

Evaluation of Developmental Education at Rutgers University – Newark

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Introduction

Rutgers University – Newark is a public urban university of approximately 6,000 undergraduate and 4,000 graduate students. One of the nation's emerging research universities, Rutgers - Newark offers 40 undergraduate liberal arts majors, 14 master's programs, and 15 doctoral programs. Undergraduate programs are provided through the College of Nursing, the Newark College of Arts & Sciences, the University College-Newark (a college serving non-traditional evening students), and the School of Management.

Although a research university, Rutgers University – Newark, in keeping with its urban mission, has maintained a longstanding commitment

to recruiting and supporting ethnic minorities from the surrounding community. This commitment means that the university recruits students whose traditional academic credentials may be weak but who demonstrate their potential for success in other ways. The commitment appears to have worked as the university lays claim to being one of the most diverse campuses in the U.S.

This dual role of research and urban university means that Rutgers - Newark serves not only the traditional “best and the brightest,” but also nontraditional students with potential for academic success. Although not unique in this regard, Rutgers University – Newark is one of only a handful of universities serving this dual role in U.S. higher education. This is a vitally important role not only for Newark and the State of New Jersey but also for the nation and Rutgers – Newark is to be commended for accepting it. As McCabe and Day (1998) point out, uplifting the educational attainment of our poorest citizens is both a social and economic imperative for the United States. Such a role requires that the university not only maintain a strong commitment to research but also an equally strong commitment to developing the, heretofore unrecognized, talents of many of its students.

This latter commitment is exemplified by the university's developmental education efforts. At Rutgers University – Newark, developmental education courses and services are provided through the Department of Education and Academic Foundations along with some support services provided by the Learning Resource Center. These two units serve about 25% of the incoming student population.

Current university administrators have consistently stated their support for developmental education and learning assistance and recognize that these components are essential to educational opportunity and the diversity it represents. They have, however, expressed concerns that the university's developmental education activities may not function at maximum effectiveness. Data from a recent effectiveness study, for instance, suggest that only about a third of those who place into developmental courses complete their English and mathematics requirements within two years.

These concerns resulted in a decision to conduct an extensive assessment of developmental education activities at Rutgers University – Newark. The National Center for Developmental Education at Appalachian State University was, therefore, retained to carry out this assessment. The

reviewers were charged by university administrators with conducting the following evaluation activities.

1. A comparative assessment of Rutgers – Newark programs and success rates in the context of similar programs in public urban institutions across the country.
2. A comprehensive assessment of the developmental education program in math and English and the ways in which the program and its four courses related to the two semester freshman English sequence and the mathematics requirement for graduation.
3. An evaluation of the effectiveness of our placement testing, considering the feasibility of and requirements for online testing.
4. An exploration of the concept of unified curriculum to more effectively bridge the gap between developmental and required sequences.
5. To the extent possible, establishment of a quantitative baseline and database to insure consistency and to enable periodic and meaningful outcomes tracking.
6. Assessment of current organizational structure and recommendations.
7. A preliminary assessment of the need for a more comprehensive ESL program and approach to address existing and emerging student needs on campus.

In order to accomplish this charge, personnel from the National Center for Developmental Education visited the campus of Rutgers University – Newark on September 22 and 23, 2003. The visitation team included Dr. Hunter R. Boylan, Director of the National Center, Dr. Barbara S. Bonham, Senior Researcher of the National Center, and Dr. Elizebeth L.

Carroll, a Center associate who teaches composition and directs the university's writing center. Dr. Boylan was to review the over all organization and administration of developmental education efforts. Dr. Bonham was to review developmental mathematics courses and programs. Dr. Carroll was to review developmental English courses and programs and comment on ESL services.

Each of the consultants reviewed program and institutional documents provided prior to the visitation. In addition, a variety of other documents were provided during the visitation. During their visit, the reviewers met with faculty, staff, and students involved with developmental education and learning assistance. The reviewers also interviewed campus administrators with direct and indirect responsibility for developmental education and learning assistance. Further discussions were conducted among the reviewers following their visit and additional information was, in some cases, requested and provided.

This report presents the findings of the review team. It responds to each of the charges in detail. It also includes specific assessments of campus efforts in developmental English and developmental mathematics. Each section of the report includes recommendations for improvement along with proposed resource allocations and time lines.

Responses to the Consultants' Charge

Charge # 1 – Comparative assessment of Rutgers-Newark programs and success rates in the context of similar programs in public urban institutions across the country.

One comparative index of developmental education is the number or percentage of entering students who participate in it. Given the data presented by Rutgers – Newark administrators, it appears that about 25% of first-time, full-time incoming students place in one or more developmental courses. This is quite consistent with the national average for entering university student participation in developmental education. According to the National Center for Education Statistics, 24% of entering university students place into one or more developmental courses (National Center for Education Statistics, 2003).

Rutgers – Newark developmental programs are also consistent with national averages in the number of developmental courses offered. Rutgers - Newark offers two levels of developmental English (142 and 143) and two levels of developmental mathematics (101 and 102). According to the National Center for Education Statistics, universities on the average offer two levels of developmental English and two or three levels of developmental mathematics (National Center for Education (NCES) data is not disaggregated by university type, it is impossible to compare Rutgers –

Newark precisely with other public urban universities using its database. It is likely, however, that Rutgers – Newark compares favorably with other public urban universities in terms of the number of entering students who place into one or more developmental students. See Table 1 for a sample of

Table 1

**Percent of First-Time, Full-Time Students Taking
One or More Developmental Courses
At Selected Urban Universities**

University of Houston – Downtown Campus	78%
University of Minnesota – Minneapolis*	46%
North Carolina State University	16%
University of Texas – El Paso	28%

Source: Personal telephone calls to institutional research officers (10/2 through 10/10)

* Sample includes only General College students

institutions whose first-time, full-time students place into one or more developmental course.

Other measures against which Rutgers – Newark’s developmental education efforts may be compared are:

1. pass rates in developmental courses, and
2. pass rates for those students who complete developmental education and take regular curriculum courses in the same subject.

These two measures tend to represent the industry standard for evaluating developmental education programs (Boylan, Bonham, White, & George). They are typically used by colleges and universities as well as state higher education coordinating agencies as outcomes assessment measures for developmental education.

Tables 2 and 3 are based on data provided by Rutgers – Newark compared with national data from various studies (Boylan, Bonham, & Rodriguez, 2000). Table 2 shows that the pass rates for all students in developmental mathematics and English during the 2001/2002 academic year are higher than national averages. In mathematics, Rutgers – Newark compares favorably with the national average although the difference is minimal, only 2%. In English, however, pass rates in developmental courses are at 91%, ten points higher than the national average.

Table 2

**Comparison of Pass Rates in Developmental Courses
Rutgers-Newark compared to Public U.S. Universities**

	Mathematics	English
Rutgers – Newark	76%	91%
U.S. Public Universities	74%	81%

Normally, such comparatively high pass rates would be a cause for commendation of the developmental program at Rutgers – Newark.

However, the comparatively high pass rates in developmental courses do not translate into similarly high pass rates in the first level college curriculum courses in the same subject. This is summarized in Table 3.

Table 3

**Comparison of Students' Post Developmental Education
Performance in College Curriculum Courses**

Subject	Rutgers – Newark	U.S. Public Universities
Mathematics	66.50%	77.2%
English	53.0%	91.1%

This data is consistent with tracking done recently by Rutgers – Newark to determine what percentage of students who placed into developmental English or mathematics completed the general education requirement in these subjects within three years. For the cohort of first time, full-time students entering in the fall of 1999 and placing in developmental courses, that percentage was 49% for English and 55% in mathematics after three years.

These numbers are not impressive. There seems to be a general belief that these figures should be higher and that more developmental students should complete their basic English and mathematics requirements within two to three years. The consultants concur in this belief and the concerns it generates. If students who take developmental courses are not succeeding in courses taken later in the same subject area, then the developmental courses are not doing what they are supposed to do. Instead, developmental students are required to invest time and money in courses that are not helping them succeed in the regular curriculum. In such a case, developmental courses may represent a barrier to student success rather than a contributor to student success.

The data from Rutgers – Newark suggests the possibility that the developmental courses in both English and mathematics are not preparing

students adequately for the regular curriculum courses in these subjects. At the very least, there is a strong possibility that there is a mismatch between the exit standards of developmental courses and the entry skills required for success in regular curriculum courses. These and other possibilities are explored in greater detail in later sections of this report.

Charge # 2 - A comprehensive assessment of the developmental education program in math and English and the ways in which the program and its four courses related to the two semester freshman English sequence and the mathematics requirement for graduation.

Developmental Mathematics

Adjunct Faculty & Related Issues

Almost all sections of developmental mathematics courses (Math 101 & 102) are taught by ptls (part-time instructors). The Math Department already supervises an ever-growing number of ptls who teach elementary math courses (Math 103, 112, and 113). Over the past ten years, the number of math majors has more than tripled and a Ph.D. program has been developed. The number of tenure-track faculty has not increased sufficiently and has not kept pace with increased numbers of students. Consequently, very few elementary courses are taught by permanent faculty and even more advanced courses are taught by ptls and assistant instructors.

Developmental Mathematics Curriculum at Rutgers University, Newark

According to the latest NCES study (1996) 81 percent of the four-year institutions offered at least one developmental course. Developmental mathematics courses were offered at three-fourths of the institutions surveyed. More math courses are offered than any other subject area. This study also revealed that usually 2-3 developmental mathematics course are offered. This is consistent with the Rutgers' developmental mathematics program.

There are two developmental level mathematics courses at Rutgers University, Newark. The two courses are Computation and Beginning Algebra (Math 101) and Elements of Algebra and Applications (Math 102). The courses are offered by the Academic Foundations Department.

The purpose of the developmental courses are to help students acquire the necessary mathematical skills to be successful in one of the three required basic math courses, sometimes referred to as elementary mathematics courses. These are offered by the Mathematics Department. They are Math for Liberal Arts (Math 103); Intensive College Algebra (Math 112-meets 4 1/2 hrs./week) and College Algebra (Math 113-meets 3 hrs./week).

The Computation and Beginning Algebra class, Math 101, is the first level developmental mathematics course at Rutgers. Its content is typical to the first level developmental mathematics course at most four-year colleges. The content, as described in the syllabi for Math 101, includes objectives related to skills, competencies, and application of whole numbers, fractions, decimals, and percent with some pre-algebra. In spite of the fact that one instructor uses a different text, there seems to be a fairly consistent program for this first level developmental mathematics course.

The second developmental mathematics course is an Introductory or Elementary Algebra course (Math 102). There is generally a commonly recognized content for this course that prepares students for Intermediate Algebra (intermediate Algebra is sometimes a third developmental course at four-year colleges). At Rutgers Math 102 prepares students for College Algebra (Math 112 or Math 113) or Math for Liberal Arts (Math 103). Its content appears typical of a first level Algebra course with applications.

It should be noted that one can examine the texts from any one of a number of publishing companies to identify the common units of study for Introductory, Intermediate, and College Algebra. It is unlikely that there should be overlap when there are only two developmental courses preceding

College Algebra. Yet, as noted, instructors and tutors reported this to be the case at Rutgers!

All of the syllabi reviewed for Math 102 appeared similar. It was interesting that not all instructors were using the same text. Yet, they had selected the same units to emphasize and include in their syllabus. The content outline provided in the syllabi for this second level developmental mathematics course reflected a common curriculum. It appeared from the review of the available documents concerning the assignments that the sections did not vary significantly from one instructor to another.

However, in discussions with instructors and tutors there appeared to be some significant difference in the emphases placed on some units of study. The comments most often heard were that a greater emphasis was placed on problem solving and application skills in some sections. Some of the other units of study listed in the syllabus were not all presented in class because so much time was placed on problem solving and application.

Since developmental courses are designed to prepare students for the subsequent required mathematics course, the consistency in which instructors attend to the scope and sequence of the curriculum for each course is essential to students' success in the follow-up course. If there is a problem with the curriculum, there should be meetings available for

instructors to present their concerns and discuss the needs of students and related curriculum. If inadequate time is available in class to prepare students with the skills and competencies described in the curriculum plan, then faculty need to review the plan. It appears meetings regarding the curriculum have not been a regular part of the program for a number of years.

The developmental mathematics program at Rutgers appeared to have been on the cutting edge in the past. Attempts to keep abreast of the state-of-the-art techniques for assisting underprepared students acquire the necessary skills in mathematics were a common program activity at one time. Unfortunately this critical aspect of the program has not continued as a result of several changes at the institution.

The developmental mathematics program's emphasis on application is consistent with the latest reports on developmental mathematics. This is certainly something to be continued in all sections. The American Mathematical Association has identified standards for introductory college mathematics courses before calculus (Cohen, 1995). The first of these standards is regarding problem solving and applications. It states that "students will engage in substantial mathematical problem solving" (Cohen, 1995, p. 10). It is recommended that the instructors teaching pre-calculus

courses at Rutgers University, Newark review and discuss these standards.

They can be accessed in the book entitled Crossroads in Mathematics:

Standards for Introductory College Mathematics Before Calculus.

The problem which was revealed through discussions during the site visit was two-pronged. First, there seems to be a lack of agreement concerning the emphases on application and problem solving in Math 102. Second, there is a certain amount of overlap which instructors and tutors noted between Math 102 and Math 112 or 113. The latter situation was particularly puzzling since the second level developmental course was an introductory or elementary level algebra class. There is no intermediate level *developmental* algebra class offered in the Academic Foundations department. So the existence of overlap between the Elements of Algebra and Applications (Math 102) offered by Academic Foundations Dept. and College Algebra (Math 103 and Math 104) makes no sense. In actuality, there could exist a third developmental course titled Intermediate Algebra that would prepare student for Math 112/113. This is the case at a number of institutions.

It is a given that some of the units or topics might be the same. The syllabi included topical outlines. In cases, where outcomes or objectives for the courses are written, the differences are definitely apparent. This is

typical in any mathematics curriculum. One might see the topic "Factoring" in elementary algebra, intermediate algebra, and college algebra. However, the level of complexity increases in each subsequent course. Fractions, for example are taught in grades 3, 4, 5, and 6 in our public schools. Yet, each year students learn something new which builds on the previous year's work. This is the nature of mathematics. So this is unlikely to be the source of the problem.

Over the years courses change, faculty retire, new faculty and adjunct instructors are hired, leadership changes, and programs move from one area to another. All of these events have occurred at Rutgers University, Newark, specifically in developmental mathematics. The on-going review and revision of the program has not occurred for many years according to the instructors. Systematic program evaluation is an essential component of successful programs as well as increases retention. Research repeatedly supports this (Donovan, 1974; Cross, 1976; Boylan, Bliss, & Bonham, 1997; Roueche & Roueche, 1999; and CQIN/APQC, 2000). Such an evaluation should be systematic. It should include a review of the related services (tutoring, advising, placement, end-of-course test, etc.), and activities and techniques (group projects, non-cognitive assessments, etc.) that are a part of

the program. Additional criteria for a program review are included in another section of this report.

Curriculum (Part II)

Any assessment of a developmental program involves a look at how the existing program is utilizing the knowledge and research in the area. This part of the report will provide an assessment of the mathematics program based on the current research in developmental mathematics and practices of successful programs. According to Kiemig (1983), comprehensive programs have been found to be more successful than isolated courses. This includes not only a variety of services to help developmental math students to be successful but also the coordination of these services. In addition to developmental courses, other services which contribute to students success in developmental mathematics include math labs, tutorials services with a tutor training component, advising and counseling services, alternate delivery strategies to meet the diverse needs of students, paired courses, SI, learning communities, etc. (Boylan, Bonham, Claxton, & Bliss, 1992; CQIN/APQC, 2000; Boylan, 1999; Boylan, 2002; & Wright, Wright, & Lamb, 2002).

The developmental mathematics program at Rutgers has two levels of developmental mathematics courses with one assistant instructor overseeing

this. At present this individual has little or no time for training faculty or mentoring. Nor is there anyone available to provide counseling and advising to students. Faculty did note that it would be very useful to have a counselor specifically assigned to working with developmental students. It appears that the person who oversees the developmental math courses has as his primary responsibility the recruitment of faculty for courses and scheduling in addition to his own load of courses. There were no regularly scheduled meetings between this individual and the Undergraduate Coordinator in the Math department or with the Placement Coordinator. The need for more coordination and communication between these individuals will be discussed in more detail in a later section.

Tutorial Services

There are tutors available to assist in development math courses but this is not systematically or regularly accomplished. The use of trained tutors has been found to have a significant impact on student persistence and success in developmental courses (Boylan, Bliss, & Bonham, 1997). Tutor training is *the* most important aspect of successful tutoring. Typical components of these tutor training programs include such things as learning theory, metacognition, motivation, etc. (Boylan, 2002). Casazza &

Silverman (1996) also emphasized the importance of pre-service and in-service training for tutors.

At Rutgers, it appeared that although there are tutors, the numbers are limited given the demand. One developmental math faculty member did report having a tutor available to students once a week for his section. Others reported not ever having any tutors available in class. There seems to be an uneven utilization of tutors in developmental math courses. It appears that some faculty strongly recommend that students doing poorly in the course access a tutor while others do not.

Non-Cognitive Factors & Math Labs, Workshops, etc.

Students' success in developmental math courses has been linked to non-cognitive as well as cognitive factors. An example of some of these non-cognitive factors which influence students success are learning and study strategies, critical thinking skills, locus of control, math anxiety, self-efficacy, etc. (Bassarear, 1991; Calhoun & Norwood, 1991; Grimes & David, 1999; Grossman, 1993; Prager, 1983 and Smith et al 1996. Attention to these factors includes but is not limited to non-cognitive assessment as well as use of a variety of strategies and techniques in class. Math labs associated with the courses and special workshops also provide opportunities for addressing these factors with developmental math students. Students in

programs with a math lab component integrated into the developmental course had higher final course grades (Boylan, Bliss, & Bonham, 1997). Providing students with some sort of training in learning strategies is a characteristic found in several studies of successful programs (Boylan, Bonham, Claxton, & Bliss, 1992; CQIN/APQC, 2000). The Learning and Study Strategies Inventory (1987) published by H & H Publishing Company and the Study Behaviors Inventory by Andragogy Associates are both useful tools for teaching students to identify their learning strengths and weakness.

There was not any non-cognitive assessment conducted in the developmental mathematics courses. In discussions with some faculty, it appeared that there were some but very limited attempts to address these factors. This is most unfortunate given the significant impact these factors can have on some developmental students. There are no math labs available or required for any of the developmental courses.

Integration of Thinking Skills

In the review of the course syllabi provided for the developmental mathematics courses; it seems that some (not all) of the faculty do place a heavy emphasis on problem solving including application, transfer, and thinking skills. The program is to be commended for its efforts in this area. However, there should be such an emphasis in all courses or some other

training in this area should be made available to all students. Research supports the importance of emphasizing and integrating application activities, opportunities for transfer of the information, and use of thinking skills in developmental courses (Grubb et al 1999; Koski and Levin, 1998).

As noted previously, attempts to acquire the latest information on teaching underprepared students in mathematics, was once a major focus for the program at Rutgers. The integration and use of the techniques listed above can significantly improve students' success. However, it will require training and professional development opportunities for the instructors to acquire these necessary skills. This will be discussed further in charge #4.

Recommendation

It is recommended that a systematic program review of the mathematics program including the developmental through the elementary or basic mathematics courses be conducted. A task force should be formed to conduct this review consisting of the placement coordinator from the mathematics department and representatives from the Education and Academic Foundations Department as well as the Learning Resource Center. It would be extremely valuable if instructors teaching both the second level developmental mathematics course and the College Algebra course could also participate in this curriculum review.

Time Line

The members of the Task Force should be identified by the end of Fall, 2003. The Program Review of the developmental and elementary mathematics courses should begin in the Spring, 2004. A schedule of meeting dates and times should also be developed by the end of the Fall, 2003 term. Since so few instructors are full-time, it may be necessary to wait until Fall, 2004, to add some members. However, the coordinators can begin in the spring with an intense review of the existing curriculum in developmental and elementary mathematics. They can also access some recent editions of Basic Mathematics, Introductory Mathematics, Intermediate Mathematics and College Algebra textbooks from different companies. Research articles and state of the art practices in developmental mathematics should be reviewed and summaries compiled. The use of technology, math labs, videos, and non-cognitive assessment instruments should be topics included in the discussion by the Task Force.

The Task Force should focus on the identification of objectives (not topics or a content outline) for the skills and competencies that students in developmental courses need to be successful in the elementary mathematics courses (Math 103, 112, & 113) at Rutgers, Newark. The Crossroads in Mathematics book should be accessed and used at this stage in the process.

For students taking courses in mathematics beyond College Algebra (Math 112 & 113), it is necessary to determine the objectives for the skills and competencies required in the subsequent courses. An interim report on the progress of the Task Force should be prepared by December, 2004. The final report should be due by May, 2005.

Resources Required

The key resource necessary to conduct an effective Program Review is *time!* Instructors teaching a full-load of courses do not have much time to become actively involved in such a review. Released time, compensation, or some motivation for instructors to participate on this Task Force is a critical ingredient for success. Recent edition of textbooks for the courses under discussion, related videotapes, and supplemental software should be accessed. Usually demos are available and no cost is incurred related to this. However, someone has to have the time to request all of these resources for review. There will be a cost incurred for purchasing some books and journal articles on the state-of-the-art in developmental mathematics and best practices in developmental education.

Description of Developmental English and Composition Programs

Communication Skills 142 and 143 comprise the sequence of developmental courses in English at Rutgers-Newark. Although these

courses are taught through the Academic Foundations Department, their purpose is to prepare students for the required sequence of composition courses, English 101 and 102 or English 121 and 122, offered through the English Department. Students are placed into either Communication Skills 142 or English 101 through a placement exam, with no option for placing directly into Communication Skills 143. Each writing course in the entire sequence requires students to take an exit exam to pass the course, regardless of the grade received in the course or students' performance in the class, and these exams are not graded by the instructor of the course. Currently, there are no stated program or course goals and objectives for either Communication Skills or Composition, except on individual syllabi, which are not consistent with one another, even for a particular course.

Discussion: Structure

One solution to the problem of the lack of coordination between developmental English and Composition courses is to merge the two departments; however, there is little evidence to suggest that restructuring would address the problems—which include the lack of a shared philosophy, formal evaluation system, and communication among faculty who teach writing courses—identified by the consulting team. The Composition program suffers from many of the same problems as the developmental

English program, and the need to address the problems related to writing at Rutgers-Newark will not be addressed simply by merging the departments.

Some interviewees expressed hesitation about the English Department's commitment to the teaching of writing and felt that developmental writing students would not be best served by the English department. Whether or not Rutgers-Newark decides to merge the two departments or keep them separate, the issues that need to be addressed will remain. More communication, coordination, and collaboration must occur between teachers and program directors of both developmental and composition courses.

Discussion: Program Objectives

Given the writing sequence, and especially the series of exit exams for movement from one course to another, it is essential that more coordination exist between the developmental English program and the Composition program in terms of goals, objectives, and expectations for what students should be able to accomplish after each course in the sequence. Only one faculty member interviewed teaches in both departments; most faculty members are teaching in either English or the Education and Academic Foundations Department but not both. Of the faculty interviewed in each department, no one seemed to know much about the curriculum of the

courses they did not teach, even though these courses are sequential and students are tested before they can move on to the next course in the sequence. One instructor explained to the consulting team, “a writing course is a writing course,” indicating that there is an extraordinary lack of communication among the teachers of both courses and a lack of understanding—at least among some instructors—of the wide variety of pedagogical and curricular approaches to the teaching of writing.

Discussion: Professional Development

The “Plan for Restructuring the Writing Program,” offered by the English Department, calls for the “addition of a full-time specialist in rhetoric and pedagogical design who will oversee the evaluation of the existing curricula, the design of the new coordinated curricula, the identification of appropriate assessment devices, and the planning of faculty development workshops.” Though the English Department’s plan calls for a merger with the Education and Academic Foundations Department, the addition of a new full-time specialist in composition and rhetoric would work with either the current structure or with significant re-structuring.

Whether or not Rutgers-Newark hires a full-time writing specialist, there is a significant need to create better working conditions for the Academic Foundations faculty. While the English Department gives full-

time contracts to many of its Composition faculty, given the title “Assistant Instructor,” the Academic Foundations Department relies entirely on part-time / adjunct labor for the teaching of Communication Skills courses.

No funding or support is available for instructors of Communication Skills or Composition to travel to conferences, and no on-campus professional development activities are in place for these instructors.

Discussion: Evaluation, Class Size, and Workload of Faculty

Currently, evaluation of both Academic Foundations and Composition faculty appears to be non-existent. One composition instructor could not remember the last time anyone observed her teaching or asked her to self-evaluate her teaching.

Communication Skills courses are capped at twenty students, and the number of contact hours is six per week. The National Council of the Teachers of English (NCTE) recommends that developmental writing courses be limited to no more than fifteen students because “it is essential to provide these students extra teaching if they are to acquire the reading and writing skills they need in college” (NCTE, 1987). NCTE makes no specific recommendations concerning contact hours, though six hours is more contact than most institutions require of developmental writing courses. However, NCTE does recommend that all college writing teachers “should

never be assigned more than twelve hours a week of classroom teaching” (NCTE, 1987). Communication Skills instructors and students expressed frustration at the number of contact hours for the developmental writing courses, suggesting that six is probably too many hours per week to be meeting. There is no research to suggest that six contact hours per week produces better learning or writing than three hours; however, there is plenty of research that suggests smaller class sizes helps students succeed in basic writing courses (Sheridan-Rabideau & Brossell, 1995).

Discussion: Support Services

The Rutgers-Newark Writing Center serves Composition students but not Communication Skills students. The Writing Center Director is not given adequate resources to tutor students in Communication Skills, and these students are, ostensibly, served by the Learning Resources Center, which does not appear to prepare tutors in the teaching of writing specifically; instead, they are trained in a basic introduction to tutoring in general.

Recommendations

- Hire a specialist in Composition and Rhetoric, preferably with expertise in Writing Across the Curriculum, to coordinate the writing programs in the Education and Academic Foundations Department, English Department, and writing needs in other academic departments. This specialist should also create a plan for evaluating

- writing instruction at Rutgers-Newark to ensure the quality and consistency of developmental and college writing courses.
- Create a task force comprised of the new WAC specialist, the Composition director, the chair of Academic Foundations, and faculty who teach Communication Skills and Composition. This task force should articulate a vision for writing at Rutgers-Newark, with program objectives and a philosophy of teaching writing for the program as a whole as well as for each individual course. This does not mean that instructors need a common syllabus or course text, since a diversity of approaches could lead students to the same goals. A formal system of evaluation would ensure consistency and quality throughout the programs.
 - Provide adequate support for professional development of Academic Foundations and Composition faculty. On-campus workshops led by the specialist in WAC could be offered. Additional funding for travel to and presentation at professional conferences should also be available for everyone who teaches writing in both departments.
 - Offer full-time Assistant Instructor positions in the Education and Academic Foundations Department. Make professional development an expectation of these full-time positions, and involve these Assistant Instructors in discussions on curriculum and matters related to the teaching of writing.
 - Expand the funding and provide adequate space for the Writing Center to tutor students taking developmental English courses. The Writing Center provides more extensive training in the teaching of writing than the Learning Resources Center, and the Writing Center staff is already familiar with what is required of students in the Composition courses.
 - Reduce the class size of developmental English courses to a maximum of fifteen students in each section, and cap Composition courses at a maximum of twenty students. (This recommendation of capping English 101 and 102 courses at twenty is also suggested in the English Department's "Plan for Restructuring the Writing Program.")

Research should be conducted by the task force to discover which model of developmental writing would be the best fit at Rutgers-Newark, and contact hours of developmental English courses should be reduced according to the model adopted by the institution (see Lalicker for models of basic writing programs).

Charge # 3 - An evaluation of the effectiveness of our placement testing, considering the feasibility of and requirements for online testing.

Students are currently placed into developmental courses using instruments referred to collectively as “Rutgers Placement Tests.” These instruments test mathematics skills from computation through pre-calculus. In English, these instruments test critical reading skills, reading comprehension, and some grammar. A writing sample is also taken as part of the placement process in English.

The origin of instruments used for placement at Rutgers – Newark is unclear. None of the faculty or administrators interviewed by the consultants knew anything about the instruments except for the fact that “they came from New Brunswick.” No one claimed to know how these instruments were developed, validated, or normed.

Mathematics faculty interviewed felt that the instrument did a reasonably accurate job of placing students. However, there appeared to be some inconsistencies between what the mathematics assessment instrument

measures and what is taught in various sections of developmental mathematics.

English faculty opinion on the accuracy of assessment instruments was divided. Most felt that the writing sample, in particular, was a useful and accurate measure of student skills. Faculty comments regarding the reading and grammar sections of the instrument were mixed. In general, there was neither great satisfaction nor great dissatisfaction among faculty regarding the placement instruments used. It is possible that this is a result of the fact that so many instructors teaching developmental courses are part-time. As a consequence, they have few opportunities to think about or talk about assessment instruments with their colleagues.

The assessment and placement situation at Rutgers – Newark is unusual on several counts. Most unusual is the fact that none of the faculty involved in developmental education can recall having been consulted in the decision to use the “Rutgers Placement Tests” and no efforts have been made to explain the instrument to faculty. Yet one of the keys to effective placement is faculty confidence in the instruments used for this purpose (Morante, 1989). The situation is also unusual in that, except for the writing sample, no one seems how exactly how cut scores and ranging were determined. Furthermore, there is no test manual provided with these

instruments for faculty to review. Without such a manual, it is difficult to ascertain how much confidence anyone should have in the instruments. In addition, there does not appear to be any data available describing the procedures used to reduce cultural bias in these instruments.¹ This should be a major issue at a campus claiming to be the most diverse university in the country.

Few efforts appear to have been made to connect the content of assessment instruments with the content of developmental courses. It should be noted that, without access to the instrument manuals, it is very difficult to engage in such efforts. Finally, the assessment process at Rutgers- Newark relies on a single set of instruments measuring only cognitive skills. Few efforts are made to measure other student characteristics although these characteristics are often as important to success as cognitive skills (Bloom, 1976).

Interviews with faculty and tutors suggest that many students are confused about what the assessment tests are supposed to measure and how their test scores are used in placement. Faculty teaching developmental courses, most of whom are adjuncts, do not seem to have a clear idea of how students are placed into their courses. Even many full-time faculty do not

¹ This does not mean that the instruments were not reviewed for cultural bias. It simply means that no one at Rutgers-Newark seems to be aware of how and when they were reviewed for this purpose.

appear to have a complete understanding of the origin of assessment instruments, their content, or the process in which they are used.

Given all these factors, few of the typical conditions necessary for an effective placement system are present at Rutgers – Newark and it is, therefore, unlikely that the system is fully effective. There is a rather substantial disconnect between the assessment instruments and the system that is supposed to use them. Furthermore, given the computerized assessment technology currently available, the instruments used at Rutgers – Newark are almost obsolete.

Recommendations

It is recommended that developmental education faculty at Rutgers – Newark review the following instruments:

- The Accuplacer (a College Board computerized assessment product),
- The COMPASS (an American College Testing Service computerized assessment product),
- The New Jersey Test of Basic Skills (a College Board paper and pencil product), and
- The Rutgers Placement Test.

These four instruments provide a broad range of assessment methods and technologies. Each of these instruments is based on somewhat different theories of language acquisition and use. Two of the instruments use

computer-adaptive assessment techniques and two use traditional paper and pencil techniques.

Developmental education faculty should take each of these instruments and review their technical manuals. Based on this, they should make recommendations regarding the selection of a new assessment instrument or the maintenance of the existing instrument.

If a new instrument is selected for assessment and placement, then some retraining of faculty and staff will be required. Advisors, for instance, will need to know exactly *what* the new instrument measures and *how* it measures what it purports to measure. New cut scores and ranges will need to be developed. Advisors and faculty will then need to know exactly what these scores and ranges mean in terms of student skill levels.

In addition, Rutgers – Newark should also consider the use of the following non-cognitive instruments to increase the accuracy of placement for students who may fall within the “gray areas” of assessment:

- The Study Behavior Inventory (available from Androgogy Associates),
- The Learning and Study Strategies Inventory (available from H & H Publishing), or
- The Canfield Learning Styles Inventory (available from Western Psychological Associates).

These instruments may be profitably used to gather additional data on student characteristics. The information generated by these instruments is particularly useful when cognitive instruments do not yield a clearly defined placement profile.

Time Line

It is recommended that the review of assessment instruments be conducted during the 2003-2004 academic year. If a new instrument is selected, training might then be undertaken during the spring or early summer of 2004. Rutgers – Newark should then plan to field test the new instrument for the fall of 2004. All first-time, full-time students should be assessed using the new instrument and placed accordingly.

As the new instrument is reviewed, it will be important to gather data on such things as:

- Faculty perceptions of the accuracy of student placements,
- Advisor perceptions of the accuracy of student placements,
- Student perceptions of the accuracy of their placement, and
- Number and percentage of post assessment transfers from one level of math or English to another.

During the review period, there should be no expectation that a correlation will exist between assessment test scores and course grades. The instruments recommended here are achievement tests or inventories, not

aptitude tests. As such, they are not designed to predict academic performance but to determine where students' skills fall along a continuum of skills needed for success. A reduction in the number of students who are moved from one level course to another following initial placement is probably a better indicator of assessment test efficacy than a correlation between test scores and grades.

Resources Required

If a new assessment instrument is selected, the costs of assessment should increase.² The exact cost will depend upon the instrument selected and the number of students to be assessed. Consequently, should Rutgers – Newark elect to use an alternative to the “Rutgers Placement Tests,” it should do so with the recognition that this is not a cost-free choice. In addition to whatever costs are associated with purchasing new instruments, advisors will need to be trained in the interpretation and use of these instruments. Faculty will also need to be trained in the meaning of scores from the new assessment instruments. If a computer-adoptive instrument is used it may be necessary for Rutgers-Newark to purchase additional computers or to reallocate existing computers.

² This assumes that there is either no cost or minimal cost for the current assessment/placement instrument.

Consequently, in addition to the costs of purchasing a new assessment instrument, the institution should also anticipate additional costs in training personnel to use, score, interpret, and apply the new assessment instrument. However, if a College Board or ACT instrument is selected, training will be provided by the test publisher as part of the entire service package. Rutgers – Newark administrators would be well advised to take full advantage of these training provisions if a contract is negotiated for a new assessment instrument.

Charge # 4 - An exploration of the concept of unified curriculum to more effectively bridge the gap between developmental and required sequences.

Developmental Mathematics

In charge #2 the developmental mathematics program was described and analyzed. The major recommendation related to that charge was the need for a systematic Program Review. Such a review will certainly impact significantly on the creation of a more unified curriculum. However, there is one piece of the puzzle still missing. The training and professional development of the instructors teaching the developmental and elementary mathematics courses is a critical component in the academic success and retention of the students.

It was noted by one instructor that there had been opportunities to train developmental faculty in utilizing some of the latest techniques for

helping developmental math students be successful. However, that has not been the case in the last few years. There is a growing body of research to guide our practices in developmental mathematics which should be the bases for the delivery strategies utilized as well as the instructional techniques in developmental mathematics courses. Discussion of some of the highlights from this research was included under Charge #2.

Related to this issue is the second question/issue identified in the charge to the math consultant. It is the extensive use of adjunct faculty to teach developmental courses and elementary mathematics courses. The response to this charge to the mathematics consultant is described below.

Staffing Issues Related to Developmental Mathematics

Almost all sections of developmental mathematics courses (Math 101 & 102) are taught by ptls (part-time instructors). The Math Department already supervises an ever-growing number of ptls who teach elementary math courses (Math 103, 112, and 113). Over the past ten years, the number of math majors has more than tripled and a Ph.D. program has been developed. Consequently, very few of the elementary courses are taught by permanent faculty and even more advanced courses are taught by ptls and assistant instructors. This information was provided as background for the situation regarding the staffing issue for developmental mathematics and the

elementary mathematics courses. How does one create a successful program when almost all the faculty teaching developmental courses and the first follow up course are part-time? Part-time faculty simply do not have the time available to engage in the discussion, review, and revision processes necessary for program development and improvement.

Staffing

The research on the utilization of adjunct faculty teaching developmental courses reveals that institutions with the highest percentages of adjuncts teaching developmental courses had the lowest post-developmental education pass rates on state-mandated tests (Boylan & Saxon, 1998). Yet, it should be noted that there is no evidence that adjunct faculty were any less successful in teaching developmental courses (Boylan, Bonham, Claxton, & Bliss, 1992). Instead, the differences in overall outcomes only appeared when a program relied predominantly on adjunct to teach developmental courses. In a study of best-practice programs identified in the CQIN/APQC study (2000) only about 50 percent of their developmental courses were taught by adjunct or part-time faculty in these programs.

There is no question that the percent of faculty teaching developmental mathematics and elementary mathematics is well beyond 50

percent at Rutgers - Newark. To maintain consistency and program integrity, consideration should be given to increasing the number of full-time instructors. Instructors could then be a part of the program review and more actively involved on a regular bases in the on-going responsibilities for these courses.

Professional Development

Another important consideration which is also a characteristic of successful programs is the value that is placed on adjuncts. The following is an example of the kinds of support mechanisms made available to them in successful programs: 1) manuals and orientation programs, 2) participation in departmental meetings; 3) opportunities for ongoing and professional development through workshops and conference attendance; 4) mentoring programs, and 5) clearly communicated information on the path to a permanent full-time position (CQIN/APQC, 2000; Boylan, 2002). This leads to the issue of professional development opportunities for instructors both full-time and part-time.

A major resource which contributes significantly to the success of any program are its instructors. In discussion with individuals who have worked in this program, it appears that the majority of them are interested in working with developmental students rather than using this as a stepping

stone to teach higher level college mathematics courses. So there seems to be a source of faculty who are genuinely interested in working with the developmental student. This is an important factor. Faculty who aspire to teach only higher level mathematics courses are sometimes not the best instructors for the pre-calculus courses. Efforts should be continued to recruit and hire instructors who enjoy the challenge of working with the developmental students. A successful program needs faculty who are committed to working with the developmental students and willing to acquire the necessary skills and knowledge to do so effectively.

An important question to consider is, how much training, experience, or knowledge do the present instructors have about the developmental student? It is a given that they should have the necessary background and experience in mathematics. Equally important for the developmental educator is an understanding of the characteristics of the developmental student and the strategies and techniques that contribute to the success of these students.

It was noted in the meetings with representatives from mathematics that at one time there were opportunities for faculty training particularly in the summer program. Unfortunately over the years the opportunities for training and professional development of these part-time and temporary

faculty who now teach developmental mathematics continues to dwindle.

What appears to have been a strength in the program has become a significant weakness.

Studies reveal that faculty and staff in best practices programs (CQIN/APQC study, 2000) were involved in developmental education professional associations. In another study, Boylan & Saxon (1998) found that in colleges and universities where faculty were actively involved in state and local developmental education professional associations, students were more likely to be retained through the first year. Such involvement helps to provide opportunities for improved practice. The success of a developmental math program is influenced significantly by the involvement and commitment of the faculty. This includes faculty who are interested and willing to help the developmental student succeed. To accomplish this faculty need to be actively engaged in improving their courses and seeing that the necessary services are available to meet their students' needs.

Institutions with the best developmental education programs assign faculty to developmental education courses after they have been oriented to the institutional philosophy of teaching developmental education. In addition they are familiarized with the institutional expectations for student outcomes in the developmental courses (Boylan, 2002).

A more unified curriculum at Rutgers for the developmental and elementary mathematics courses can be achieved through more focused and consistent professional development opportunities for instructors. For example, a workshop on Classroom Assessment Techniques (Angelo & Cross, 1991), a series of active learning activities, can benefit all instructors. This is probably one of the most successful higher education innovations in the decade of the 1990s. It is also a technique used widely by best practice institutions in the CQIN/APQC (2000) study. Regular use of these techniques help to improve teaching as well as students' success. These techniques help to narrow the gap between what is being taught and what is being learned. Additional research on these techniques can be found in section on Classroom Assessment in the book, What Works: Research-Based Best Practices in Developmental Education by Hunter R. Boylan.

A wide range of professional development opportunities should be considered. This can include rather inexpensive approaches such as having instructors read and discuss books or articles or view a video. Using colleagues with expertise in specific models or techniques to run workshops. Bringing in consultants to run workshops and seminars may be more expensive but is still a very effective approach to professional development. Attending workshops at conferences (NJADE, AMATYC, NADE, NCTM),

institutes (Kellogg Institute), or taking a graduate course are also effective professional development opportunities which can be useful to these instructors. As noted earlier, training and professional development is a priority in the most successful developmental education programs. It is important to keep in mind that on-going, long term professional development programs are most effective.

Recommendations

It is strongly recommended that Rutgers – Newark increase the number of full-time instructors who teach developmental and elementary mathematics courses. Ideally, no more than 60 percent of instructors teaching developmental mathematics (or any developmental course, for that matter) should be part-time.

Instructors teaching developmental and elementary mathematics courses should be provided a list of professional development opportunities each year. Instructors should be provided the necessary financial support to engage in one or more of these activities or those they identify as relevant and appropriate. It is useful to have each instructor identify areas in which they wish to develop their knowledge at the beginning of each academic year. Related suggestions to consider are: 1) create a professional development library for use by instructors and staff; 2) seek local expertise

particularly among the campus student affairs and counseling staff for in-service workshops particularly for non-cognitive factors; 3) identify creative and interesting ways that individuals attending conferences, institutes, etc. can share this knowledge with others; and 4) develop a list of strategies to motivate part-time instructors to participate in these professional development activities.

Time Line

An assessment of the number of part-time faculty used to teach developmental and elementary mathematics should be conducted in the Spring, 2004. As part of this assessment, identify the cost and related issues for using full-time instructors instead of part-time instructors for at least 40 percent of these courses. Begin recruitment and hiring of full-time instructors by Fall, 2004.

Resources Required

An analysis of the costs incurred by hiring someone as a full-time instructor instead of two part-time instructors should be conducted. The coordinators of the developmental mathematics and undergraduate mathematics coordinator should be responsible for developing a recommendation regarding the phasing in of full-time instructors.

Recommendation

Instructors teaching developmental and elementary mathematics courses should be provided a list of professional development opportunities each year. Instructors should be provided the necessary financial support to engage in one or more of these activities or those they identify as relevant and appropriate. It is useful to have each instructor identify areas in which they wish to develop their knowledge at the beginning of each academic year. Related suggestions to consider are: 1) create a professional development library for use by instructors and staff; 2) seek local expertise particularly among the campus student affairs and counseling staff for in-service workshops particularly for non-cognitive factors; 3) identify creative and interesting ways that individuals attending conferences, institutes, etc. can share this knowledge with others; and 4) develop a list of strategies to motivate part-time instructors to participate in these professional development activities.

Timeline

The coordinators of developmental mathematics and the undergraduate coordinator of mathematics should begin in the Fall, 2003 to compile information regarding professional development opportunities for the instructors. A library of resources for the instructors should be started in the Spring, 2004.

An in-service workshop for full and part-time instructors for the Fall, 2004 term should be planned beginning in the Spring term. Some topics to consider are Classroom Assessment Techniques, Non-Cognitive Barriers to Students' Success in Mathematics, Active Learning Strategies for the College Math Class, Highlights from the Research on Developmental Mathematics, etc.

One or two instructors should be sent to the Kellogg Institute in the summer, 2004 (if monies are available or 2005 at the latest). This is the nation's most respected and established training and certification program for developmental educators. It will provide intense training, access to extensive resources in the field of developmental education, and the opportunity to network with developmental educators from other states.

A budget should be developed for funding professional development activities for instructors who teach developmental and elementary mathematics courses by the fall of 2004. Criteria for awarding the monies should also be developed and put into place by the fall of 2004. New faculty should also be made aware of these professional development opportunities during their orientation.

Resources Required

There will be a cost involved in the on-going professional development activities of the full-time and part-time instructors.

Participation in the Kellogg Institute, for instance, costs about \$2,400 per person. Costs for sending one person to an out-of-state conference can run over \$1,000 per person. The source and amount of the monies available for these activities should be identified and communicated to the Coordinators of Developmental Mathematics and the Undergraduate Coordinator in Mathematics.

Developmental English

Description:

At Rutgers-Newark basic writing is separate from composition in almost every way. The courses are housed in different departments; most of the instructors do not teach in both departments; neither instructors nor administrators from both departments regularly meet; and there is no formal statement of philosophy for either program. The developmental and composition courses do share a common handbook, *The New St. Martin's Handbook*, but it is unclear if that has any effect on unifying curricular decisions made for individual courses.

The English Department created a document titled, “Plan for Restructuring the Writing Program through the Merger of Academic Foundations Communications Skills and English Department Composition Curricula,” suggesting that unification of curriculum necessarily means merging the two departments. Some members of the Education and Academic Foundations Department, however, suggested that some shared agreement between the two departments about curriculum could happen without merging the two departments.

Discussion: Unified Curriculum

The concept of a “unified curriculum” should be studied carefully by both departments to consider if merging departments is the only means of accomplishing curricular reform that brings together the goals, approaches, and course materials of the writing sequence. There is little evidence to suggest that the English Department has the necessary expertise or interest in writing to take on a basic writing program; moreover, there is there a sense among some faculty that the composition program functions very ineffectively as is. Therefore, the consulting team hesitates to recommend merging the Academic Foundations and English Departments.

However, if “unified curriculum” is taken to mean the articulation of a shared philosophy among the composition and developmental writing

programs and courses, then the concept of a unified curriculum makes sense and would help students make it through the course sequence with greater success; it would also help instructors know what goals to prioritize for the courses and what classroom practices would most successfully prepare students to accomplish those goals (Wiener, 1989).

If “unified curriculum” is taken to mean mandating a version of a course syllabus, a set of assignments, and / or the same course text for all sections of a particular course, then the concept of a unified curriculum makes less sense. What needs to be shared among the faculty of all writing courses at Rutgers-Newark is an understanding of what students should be able to do with writing, how coursework should be evaluated, and what approaches would best lead students to reach the goals established for the composition and developmental writing programs.

Discussion: A Readings-Based Curriculum

This question was posed to the consultants for English: “Some basic writing programs downplay the role of academic reading early on in their sequence, preferring to get students writing narratives and personal essays. Our presumption is the opposite, which students from the outset need to be writing about academic readings. Within the framework of a readings-based

curriculum, what are the opportunities for more personalized writing? Does it make sense to look for those opportunities?”

Since “reading” can be defined in a number of ways, depending in part on how “text” is defined, students can develop reading skills writing about the texts of their lives, for example, interpretive skills that make sense whether one is interpreting a personal experience, an academic text, or a body of research. If students are given opportunities to hone their analytical skills on a range of “texts,” from their own experiences and beliefs to field research to literary texts, they will be better able to read academic essays as well as write them (Cody, 1996). Also, students need to be given many opportunities for informal writing in order to learn to analyze texts. For example, asking students to freewrite in response to texts, to write in a journal, and to write letters to the class and instructors will help them form and shape their ideas about texts in preparation for more formal assignments. (Fulwiler, 1987). Despite the emphasis on a readings-based curriculum, Rutgers-Newark should consider the research supporting the use of narrative, especially in the basic writing curriculum (Elliot, 1995).

On the same topic of a readings-based curriculum, another question was given to the consultants for English: “While carefully synchronizing basic writing courses with the composition sequence, we would like to

differentiate the basic writing courses in ways that work against the misperceptions that the basic writing courses are merely remedial or that the sequence of basic writing and composition courses is redundant. One way to sharpen this distinction is to employ a broad, rich, academically diverse theme for the readings of the basic writing courses—a theme such as ‘Language Issues,’ say, or ‘City Life.’ Is it a mistake to pursue this sort of thematic approach to readings-based courses?”

Recent scholarship on basic writing promotes a thematic approach to basic writing that focuses specifically on literacy narratives--such as Mike Rose’s *Lives on the Boundary* or Malcolm X’s autobiography--that interrogate the issues surrounding the barriers to academic writing (Sirc, 1994; Horner & Lu, 1999). Whether or not a thematic approach is used, though, does not necessarily determine how well students will write; what is most important is how writing is taught in conjunction with the readings (Newkirk, 1986). Reading sophisticated texts does not necessarily translate into writing sophisticated texts. Students need training to do so and they must be given strategies for reading and writing about difficult texts (Bartholomae, 1993).

Discussion: Evaluation of Students' Writing

The exit exams for both developmental and composition courses seem unnecessary at best and unfair at worst. No one interviewed could provide a sound rationale for the existence of the exit exams. One administrator explained to the consulting team that composition instructors get too close to their students to grade them fairly. There is no research to support this rationale, and, moreover, it suggests a strong mistrust of composition and developmental faculty to evaluate their students fairly. The mistrust implied by the exams contributes to a morale problem expressed by some instructors in both departments. Students also find the exams deeply troubling, and, with no clear goals for each course, there is no discernable relationship between the exams and the objectives for each course. There are better approaches to quality control besides the exit exams, such as portfolio evaluation by the instructor of the course and, perhaps, one additional instructor. Evaluation of faculty members' teaching is another important method of ensuring quality in the writing classroom.

The high-stakes exit exams are one obvious hurdle to students in writing courses at Rutgers-Newark. Research on evaluation shows that using writing portfolios is a more accurate and fair method of evaluating students' writing (Belanoff, 1991; Yancey, 1992). Other research

illuminates the possibility of using multiple methods of assessment for basic writing (Wolcott, 1996).

Recommendations

- Unify the curricula of composition and basic writing through the articulation of a common vision of the teaching of writing at Rutgers-Newark, not through a merger of writing in the Education and Academic Foundations and English Departments.
- Focus the composition and basic writing courses primarily on the writing process, using readings in support of the students' writing. Text-based writing courses can work well if --and only if-- they remain writing courses. Too often readings-based writing courses turn into literature courses, where the focus moves away from the students' writing and toward the published texts as course "content." A readings-based curriculum for basic writing and for composition should emphasize the following current practices in composition pedagogy: Students need to be given opportunities for inventing topics, framing their own questions (about texts, if using a "thematic" approach), and revising their writing, with input from the instructor and peers at different stages of the writing process.

Charge # 5 - To the extent possible, establishment of a quantitative baseline and database to insure consistency and to enable periodic and meaningful outcomes tracking.

Developmental Courses

Within the past decade, an "industry standard" for evaluation data has evolved for developmental education programs (Boylan, Bonham, White, & George, 2000). This standard involves the measurement of the following of program performance indicators:

- Within course retention for developmental courses,³
- Pass rates (A through C) in developmental courses,
- Percent of students who, having passed a lower level developmental course enroll in and pass the next level developmental course,
- Fall to fall retention of students enrolled in one or more developmental courses,
- Gain scores from pre-test to post-test for students enrolled in developmental courses,
- Percent of students who, having passed the highest level developmental courses, enroll in and pass the first regular curriculum course,
- Graduation rates of students who enrolled in one or more developmental courses (Boylan, Bonham, White, & George, 2000).

Most successful developmental programs maintain data on at least two or three of these measures. At present, Rutgers – Newark maintains cohort data on pass rates in developmental English and mathematics, completion rates for basic English and mathematics requirements at the end of two years, and overall retention data. Data on within course retention is probably available but was not included in any of the information provided to the consultants.

Pass rates in developmental education are a good basic measure of the efficacy of developmental instruction. If a large number of students are

³ Percent of students registered at the end of the third week of classes who continue through the end of the course.

consistently failing developmental courses then any of the following may be happening:

1. a particular cohort of developmental students is unusually deficient in basic skills,
2. students are inaccurately placed in a higher level of developmental education than is warranted by their skills,
3. there is a mismatch between what is measured by placement instruments and what is taught in developmental courses,
4. the quality of instruction provided in developmental courses is inadequate to promote student success, or
5. texts, materials, or examinations may be inappropriate to the information being taught.

Fortunately, Rutgers – Newark has collected at least a decade’s worth of information on pass rates in developmental courses and this information indicates comparatively high pass rates for these courses.

As noted earlier, however, high pass rates in developmental courses do not necessarily mean that everything is going well. In fact, a strong developmental program should be characterized by high pass rates in developmental courses AND high pass rates in later courses taken in the same subject area (Boylan, Bonham, White, & George, 2000).

The consultants believe that the best measure of the impact of developmental courses is the percent of students who, having passed the highest level developmental courses, enroll in and pass the first regular

curriculum course in that subject. If the purpose of developmental courses is to prepare students for success in the regular curriculum, then the best measure of the impact of developmental education should be the extent to which those who have completed developmental courses in a given subject area pass the regular curriculum course in that area. Fortunately, Rutgers – Newark has also collected this data and can track post-developmental education performance over of students over the past ten years. This data suggests that post developmental education pass rates in the first curriculum course are lower than national averages for universities. It is recommended that Rutgers – Newark work toward having at least 75% of those who pass the highest level developmental mathematics course with a C or better also pass their first college level mathematics course. For English, the target for post-developmental education pass rates should be at least 85%.

There is also some concern that most of those who go through developmental education take at least three years to complete their basic English and mathematics requirements. The consultants agree with those who believe this time period is excessive. It is recommended that Rutgers – Newark seek to have at least 65% of those who take and pass developmental courses complete their basic requirements in English and mathematics within two years. This is a modest target given national averages.

Comparative data from the fall 1992 to the fall 2002 cohorts suggests that two things are happening: 1) there has been a substantial increase in the number of students placing into developmental courses during the past decade, and 2) there has been a slight decrease in the percentage of these students completing their basic requirements in English and mathematics within two or three years. This could suggest a decline in the skills of developmental students, a decline in the quality of instruction received by these students, a change in demographic or environmental conditions at Rutgers – Newark, or some combination of all the above. Further evaluation will be necessary to determine which of these factors or combinations of factors are operating at Rutgers – Newark. If this evaluation indicates that developmental students are, indeed, weaker than in the past, then additional training for faculty will be required to help them be successful with this group of students.

Recommendations

Baseline data on developmental education program performance is commonly obtained by finding the average of the past three years of performance data and using this as the baseline to measure future performance (Boylan, Bonham, White, and George, 20000). Using data provided by Rutgers – Newark administrators, the baseline for successful

completion of developmental courses is 91.2% in English and 77.4% in mathematics.⁴ It is recommended that these figures be used as a baseline for future outcomes assessments in developmental education. It is also recommended that data from summer school not be included in such baselines because of the small numbers of students involved as well as the unique characteristics of summer school students.

It is further recommended that an ongoing and systematic evaluation of developmental education be undertaken at Rutgers – Newark. Such an evaluation should include the collection of data on student pass rates in developmental courses and the extent to which students who have passed the highest level developmental course are successful in their first college curriculum course in that subject area.

This data should be collected annually. Furthermore, it should be provided to the instructors of developmental courses so that they may review the data on a regular basis. This review should be part of an ongoing formative process for program improvement. It should not be used as a summative evaluation of individuals or programs until program refinements and improvements have been in place for at least two years.

⁴ This is based on the average of the three years of student performance during fall and spring semesters.

In addition, it is recommended that the Education and Academic Foundations Department staff identify at least two other measures from the list of “industry standard” measures that represent an appropriate evaluation of performance. Data on these measures should be collected annually and reviewed by Education and Academic Foundations Department faculty and staff.

The Learning Resource Center also needs to participate in ongoing evaluation and outcomes assessment. Maxwell (1997), recommends eight criteria for the evaluation of learning assistance programs. These include the following:

1. extent to which students use the program,
2. extent to which users are satisfied with the program,
3. grades and grade point averages for students who use the program,
4. year-to-year retention rates for students participating in the program,
5. test scores and gain scores for students who use the program,
6. staff attitudes toward the program, and
7. impact of the program on the campus as a whole.⁵

It is recommended that personnel of the Rutgers – Newark Learning Resources Center begin gathering data on items 1 through 4 as soon as

⁵ “Impact on the campus as a whole” generally answers the question “How would the campus be different if this program were not in place?”

possible if they have not done so already. Depending upon how much of this data is already available, an evaluation report based on these criteria should be developed at least by the spring of 2005. This report should be shared with administrators, faculty, and staff. The information from the report should be used to evaluate performance and establish goals for improvement.

Resources

Assuming that the Institutional Research Office and Academic Planning can gather the data necessary for these evaluations, the major resource involved would be the time of that office's personnel. Time would also be required from faculty teaching developmental courses and learning resource center personnel. If evaluation activities are to contribute to program improvement, they must have the participation of the faculty and staff who deliver courses and services. These are the individuals who can actually make changes in their activities in response to evaluation activities. Consequently, time must be made available for faculty and staff to participate in formative and summative evaluation activities.

Charge # 6 - Assessment of current organizational structure and recommendations.

Rutgers – Newark offers two developmental English courses, Communications 142 and 143 and two developmental mathematics courses,

Mathematics 102 and 103. These are offered through the Department of Education and Academic Foundations. The Academic Foundations Center houses the Educational Opportunity Fund (EOF) Program and the Pre-College Education and Community Outreach Program. Separate from the Academic Foundations Center is the Learning Resource Center providing learning assistance services and tutoring. Separate from both of these is the Writing Center that employs tutors to help students with writing assignments and research projects.

Faculty teaching developmental courses in English and mathematics are supervised by coordinators given release time who are members of the Department of Education and Academic Foundations. The developmental mathematics faculty members are hired specifically to teach developmental mathematics. With one exception, they have year-to-year, part-time contracts but are not on tenure tracks. Almost all those teaching developmental English are part-time adjunct instructors.

The Academic Foundations Center is directed by a full-time administrator assisted by full-time administrators who run the EOF and Pre-college programs. These programs appear to be well-run, well-coordinated, and well-managed. However, the Department of Education and Academic

Foundations appears to be only nominally coordinated with the Academic Foundations Center.

Over the years, the developmental education mission of the Department of Education and Academic Foundations appears to have diminished. The majority of faculty positions originally assigned to teaching academic foundations courses were internally reallocated within the department to teach education courses. This resulted in an increasing number of courses being taught by adjunct faculty and other part-time personnel. The proliferation of part-time faculty had made coordination of developmental instruction more difficult, particularly in English. It has also contributed to a general failure to evaluate the outcomes of developmental education and to make substantive changes designed to improve developmental education. The coordinators of both developmental English and mathematics do a credible job of managing logistics, teaching assignments, and scheduling. Unfortunately, given their part-time assignments, the rather substantial number of developmental education sections, and the fact the most of their courses are taught by part-time personnel, these coordinators cannot do everything that might be desired to strengthen developmental education.

For instance, there appears to be little or no communication between those instructors teaching developmental English and developmental mathematics even though they are frequently teaching the same students. There is even little communication among those who teach the same subject. There are few professional development opportunities specifically for developmental instruction. There is no on-going and systematic evaluation of the outcomes of developmental courses and what data is available is rarely shared with faculty. As a result, there are few opportunities for faculty to use evaluation data for course and program improvement.

This situation is exacerbated by the fact that the Learning Resource Center is currently separate from the Education and Academic Foundations Department. Although there is cooperation between the two agencies and both of them report to the same dean, a combination of a lack of staffing and administrative separation reduces the amount and the effectiveness of cooperation. This takes place in spite of the fact that both agencies serve many of the same students.

The research in the field consistently supports the notion that courses and services for developmental students are most effective when they are centralized to some degree and highly coordinated (Roueche & Snow, 1977; Casazza & Silverman, 1996; McCabe, 2000; Boylan, 2002). Although most

developmental courses and services at Rutgers - Newark are theoretically centralized, they are structured in such a way as to compromise their coordination.

The consultants are in general agreement that for these and other reasons, the current organizational and administrative structure is neither as efficient nor as effective as might be desirable. The specific reasons for this view are addressed in greater depth elsewhere in the report by the consultants retained to review English and mathematics courses.

Recommendations

To outsiders as well as to students and staff, there is confusion regarding the difference between the Education and Academic Foundations Program and the Academic Foundations Center. It is recommended that the name of the Education and Academic Foundations Department or the Academic Foundations Center be changed to eliminate this confusion.

Time Line and Resources

There is no reason why many of the structural changes recommended here cannot take place at the beginning of the spring semester. The resources required for other changes are mostly personnel costs and, therefore, may take longer to support. The Department of Education and Academic Foundations will need coordinators to oversee developmental

English and mathematics courses. Furthermore, it is the consultants' opinion that the Learning Resource Center is currently understaffed given its present and future roles. Hiring at least one additional learning specialist would be beneficial for the Learning Resource Center and the Academic Foundations Center.

Charge # 7 - A preliminary assessment of the need for a more comprehensive ESL program and approach to address existing and emerging student needs on campus.

Description and Discussion

Question #7 on the "Questions for Consultants on Composition" asks: "English is a second language for many, if not most, of our students. But among those students, competencies in English vary greatly, and there is no easy correspondence between ESL needs and basic writing needs of particular students. How does a basic writing program best incorporate ESL instruction? Is the case for separate ESL sections a strong and sensible one?"

The case for separate ESL sections is a strong and sensible one if the class sizes are small—no more than fifteen, but even smaller would be ideal—and taught by instructors with extensive ESL backgrounds. The need for small ESL sections is great because these students require a lot of individual attention, given the diversity of ESL students and the accompanying variety of needs (Reid & Kroll, 1995; Kasper, 2001).

Whether or not Rutgers-Newark creates special ESL sections, all instructors who work with ESL students should attend special workshops and have access to resources for working with ESL students (Ferris & Hedgcock, 1998; Silva & Matsuda, 2001).

An important and viable resource for ESL populations already exists at Rutgers-Newark, the Program in American Language Studies (PALS). However, the PALS program does not currently serve ESL students who have been in the US for longer than two years. The director of the PALS program seemed very positive and enthusiastic about expanding the services to more students and faculty at Rutgers-Newark.

Recommendations:

- Create separate ESL sections for each course in the developmental and composition sequence, and keep these classes small.
- Through additional funding and support, expand the PALS program to serve all students who speak a non-English first language.
- Provide ESL support for individual writing courses (a tutor for each section) and by offering special tutoring and counseling services for ESL populations.
- Workshops for faculty teaching ESL students should be offered through the PALS program.

Conclusion

The consultants believe that Rutgers – Newark is to be commended for attempting to become a research university with a social conscience and a commitment to educational opportunity. Particularly impressive is the university's commitment to providing educational opportunity for students in its surrounding community, many of whom have weak academic skills. For this opportunity to be meaningful, however, it must be accompanied by programs designed to develop the skills of underprepared students. Furthermore, these programs must be able to demonstrate that they are effective in developing these skills.

It is this latter requirement that concerns the consultants. Although individual instructors are no doubt committed to educational opportunity and the necessity of developing students' skills, these instructors are provided with limited resources in support of that commitment. **All** of those who teach developmental English are part-time, adjunct instructors. Most of those who teach developmental mathematics are also part-time, adjunct instructors. There are few, if any, faculty development opportunities provided for these instructors. There is little coordination provided for these instructors. There is no ongoing or systematic evaluation plan for developmental education. There are no structured opportunities for regular

and ongoing communication to take place among developmental instructors. The Writing Center does not provide support for developmental English students (and is understaffed in any event). The Learning Resources Center provides some support for developmental students but, like the Writing Center, it is understaffed.

As a result, there appears to be a “disconnect” between the developmental courses in English and mathematics and the regular curriculum courses in these subjects. Students pass their developmental courses at high rates but tend to be substantially less successful in the curriculum courses. There are, in the consultants’ opinion, serious structural shortcomings in the organization and administration of developmental courses and equally serious problems with the resources allocated to developmental education.

There were some “bright spots” during the consultants’ visit. The Educational Opportunity Fund Program appears to be well organized and delivers quality services. The Writing Center does a first-rate job of selecting and training writing tutors. The Learning Resources Center provides meaningful tutoring and learning support with limited resources. Individual faculty members are to be commended for the efforts to serve

developmental students in spite of the limited support available to them for these efforts.

The “bottom line,” however, is that Rutgers - Newark has a very weak developmental program. In fact, to the extent that a “program” represents an organized and coordinated effort focused on clearly defined goals and objectives, Rutgers – Newark hardly has a program at all. Developmental education appears to have been ignored for many years when resource allocation decisions were made. It appears to have been allowed to “drift” during a time when other institutional efforts were focused. The fact that consultants have been hired to review the situation and make recommendations for improvement suggests that administrators at Rutgers – Newark are now ready to address the needs of the developmental program and strengthen the institution’s developmental education effort. It is hoped that the recommendations provided here will be of benefit to that effort.

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