing number of students requiring developmental courses, the College is challenged to expand its programs and services to the under-prepared student.

WCC Planning Process

Wayne Community College recognizes the importance of providing quality educational resources and processes, but more importantly, it recognizes the necessity of planning for the improvement of programs and services and the evaluation of educational results. As a result of the institution's consistent reporting efforts, the College staff engages in continuous study, analysis, and assessment of mission, policies, procedures, and programs. One of WCC's major strengths is its documented history of strategic planning, which exceeds three decades.

The annual operational planning cycle addresses the long and short-range goals of the College's strategic plan. The College's strategic/long range plan is a visionary plan that is reviewed and revised every five years and guides planning as well as the review of the College's mission. All personnel have the opportunity to participate in the planning process. The College has four planning groups which cover all aspects of the institution's operations: the President's Office, Academic Affairs and Student Services, Educational Support Services, and Continuing Education and Workforce Preparedness. Each group develops objectives for the upcoming planning cycle, which are then integrated into one plan.

The goals and outcomes of the Quality Enhancement Plan (QEP), *Slaying the Developmental Math Dragon*, were presented at the Spring 2005 Planning Council Retreat, and once approved by the QEP on-site team in September 2005, will be incorporated into the College's mid-year (January 2006) planning cycle for 2005- 2006. By integrating the Quality

Enhancement Plan into its annual planning activities, the College is acknowledging a commitment to the QEP's goals and outcomes over the next four years. The QEP is structured to fit the College's planning model. Like the model, the QEP requires that goals and objectives include the following information: the department originating the objective, the intended outcome, the assessment criteria, the resources needed to accomplish the objective, and the target beginning or completion date, whichever is more applicable. Also, the structure of both planning processes requires an evaluation of the results of each goal or objective. The outcomes must be examined to determine successful completion. Objectives that are not complete are modified for improvement and are continued during the next planning cycle.

Summary: WCC will integrate its Quality Enhancement Plan into the annual college planning process. This integration addresses several criteria important to the success of the QEP: allocation of sufficient human, fiscal, physical, and academic resources to sustain the project; implementation strategies with a clear timeline and assignment of responsibilities; and a structure for evaluating attainment of goals.

Mission and Goals

In 2005, the WCC Planning Council reviewed the College's mission statement as a part of the annual planning cycle and recommended changes that reflect the College's learning-centered philosophy. The faculty, staff, and Board of Trustees subsequently discussed and approved these changes. The 2005 WCC mission statement reads:

> Wayne Community College is a learning-centered, public, two-year college with an open-door admissions policy. The college serves individuals, business and industry, and other organizations with quality, economical, and convenient learning opportunities.
>
> In order to fulfill our mission most effectively, the college strives to:
>
> a. Develop both personal and marketable skills in all students.
> b. Develop basic learning skills in all students.
> c. Enable students to continue their education at other institutions.
> d. Increase the global and cultural awareness of students and community.
> e. Provide for the training needs of local business and industry.
> f. Enhance the quality of life in the community.

In support of its mission, the College has identified nine long-range goals and twenty-eight short-range goals. All goals are reviewed annually as part of the College's institutional planning cycle. These goals are listed in the *WCC 2005-2010 Strategic Plan Guide*. The following goals

are those specifically addressed by this Quality Enhancement Plan. A cross-reference of these goals to the QEP goals can be found in Appendix G.

Students
Long Range Goal: Enhance student success through college-wide programs and services.
Short Range Goals:

1.1 Improve student achievement of college-wide, program and course learning outcomes.
1.2 Expand services to meet the needs of all students with emphasis on students of color, low-income students, students with learning differences, and students with special needs.
1.3 Expand and improve the college-wide student tracking and intervention system with enhanced developmental education, student support, and advising services.
1.4 Improve the collaboration among all support services to provide a comprehensive college-wide network of services to students.
1.5 Provide opportunities for students to experience achievement in their earliest encounters with the college.

Educational Programs
Long Range Goal: Provide opportunities for excellence in learning through accessible, high quality educational experiences.
Short Range Goal:

2.1 Improve current educational programs through continuous assessment, planning, and evaluation.

Faculty and Staff
Long Range Goal: Enhance the performance of faculty and staff through learning opportunities and incentives.
Short Range Goal:

3.1 Provide professional development activities for all college employees.

Administration and Finance
Long Range Goal: Improve the efficiency, productivity, and responsible use of all available resources through a comprehensive planning and management system.
Short Range Goal:

4.2 Evaluate college operations through the use of continuous improvement principles in order to use resources more efficiently.

Facilities
Long Range Goal: Provide an attractive, flexible, and accessible learning environment that meets the needs of the community served.
Short Range Goal:

5.2 Improve facilities so that new, innovative opportunities for learning are provided.

Institutional Advancement
Long Range Goal: Enhance the effectiveness and accountability of the college through integrated planning, research, marketing, resource development, and management.
Short Range Goal:

6.3 Improve institutional research, data management, assessment, and planning processes for the college.

Technology
Long Range Goal: Integrate state-of-practice technology in all aspects of the college's programs, services, and operations.
Short Range Goal:

8.2 Expand and improve program accessibility through technology.

Summary: The mission statement and all goals are addressed annually as part of the College's institutional effectiveness planning cycle. In 2004 – 2005, WCC revised its mission

statement to reflect a more learning-centered philosophy and identified long- and short-range goals that are specifically related to the QEP, *Slaying the Developmental Math Dragon*.

Quality Enhancement Plan Model

The Steering Committee designed a framework (model) for the QEP that is similar to the annual planning model used by the College (see QEP Model, page 7). Like the planning cycle, the QEP process began with the College's mission statement and goals. A thorough discussion and assessment of student learning outcomes was followed by data collection. Analysis of the data resulted in the selection of the Quality Enhancement Plan topic. Next, the QEP subcommittees began the process of formulating the goals, outcomes, and strategies that would lead to the improvement of student learning. A timeline (see Appendix A) was created, resources were designated, and assessment criteria were developed. As the QEP Steering Committee moved through the planning model, the members found the process to be recursive. Careful, deliberate reflection and discussion resulted in numerous revisions to the plan.

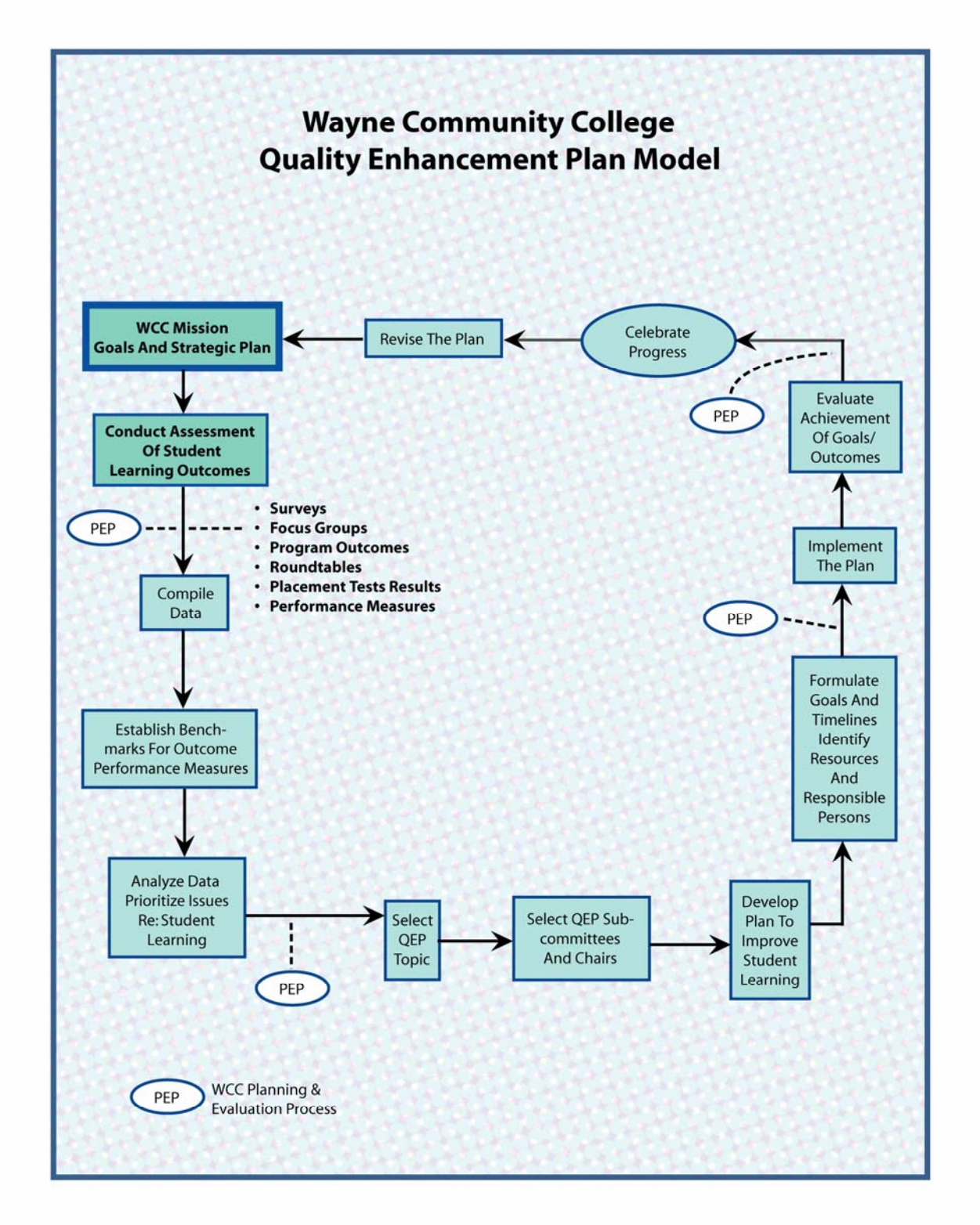
Student Learning

In January of 2004, the WCC community began an ongoing discussion about the learning college concept and some of its attendant issues (i.e., data-based decision making, the use of learning outcomes, and benchmarking and assessment). This discussion began with a definition of learning and has since prompted the incorporation of learning outcomes at all levels of the College, from general college learning outcomes to course-specific learning outcomes. The learning college discussion has fostered a college-wide exchange of ideas that have been essential to the work of the QEP subcommittees.

The College's discussion of the learning college philosophy resulted in the adoption of a definition of learning: *Learning is the process by which behavior is changed as individuals acquire and apply knowledge, attitudes, and skills*. The College identified learning outcomes as statements that specify what students will know or be able to do as the result of a learning activity.

In January 2004, the College revised its original college-wide outcomes (competencies)

Figure 1: WCC Model for Developing and Implementing a QEP



and developed the following eight student learning outcomes.

Upon successful completion of the requirements for a degree at Wayne Community College, the graduate will be able to do the following:

1. Demonstrate speaking, writing, and reading skills necessary to communicate effectively.
2. Demonstrate mathematical skills necessary to solve problems appropriate to the area of study.
3. Use principles of critical thinking to analyze problems and make logical decisions.
4. Use computers and other technologies to achieve academic, work-related, and personal goals.
5. Apply the principles and concepts of the natural and social sciences.
6. Use positive interpersonal skills to interact with individuals in diverse groups.
7. Recognize the importance of globalization in developing a broadened worldview.
8. Explore the fine arts and humanities from cultural and historical perspectives.

To further clarify the College's concept of student learning, focus groups were organized for faculty, staff, community members, and students (see pages 13-15). An issue that emerged from the focus groups was the prevalence of under-prepared students and their lack of competency in reading, writing, math, and critical thinking. As the QEP Steering Committee began its discussions, increased emphasis was placed on college-wide learning outcomes 1, 2, and 3 and their relationship to developmental education.

Developmental Education

One of the College's long-range goals (#1) is to enhance student success through college-wide programs and services. A developmental education program is critical to the attainment of that goal for the almost 2,100 under-prepared students currently attending WCC. Developmental education at the College has followed an "integrated model," with no designated developmental faculty members or department head. Department heads in the Language and Communications area and in the Math area have planned developmental course schedules and assigned instructors to that schedule. Full-time faculty members, as well as adjunct faculty in the Arts & Sciences (College Transfer) Division, have taught discipline-specific courses in developmental English, reading, or math as part of their required teaching load.

A Developmental Education Committee (DEC) was formed in October 2000 by the Liberal Arts Division Head in response to recommendations by Dr. Barbara Bonham, Senior Researcher for the National Center for Developmental Education. The DEC, led by the Vice President of Academic Affairs and Student Services and a developmental education counselor,

Miriam Wessell, provided guidance for developmental issues, recommended changes in policies and procedures, and reviewed data pertinent to developmental areas (placement tests, student persistence, tutoring, etc.). The DEC has addressed a recurring issue over the last five years: the need for a developmental department with a designated department head and faculty. During the 2004-05 academic year, WCC administration acted on this recommendation. A full-time Department Head, hired in July 2005, has assumed leadership of the developmental program area, will chair the DEC, and will assume a major responsibility in the implementation of the Quality Enhancement Plan goals and objectives over the next four years.

Descriptive data on WCC's developmental student population are found in Chapter 2, pages 19-20. In brief, however, the typical developmental student at Wayne Community College is between the ages of 17-20, white, and taking more than one developmental education class.

Developmental education at WCC includes, but is not limited to, all forms of learning assistance, such as tutoring, mentoring, and supplemental instruction; personal, academic, and career counseling; academic advisement; and coursework in several disciplines. The student learning outcome for the developmental education program, as defined by the DEC, states that *students will enter the curriculum of their choice with the basic skills in math, English, and/or reading needed to perform at a level comparable to non-developmental students.*

While the developmental education program at WCC includes courses in developmental English, reading, math, and computer science, the focus of this Quality Enhancement Plan is on developmental math. The sequence of courses included in the developmental math program of study is as follows:

- MAT 050: Basic Math Skills (4 levels below college math). This Basic Skills course is designed to strengthen basic math skills. Upon completion, students should be able to perform basic computations and solve relevant mathematical problems.
- MAT 060: Essential Mathematics (3 levels below college math). This curriculum course is designed to provide a comprehensive study of mathematical skills. Upon completion,

students should be able to perform basic computations and solve relevant, multi-step mathematical problems using technology where appropriate.

- MAT 070: Introductory Algebra (2 levels below college math). This curriculum course is designed to provide a foundation in algebraic concepts and problem solving. Upon completion, students should be able to apply these concepts and problem solving using appropriate technology.
- MAT 080: Intermediate Algebra (1 level below college math). This curriculum course is designed to continue the study of algebraic concepts with emphasis on applications. Upon completion, students should be able to apply the learned concepts in problem solving using appropriate technology.

Summary: WCC, through the efforts of the Developmental Education Committee and the work of the QEP Steering Committee, recognizes the importance of developmental education in student learning. Ninety percent of the students taking the placement test are under-prepared for college-level work and must participate in some level of developmental education. Therefore, WCC is engaging in a comprehensive evaluation of developmental education (policies, procedures, and practices) through its Quality Enhancement Plan. Although the QEP is focusing specifically on developmental math, the College foresees a positive impact on other developmental disciplines and students.

CHAPTER 2. DISCUSSION OF THE PROBLEM

Wayne Community College has focused on the issue of developmental education for a number of years. As part of the College's ongoing continuous improvement process that is tied directly into the College's planning process, retention of high-risk students was identified as a key component to student success. In July 2000 a Continuous Improvement Project (CIP) on retention was developed to examine programs, activities, and processes impacting on all students but especially on developmental students.

Also in 2000, a consultant evaluated developmental education at WCC and made specific recommendations for improvement resulting in the creation of a Developmental Education Committee (DEC). The committee, composed of staff and discipline-specific faculty,

developed a mission/purpose statement for developmental education. The committee also began the review of the policies governing developmental students, courses in the developmental area, placement test cut-off scores, and procedures for advisement of developmental students. While there is evidence of progress since 2000, limited fiscal resources and the lack of a definitive department head and designated developmental faculty have hampered significant improvement in the area. The College has recognized the need to conduct a college-wide comprehensive study of developmental education.

Examination of the Data

During 2004, the College collected and examined qualitative and quantitative data from internal and external sources. While analysis of the data was extensive, the information presented in this report is that which is relevant to the development of the QEP. These data provide the culture of evidence to support the selection of developmental math as the focus of this QEP.

Qualitative Data

The qualitative data for this quality enhancement plan was gathered using a variety of methods: surveys, roundtables, focus groups, and visits to community colleges identified as institutions of best practice.

Survey Data

- *Environmental Scan-SWOT (Strengths, Weaknesses, Opportunities,Threats) Survey, 2004.* This survey was completed by faculty, staff, students, and community members and provided a scan of the College's internal and external environment to determine factors/issues that have an impact on its operation. On the Spring 2004 survey, 56% of all participants identified the under-prepared high school student as a threat. The lack of student competency in basic skills (reading, writing, math, and critical thinking) was identified by 37% of faculty, staff, and community members as a weakness of the College. Sixty percent of the community members that participated also identified the under-prepared displaced worker as a threat.

- *WCC Student Persistence, Learning, and Attainment: A Community College Survey, 2004.* Faculty and staff were asked for their perceptions regarding the culture of evidence, learning outcomes, learning assessment, Student Support Services, and developmental education. This survey revealed that many (70% of 159 respondents) faculty and staff lack knowledge about developmental education at the College. Also, while they are familiar with the college-wide learning outcomes, they are less familiar with the assessment of these outcomes. In general, faculty and staff know little about the collection, analysis, and dissemination of data across the campus.
- *Wayne Community College Survey of Students in Developmental Courses*, 2004. Students in even-numbered sections of developmental English, math, and reading courses as well as the students participating in the roundtables were asked for their perceptions regarding their experiences as developmental students, from the placement test to their current developmental class. Because this survey allowed the College to capture demographic information, it has been very helpful in creating a snapshot of a WCC developmental student. Most (83% of 356 respondents) of the students had positive perceptions regarding their experience at WCC. Although the vast majority of students reported that they understood the importance of the placement test, a number indicated that they did not understand how the test would affect the classes they took.

Summary: Survey data suggest that the increasing numbers of under-prepared high school students are a threat to WCC and students' lack of competency in basic skills is a weakness the College will need to address. The students' lack of understanding of the importance of placement tests indicates more emphasis must be placed on evaluating services offered through Student Development. While data are crucial to the understanding of student performance, faculty and staff know little about the collection and analysis of data**.**

Roundtables/Focus Groups

The College arranged four discussion sessions and solicited community members, faculty, staff, and students as participants. Two focus groups were held to discuss student learning outcomes, one for students and the other for faculty, staff, former students, and

community members. Also, two roundtable discussions focusing on developmental issues were held, one for developmental students and the other for developmental faculty.

- *Faculty/Staff/Community Focus Group*: This focus group solicited the responses of faculty, staff, board members, and community members to the college-wide learning outcomes. Of the 146 people invited to the forum on March 22, 2004, 89 (61%) attended. Of those attending, 35 (39%) were community members, 24 (27%) were faculty, and 30 (34%) were staff.

  After a brief introduction to the outcomes and to the process in which they would be participating, the participants were divided into groups of four to five each. The groups responded to eight questions regarding the strengths and weaknesses in WCC's programs. The discussion pointed to the criticality of basic skills. Speaking, writing, and reading skills are a necessity in the business world today. Math is also crucial, but students seem to have a problem with it. Most of the participants referred to the inadequate preparation of recent high school students. Some considered it such a problem that they wondered if two years is enough time to overcome the deficit. Only 39% of the participants identified math as a skill graduates were most likely to demonstrate.

- *Student Focus Group*, 2004: This focus group solicited students' responses to the college-wide learning outcomes. Because the outcomes detail what a student should be able to do upon graduation, the Steering Committee decided that, in order to assess the outcomes most accurately, the students should be nearing graduation. Therefore, 53 students (every 5th student from the list of graduates) were chosen from the students preparing to graduate in the spring of 2004 and invited to be a part of the focus groups. Eighteen students (34% of those invited) attended the focus groups. Of the 18 students who attended, 4 (22%) were minority.

  As a result of the focus groups, the students identified speaking, writing, and reading as critical skills graduates should have. Many students expressed their dislike of math and their difficulty mastering it.

- *Developmental Student Roundtables*, 2004: This discussion forum was held for students presently enrolled in developmental courses. The students invited were randomly selected from the Fall 2004 developmental course rosters in reading, math, and English. Of the 90 students invited, 25 (28%) attended. The students attending included 19 females (84%) and 6 males (16%), 14 (56%) non-Hispanic whites, and 11 (44%) African American or Others. They were divided into three groups for the roundtables discussions. Facilitators then asked the students a series of questions that focused on student services at the College and study and teaching strategies. When asked what WCC could do to help students to be successful in developmental courses, several students stated "better orientation, improvement in labs, more tutoring, testing preparation, and advisement." One topic came up repeatedly in their responses: the instructor is one of the most crucial factors in the success of a developmental student.
- *Developmental Faculty Roundtables*, 2004. All full-time and part-time English, math, and reading faculty who teach developmental courses were invited to participate in roundtable discussions. The purpose was to discuss challenges faced, strategies used for instruction, and ways to improve the learning outcomes in developmental English, math, and reading courses. Nineteen faculty members participated and were divided into two groups, one for math instructors and one for English and reading instructors. Trained facilitators were recruited from outside WCC. Each facilitator had extensive experience in developmental education. The participants in both groups identified similar characteristics which inhibit the success of developmental students: lack of motivation and self-confidence. They suggested varying instructional methods to enhance students' success. Faculty members noted the need for the creation of a math lab to increase students' participation and to improve the Academic Skills Center. The one topic that came up numerous times was tutoring. More tutors need to be recruited, and all tutors need formal training.

Summary: Data from Focus groups and Roundtables indicate that speaking, writing, reading and math skills are a necessity in the business world; however, students, especially those that

are recent high school graduates, seem to have more of a problem with math. Although students preparing to graduate did not consider math to be a critical skill for graduates, they discussed their dislike of math and difficulty in mastering math skills. The developmental student identified the instructor as the most critical factor in the success of a developmental student. Developmental faculty suggested that the use of a variety of instructional methods would enhance students' success in math but acknowledged that additional professional development would be necessary in order for this to occur. In addition, faculty members expressed the need for the creation of a math lab and improvements in the Academic Skills Center.

Visits to Community Colleges

During 2004 – 2005, members of the WCC QEP Math Project sub-committee visited four North Carolina community colleges (Durham Technical CC, Guilford Technical CC, Central Piedmont CC, and Sandhills CC) and consulted with one out-of-state college (Baltimore Community College). Each college is noted for its excellent reputation in delivering programs and services to developmental students. The purpose of the visits was to gather information on developmental education best practices, specifically in the area of developmental math. The team members prepared a uniform set of questions to ask each college and determined what they needed to observe while visiting. After the visits, the team concluded that Wayne Community College is currently following many of the best practices that were observed at the respective colleges. However, team members recommended that the following best practices be incorporated into WCC's Quality Enhancement Plan and implemented by the College:

- Establish a testing center where all testing would be administered: COMPASS, ASSET, retests for developmental courses, and make-up tests for instructors.
- Provide a comprehensive array of services (tutoring, test preparation, supplemental instruction) for developmental students in one learning environment such as WCC's Academic Skills Center.
- Ensure that full-time faculty members instruct the majority of developmental math courses.

The following best practices should be implemented by the math department:

- Administer a departmental diagnostic pre-test on the second day of class to validate the students' placement.
- Consider mastery level scores (75%-80%) on core material (i.e., fractions, signed numbers, equations).
- Incorporate a true Supplemental Instruction Program to improve student performance
- Provide creative scheduling of developmental math classes to provide students with more attendance options. For example, MAT 060 could be offered in a MWF or TTh format rather than strictly in a M-F format.
- Offer MAT 050 as a curriculum course.

Summary: Site visit data reveal that Wayne Community College is currently following many of the best practices observed at other colleges. However, additional best practices should be implemented to make developmental programs and services even stronger. Using pre-test diagnostics, emphasizing core material for subsequent courses, establishing a dedicated testing center, adding a lower level course to the current developmental curriculum (MAT 050), creative scheduling options for developmental students, and more developmental math courses taught by full-time faculty members were recommended.

Quantitative Data

The quantitative data collected for this Quality Enhancement Plan comes from both internal and external sources. The internal sources include the following:

- Areas within the college such as Student Services, the Registrar's Office, Counselors, the Developmental Education Council, and the Office of Planning and Research, all of which accumulate statistics for local, state, and federal reports as well as special projects and grants,
- *The Legacy System*, a North Carolina Community College System (NCCCS) information management software package used by WCC prior to Fall 2001, and
- *The Colleague System*, an information management software package produced by Datatel, Inc. currently used by the College.

The external sources include the following:

- Data Warehouse, an information system database managed by the NCCCS and used to store shareable data from an operational database-of-record,
- Integrated Postsecondary Education Data System (IPEDS), a data storage system managed by the National Center for Education Statistics (NCES) and built around a series of integrated surveys that collect institution-level data in enrollments, program completions, faculty, staff, and finances, and
- NCCCS Performance Measures, a series of twelve accountability measures and performance standards that each NC community college must meet annually. These include two measures focusing on developmental education: passing rates of students in developmental courses and the success rate of developmental students in subsequent college-level courses.

During this age of accountability, the College has established a viable track record of collecting data to be used for a variety of purposes. However, the challenge has been in using the data to drive decision-making and to make continuous improvement. As part of the learning-centered initiative and in light of the Quality Enhancement Plan, WCC representatives have started to use data to support initiatives and to drive continuous improvement. An array of data was used to support the College's decision to select Developmental Math as the primary focus for the QEP. The following discussion will focus on the specific data elements used that support the topic *Slaying the Developmental Math Dragon*. The order in which the data elements (placement test information, demographic data, student performance data) are presented to the reader parallels the quantitative information the College gathers on its students from the point of their admission through their enrollment in various developmental math courses, culminating with their performance in the various math courses. The QEP topic emerged from the pattern of evidence established by these data.

Placement Testing

Wayne Community College administers the ASSET and COMPASS Placement Service by the American College Testing Program (ACT) to all applicants of all programs. This battery

consists of tests designed to measure reading, English, and mathematical skills. The results of these tests are used to assist the student and college personnel in planning an appropriate plan of study for each student.

The data provided in Table 1 indicate that 90% of all applicants taking placement tests between Fall 2001 and Summer 2004 placed into developmental math courses. In comparison, only 30% tested placed into developmental reading, and 56% placed into developmental English classes.

Table 1: WCC Placement Test Results, Fall 2001-2004

Course	2001-2002 # of Applicants	2002-2003 # of Applicants	2003-2004 # of Applicants
MAT 050 (4 levels below college)	94 (4%)	79 (4%)	77 (3%)
MAT 060 (3 levels below college)	1,222 (47%)	993 (50%)	1,073 (49%)
MAT 070 (2 levels below college)	688 (27%)	476 (24%)	490 (23%)
MAT 080 (1 level below college)	329 (13%)	291 (15%)	306 (14%)
College level	233 (9%)	140 (7%)	239 (11%)
Total	2,585	2,003	2,175

Demographics

Demographics are more than just facts and statistics; they are a key to identifying developmental students and addressing issues that might arise from their unique characteristics. The following provides a brief overview of the demographic profile of the WCC developmental student.

Age and Gender. Between 2000 and 2002, 17 – 20 year olds were the predominant age group in WCC developmental education classes, followed by the 31 – 40 year olds, and then the 26 – 30 year olds. In developmental math, approximately 66% of the students were female and 34% were males.

Ethnicity. The College's ethnic composition remained constant from 2000 - 2002 with non-Hispanic Whites representing about 61% of the population, African-Americans about 31%, American Indian 1%, Asians 2%, and Hispanics 2.5%. The ethnic composition of the

developmental student population was 54% White, 39% African American, 1% American Indian, 3% Asian, and 2% Hispanic.

Based on state and national trends, the College can expect that the minority populations will continue to grow. For example, North Carolina led the nation in the percentage increase of Hispanics moving into the state (MDC 2004), and between Fall 2001 and Fall 2003, the Hispanic population in developmental education at the College doubled.

Income. Wayne County, where a majority of students reside, is classified as rural and poor. The per capita income of the county is $17,010 (2000). About 35% of first-time entering students are students of poverty as evidenced by their eligibility for Pell Grant funds. They will need financial assistance if they are to attend the College. According to Heller (2004), "institutional and state grants promote persistence and degree completion." Data from financial aid indicate that 56% of the Pell Grant students persisted into the second year versus 51% of those not receiving Pell Grant. Nevertheless, the more typical community college student (part-time, independent, older) is less likely to receive financial support than the traditional student.

Summary: Changing student demographics are having an impact on WCC's delivery of programs and services. Contrary to general perceptions, the predominant group in developmental education are those students who are coming directly from high school or who are within several years of graduation. The WCC developmental population, which mirrors the changing demographics in the state and region, will continue to serve more minorities and low-income students.

Student Performance in Developmental Math

The QEP Steering Committee also examined available data from NCCCS Data Warehouse regarding the success, retention, and withdrawal rates of developmental students from Fall 2002-Fall 2004, which are defined as follows:

- Success rate refers to the total number of *A*'s, *B*'s, and *C*'s divided by all grades (*A*, *B*, *C*, *D*, *F*, *W*, *OW*, and *WF*') excluding Incompletes (*I*), No Grades (*NG*), Audits (*AU*), and Never Attendeds (*NA*). A grade of *WF* is given when a student stops attending class after the last day to drop a class. An *OW* is an official withdrawal.

- Retention rate refers to the total number of *A*'s, *B*'s, *C*'s, *D*'s, and *F*'s divided by all grades (*A*, *B*, *C*, *D*, *F*, *W*, O*W*, and *WF*). These are the students who remained in the class until the end.
- Withdrawal rate refers to the total number of W's, WF's, and OW's divided by all grades (*A*, *B*, *C*, *D*, *F*, *W*, O*W*, and *WF*).

While the information from the North Carolina Community College System (NCCCS) Data Warehouse provided the data essential for the selection of the QEP topic, the College is now using data from Fall 2002-Fall 2004 that established a cohort of first-time students attending WCC. These data provide a better baseline of information that will serve to benchmark, track, and assess the progress of the Developmental Math Project. Analysis of these data (see Tables 2-4) revealed that, of the 2149 cohort students who took the placement test, 84% tested into at least one developmental education course: 34% (726) tested into a developmental reading course, 43% (928) into a developmental English course, and 75% (1629) into a developmental math course. Of those who enrolled in a developmental course during Fall 2002-04, 77% (360/468) of reading students successfully completed their reading course (grade of *C* or better), 83% (395/475) of the developmental English students were successful, and 62% (463/737) of math students were successful by the end of the Fall semester.

Table 2: Reading Summary Data, Fall Cohort 2002, 2003, and 2004

Total Students	**2149**					
Total Student Referrals to Reading	**726**					
	RED 080		**RED 090**		**Total**	
	#	**%**	**#**	**%**	**#**	**%**
Placed into class	188	8.8%	538	25.1%	726	33.8%
Enrolled in class	150	79.8%	318	59.1%	468	64.5%
Success Rate (A, B, C) /All, Ex. (I, NG, AU, NA)	115	76.7%	245	77.1%	360	77.0%
Retention Rate (A, B, C, D, F) / All Grades	122	81.4%	247	77.7%	369	78.9%
Withdrawal Rate (W, WF, OW) / All Grades	29	19.4%	66	20.8%	95	20.3%

Table 3: English Summary Data, Fall Cohort 2002, 2003, and 2004

Total Students	**2149**					
Total Student Referrals to English	**928**					
	ENG 080		**ENG 090**		**Total**	
	#	**%**	**#**	**%**	**#**	**%**
Placed into class	248	11.6%	680	31.7%	928	43.2%
Enrolled in class	160	17.3%	315	46.4%	475	51.2%
Success Rate (A, B, C) /All, Ex. (I, NG, AU, NA)	122	76.3%	273	86.7%	395	83.2%
Retention Rate (A, B, C, D, F) / All Grades	126	78.8%	277	88.0%	403	84.9%
Withdrawal Rate (W, WF, OW) / All Grades	33	20.7%	40	12.7%	73	15.4%

Table 4: Math Summary Data, Fall Cohort 2002, 2003, and 2004

Total Students			**2149**							
Total Student Referrals to Math			**1629**							
	MAT - 050		**MAT – 060**		**MAT – 070**		**MAT – 080**		**Total**	
	#	**%**	**#**	**%**	**#**	**%**	**#**	**%**	**#**	**%**
Placed into class	15	7.0%	426	26.4%	736	45.6%	452	28.0%	1629	76.0%
Enrolled in Remedial Math	9	60.0%	316	74.2%	292	39.7%	120	26.5%	737	34.0%
Success Rate (A, B, C) /All, Ex. (I, NG, AU, NA)	4	44.0%	205	64.9%	178	61.0%	77	64.2%	463	62.0%
Retention Rate (A, B, C, D, F) / All Grades	*N/A	N/A	227	71.8%	211	72.3%	86	71.7%	524	71.0%
Withdrawal Rate (W, WF, OW) / All Grades	N/A	N/A	89	28.2%	76	26.0%	27	22.5%	192	26.0%

* N/A = Not Available

A closer examination of the students' performance in math (see Table 4) indicates that during this time, students in both MAT 060 and in MAT 080 had an average success rate of 65%. The success rate for students in MAT 070 was somewhat lower at 61%. The student withdrawal rates for the three courses were 28% for MAT 060, 26% for MAT 070, and 23% for MAT 080. High withdrawal rates coupled with low success rates result in fewer students progressing to the subsequent math course. Failure to progress presents barriers to students completing their chosen program of study. It should also be noted that the success rates in MAT 060, 070, and 080 all fall below the NCCCS and college-wide defined success rate of 70%.

The cohort data presented for MAT 050 raises some major questions. Not currently a curriculum course, MAT 050 is taught in the WCC Basic Skills lab as a self-paced course. Between 2002 and 2004, the average success rate was about 44%. The specialist who

manages the math students in the Basic Skills lab has identified several possible causes for this low success rate:

- The students' very low skill levels in basic addition, subtraction, multiplication, division, etc.
- The way in which students access the course, i.e., it is recommended that the students attend the lab at least three days a week; however, they are not required to do so.
- Students tend to lose motivation given that it takes two or three semesters to complete MAT 050.

Skill level has a significant impact on success. Those students who test in the lowest levels of MAT 050 are those lacking even the most basic skills and are those least likely to complete. The students who test into the higher levels are much more likely to be successful.

Benchmark Project

The National Community College Benchmark Project, comprised of ninety-seven community colleges, provides national data against which the College can measure performance in critical areas. According to the Benchmark Project, the median success rate in all math developmental courses was 73% in 2003.

Table 5: Comparison of WCC to National Benchmark Project

	10th Percentile	Median	90th Percentile
Benchmark Project Retention Rate	**68%**	**84%**	**93%**
WCC Retention Rate	**73% (mean)**		
Benchmark Project Success Rate	**58%**	**73%**	**84%**
WCC Success Rate	**60% (mean)**		

WCC's 2003 mean retention and success rates in developmental math fall below the Benchmark Project's median. In both cases, these rates are only slightly above the 10th percentile. While WCC did not participate in the project, a comparison of the WCC data to the National Benchmark Project suggests that WCC would be among the lowest performing colleges when compared to the project.

The College collected similar data to establish internal benchmarks. Across campus, 70% of all students were successful in their courses. Therefore, the success rate was

benchmarked at 70%. Although the average withdrawal rate was 18% to 19%, the benchmark was established at 25% to allow for any unusual circumstances. These benchmarks were then applied to the developmental classes to see if any useful information could be obtained. The courses that fell below the cut-offs for at least 2 years were determined to be high-risk developmental courses.

Table 6: WCC Developmental Courses Against Internal Benchmarks

Course		FA 2002		FA 2003		FA 2004	
		% C or better	% Withdrawal	% C or better	% Withdrawal	% C or better	% Withdrawal
ENG 080	Writing Foundations	77.0%	19.0%	80.0%	18.0%	74%	25%
ENG 090	Composition Strategies	86.0%	14.0%	86.0%	13.0%	88%	12%
MAT 050	Basic Math Skills	0	*	0	*	43%	*
MAT 060	Essential Mathematics	63.0%	29.0%	69.0%	29.0%	69%	26%
MAT 070	Introductory Algebra	68.0%	23.0%	55.0%	26.0%	59%	30%
MAT 080	Intermediate Algebra	45.0%	41.0%	67.0%	24.0%	74%	10%
RED 080	Introduction to College Reading	85.0%	15.0%	75.0%	19.0%	75%	23%
RED 090	Improved College Reading	77.0%	23.0%	84.0%	13.0%	74%	26%

C or better Cut-off = 70% Withdrawal Cut-off = 25% *Data Not Available
Cohort Data: D. Cracknell

According to these data, the three-year average student success rate for math is 63%, and the average withdrawal rate is 26%. Again, the data indicate that there are problems related to student success in and withdrawal from developmental math courses.

Academic Skills Center

The Academic Skills Center (ASC) provides academic assistance in the form of one-on-one instruction, small group instruction, and computer-assisted instruction. A peer tutoring service is also available through the ASC. For developmental students who need assistance beyond the classroom, the ASC can be an invaluable resource. The center's staff maintains statistics regarding student use and presents a report to the Developmental Education Committee once a semester.

During the 2002-2003 school year, 80% (312) of the developmental students using the services of the ASC were developmental math students. During that same year, 79% (123) of the students using the peer tutors were being helped with math. The amount of time that the

staff in the Academic Skills Center dedicates to assisting developmental math students is far greater than the amount of time spent with English and reading students. As the table below indicates, more developmental math students sought help in the ASC than developmental English and reading students combined. These data reflect a need for the Quality Enhancement Plan to address the purpose and responsibilities of the Academic Skills Center and peer-tutoring program.

Table 7: Developmental Student Usage in the WCC Academic Skills Center

	Academic Skills Center		Peer Tutoring	
Class	**Dev. Students**	**Total Time (Hours)**	**Dev. Students**	**Total Time (Hours)**
ENG	57 (15%)	399.41 (15%)	12 (8%)	104.66 (6%)
MAT	312 (**80%**)	2157.98 (**83%**)	123 (**79%**)	1532.16 (**81%**)
RED	20(5%)	27.73 (2%)	21 (13%)	248.93 (13%)
TOTAL	389	2585.12	156	1885.75

Analysis of the Data

Based on the 2002, 2003, and 2004 Fall cohorts, the majority (84%) of the College's first-time entering students test into a developmental course. The fact that so many students were not prepared to handle college-level courses is a cause for concern. Once these students registered for a developmental class, only 67% were successful (A, B, or C), 26% did not complete the class (W, WF, OW), and 7% completed unsuccessfully (D, F). The success rate for English, math, and reading combined does not meet the 70% success rate determined to be the average college-wide success rate. The College has a significant developmental population (84% of the entering population) and a below average success rate in the developmental courses (only 66% of the population). The data support developmental education as an issue that has a significant impact on student learning at WCC.

A close examination of the WCC developmental population reveals that more students test into developmental math (76% or 1629/2149) than into developmental English (43% or 928/2149) or reading (34% or 726/2149) and the success rate in math (62%) is the lowest of the three areas. Furthermore, the math retention rate is lower than that of English and reading: 71% for math, 85% for English, and 79% for reading. From 2002 through 2004, the success

rate varied from 62% for math (below the 70% success rate for the College) to 83% for English and 77% for reading. During that same time, the retention rate varied from 71% in math to 85% in English and 79% in reading. The analysis of the data points to math as a particular problem for students. The qualitative data reveals that, while all of the College's constituents recognized the importance of speaking, reading, and writing as skills graduates should have, many did not identify math as important, ranking it in fifth and sixth positions on the list of student outcomes. The qualitative data also revealed that students often have negative feelings about math based on past failures/difficulties with the course. The qualitative data, as well as the quantitative data, point to developmental math rather than developmental education as a more reasonable, focused QEP topic. The focus for this QEP then is the improvement of student learning outcomes in developmental math.

CHAPTER 3. REVIEW OF THE LITERATURE RELATED TO BEST PRACTICES

As a part of its focus on developmental math, this Quality Enhancement Plan also addresses placement, advising, and services students might access outside of the classroom. Because the QEP proposes changes to benefit student learning in each of these areas, these services as well as developmental math must be researched. A thorough review of the literature is essential if best practices are to be an integral part of the QEP.

Developmental education and its improvement are the "most important issue[s] confronting community colleges today" (Bailey & Alfonso, 2005). The literature identifies developmental education as inclusive of more than classroom activities. Additional areas that impact the developmental classroom are testing and placement, advising and counseling, and academic support services. Boylan (2002, p.3) included each of these in his study of best practices in developmental education. These best practices are the "organizational, administrative, instructional, counseling, advising, and tutoring activities engaged in by highly successful developmental programs. These practices are typically validated by research and the literature in developmental education."

Testing and Placement

Colleges recognize the need for assessment, placement, and possible remediation in order to improve academic performance. Reading comprehension, writing, and mathematical ability affect every curriculum and are the areas most commonly assessed to identify under-prepared students in need of developmental education. The determination of whom to test or exempt and how best to assess and place students creates a challenge. This challenge must be met because the consequences of incorrect placement can be overwhelming to a student (Maxwell, 1997). A review of the literature on testing and placement finds consistent recommendations that can be identified as *best practices*:

1. *Mandatory assessment*: All students should be tested and placed in appropriate courses. The goals of testing and placement are to improve student academic performance and maintain program quality.
2. *Test preparation*: Reducing test anxiety through orientation, counseling, and test preparation is in the best interest of student performance.
3. *Culture of evidence*: Continual data base analysis is essential for assessment and placement accuracy as well as instructional program effectiveness. Data analysis may suggest modifications in placement and/or instruction in order to fine tune the process and achieve consistency between exit standards for remedial courses and entry standards for curriculum courses.
4. *Willingness to change*: Flexibility is important. "For programs to be effective, they must reflect the unique characteristics and cultures of their colleges. They must blend the common and the unique in order to achieve a standard of excellence with which an institution and its community can live" (Roueche & Roueche, 1999, p. 40).

Advising and Counseling

Any attempt to enhance the structure, policies, procedures, and practices that support the values and goals of student learning in developmental education must take advising and counseling into consideration. Often the first point of contact with the institution, these areas are

important in shaping impressions that influence the subsequent college experiences of developmental students. Certainly, the literature identifies effective advising and counseling programs as "essential components of developmental programs" (Boylan, Bliss, & Bonham, 1997).

One of the prevalent themes of developmental advising/counseling today is shared responsibility (Brown, 2003). Advisors/counselors are not the only ones responsible for the student's progress; the student must also bear some responsibility. In addition, an integrated team of advisors including "faculty, counselors, professional advisors, peer advisors . . ." (Brown, 2003) is more effective than a single advisor.

Advisors and counselors must also never lose sight of their importance in the retention process: "…contact with a significant person within an institution of higher education is a crucial factor in a student's decision to remain in college" (Heissarer & Parette, 2002). For many developmental students, that crucial person is the advisor. According to King (2004), "Since [developmental advising] requires more time and is based upon the development of a relationship between advisor and student, it is not compatible with quick, registration-oriented sessions."

While the literature reviewed did not specifically label best practices, several authors made recommendations that would constitute best practices. These practices are as follows:

1. *Collaboration*: Advising should be a team effort, not an individual one.
2. *Training*: Advisors and counselors need to have some training in the characteristics of developmental students.
3. *Responsibility*: Students are, in part, responsible for their academic careers. Still, advisors should keep in mind that many developmental students are in an unfamiliar environment and may need explanations for what can seem like very simple concepts.
4. *Advising in life skills as well as academic skills*: Advisors should be preparing students to make life decisions as well as academic ones.

Academic Support Services

Academic Support Services are those services provided by the College that supplement a student's experience in the classroom by offering self-paced, directed, or interactive activities. These activities include worksheets, computer tutorials, individual and small-group tutoring, and other services that are often housed in learning centers. Additional practices that support the academic experience are Supplemental Instruction, the use of labs, and the availability of testing facilities. Boylan (2002) recognized the importance of these services to the developmental student: "Support services . . . are more labor intensive and rarely generate revenue directly. Nevertheless, colleges cannot expect to attain high rates of student success and retention unless they provide a wide range of academic and personal support services" (p. 26).

Academic Skills Center

Learning Centers, also known as Academic Skills Centers and Academic Support Centers, provide an array of services for all students but are a key to the success of a college's developmental program.

Tutoring is a component vital to the success of developmental students since many students enter college with deficiencies in their basic skills, study skills, and/or organizational skills. Tutoring targets these at-risk students. The most common tutoring practices are individualized tutoring and small group tutoring. Each peer tutor must be guided in his/her role as a tutor and should be well trained. According to Boylan (2002), "Regardless of what sort of tutoring is being provided or where it is housed, the most successful aspect of tutoring is tutor training" (p. 49).

Another type of support service that has been proven effective is the use of labs. Boylan (2002) identified the integration of classrooms and laboratories as a best practice leading to greater success rates for developmental students. He stressed, however, the importance of ensuring the integration, making a clear connection between the activities in the classroom and the lab. Many variations in lab instruction exist. Effective lab instruction may include computer

tutorials or worksheets/workbooks. The lab instructor serves as a facilitator, moving about answering questions and explaining when needed.

The Math Project: "Slaying the Developmental Math Dragon"

McCabe (2000) identified mathematics as "the greatest hurdle for deficient students" (p.40). Sixty two percent of all developmental students take a developmental math (p. 41). According to the Texas Higher Education Coordinating Board (2002, p. 3), "More developmental education is required for mathematics than for reading and writing combined." Although the primary purpose of a developmental mathematics course may be to remediate deficiencies in mathematical skills, the course must also strengthen the general learning skills of the student. Many of today's entering college students are not only academically under prepared but also are academically at risk (Maxwell, 1997).

WCC has used the following information to address certain problems in developmental math as well as to formulate best practices for mathematics instruction.

Environmental Barriers to Student Success

Among the barriers to student success in developmental mathematics is math anxiety. In an address at the NADE 2001conference, Sheila Tobias (Armington, 2002) identified the predominant cause of math anxiety as environmental factors created by math teachers. Students need support and counseling to undo the negative attitudes, emotions, and fears that they associate with earlier school experiences. Therefore, the challenge for the developmental math instructor is to build strong, positive attitudes and to dispel or modify the negative attitudes. "The area of attitudes, feelings, and emotions about math is the starting point for the success in the teaching of developmental math" (Strowbridge, 1987, p. 87).

The developmental math classroom should be a nurturing, non-threatening environment for the student. One method of making the classroom less threatening is the use of collaborative or cooperative education. Group work can be accommodated in large halls as well as small learning labs. The literature supports the instructor assigning the students to groups and indicates that diverse groups are more productive than homogeneous groups**.**

To be successful, students must also recognize their own responsibility. They should be shown specifically what effort they need to put into their studies (Maxwell, 1997). Paul and Elder (2002) suggest calling on students regularly and holding them responsible for asking a question or elaborating on what others have said. Including one or two homework problems on a test might also reinforce the relationship between a student's behavior and his success in a course. Another strategy is allowing students to raise test scores by meeting with a tutor to review errors and subsequently earning extra points through additional problems. Maxwell (1997) suggested that introducing material where success is immediate helps the student to overcome an expectation of failure.

Paul and Elder (2002) have recommended taking common developmental student characteristics into account in the design and conduct of instruction. For example, since many developmental students do only what is required of them and put off work until they have a pressing deadline, instruction must be designed with frequent requirements and/or testing. The instructional techniques used in mastery learning (Rouche, cited in Boylan and Saxon, 1999), namely, small units of instruction and frequent testing, fit this instructional design also. The results of the "Frequent Testing Experiment on Kendall Campus" (Miami Dade College, pp. 44-45) favored the experimental groups (which were given frequent, half-hour quizzes) in pass rates, success ratios, withdrawal ratios, and student feedback results over the control groups which were given less frequent, hour-long tests.

Math and Technology

Positive outcomes have been noted in the use of the computer as a tutor designed to supplement regular instruction: more student learning in less time, slightly higher grades on post-tests, and improved student attitudes. However, the effectiveness of computer-based instruction decreased when it was used as a primary instructional method (Boylan, 2002). Boylan identified as best practice the use of computers in a supportive role to provide supplementary help, tutoring, and/or individual practice/drill outside of class.

Supplemental Instruction

Armington (2003, p. 49) noted that Supplemental Instruction (SI) targets high-risk courses rather than high-risk students, and has “been used successfully in developmental mathematics.” Boylan (1999) advocates the placement of some developmental students in regular courses supported by Supplemental Instruction.

Assessment Measures

In addition to course grades, some programs require alternative assessment measures to document skill achievement. Methods include retesting on alternate forms of the placement test, computer-adaptive tests, and locally designed or state-mandated exit tests (McCabe, 2003).

Faculty Development

The literature includes repeated references to characteristics of faculty and the need for training. Training for faculty who work with under-prepared students is important, according to Boylan and Saxon (1999), who mention it as one contributor to successful remediation. Boylan's (2002) checklist for developmental programs includes a number of items involving faculty awareness and preparation:

- Consistent support of professional development for developmental educators,
- Regular involvement of developmental educators in professional associations, and
- Regular, systematic sharing of instructional strategies among developmental instructors. (This item may refer to departmental meetings but certainly reflects a form of internal peer training.)

Richlands College's report on *Best Practices* emphasizes hiring and interview practices such as requiring a teaching demonstration to reveal the use of active learning strategies by candidates. This institution also has provided a year-long program on cooperative learning, has implemented a mentoring program between full-time and part-time faculty, and holds weekly developmental math faculty meetings on "priority issues such as improving instruction and developing student success strategies" (2002, p. 22).

Institutional Commitment

Institutional commitment is a key factor in the success of a developmental program. "It should come as no surprise that developmental education is most successful at institutions that consider it to be a priority" (Boylan, 2002, p. 22). Some of the ways that this commitment manifests itself include consistency between institutional goals and developmental education goals, incorporation of developmental education into the institution's long-range planning, and a common vision of what developmental education is seeking to accomplish that is shared by faculty, staff, and administrators (Boylan, 2002, p. 23).

Summary: Through examination of the data, WCC has identified developmental math as a critical issue that impacts student learning. The literature supports developmental math as a problem area for developmental students but also as an area filled with potential for improvements that can significantly enhance student performance. The College has created a plan, *Slaying the Developmental Math Dragon,* which provides creative, engaging, and meaningful learning experiences for students by incorporating best practices into its testing and placement procedures, advising and counseling practices, academic support services, and the developmental math program.

CHAPTER 4. PLANNING FOR THE QEP

The SACS Leadership Team appointed the Quality Enhancement Plan Steering Committee in February 2004. Members were selected to provide broad participation from the college community with significant faculty representation. The following sixteen individuals were selected:

QEP Steering Committee

Dr. Cindy Archie, Chair	Division Head Allied Health/Public Services
Karen Burnette	Instructor Team Leader Basic Skills
Dr. Annette Hawkins	Math Instructor Arts & Sciences (College Transfer))
Beth Hooks	Department Head/Office Systems Technology Business & Communications Technology
Tracey Ivey	Department Head/Social Sciences/Fine Arts/Humanities Allied Health/Public Services
Angela Jackson	Secretary Applied Technology

Kathy Jones	Director Information Systems
Diane Joyner	Math Instructor Arts & Sciences (College Transfer))
Sylvia Judd	Director Learning Resource Center
Rosalyn Lomax	English Instructor Arts & Sciences (College Transfer))
Todd King	Drafting & Design Instructor Applied Technology
Wayne Madry	Admissions/Records Director Continuing Education
Anne Millington	Director Coop Placement/Prep Tech
Patty Pfeiffer	Nursing Instructor Allied Health/Public Services
Sharon Price	Arts & Sciences/College Transfer Counselor Student Development Services
Saundra Smith	Director Academic Skills Center
Ann Spicer, Co-Chair	SACS Editor, English Instructor Arts & Sciences (College Transfer))

The Steering Committee met for the first time on March 19, 2004 (see minutes, Appendix F). The purpose of the meeting was to orient the members to the Quality Enhancement Plan Guidelines (*Handbook for Reaffirmation of Accreditation*, SACS), the committee's purpose, goals and timeline, and a process model that provided a clear linkage between the QEP and the College's planning and evaluation process. The timeline for the development of the QEP can be found in Appendix A. Readings and resources available to the committee also were discussed. The initial work of the committee focused on student learning, WCC's student learning outcomes, and the assessment of strengths and challenges related to students' achievement of college-wide and program learning outcomes.

The Steering Committee met again later that month and discussed the data gathered from the Faculty/Staff/Community Focus Group sessions. During April, plans for the Student Focus groups were finalized, and the discussion of the critical issues related to enhancing student learning at WCC continued. The members analyzed qualitative and quantitative data to answer two questions: *What is the evidence telling us? Is a QEP topic emerging?* (An analysis of that data has been discussed previously.) During May and June 2004, the discussion of possible topics continued until one was selected: Improving Student Achievement of Learning Outcomes in Developmental Math, Reading, and English. The title of the QEP was also chosen:

The Quest for Success: Slaying the Developmental Dragon. Over the next few months, the committee received input from the College's SACS liaison, Dr. Rudy Jackson, who suggested that the QEP was too broad and that the College should consider narrowing the topic. Additionally, analysis of the qualitative and quantitative data clearly pointed to the fact that developmental math presented the greatest challenge for students and faculty alike. The committee made a unanimous decision to address only developmental math. During July and August, the Steering Committee formulated QEP objectives, established goals, and designed an organizational framework and committee structure to develop the Quality Enhancement Plan. The committee identified two objectives with related tasks. These objectives have guided the development of the plan.

Objective #1: Improve student learning outcomes in developmental mathematics by enhancing the structure, policies, procedures and practices that support the values and goals of student learning in developmental education.

- Task 1a: Research best practices in developmental education.
- Task 1b: Educate administration, faculty, staff, and other key stakeholders about best practices in developmental education.
- Task 1c: Collect, organize, record, and analyze data regarding the current structure, policies, procedures, practices, and outcomes of developmental education at WCC.
- Task 1d: Assess the current resources (finances, equipment, personnel, and facilities) that support developmental education at WCC.
- Task 1e: Design a two-to-five year plan for enhancing the framework that supports developmental education at WCC to include the following: goals, measurable outcome criteria, strategies, a timeline, leadership/persons responsible, necessary resources, and methods of evaluation.

Objective #2: Improve student achievement of learning outcomes in developmental mathematics.

- Task 2a: Research best practices in developmental math.
- Task 2b: Educate administration, faculty, staff, and other key stakeholders about best practices in developmental math.
- Task 2c: Collect, organize, record, and analyze regarding current structure, policies, procedures, practices, and outcomes of developmental math at WCC.
- Task 2d: Collect, organize, record, and analyze data related to first-time developmental math students and their achievement of learning outcomes.
- Task 2e: Assess the current resources (finances, equipment, personnel, and facilities) that support developmental math at WCC.
- Task 2f: Design a two-to-five year plan for enhancing developmental math at WCC that includes the following: goals, measurable outcome criteria, strategies, a timeline, leadership/persons responsible, necessary resources, and methods of evaluation.

The following subcommittees were created, and individuals were selected to serve on them:

Fire in the Countryside:	Researching the Literature
The Roar of the Dragon:	Communication
Identifying the Dragon:	Developmental Education at WCC:
	Data and Statistics
	Testing and Placement
	Advising and Counseling
	Student Support Services
Finding a Hero:	Consulting the Experts:
	Internal Consultants
	External Consultants
Facing the Dragon:	The Math Project

The membership list of each of these committees is found in Appendix D.

In August 2004, the annual college convocation provided the opportunity to introduce the QEP. The Steering Committee chair gave a brief overview that focused on what the Quality Enhancement Plan is and how the entire campus either was or would be involved. An orientation for all the QEP subcommittees was held. The entire team discussed the objectives, timeline, and process that would be followed for formulating the goals and strategies for the QEP. Each committee was given guidelines and questions to begin its work. An overview of a 2000 report "Evaluation of Developmental Education" was discussed. Members of each of the sub-committees were identified, and each sub-committee met for individual discussion.

During September and October, the sub-committees began their work of gathering data, researching best practices, and formulating goals and desired outcomes to improve student learning at WCC. Since the focus had been narrowed to developmental math, additional members were added to the Student Support Services and Math Project subcommittees to broaden their faculty or staff representation.

By early December, the subcommittees had submitted rough drafts of their planning documents. One of the most important actions the Steering Committee took in December was to restructure the Math Project subcommittee. This change was necessary in order to enhance the efficiency of the group so that they could accomplish this essential part of the plan.

During January, February, and March 2005, each subcommittee worked diligently to refine goals and outcomes, develop strategies and timelines, and identify persons responsible and resources needed to accomplish each part of the plan. The following is a brief description of each committee's work.

Communication Subcommittee

The primary task of the Communication subcommittee was to inform the faculty, staff, students, board of trustees, and community members about progress on the College's Re-affirmation efforts. Information was communicated through SACS newsletters, faculty/staff meetings, presentations to constituents, e-mail updates, advertising, and local and college newspapers.

Researching the Literature Subcommittee

The Researching the Literature subcommittee primarily gathered and disseminated information about student learning, developmental education, and developmental math. These sources included books, articles, and websites. Hardcopy materials were placed in the College's library and put on reserve to be available to interested faculty and staff. Materials directly addressing a subcommittee's work were sent to the chair of that subcommittee. Additional tasks undertaken by this subcommittee were the development of a glossary related to the reading and a bibliography of the sources.

Testing and Placement Subcommittee

The focus of the Testing and Placement subcommittee's work was the College's placement test and associated policies and procedures. The members first identified the issues related to the placement test. For example, many students register to take the placement test and then do not show up. The committee members asked the question, how can students be encouraged to assume more responsibility in taking the placement test? Another issue was the testing environment. Subcommittee members felt that there should be a separate testing facility accessible to students any time during the week. Finally, the subcommittee had some concerns about the validation of the placement test scores. The NCCCS will be publishing a report on the

placement scores in 2006, so the subcommittee suggested delaying any recommendation involving placement test scores until this report is available.

Advising and Counseling Subcommittee

The Advising and Counseling subcommittee looked closely at what problems might exist in the advising and counseling process from the time a student first enters the door of the college until he/she registers for classes. Based on what they say after the fact, some students do not understand the impact that the placement test will have on their choice of courses. One student stated that, "if I'd had known what it meant, I would have taken it more seriously." A large number of students report that they did not prepare in any way for the placement test. For recent high school graduates who may not have had a basic arithmetic course since the seventh or eighth grade, this section on the test can present problems. A review before the test, however, could prevent the student from having to take MAT 060 or even MAT 070. Another problem, but one that is faced by advisors, is the difficulty in determining math placement. Because the math placement test can generate up to three scores and because the scores are interrelated in determining placement, advisors often have trouble placing students in the proper math class. To give students the greatest opportunity to be successful on the placement test and to ensure their proper placement, the Advising and Counseling subcommittee developed three goals.

- Students will have the appropriate guidance necessary to prepare for admission placement testing and to improve their performance on the math placement test.
- Faculty advisors will demonstrate increased understanding of the student academic advising process, especially as it relates to developmental math.
- Students will understand the significance of math placement scores.

Data and Statistics Subcommittee

From the first meeting, the Data and Statistics subcommittee began to identify the data collection issues that would have to be resolved. First, what data would need to be collected? Over the course of many meetings, data collection was discussed. A final determination was made to use the College's newly created cohorts of first-time students entering in fall semester. These cohorts begin in 2002 and can be used to track students through to graduation. Next, the members examined the issue of software: what should be used in the collection and storage of

the data. Several software packages were recommended. Finally, the subcommittee addressed the training needs of developmental faculty. In order to use the data for decision-making, faculty must to be able to access it, hence the need for training. Because the data is so crucial to the QEP, the Data and Statistics subcommittee continues to work at gathering data and finding ways to make it more accessible to developmental faculty.

External Consultants Subcommittee

The purpose of the External Consultant Team was to secure an external consultant with expertise in the area of developmental math who could provide training and advice regarding best practices to support the work of the QEP. After several meetings and researching various individuals, the team contacted Dr. Barbara Bonham, Program Coordinator for Leadership and Education Studies at Appalachian State University. Dr. Bonham agreed to a two-day site visit at WCC on February 28 and March 1, 2005 to meet with the Developmental Education Committee, administrative staff, Student Support Services, and faculty in the mathematics department to provide professional services and training in Developmental Math Education to enhance student learning. The visit by Dr. Bonham was well received. The practical applications she addressed have assisted the QEP in developing strategies to enhance student-learning outcomes in developmental math.

Internal Consultants Subcommittee

From the first meeting, the Internal Consultants subcommittee recognized that the information they collected would provide data on which the QEP would be based and, therefore, their work would have to be done quickly. The members' first task was to identify who the internal consultants were. They decided to focus on developmental students and faculty and to use surveys and roundtables/focus groups to collect data. After designing a survey instrument, the subcommittee administered it to the even-numbered sections of all developmental English, math, and reading classes. Roundtable groups of developmental students were then arranged, followed by roundtable discussions with developmental faculty. These sessions provided valuable data for the QEP subcommittees.

The Math Project Subcommittee

The Math Project subcommittee faced the task that was core to the QEP: develop a plan to improve student achievement of learning outcomes in developmental math. The members first determined what tactics/plans were already in place and working at institutions documented to have notable developmental programs as well as to demonstrate what the literature identified as best practice. The next step was to develop a plan incorporating what had been learned and apply it to the developmental math courses at the College. Then the subcommittee established goals aimed at improving student learning outcomes in developmental math, in subsequent math courses, and in math across the curriculum.

After outcomes, strategies, procedures, and resources to implement the goals were determined, the next concern was how to measure the improvement of student achievement of learning outcomes.

Student Support Services Subcommittee

The work of the Student Support Services subcommittee began with the determination of the specific support services that would be the focus of study. The members identified the Academic Skills Center (ASC), Basic Skills, and Financial Aid as services that support the academic pursuits of students. At this point, members were added to the committee because of the scope of their work. A closer examination of the issues revealed that the primary support service accessed by developmental students is the ASC. As a result, the focus shifted to the ASC. Based on data gathered from the Center's surveys and the QEP roundtables, the subcommittee members determined that they should concentrate on problems with the facility, including the noise level, inadequate space, and constant distractions caused by student testing.

In April 2005, the Steering Committee discussed each sub-committee's recommendations and approved the proposed QEP. The Plan was submitted to the SACS Leadership Team for approval and to the WCC Planning Council at its annual planning meeting.

During May and June, the Steering Committee approved revisions to the plan and discussed long-term implications of meeting the major objectives and goals of the Quality Enhancement Plan.

Summary: The College began its discussion of the quality of student learning by addressing student learning outcomes in focus groups attended by faculty, staff, students, and local community/business leaders. A recurring issue that emerged from these discussions was the challenge posed by the under-prepared student. In addition, the College analyzed information gathered from key constituency groups (roundtables and surveys) and a variety of quantitative data. A consistent pattern of evidence emerged indicating the criticality of developmental courses in student success. As a result, the QEP Steering Committee chose to focus on the issue of developmental education. Once the general topic was selected, the team narrowed the focus to developmental math and selected the following topic: *The Quest for Success: Slaying the Developmental Math Dragon*. The Committee identified two objectives.

Objective #1: Improve student learning outcomes in developmental mathematics by enhancing the structure, policies, procedures and practices that support the values and goals of student learning in developmental education.

Objective #2: Improve student achievement of learning outcomes in developmental mathematics.

These two objectives are the engine that drives the QEP, *Slaying the Developmental Math Dragon*.

Nineteen goals were developed in support of these two objectives. The SACS On-Site Review Committee, however, after its assessment of the QEP in September of 2005, recommended that the College "omit any goals not directly related to student outcomes." Following a discussion among members of the Steering Committee, developmental faculty, and selected staff, the plan was revised. Eleven of the original goals were combined to produce the following **five goals**, each of which indicates a student outcome:

1. Students will demonstrate a greater degree of responsibility in taking the placement test.
2. Students recognize the importance of the math placement test.

3. Students will improve their achievement of learning outcomes in developmental math courses (MAT 050, 060, 070, 080).
4. Students will improve their achievement of learning outcomes in math-related courses across the curriculum.
5. Developmental math students who use the services of the Academic Skills Center (ASC) will improve their performance in math.

The On-Site Review Committee identified the remaining eight goals as more "process related" but also essential: "Equally important to the institution achieving their student learning outcome goals are the process oriented goals (strategies) in that the process goals enable the institution to achieve the desired student learning outcomes." Therefore, to facilitate the implementation of the QEP and support the achievement of its goals, WCC has developed the following **institutional strategies** based on those eight remaining goals:

a. *Include a non-cognitive assessment as part of the data collected to guide students toward success in developmental math*. The Learning and Study Strategies Inventory (LASSI) will be administered in ACA 111 and 118. The students' scores will be analyzed to identify those factors common to developmental students.
b. *Provide an open testing facility where students can take proctored tests*. A testing center will be established where students can take placement tests, make-up tests, retests, and any other instructor-approved tests in an environment that can address their need for additional time or supplemental help during the testing process.
c. *Increase the awareness of faculty and staff regarding developmental education in general and developmental math in particular*. A variety of professional development activities will be provided to assist faculty and staff in developing strategies to enhance the student learning outcomes of developmental students. Of particular interest are best practices in the classroom. The institution will also focus on faculty participation in professional organizations, conferences, and training, including NADE, NCADE, regional NCADE, Kellogg Institute, Kellogg Advanced Training, SI training, NCMATYC, and AMATYC.

d. *Use data to make informed decisions for the purpose of improving student outcome in developmental math*. Both qualitative and quantitative data relevant to student learning outcomes in developmental math will be collected, analyzed, interpreted, and shared with the appropriate planning units.

Appendix G cross-references the goals and the institutional strategies with the WCC goals.

CHAPTER 5. QUALITY ENHANCEMENT PLAN

Based on the review of best practices, the QEP-related activities, and the recommendations submitted by the QEP subcommittees, the following plan was established. The plan includes five goals, desired outcomes, strategies, a timeline for implementation, individuals responsible for the plan, and assessment of the achievement of the goals. The plan's impact on student learning outcomes at WCC will be determined after the strategies are completed and relevant data have been collected. A summary of projected resources and costs follows the plan.

Goal #1: Students will demonstrate a greater degree of responsibility in taking the placement test.

Planning	**Implementation**			
Desired Outcomes	**Strategies**	**Timeline**	**Resources Allocated**	**Leadership**
Should be realistic, measurable, and stated in terms of student(s) and behavior, indicating improvement in learning occurred	*What will be done to achieve goal/outcomes*	*Month and year strategies initiated (anticipated over the next 1-4 years)*	*What is needed to accomplish the goal (financial, human, facilities, equipment, supplies)*	*Person/Position responsible for implementation and documentation*
The number of students taking their placement tests at the appointed time will increase by 10%.	Document the percentage of students that actually test out of those who sign up to test.	May 2006, ongoing	$0	Director of Counseling Services
	Charge students for testing after two placement tests.	December 2006	$0	Director of Counseling Services
	Establish a system for sending reminder calls to students about their placement test appointments.	December 2006	$0	Director of Counseling Services
The number of students stating that they used the online study guide, Academic Skills Center, or a Prep Workshop to prepare for their testing session will increase by 10%. The average score on the math placement test for	Benchmark the current number of applicants who report they studied for the math placement test.	December 2005	$0	Webmaster, Director of Counseling Services, and Director of Planning and Research
	The recruiter and Admissions Office provide students with a clearly written, concise guide to preparing for the math placement test.	January 2006	Printing study guides - $1,125.00 annually (500 @ 2.25 each), Advertising - $45.00 annually (1500 @.03 each), Phone-master $0	Associate Vice President of Student Services, Director of Counseling Services, and Director of Admissions

students who prepare for the test will exceed the average score of those who did not prepare.	The recruiter and Admissions Office provide students with a clear, concise guide for locating the online study guide for the math placement test.	August 2005	Printing directional form - $36.00 annually (1200 @ .03 each)	Associate Vice President of Student Services, Director of Counseling Services, and Director of Admissions
	Provide a sign advertising methods of preparation for the math placement test.	January 2006	$0	Director of Counseling services
	Conduct one-hour math placement test prep workshop four times per semester (two day and two evening workshops).	February 2006	Instructor - $120.00 annually	Developmental Department Head
	Advertise the date and time of workshop via web and Phone- master.	February 2006	$0	Webmaster, Director of Counseling Services
	Ask students (via survey) when they arrive for testing if they prepared for the placement test and, if yes, how.	February 2006	Print survey - $45.00 annually (1500 @ .03 each)	Director of Counseling Services and Director of Planning and Research
	Document the results of the students' responses to the survey.	September 2006 September 2007	$0	Director of Counseling Services and Director of Planning and Research
	Analyze results of data.	October 2007 October 2008	$0	Associate Vice President of Student Services and Director of Planning and Research
	Compare results to scores from Fall 2002-2003 (benchmark).	October 2007 October 2008	$0	Director of Planning and Research

Evaluation

Assessment of Achievement of Goal/Outcomes

Student Services benchmarks numbers of students scheduling placement tests and numbers that actually test from Fall 2004 records. The numbers are compared to measure the percent of improvement (December 2006).

Director of Planning and Research determines whether the number of students studying for their testing session increased by 10% as compared to the benchmark data obtained in 2005 (January 2007).

Director of Planning and Research compares average scores on the math placement test established in 2002-2003 to the scores of students that prepared for the placement test July 2005-September 2006 (January 2007).

Director of Planning and Research analyzes the results of average scores on the math placement test for students who prepared for the test versus the average scores of those who did not prepare (January 2007, January 2008).

Goal #2: Students will recognize the importance of the math placement test.

Planning	Implementation			
Desired Outcomes	**Strategies**	**Timeline**	**Resources Allocated**	**Leadership**
Should be realistic, measurable, and stated in terms of student(s) and behavior, indicating improvement in learning occurred	*What will be done to achieve goal/outcomes*	*Month and year strategies initiated (anticipated over the next 1-4 years)*	*What is needed to accomplish the goal (financial, human, facilities, equipment, supplies)*	*Person/position responsible for implementation and documentation*
Upon completion of the placement test interview with a counselor, developmental math students will be able to do the following: 1. Choose and register for the math course appropriate to their program of study (80%), 2. Identify and register for the subsequent math course in their program of study (80%), 3. Identify the sequence and time frame required for each math course before completing the math requirements for their program of study, and 4. With the guidance of a "New Student Group Advising Session" and the assistance of the advisor /Advising Center, develop and document a complete math sequence on the curriculum guideline worksheet.	In the post placement test interview, the counselor will do the following: a. Print on the COMPASS or ASSET report the first math course and the sequence of math courses to be taken,	January 2006 January 2008	$0	Director of Counseling Services
	b. Explain the sequential order of math courses to the student, and	January 2006	$0	Director of Counseling Services
	c. Give a copy of the revised COMPASS or ASSET report to the student.	January 2006	$0	Director of Counseling Services
	d. Provide orientation meeting(s) for all new students prior to the beginning of fall, spring, and summer registration.	May 2006	Advertising - $75.00 annually (1500 @ .05 each), Envelopes - $60.00 annually, Mailing - $525.00 annually (1500 @ .35 each)	Vice President of Academic Affairs and Associate Vice President of Student Services
	Advisor and/or Advising Center will assist students in sharing responsibility for developing their plan of study indicating the proper math sequence via revised curriculum guideline for his/her program.	January 2006	Printing - $50.00 (1000 @ .05 each), Revised curriculum guidelines - $150.00 annually (3000 @ .05 each)	Director of Advising Center and Department Heads
Upon completion of the advisor training workshop, 80% of the participants will do the following:	Create PowerPoint presentation and script for advising workshop to ensure consistency	March 2006	CDs - $350.00 (350 @ 1.00 each)	Director of Advising Center

1. Rate the effectiveness of the training sessions as "helpful" or "very helpful," 2. Indicate that they "agree" or "strongly agree" that they understand the best practices of advising, and 3. State that they can effectively use the placement guidelines when advising developmental math students.	Provide advisor training workshop sessions to all faculty prior to their participating in student registration.	March 2006	Binder and information - $2,100.00, Printing - $10.00 (200 @ .05 each)	Vice President of Academic Affairs
	Compile revised guidelines for assisting developmental students with their academic programs and distribute to all faculty.	January 2006	$0	Associate Vice President of Student Services and Department Heads
	Revise the interpretation of ASSET and COMPASS placement tests for developmental math courses.	July 2006	$0	Director of Counseling Services
Evaluation				
Assessment of Achievement of Goal/Outcomes				
Advisors working with developmental students place a copy of the student's completed curriculum plan in the student's advising folder (January 2006). Developmental math faculty determine that 90% of the students are registered for the appropriate math courses. (January 2006). The Vice President of Academic Affairs distributes advisor workshop training template to Department Heads and workshop presenters (March 2006). The Vice President of Academic Affairs and Director of Planning and Research assess via faculty survey that, upon completion of the advisor training workshop, 80% of the participants rate the effectiveness of the training sessions as "helpful" or "very helpful" and state that they can effectively use the placement guidelines when advising developmental math students (March 2006).				

Goal #3: Students will improve their achievement of learning outcomes in developmental math courses (MAT 050, 060, 070, 080).

Planning	Implementation			
Desired Outcomes	**Strategies**	**Timeline**	**Resources Allocated**	**Leadership**
Should be realistic, measurable, and stated in terms of student(s) and behavior indicating improvement in learning occurred	*What will be done to achieve goal/outcomes*	*Month and year strategies initiated (anticipated over the next 1-4 years)*	*What is needed to accomplish the goal (financial, human, facilities, equipment, supplies)*	*Person/position responsible for implementation and documentation*
The following indicators of student performance will increase by 10%: 1. The number of students who complete MAT 060, 070,and 080 courses, 2. The number of students in MAT 060, 070,and 080 who achieve a grade of *C* or better, 3. The number of students achieving a grade of *C* or better in subsequent developmental and/or college-level courses.	Analyze the validity of the current cut scores of COMPASS and ASSET placement tests.	January 2006 January 2007	$235.00 $235.00	Math & Science Department Head and Developmental Department Head
	Establish math cut scores on placement tests to improve placement of students.	August 2006 August 2007 (reevaluate cut scores)	$0	Math & Science Department Head and Developmental Department Head
	Pilot a diagnostic test on the second day of class.	May 2006	Printing - $300.00 (1200 @ .25 each)	Math & Science Department Head and Developmental Department Head
	Offer Math 060, 070, and 080 classes with required Supplemental Instruction (SI).	August 2006 (one class of each) August 2007 (up to three classes of each)	SI Coordinator - $54,000.00 annually, SI leaders - $7,500.00 annually	Math & Science Department Head and Developmental Department Head
	Assess developmental course learning outcomes and develop instructional packets for each developmental math course (pacing guide, required labs, common tests, syllabus template, etc.)	January 2006 (Math 060) August 2006 (Math 070) January 2007 (Math 080) January 2007 (Math 050)	$0	Math & Science Department Head and Developmental Department Head
	Offer Math 060, 070, and 080 with full-time instructors or returning, retired instructors (replacing 15 hours by adjuncts).	January 2006	Math instructor - $42,000.00 annually	Math & Science Department Head and Developmental Department Head
	Track students in established cohorts through the completion of their math sequence	July 2007	$0	Director of Planning and Research and Math & Science Department Head
The number of students completing MAT 050 with a C or better will increase by 10%.	Offer Math 050 as a curriculum course.	August 2006	Math instructor - $42,000.00 annually, Five tutors - $1,500.00 annually (5 @ 300 each)	Math & Science Department Head and Developmental Department Head
	Benchmark the number of students successfully completing MAT 050.	May 2006	$0	Math & Science Department Head

	Develop a system to monitor the placement and progression of students who test into MAT 050.	July 2007	$0	Coordinator of Basic Skills Lab, Math & Science Department Head, and Developmental Department Head
	Develop a system so that Basic Skills and math faculty can regularly share information on the progress of MAT 050 students.	July 2007 July 2008 July 2009 (annually)	$0	Coordinator of Basic Skills Lab, Math & Science Department Head, and Developmental Department Head
	Develop a system of academic support for MAT 050 students in subsequent courses.	July 2007	A full-time ASC staff member to work with high risk developmental math students - $40,556.00 annually	Academic Skills Center Director
Students who participate in Math 060, 070, and 080 sections with required SI and *My Math Lab* will do the following: 1. Withdraw (*OW*, *W*) at a lower rate than students in comparable MAT 060, 070, and 080 classes, 2. Earn a failing grade (*D*, *F*, *WF*) at a lower rate than students in comparable MAT 060, 070, and 080 classes, 3. Achieve a grade of *C* or better at a higher rate than students in comparable MAT 060, 070, and 080 classes, 4. Achieve a grade of *C* or better in subsequent courses at a higher rate than students in comparable MAT 060, 070, and 080, and 5. When completing surveys, will respond positively as to their experience in math class at a higher rate than students in comparable MAT 060, 070, and 080.	Compare the success rates of students who participate in SI and *My Math Lab* to those who are in sections with lecture/discussion	May 2007	$0	Developmental Department Head and Math & Science Department Head
	Survey students who are in developmental courses and compare results.	January 2007	$0	Developmental Department Head and Director of Planning and Research
The number of students completing MAT 050 with a C or better will increase by 10%.	Benchmark the number of students successfully completing MAT 050.	May 2006	$0	Math & Science Department Head
	Develop a system to monitor the placement and progression of students who test into MAT 050.	July 2007	$0	Coordinator of Basic Skills Lab, Math & Science Department Head, and Developmental Department Head

	Develop a system so that Basic Skills and math faculty can regularly share information on the progress of MAT 050 students.	July 2007 July 2008 July 2009 (annually)	$0	Coordinator of Basic Skills Lab, Math & Science Department Head, and Developmental Department Head
	Develop a system of academic support for MAT 050 students in subsequent courses.	July 2007	A full-time ASC staff member to work with high risk developmental math students - $40,556.00 annually	Academic Skills Center Director

Evaluation

Assessment of Achievement of Goal/Outcomes

Analysis of statistical reports of student performance in developmental math courses (MAT 060, 070, and 080) indicate that the number of students who complete developmental math courses, achieve a grade of *C* or better in developmental math, and achieve a grade of C or better in subsequent developmental or entry-level courses has increased by 10% (December and May 2007, 2008, and 2009).

The number of students completing MAT 050 with a grade of C or better increases by 10% (May 2006, 2007, 2008 and 2009).

Analysis of statistical reports of student performance in developmental math courses (MAT 060, 070, and 080) indicate that students who participate in Math 060, 070, and 080 sections with required SI and My Math Lab withdraw at a lower rate, earn a failing grade at a lower rate, achieve a grade of C or better at a higher rate, and achieve a grade of C or better in subsequent courses at a higher rate than students in comparable MAT 060, 070, and 080 classes (January and August 2006 and January 2007).

A greater percentage of students who took Math 060, 070, and 080 with required SI and My Math Lab indicate a positive experience in developmental math than those in comparable MAT 060, 070, and 080 classes (January 2007).

Goal # 4: Students will improve their achievement of learning outcomes in math-related courses across the curriculum.

Planning	Implementation			
Desired Outcomes	**Strategies**	**Timeline**	**Resources Allocated**	**Leadership**
Should be realistic, measurable, and stated in terms of student(s) and behavior indicating improvement in learning occurred	*What will be done to achieve goal/outcomes*	*Month and year strategies initiated (anticipated over the next 1-4 years)*	*What is needed to accomplish the goal (financial, human, facilities, equipment, supplies)*	*Person/position responsible for implementation and documentation*
Students will be able to relate program specific applications to current course material in math related courses.	Students will enroll in program-designated sections of developmental math or program sequential math course.	January 2006	$0	Department Heads and Advising Center Director
There will be no measurable difference between developmental and non-developmental students in scores on skill inventories.	Students in college-level math-related courses will take a diagnostic test on the 1st or 2nd day of class to demonstrate prior concept retention and course readiness.	January 2007	$0	Curriculum Department Heads
Student surveys will indicate that at least 80% of the students are "satisfied" or "very satisfied" with their experiences in developmental math courses.	Students will take part in a standard form survey on student course satisfaction.	January 2007	$0	Director of Planning and Research
Math faculty will incorporate examples and exercises from across the curriculum into developmental math courses.	Developmental math and curriculum instructors will have roundtable discussions to determine relevant course material.	May 2007	$0	Math & Science Department Head and Curriculum Department Heads
	Examples of real-world math problems that satisfy the college's program learning outcomes will be compiled by course into a book format for each program of study.	May 2007	$0	Math & Science Department Head

	Course content and program specific applications will be integrated into developmental math courses.	May 2007	$0	Math & Science Department Head and Developmental Department Head

Evaluation

Assessment of Achievement of Goal/Outcomes

Eighty percent of developmental students make a grade of C or better in math related courses (May and December 2006, 2007, 2008 and 2009).

There is no measurable difference between the scores of developmental and non-developmental students in math-related courses on a skills inventory administered within the first two days of class (January and August 2007, 2008, and 2009).

Eighty percent of developmental students in math-related courses are “satisfied” or “very satisfied” with their experiences in developmental math (January and May 2007, 2008, and 2009).

Annual classroom observations of math faculty reflect the incorporation of examples and exercises from across the curriculum into developmental math courses (May 2007, 2008, and 2009).

Goal #5: Developmental math students who use the services of the Academic Skills Center (ASC) will improve their performance in math.

Planning	Implementation			
Desired Outcomes	**Strategies**	**Timeline**	**Resources Allocated**	**Leadership**
Should be realistic, measurable, and stated in terms of student(s) and behavior, indicating improvement in learning occurred	*What will be done to achieve goal/outcomes*	*Month and year strategies initiated (anticipated over the next 1-4 years)*	*What is needed to accomplish the goal (financial, human, facilities, equipment, supplies)*	*Person/position responsible for implementation and documentation*
Sixty percent of developmental math students who use the services of the Academic Skills Center for at least 10 hours will achieve a grade of *C* or better in their math classes.	Benchmark the number of hours that the student spent getting help with math in the ASC against the student's final grade for the developmental math course.	June 2007 June 2008 June 2009 (annually)	$0	Director of the Academic Skills Center
	Compute the percentage of developmental math students who used the services of ASC for at least 10 hours and made grades of *C* or better in their math courses.	June 2007 June 2008 June 2009	$0	Director of the Academic Skills Center
Surveys of developmental math students will indicate that at least 85% of the students were "satisfied" or "very satisfied" with the services they received in the Academic Skills Center.	Administer Student Evaluation of Academic Skills Center survey.	Ongoing	Printing - $3.00 annually (100 surveys @ .03)	Director of the Academic Skills Center
Surveys of the developmental math students will indicate that at least 80% of the students "agree" or "strongly agree" that their peer tutoring experience was helpful.	Administer Peer Tutor Evaluation survey to students being tutored.	Ongoing	Printing - $3.00 annually (100 surveys @ .03)	Director of the Academic Skills Center
	Design and conduct additional training and screening of peer tutors.	May 2007	$300.00 annually (6.00 hr. for 2 hrs. X 25 tutors)	Director of the Academic Skills Center
	Design and implement a survey that allows peer tutors to evaluate the tutorial program.	May 2008	Printing - $3.00 (100 surveys @ .03)	Director of the Academic Skills Center
	Obtain CRLA certification for Peer Tutor Program	May 2007	CRLA training - $3,630.00	Director of the Academic Skills Center
The number of documented	Establish a testing center separate from	January 2006	Two part-time staff	Director of Counseling

interruptions during instruction will decrease by 75%.	ASC to administer and monitor tests that are currently given in the ASC.		members - $9,000.00 annually, Chairs - $1,000.00, Desks - $1,400.00, Bookshelves - $400.00, File cabinets - $800.00, Computers for on line testing - $35,000.00	Services
Evaluation				
Assessment of Achievement of Goal/Outcomes				
End of course grades are used to calculate the percentage of developmental math students who used the ASC for at least 10 hours and made a *C* or better in their math courses. This percentage equals or exceeds 60% (June 2007, 2008, 2009). Eighty-five percent of developmental math students rate the help received in Academic Skills as satisfactory or better (December and May annually). On the Student Evaluation of the Peer Tutor Program survey, 80% of the developmental math students "agree" or "strongly agree" that their peer tutoring experience was helpful (May 2008). Student surveys indicate that at least 80% of students are "satisfied" or "very satisfied" with the learning environment in the Academic Skills Center (May and December 2006, 2007,2008 and 2009). The Academic Skills Center staff indicate that the transfer of testing responsibilities from the ASC to the Testing Center has increased their capacity to work with more students requiring tutorial assistance and developmental education instruction. At the end of each semester, evidence used to validate the increase is the ASC tutorial time-logs and records of students seeking assistance in math, English, and reading. (May and December 2006, 2007, 2008, and 2009).				

Institutional Strategies

The College recognizes that, in order to achieve the student learning outcomes stated in the goals of the QEP, a number of specific strategies must be implemented. The following process-oriented strategies support and complement the five goals of the plan:

a. Include a non-cognitive assessment as part of the data collected to guide students toward success in developmental math.
b. Provide an open testing facility where students can take proctored tests.
c. Increase the awareness of faculty and staff regarding developmental education in general and developmental math in particular.
d. Use data to make informed decisions for the purpose of improving student outcome in developmental math.

Because of their importance to the plan, these strategies have been included in the budget.

Quality Enhancement Plan Master Budget

GOAL/STRATEGY	Year 1 Jan. 2006 to June 2006	Year 2 July 2006 to June 2007	Year 3 July 2007 to June 2008	Year 4 July 2008 to June 2009	TOTAL COST	SOURCE OF FUNDS
STUDENT SERVICES						
GOAL 1: Printed Materials	1,215.00	1,251.00	1,251.00	1,251.00	4,968.00	State (OS)
Work Shop Instructor	0.00	120.00	120.00	120.00	480.00	State (SA)
Sub-Totals By Year	***1,215.00***	***1,371.00***	***1,371.00***	***1,371.00***	***5,328.00***	
GOAL 2: CDs	350.00	0.00	0.00	0.00	350.00	State (IS)
Workshop Materials	2,110.00	0.00	0.00	0.00	2,110.00	State (IS)
Printed Materials	860.00	810.00	810.00	810.00	3,290.00	State (OS)
Sub-Totals By Year	***3,320.00***	***810.00***	***810.00***	***810.00***	***5,750.00***	
Total	**4,535.00**	**2,181.00**	**2,181.00**	**2,181.00**	**11,078.00**	
DEVELOPMENTAL STUDIES DEPARTMENT						
GOAL 3: Printed Materials	300.00	0.00	0.00	0.00	300.00	State (I)
SI Coordinator (12 mos.) Years 2 & 3: $42,723, Benefits $10,683; Year 4: $44,442, Benefits $11,111	0.00	53,415.00	53,415.00	55,553.00	162,383.00	State (SA)
SI Leaders (Students) Year 2: 4 Leaders @ $6,888, Benefits $608; Year 3: 5 Leaders @ $8,610, Benefits $659; Year 4: 10 Leaders @ $17,220, Benefits $1,317	0.00	7,496.00	9,269.00	18,538.00	35,303.00	State (SA)
Math Computer Labs	0.00	58,012.00	58,012.00	0.00	116,024.00	State (SA)
Part-time Lab Assist. @ $4,000, Benefits $306	0.00	4,306.00	4,479.00	4,657.00	13,442.00	State (SA)
Math Instructors (9 mos.) Year 1: One instructor @ $16,889, Benefits$4,222 Years 2-4:Two instructors @ $33,777, Benefits $8,444 (each)	21,111.00	84,442.00	87,821.00	87,821.00	281,195.00	State (SA)
Tutors (5 @ $6 per hr.)	1,500.00	2,460.00	2,460.00	2,460.00	8,880.00	State (SA)
Validation of placement test	235.00	235.00	0.00	0.00	470.00	State
Total	**23.146.00**	**210,366.00**	**215,456.00**	**169,029.00**	**617,997.00**	
ACADEMIC SKILLS CENTER						
GOAL/STRATEGY	**Year 1**	**Year 2**	**Year 3**	**Year 4**	**COST**	**FUNDS**
GOAL 5: Glass walls in ASC	12,000.00	0.00	0.00	0.00	12,000.00	County (S)
Printed materials	3.00	3.00	6.00	6.00	18.00	State (IS)
Tutor Training	0.00	300.00	300.00	300.00	900.00	Lumina (IS)
CRLA certification for the Peer Tutorial Program	3,315.00	0.00	315.00	0.00	3,630.00	Lumina (IS)
Printed Materials	3.00	3.00	3.00	3.00	12.00	State (IS)
Total	**15,321.00**	**306.00**	**624.00**	**309.00**	**16,560.00**	

STUDENT SERVICES						
GOAL/STRATEGY	**Year 1**	**Year 2**	**Year 3**	**Year 4**	**COST**	**FUNDS**
STRATEGY 1: LASSI	1,250.00	3,500.00	3,500.00	3,500.00	11,750.00	Lumina (S)
Sub-Totals by Year	***1,250.00***	***3,500.00***	***3,500.00***	***3,500.00***	***11,750.00***	
STRATEGY 2: Testing Center Staff Year 1: One part-time @ $4,000, Benefits $306; Year 2: Two part-time @ $4, 160, Benefits $637 (each)	4,306.00	8,957.00	9,315.00	9,688.00	32,266.00	Lumina(SA)
Testing Center Furniture: Chairs –$1000, Desks-$1400, Bookshelves-$400, File-cabinets-$800	3,600.00	0.00	0.00	0.00	3,600.00	State (E)
Testing Center Computers	35,000.00	0.00	0.00	0.00	35,000.00	State (E)
Sub-Totals by Year	***42,906.00***	***8,957.00***	***9,315.00***	***9,688.00***	***70,866.00***	
Total	**44,156.00**	**12,457.00**	**12,815.00**	**13,188.00**	**82,616.00**	
MATH DEPARTMENT/DEVELOPMENTAL STUDIES						
STRATEGY 3: NADE (2 people)	1,901.00	1,977.00	2,056.00	2,138.00	8,072.00	Lumina (T)
State NCADE (3	724.00	753.00	783.00	814.00	3,074.00	State (IT)
Regional NCADE (3 people)	150.00	156.00	163.00	169.00	638.00	State (IT)
Kellogg Institute	5,872.00	0.00	5,872.00	0.00	11,744.00	Lumina (T)
Advanced Kellogg Training	0.00	1,000.00	0.00	1,000.00	2000.00	Lumina (T)
SI Training (1 person)	1,400.00	0.00	0.00	0.00	1,400.00	Lumina (T)
Visits to other colleges (2 people)	201.00	209.00	218.00	226.00	854.00	State (IT)
Faculty Release Time	1,560.00	1,623.00	1,688.00	1,755.00	6,626.00	Lumina(SA)
NCMATYC	724.00	753.00	783.00	814.00	3,074.00	State (IT)
AMATYC	1,901.00	1,977.00	2,056.00	2,138.00	8,072.00	State (IT)
Two day faculty training with outside consultant	2,080.00	2,164.00	2,250.00	2,340.00	8,834.00	Lumina(SA)
Total	**16,513.00**	**10,612.00**	**15,869.00**	**11,394.00**	**54,388.00**	
PLANNING AND RESEARCH						
STRATEGY 4: Access/SPSS/SAS	2,000.00	5,000.00	0.00	0.00	7,000.00	State (SO)
Training	2,500.00	2,000.00	0.00	0.00	4,500.00	State (AT)
Research Assistant	2,500.00	35,000.00	35,000.00	35,000.00	107,500.00	Lumina
Faculty/Student Roundtables	0.00	0.00	0.00	700.00	700.00	Lumina (F)
Printing	0.00	0.00	0.00	23.00	23.00	Lumina
Total	**7,000.00**	**42,000.00**	**35,000.00**	**35,723.00**	**119,723.00**	
TOTAL ANNUAL COST	**110,671.00**	**277,922.00**	**281,945.00**	**231,824.00**		
TOTAL COST					**902,362.00**	

S	**Supplies**	**SA**	**Salary**	**SO**	**Software**
OS	**Office Supplies**	**T**	**Travel**	**F**	**Food**
IS	**Instructional Supplies**	**IT**	**Instructional Travel**	**AT**	**Administrative Travel**

CHAPTER 6: CONCLUSION

The goals of the College's QEP, *Slaying the Developmental Math Dragon*, are supported by the College's Mission and Goals. As a part of its mission, Wayne Community College pledges to provide opportunities for all students, including the under-prepared, to achieve their goals. To this end, the College is committed to embracing the learning college principle and transforming its institutional culture to support this concept. The QEP, through the WCC Strategic Planning Model, and its comprehensive evaluation plan complement and extend the College's on-going Institutional Effectiveness Program. The QEP is designed to provide the latitude and flexibility necessary to make recommended changes in an efficient and effective manner. The system of checks and balances incumbent in the management structure through the president's Administrative Council, the WCC Planning Council (with broad-based representation from the campus community), and the Developmental Education Committee ensure that the QEP will stay focused and mindful of the impact it will have on student learning outcomes at Wayne Community College.

A large percentage of the student population that attends the College is under-prepared for college-level work and must participate in some level of remediation. Upon completion of remedial work and entrance into the academic programs, students are successful in meeting their academic goals and subsequently entering the workforce or an institution of higher education. Through a research of the literature and an examination of the data, WCC has identified developmental math as a critical issue having a significant impact on student learning. Certainly, the fact that 84% of students entering WCC place into developmental math indicates a need to focus on improving student-learning outcomes. Consequently, the QEP Steering Committee has created a plan which provides creative, engaging, and meaningful learning experiences for developmental math students and, ultimately, all students. More importantly, it will provide the under-prepared student with a greater opportunity for success.

The College has made significant progress in building a culture of evidence that encourages data-based decision-making. The College is committed to improving its developmental math program, a process that demands a close examination of current policies and procedures, a determination to

incorporate best practices, an open-minded approach, and a rigorous plan of action. This QEP is WCC's plan of action.

Because the College manages critical fiscal issues through partnerships, careful budget management, and judicious use of available resources, it has been able to meet the current needs of its students, faculty, staff, and administration. The College is committed to providing the necessary administrative, fiscal, and human resources to support the implementation of the Quality Enhancement Plan and the improvement of developmental education. Each of these commitments demands the full and active participation of faculty and staff. The result, however, is a renewal of the College's dedication to serve its students by providing them with equal access and opportunities to succeed.

Appendix A

TIMELINE FOR THE DEVELOPMENT OF THE QUALITY ENHANCEMENT PLAN

DATE	TASK
February 9, 2004	Orient the college community to the SACS Reaffirmation of Accreditation Process. Educate the college community regarding the new Principles of Accreditation: Foundations for Quality Enhancement (effective January 2004) and its focus on student learning.
February 17, 2004	Invite the college community to participate in the Quality Enhancement Plan (QEP) process.
March 1, 2004 **March 2004**	Select the QEP Steering Committee Develop Planning Objectives and Budget for the development of the QEP during 2005.
March 19, 2004	Meet with QEP Steering Committee members to discuss the Goals of the QEP. Co-chairs educate the members regarding: 1. The nature and purpose of the QEP 2. The meaning of student learning in the context of the QEP 3. QEP Steering Committee's goals and timeline for the development of the plan.
March 19, 2004	Identify Committee members' roles: including gathering of qualitative and quantitative data.
March 2004	Plan for the QEP Focus Group sessions.
March 22, 2004	Conduct Focus Groups involving key college constituency.
April 13, 2004 **March –April 2004**	Conduct Student Focus Groups. Gather quantitative data related to student learning.
April 2004 **May 2004**	Analyze qualitative and quantitative data. Prioritize the identified major issues with the SACS Leadership Team.
June 2004 **July 2004**	Identify the title and topic for the QEP Select QEP Subcommittee members who have the expertise and interest in the content, planning, and evaluation of the QEP topic.
August 2004	Conduct QEP Subcommittee meeting(s).
September 2004 **September-Oct 2004**	Review the literature related to the QEP topic. Study research and best practices related to the QEP topic.
October 2004	Develop the goals for the QEP.

November –Jan 2005	Establish the strategies and methods for the implementation and evaluation of the achievement of goals.
January 2005	Identify the additional resources that will be needed for development and implementation of the plan.
February 2005	Submit the proposed Quality Enhancement Plan and Budget to the WCC SACS Leadership Team.
April 2005	Submit the proposed Plan and Budget to the WCC Planning Council for 2005-2006.
June 2005 **July 25, 2005**	Complete Quality Enhancement Plan. Mail Quality Enhancement Plan to COC.
September 26 - 28, 2005	Host visit of SACS On Site Review Committee - 3 days. (Review our plan and process for implementing the QEP as well as residual matters from the Compliance Audit.)
October 17 – Nov 4, 2005	Receive report from the On Site Review Committee.
November – January 2006	Revise QEP based on recommendations made by the On Site Review Committee
January 2006 – June 2009	Begin implementation and evaluation of the four-year plan.
June 20-22, 2006	SACS Compliance and Reports Committee reviews the on-site report in Atlanta for final approval.

Appendix B

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Appendix C

WEBSITES

American Association of Community Colleges (AACC)

http://www.aacc.nche.edu

Primary advocacy organization for the nation's community colleges

American Council on Education (ACE)

http://www.acenet.edu

Major coordinating body for all the nation's higher education institutions, seeks to provide leadership and a unifying voice on key higher education issues and to influence public policy through advocacy, research, and program initiatives

American Mathematical Association of Two-Year Colleges (AMATYC)

http://www.amatyc.org/

Provides a national forum for the improvement of the instruction of mathematics in the first two years of college

American Mathematical Society (AMS)

http://e-math.ams.org/

Provides programs and services that promote mathematical research and its uses, strengthen mathematical education, and foster awareness and appreciation of mathematics and its connections to other disciplines and to everyday life

Association for Institutional Research (AIR)

http://www.airweb.org

Professional association of institutional researchers, planners, and decision-makers from higher education institutions around the world who help advance research that will improve the understanding, planning, and operation of higher education institutions

Center for the Study of Higher Education

http://www.ed.psu.edu/cshe/

Conducts theory-based research that informs efforts to improve higher education policy and practice

Centre for the Advancement of Teaching and Learning

http://www.catl.uwa.edu.au

Contains links to some of the valuable and effective teaching and learning resources that reside on the World Wide Web

Higher Education Research Institute (HERI)

http://www.gseis.ucla.edu/heri/heri.htm

An interdisciplinary center for research, evaluation, information, policy studies, and research training in postsecondary education

League for Innovation in the Community College

http://www.league.org/welcome.htm

An international consortium serving community colleges

Mathematics Across the Curriculum

http://mac.edcc.edu/

Provides support and training for faculty from various disciplines, especially faculty from disciplines not traditionally associated with mathematics, to incorporate mathematics or quantitative reasoning into their courses

NADE Math Spin

http://www.etsu.edu/devstudy/spin/index.htm

Provides opportunities for developmental math professionals to interact and share with each other

National Academic Advising Association (NACADA)

http://www.nacada.ksu.edu

Association of professional advisors, counselors, faculty, administrators, and students working to enhance the educational development of students

National Association of Developmental Education (NADE)

http://www.nade.net

Seeks to improve the theory and practice of developmental education at all levels of the educational spectrum, the professional capabilities of developmental educators, and the design of programs to prepare developmental educators

National Center for Developmental Education

http://www.ncde.appstate.edu

Provides instruction and training, research, and services consistent with the missions of the Reich College of Education and Appalachian State University to a statewide and national audience of professionals who work with under-prepared college students

National Center for Education Statistics (NCES)

http://nces.ed.gov/

Primary federal entity for collecting and analyzing data that are related to education in the United States and other nations

National Council for Teachers of Mathematics

http://www.nctm.org/

A public voice of mathematics education, providing vision, leadership, and professional development to support teachers in ensuring mathematics learning of the highest quality for all students

NC Education First School Report Cards

http://www.ncreportcards.org

Includes important information about student performance, class size, school safety, and teacher quality in NC schools.

North Carolina Association of Developmental Education (NCADE)

http://www.sandhills.cc.nc.us/deved/ncade.html

Association whose members are committed to promoting educational access, opportunity, academic skill development, and student success

Policy Center on the First Year of College

http://www.brevard.edu/fyc/

Focuses on the development and dissemination of a range of first-year assessment procedures and tools that can be used to strengthen or confirm practices in the curriculum, co-curriculum, and institutional policy

Research Council on Mathematics Learning

http://www.unlv.edu/RCML/

Seeks to stimulate, generate, coordinate, and disseminate research efforts designed to understand and/or influence factors that affect mathematics learning

Appendix D

MEMBERSHIP OF QEP SUBCOMMITTEES

Researching The Literature

Dr. Cindy Archie	Division Head, Allied Health/Public Services
Karen Burnette	Instructor Team Leader, Basic Skills
Silvia Judd	Director, Learning Resource Center
Pat Smithing	Math Instructor, Math & Science
Ann Spicer, Chair	SACS Editor, English Instructor
Miriam Wessell	Coordinator, Developmental Education

Communication

Tara Humphries	Public Information Officer, President's Office
Ann Spicer	SACS Editor, English Instructor
Carol Weeks	Secretary, President's Office
Dr. Ed Wilson	President

Data and Statistics

Dr. Cindy Archie	Division Head, Allied Health/Public Services
Suzanne Corbin	Administrative Secretary, Basic Skills
Dr. Annette Hawkins, Chair	Math Instructor, Math & Science
Kathy Jones	Director, Information Systems
Dr. Dan Krautheim	Senior Vice President, Student Services (Retired)
Banks Peacock	Information Systems Instructor, Business & Computer Technology
Lynn Rabhan	Admissions/Assessment Coordinator, Basic Skills
Susan Sasser	Director, Admissions & Records, Student Development Services
Bill Thompson	SACS Liaison/Director, Planning & Research

Testing/Placement

Marie Barnes	Reading Instructor, Language & Communication
Anne Millington, Chair	Director, Coop Placement/Prep Tech
Tracey Ivey	Department Head, Social Sciences, Humanities, Social Sciences, & Fine Arts
Susan Keel	Director, Counseling Services, Student Development Services
Marie Lewis	Secretary, Student Development Services

Advising/Counseling

Carl Brow	Health Occupation Counselor, Student Development Services
Yvonne Goodman	Associate Vice President/Financial Aid Director, Student Development Services
Liz Meador	Department Head, Language & Communication
Sharon Price	Arts & Sciences (College Transfer) Counselor, Student Development Services
Gene Smith, Chair	Biology Instructor, Math & Science
Beth Spragins	Division Head, Arts & Sciences (College Transfer)
Jerrie Stanley	Secretary, Student Development Services
Irma Wiggins	Coordinator, Developmental Education

Student Support Services

Charlotte Brow	History Instructor, Social Sciences, Humanities, Social Sciences, & Fine Arts
Norma Dawson	Career Information Coordinator, Student Development

	Services
Janice Fields	Counselor Minority Affairs/Recruiting, Student Development Services
Saundra Smith, Chair	Director, Academic Skills Center
Ron Taylor	Chemistry Instructor, Math & Science
Theresa White-Wallace	English/Music Secretary, Arts & Sciences (College Transfer)

Internal Consultants

Beth Hooks	Department Head, Office Systems Technology
Cindi Faber	Secretary, Dental Department
Dorothy Lee	Reading Instructor, Language & Communication
Jerry Penuel	Human Services Instructor, Allied Health/Public services
Patty Pfeiffer, Chair	Nursing Instructor, Allied Health /Public Services
Ann Spicer	SACS Editor, English Instructor
Peggy Womble	Math Instructor, Math & Science

External Consultants

Kay Albertson	Vice President, Academic Affairs
Fran Dennis	Chemistry Instructor
Leasa Holmes	Executive Secretary, Educational Support Services
Dwight Mayo	Programs Coordinator, SJAFB Education Office
Uvette Johnson	President, Student Government Association
Dr. Sandra McCullen	Associate Superintendent, Curriculum & Instruction, Wayne County Public Schools

Math Project Team

Karen Burnette, Vice Chair	Instructor Team Leader, Basic Skills
Diane Joyner, Chair	Math Instructor, Math & Science

Research/Review of Literature

Rosalyn Lomax	English Instructor, Language & Communication
Pat Smithing, Chair	Math Instructor, Math & Science

Best Practices

Katina Davis	Math Instructor, Math & Science
Dr. Annette Hawkins	Math Instructor, Math & Science
Hal Kilpatrick	Math Instructor, Math & Science
Peggy Womble, Chair	Math Instructor, Math & Science

Supplemental Instruction

Kim Clark	Math Instructor, Math & Science
Karen Hartley	Coordinator, Academic Skills Center
Shelly Williams	Distance Learning/Plato Instructor, Basic Skills

Resources

Ray Burrell	Division Head, Business & Communications Technology
Michael Dubrowsky, Chair	Math Instructor, Math & Science
Jim Godfrey	Department Head, Math & Science
Alice Wadsworth	Chief Financial Officer, Business Affairs

Math Across The Curriculum

Lee Gray	Nursing Instructor, Allied Health/Public Services
Hal Kilpatrick	Math Instructor, Math & Science
Todd King, Chair	Drafting & Design Instructor, Applied Technology
Becky Taylor	Director, Curriculum Improvement Program

Appendix E
QEP STEERING COMMITTEE MINUTES

QUALITY ENHANCEMENT TEAM
STEERING COMMITTEE
MEETING MINUTES
MARCH 19, 2004

Chairperson, Dr. Cindy Archie, called the meeting to order at 1:30 p.m. Team members present were: Karen Burnette, Dr. Annette Hawkins, Beth Hooks, Tracey Ivey, Sylvia Judd, Todd King, Rosalyn Lomax, Wayne Madry, Anne Millington, Patty Pfeiffer, Sharon Price, Saundra Smith and Ann Spicer. Dr. Kay Albertson also attended the meeting.

Cindy began the meeting by welcoming everyone. She then asked members to introduce themselves.After introductions were made, Cindy stated that this first meeting is to orient members to Quality Enhancement Planning and to provide an overview of the QET Steering Committee's purpose. . Cindy then reviewed the following

- Quality Enhancement Process Model:
- QET Organization
- Goals/Timeline
- Quality Enhancement Plan Guidelines (Handbook for Reaffirmation of Accreditation, SACS)
- Readings/Resources

All members were encouraged to read the information provided before the next meeting.

Key points noted were as follows:

- The Quality Enhancement Plan must be completed by April 14, 2005. It will be reviewed and sent to SACS in July, 2005
- Modifications can be made in the process and the timeline as needed.
- Kay Albertson explained that the college must go through the Compliance process and the Quality Enhancement Plan (QEP) is only a part of the process. She went on to explain how all the pieces fit together in regards to the accreditation process.
- A Focus Group Meeting is planned on Monday, March 22nd at the college. This meeting will provide qualitative data and focus on student learning outcomes. Participants include WCC faculty, staff and administrators ;WCC graduates, WCC Board of Trustee members, employers, community members, and representatives from area colleges and universities.

Cindy reviewed WCC's College-Wide Learning Outcomes. Attention was given to the fact that student learning is at the heart of WCC's mission. Therefore, college-

wide and program learning outcomes will be extremely important during this process.

Resources are available in the library and on-line. Books have been ordered and will be kept on reserve so that the committee will have access to current information and research. Kay encouraged everyone to share any information they may have with the group that they feel will be beneficial.

A teleconference on student learning, "Connecting CATs and CoLTS" will be held on campus March 25th at 2:30. Pat Cross, author of one the articles in the notebook, will be one of the speakers. Everyone was encouraged to attend the teleconference.

Cindy gave the floor to Karen Burnette, Basic Skills Labs Coordinator, to explain how faculty and staff in the Basic Skills area compile data on the progress of their students in the Adult High School program. Karen distributed and explained the Annual Federal Report that is used to aid in compiling this data.

Anne Millington, Director Cooperative Education, Cooperative Programs, and Job Referral, was then given the floor to explain how her area compiles data on area high school students' performance. This information is relevant to what skills many students bring to their college experience.

Kay stated that an electronic newsletter on SACS information and events will be developed and Ann Spicer will be the editor. Teams members were asked to contribute to the newsletter.

Cindy stated that meetings will be every two (2) weeks. **The next meeting will be March 30th at 3:00 p.m.**

There being no further business, the meeting adjourned at 2:35 p.m.

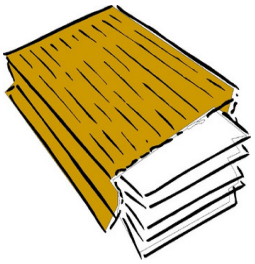
Respectfully submitted,

Angela C. Jackson

Angela C. Jackson
Secretary

Appendix F

SACS NEWSLETTER



SACS OF NEWS

A Semi-Regular Update on SACS at WCC

Issue 1 April 14, 2004

EDITOR'S COMMENTS

Well, the ball has been tossed and is rolling right along. We have taken the first tentative steps forward in the SACs review process. This newsletter is one of those steps. The purpose of this newsletter is twofold. First, I hope to keep you informed about what is going on at WCC as we move toward re-accreditation. Second, this newsletter will provide a forum for discussion about the process of re-accreditation. If you have questions, comments, even complaints, please let me know. I may be able to answer your question, provide a solution, or just give you an opportunity to vent your frustration.

Depending on what is happening, I plan to get this newsletter out once or twice a month. In this column, I will voice my thoughts on what is going on. I have to admit that it doesn't take much to get me going, and some of the information that is generated by the SACS process just plain gets me excited. We are often closed up in our own departments so that it can be a real discovery to find out what other areas on campus are accomplishing. For me, that act of discovery can be very thrilling. I am afraid you will have to hear me gush with enthusiasm from time to time. On the other hand, there is my darker side, and I can easily get ticked off by the process or the outcome or both. I am afraid that, having this soapbox, I may rant a bit on my off days. The advantage is that, if you have something that you want to say, I will scoot over and share my soapbox with you.

This newsletter will probably be a bit more informal than other newsletters you are accustomed to, and it will work best if you participate. E-mail me with your questions and comments; stop me in the halls; give me a call—let's get a dialogue going here.

BUT WHAT DOES IT MEAN?

In each newsletter, I will include some definitions of words that you may or may not be familiar with. If you run across some words associated with SACS that you are unfamiliar with, let me know, and I will get a definition for you. I am starting this month with some very general terms that we throw around all the time but might not actually be able to define.

Accreditation: Certification that programs or institutions have appropriate infrastructure, policies, and services to support their operations and that they are accomplishing their mission. This re-certification is what we do every ten years through a thorough review of the college's processes.

Compliance (as in *Compliance Audit* or *Compliance Certification*): Reference to the twelve Core Requirements, as stated in the *Principles for Accreditation*, that institutions must meet in order to be accredited by SACS. Essentially, this is a checklist of requirements covering all aspects of the institution, its programs, and its resources. Each item on the list must be supported by appropriate documentation.

Learning: The process by which behavior is changed as individuals acquire and apply knowledge, attitudes, and skills.

Quality Enhancement Plan (QEP): A document that describes a course of action for institutional improvement. This plan is one of the Core Requirements and should enhance the WCC's educational quality and be directly related to student learning. The primary purpose of the recent focus group sessions is to help identify a theme for the QEP.

Service Learning: Learning activities that provide students with the opportunity to serve the community in some capacity.

WHAT'S COMING UP

April:	13	Student Focus Group
	15	Spring Fling
	19	SACS Leadership Team Meeting
	22-29	Pre-registration for Summer
	27	QET Steering Committee Meeting

May:	3	SACS Leadership Team Meeting
	4	Last Day of Classes
	5	Reading Day
	6-7	Exams
	7	Graduation
	17	Registration for Summer Semester
	18	Summer Semester Classes Begin
	20	Planning Council Retreat
	24	SACS Leadership Team Meeting

FOCUSING ON OUTCOMES

On March 22, WCC conducted its first focus group discussion as an initial step in its charge to improve student learning. Eighty nine people participated: 33% WCC staff, 27% WCC faculty, and 40% business and industry and community members. After a dinner catered by Five Star, the participants were broken down into nine groups who spent the next hour discussing the eight college-wide learning outcomes that WCC graduates should be able to perform. As you will remember, earlier in March, you had an opportunity to help shape these learning outcome statements when they were sent out on e-mail.

The discussions were lively and generated a great deal of helpful information regarding what we do here at WCC. The folks in my group were very complimentary about WCC and what we are doing.

One of the tasks that the groups worked on was prioritizing the outcome statements. Following are the outcome statements as they were prioritized by the participants, going from most to least important:

Wayne Community College
College-Wide Learning Outcomes

Upon successful completion of the requirements for a degree at Wayne Community College, the graduate will be able to do the following:

1. Demonstrate speaking, writing, and reading skills necessary to communicate effectively. (65)

2. Use principles of critical thinking to analyze problems and make logical decisions. (48)

3. Use positive interpersonal skills to interact with individuals in diverse groups. (39)

4. Use computers and other technologies to achieve academic, work-related, and personal goals. (33)

5. Demonstrate mathematical skills necessary to solve problems appropriate to the area of study. (16)

6. Recognize the importance of globalization in developing a broadened world view. (4)

7. Explore the fine arts and humanities from cultural and historical perspectives. (2)

8. Apply the principles and concepts of the natural and social sciences. (1)

Are these in the order in which you would have placed them? Are you surprised by where some of the outcomes ended up? I have to admit that there were a few surprises for me.

Participants also identified several outcomes that they felt should perhaps have been included. These additional outcomes touch on listening skills, work ethics and habits, service learning, and leadership skills.

To gain a different perspective, we will be conducting a focus group with students on April 13th. All of the students participating will be graduating in May. We are very excited about what insights they will bring to this discussion of learning outcomes.

Appendix G

QEP AND WCC GOALS

The following cross-references WCC long (LRG)/ short range goals (SRG) with QEP goals and institutional strategies.

Long-range goal #1: Students: Enhance student success through college-wide programs and services.

QEP goal 1: Students will demonstrate a greater degree of responsibility in taking the placement test. **(SRG 1.3)**

QEP goal 2: Students will understand the significance of math placement scores. **(SRG 1.5)**

QEP goal 3: Students will improve their achievement of learning outcomes in developmental math courses (MAT 060, 070, 080). **(SRG 1.1 and 1.2)**

QEP goal 5: Developmental math students who use the services of the Academic Skills Center ASC) will improve their understanding of math. **(SRG 1.4 and 1.5)**

Strategy A: *Include a non-cognitive assessment as part of the data collected to guide students toward success in developmental math*. **(SRG 1.3)**

Long-range goal #2: Educational Programs: Provide opportunities for excellence in learning through accessible, high quality educational experiences.

QEP goal 1: Students will demonstrate a greater degree of responsibility in taking the placement test. **(SRG 2.1)**

QEP goal 4: Students will improve their achievement of learning outcomes in math–related courses across the curriculum. **(SRG 2.1)**

Long-range goal #3: Faculty and Staff: Enhance the performance of faculty and staff through learning opportunities and incentives.

QEP goal 2: Students will understand the significance of math placement scores. **(SRG 3.1)**

Strategy C: Increase the awareness of faculty and staff regarding developmental education in general and developmental math in particular. **(SRG 3.1)**

Long-range goal #4: Administration and Finance: Improve productivity and responsible use of all available resources through a comprehensive planning and management system.

Strategy B: Provide an open testing facility where students can take proctored tests. **(SRG 4.2)**

Long-range goal #5: Facilities: Provide an attractive, flexible, and accessible learning environment that meets the needs of the community.

QEP goal 5: Developmental math students who use the services of the Academic Skills Center (ASC) will improve their understanding of math. **(SRG 5.2)**

Strategy B: Provide an open testing facility where students can take proctored tests. **(SRG 5.2)**

Long-range goal #6: Institutional Advancement: Enhance the effectiveness and accountability of the college through integrated planning, research, marketing, resource development, and management.

Strategy D: Use data to make informed decisions for the purpose of improving student outcomes in developmental math. (SRG 6.3)

Long-range goal #8 Technology: Integrate state-of-practice technology in all aspects of the college's programs, services, and operations.

Strategy C: Increase the awareness of faculty and staff regarding developmental education in general and developmental math in particular. **(SRG 8.2)**