DOCUMENT RESUME

ED 134 272 95 JC 770 112

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TITLE Developmental Education in Higher Education. Advanced Institutional Development Program (AIDP) Two-year College Consortium, Vol. II, No. 5.
INSTITUTION McManis Associates, Inc., Washington, D.C.
SPONS AGENCY Office of Education (DHEW), Washington, D.C.
PUB DATE [76]
NOTE 44p.

EDRS PRICE MF-$0.83 HC-$2.06 Plus Postage.
DESCRIPTORS *Basic Skills; Community Colleges; *Developmental Programs; Educationally Disadvantaged; *Junior Colleges; Learning Laboratories; Models; Program Descriptions; Program Design; *Remedial Programs; Remedial Reading; Student Needs; Teaching Methods; Writing Skills
IDENTIFIERS Nontraditional Students

ABSTRACT

This monograph, consisting of four sections, focuses on developmental education in the higher education setting. The first section, by Johnnie Ruth Clarke, provides an overall perspective on learning through developmental programs. Included are discussions of the developmental approach, developmental students and instructional activities, and instructors for and evaluation of developmental programs. The second section, by Marge L. Ford, describes Penn Valley Community College's learning skills laboratory, a resource center for developmental education that is simultaneously integrated into the mainstream of the college. The third section, by John E. Roueche, confirms the need for developmental education, offers some suggestions on where to begin in establishing effective programs, and suggests that there are models available for implementation of effective developmental programs. The fourth section, co-authored by George Lewis, Richard Lewis, Arthur Spong, and Norwood Taylor, reviews developmental studies at Sandhills Community College, a program that is not separated from other programs offered by the college. Included are discussions of the learning laboratory, the counseling/advising program, the tutoring program, the remedial English program, and the reading program. Bibliographies are included for each section. (JDS)

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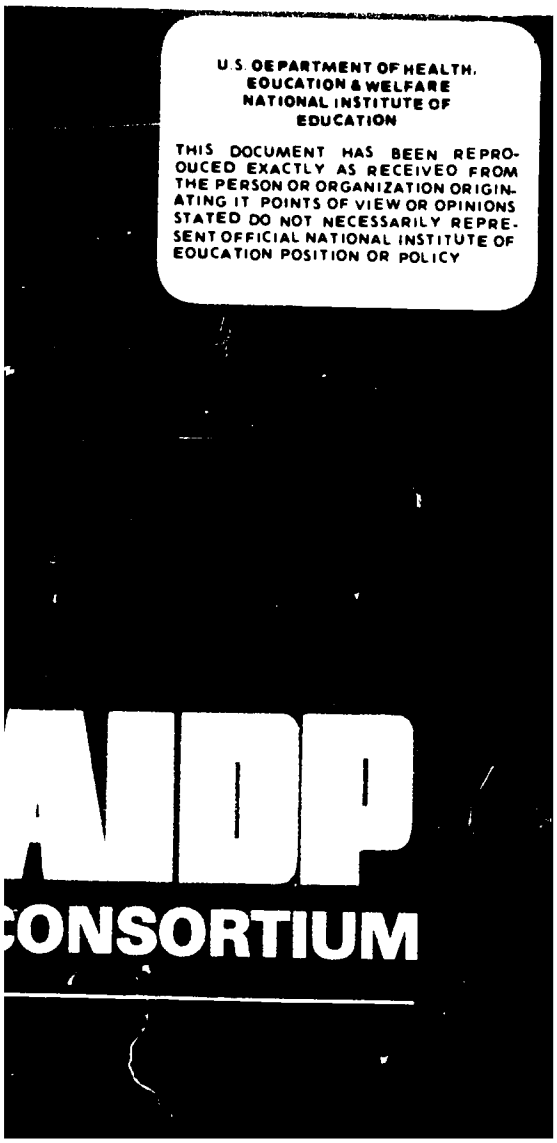

DEVELOPMENTAL EDUCATION IN HIGHER EDUCATION

The activity which is the subject of this report was supported in whole or in part by the U.S. Office of Education, Department of Health, Education, and Welfare. However, the opinions expressed herein do not necessarily reflect the position or policy of the U.S. Office of Education and no official endorsement by the U.S. Office of Education should be inferred.

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CHAPTER I

INTRODUCTION

I. INTRODUCTION

This monograph has been developed as one of a series of monographs which are a part of the activities of the Advanced Institutional Development Program (AIDP) Two-Year College Consortium.

The monograph focuses on developmental education in higher education. The concept for this publication emanated from an AIDP workshop on this topic held on April 8-9, 1976 at Penn Valley Community College in Kansas City, Missouri.

The monograph consists of a paper by Dr. Johnnie Ruth Clarke on the growth of educational programs in community/junior colleges which have been assigned such titles as remedial, compensatory, developmental, etc.; a paper by Dr. Marge L. Ford, which describes the Learning Skills Laboratory at Penn Valley Community College; a paper by Dr. John E. Roueche, which addresses the need for developmental education and illustrates ways in which developmental education can be "tailored" to fit the needs of students; and a paper by George Lewis, Richard Lewis, Arthur Spong, and Dr. Norwood Taylor, which describes the developmental studies program at Sandhills Community College.

CHAPTER II

ABOUT THE AUTHORS

II. ABOUT THE AUTHORS

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The co-authors of "Developmental Studies at Sandhills Community College" are Mr. George Lewis, AIDP Coordinator; Mr. Richard Lewis, Chairman, English Department; Mr. Arthur Spong, Reading Instructor; and Dr. Norwood Taylor, Math Instructor.

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CHAPTER III

THE PROMISE OF LEARNING THROUGH DEVELOPMENTAL PROGRAMS

Dr. Johnnie Ruth Clarke

III. THE PROMISE OF LEARNING THROUGH DEVELOPMENTAL PROGRAMS

Dr. Johnnie Ruth Clarke

PERSPECTIVE

Community/junior colleges, like other postsecondary educational institutions, plan and operate their instructional programs as if all students come from the same socio-economic mold and have acquired a level of competency suitable for entering college. Such assumptions form the bases for content selection of the entry-level courses. The validity of these assumptions has, fortunately, been challenged and, unlike many of the more traditional institutions, the community/junior colleges have adopted an open admission policy – with admission criterion being a high school diploma, or its equivalent, or a minimum age. This policy has created an awareness that many students who may choose the community/junior college will not be able to achieve at the expected competency level. Problems arising from many students' inability to achieve at the assumed college level caused the institutions to seek some means of helping the students to fit the college's mold. This resulted in the development of remedial programs and courses prescribed for those students not meeting certain standards as determined by the standardized or institutional prepared tests. Remedial programs attempted to raise the competencies in the basic skills, primarily reading.

The early reports of remedial programs did not show a great deal of success. This was due, in part, to the lack of adequate evaluation, weaknesses in program structure, and lack of strong institutional commitment. With the advent of Federal support for programs designed to assist minorities and other students with academic deficiencies, remedial programs were expanded but remediation as a concept was disavowed. Students needing remedial services were given new labels such as "disadvantaged" or "marginal." The new programs were labeled "compensatory."

The philosophy of compensatory programs was conceived in broader terms than the old remedial programs. Compensatory programs were intended to provide those types of educational experiences which students had missed in their secondary school programs. It was believed that the skills they lacked could not be successfully developed in the process of remediation; instead, it was necessary to compensate for the fact that these students had never had an opportunity to master these skills. Therefore, compensatory programs included instruction in reading, writing, grammar, mathematics, study skills, listening skills, and socio-personal growth skills. In fact, compensatory programs developed into a complete pre-college curriculum. They were called by many names, such as: Directed Studies, Basic Studies, General Studies, and many others whose acronyms have become very popular as a result of publicity received.

Some of the compensatory curriculums were offered for a summer term only, some during the regular school term, and some were housed in separate facilities. At some community colleges, students were placed in compensatory programs as a result of test scores, and were required to remain in the program for certain periods of time whether success was demonstrated or not. Some colleges permitted students to choose the compensatory program and to move out of it when success had been demonstrated.

The most notable features of the compensatory programs were the attention given to the nature of the student entering the program and the emphasis upon selecting and training teachers especially for the program. The socio-personal components of the compensatory programs were designed to help the student develop more positive feelings about self-worth and to become more confident in social interaction situations.

Compensatory programs, as with the old remedial programs, were not thoroughly evaluated. In design, the objectives were to help students adjust to postsecondary educational experiences and to provide supportive counseling services for socio-personal growth to sustain academic progression. The ultimate evaluation was whether or not students, on completing the program, were successful in the regular college courses. Because of a lack of articulation between the compensatory program and the "regular" college programs, many students who successfully completed the compensatory program were not successful in "regular" college courses and often dropped out of school. This occurred more often with those students who moved from the environment of a complete compensatory program than with those students who were in some "regular" college courses with compensatory support in basic skills — reading and mathematics.

The lack of substantive evidence to measure the success of compensatory programs, and the establishment of supportive special services through Federal assistance for academic and counseling support for students in "regular" college programs, caused many community college curriculum planners to reassess their programs for students with academic deficiencies. Another event which added impetus to this reassessment was the entry of large numbers of veterans into the community college. Added to this was the rise in the age of the average community college student because many women, senior citizens, and other adults were enrolling for training or retraining.

DEVELOPMENTAL APPROACH

The reassessment of the community college curriculum in order to more effectively serve the non-traditional student is still in the developmental process. The most promising effort so far is the conception of the developmental approach to curriculum and instruction. Because evaluation is an integral part of the total design of developmental education, this approach is successful in helping students to progress more successfully toward their academic and personal goals.

The developmental approach is not new; rather it is an application of many ideas about curriculum design and instructional practices growing out of a synthesis of what is known about learning theory. All education is developmental; that is, the educational process is designed to promote individual growth. Using this as a basic postulate, curriculum planners and instructional designers in the community/junior college have focused attention upon developing educational experiences for the non-traditional or developmental student (marginal student, adult student, disadvantaged student, new student, etc.) which would address their developmental needs.

These programs have been designed to take into consideration a variety of developmental needs of the non-traditional student population. They have also attempted to more directly address what we know about how students learn.

In considering developmental needs of students, it is necessary to focus upon both the product and the process. The product, the student, must be considered in light of what is known about how students learn. Community college educators are aware that students will achieve their own goals if they perceive their goals as attainable, valuable objects for themselves and if they have well-defined directions which they are capable of carrying out. Students who are successful in attaining their goals are more capable of demonstrating those competencies which are recognized as "adequate" for their chosen disciplines.

The process of goal attainment must: (1) involve the identification of the necessary competencies for successful goal attainment; (2) provide a variety of modes for such attainment; and (3) determine means for intermittent feedback of successful progression toward attainment.

DEVELOPMENTAL STUDENTS

With this as a basic philosophy, the colleges have first initiated student assessment programs in order to determine the students' assets. Researchers such as Patricia Cross, John Roueche, William Moore, and many others have pointed out that the non-traditional student needs assistance in identifying his own goals, both long-term and short-term. Career planning and personal growth activities should be the first components of the program designed for these students. The students should be involved in activities which will help them to see themselves as future careerists and to see what personal attributes they possess – and will need to possess – in order to successfully pursue their chosen careers.

Such personal and career assessment involves more than exercise based upon published data; it must also involve the student in some direct observations or entry-level participation in the career field of his choice. This is necessary for developmental students because many of them lose interest in abstractions and are concerned with the immediate practical application of a learning experience.

There should be some interactive experiences which will help the student understand what personal attributes are important in career preparation. Developmental students are products of a variety of backgrounds and subcultures which may not necessarily provide them with the socio-personal skills needed for academic pursuit, nor for a successful career.

In order to accomplish their aims, the students need to be introduced to a planned program of career exploration which would involve career information assessment (cognitive based), socio-personal attributes assessment (affective based), and analysis of past achievement patterns. Further, developmental students should be provided with opportunities to gain direct experiences related to their chosen careers in order to be assured that their choices are based upon realistic appraisals of the careers and of themselves.

DEVELOPMENTAL INSTRUCTIONAL ACTIVITIES

The next important component of a developmental program is the structure of the processes leading toward goal attainment. The processes involve those supportive and instructional services which are designed to promote student mastery of the competencies necessary for goal attainment. The developmental supportive services focus upon those types of activities which undergird successful execution of the learning activities leading toward competency. Such services include personal and social adjustment activities, self awareness and behavior modification activities, and tutorial or laboratory academic activities.

It has been shown in many studies of community/junior college students that positive feelings of self-worth contribute toward academic achievement. It also has been demonstrated that where students have problems with achieving mastery of content competencies, tutorial or laboratory assistance has been a great help in solving these problems.

Developmental instructional services are based upon the position that students differ in levels of cognitive attainment, in their manner of processing cognitive data, and in their rate of academic growth. This position assumes that in a given learning situation, the personality and teaching style of the instructor influences the amount of student growth. Here, a note of caution appears to be significant. The developmental approach does not imply that the instructor can deal with all of the variables operating upon the student; neither does it imply that the student will not assume responsibility for his or her own growth. It does imply that students are different and that when their differences are accounted for in the instructional process, the student will select those strategies which will facilitate the achievement of his or her goals.

The instructional component should be planned to make provisions for individualization. Individualization in this sense is best described by Paul L. Dressel in his new book,

Handbook of Academic Evaluation. Such individualization may take a variety of forms; some forms may be student-determined and some forms may be determined by the student and the teacher together. Whatever form the individualization process may take, there are some basic steps which are common. In a developmental instructional program, student assessment data should be of primary importance in the planning stage. Such data should include information on the student's past academic successes, relevant age-related experience information, self-concept data, learning style including rate, career goal, and any other pertinent data. This data, along with preassessment content data, will provide the instructor with the necessary baseline data for determining course content objectives. This data will also make it possible for content objectives to maintain the standards for mastery, but will also ensure the relationship of objectives to student goals and student needs. Because of the diversity of the developmental student — levels of attainment, age, socio-economic status, etc. — course objectives must have personal or goal-related meanings in order to maintain motivation for achievement.

After the instructional goals have been developed, the teaching strategies or learning activities are designed. Then the developmental student and the "regular" student may be separated. This separation is not an obvious setting apart of students in separate classes, but rather a natural separation within the "regular" college class arising out of student choice. This occurs because the instructor provides a variety of teaching strategies or learning activities designed to address a variety of learning styles and learning rates. Individualized modules may be used; learning contracts may be developed; audio-tutorial modes may be offered; and many other types of learning alternatives may be available to the students. Individualization of learning activities does not exclude group sessions. The developmental approach takes into consideration that students have varying learning styles -- some may be field dependent while others may be field independent; those students who need structured teacher-directed class sessions, or those who may need small group discussion sessions, are provided with these alternatives.

The instructional strategies used with developmental students are not limited to the classroom or the campus. Because many developmental students are concrete operational-oriented, hands-on experiences, direct observations, and personal involvement in community projects are included in the alternative learning activities.

Instructional planning for developmental students makes provisions for rates of learning. This is often the most difficult part of the planning process because some community/junior colleges are bound by the traditional time blocks and grading practices. In spite of these constraints, instructors have worked out many ingenious plans for allowing students who master the compentencies of the programs before the end of the designated time period to proceed at another level of competency. For those students who need more time than provided by the regular schedule, independent study and personal counseling are provided. Additionally, when time blocks and inflexible grading systems are held sacred by the college (and the computer), some instructors have used the magic "I" (incomplete) to allow students time to attain mastery.

INSTRUCTORS FOR DEVELOPMENTAL PROGRAMS

It is generally recognized that the instructor in any type of teaching-learning situation is the one who makes the differences. In selecting instructors who will participate in developmental programs, it is necessary to seek out those instructors whose teaching styles match the demands of the developmental approach. The personality and teaching styles of some teachers are more suited to a traditional approach to instruction and such instructors would be very unhappy and unproductive in a developmental instructional program. Instructors who are devoted to content mastery only, and who have undefinable expectations for first-year college students, usually find the developmental approach too taxing and unrewarding.

Many community college teachers are either unaware of the importance of the effective domain in promoting learning or are too content-oriented to plan learning activities which promote affective growth. In a developmental instructional program, instructors provide affective learning activities as an integral part of the cognitive learning activities.

It cannot be assumed that the teaching participants for developmental programs are easily identified. It must be determined during the planning stages that the developmental staff will be involved in continuous professional development activities supportive of this approach to instruction. This involvement will provide opportunities for collaborative planning to meet special needs of students, for acquiring and exchanging new ideas, and for the reinforcement of ongoing successful activities. Through a professional development program, the college would develop the means for rewarding successful teaching behaviors. It is important that some form of teacher reinforcement be provided because so often it is forgotten that teachers need tender loving care. The developmental program instructors especially need to be reminded that the college is aware of this great physical, emotional, and intellectual output and that the college, as well as the students, appreciate their assistance.

The developmental instructional design represents an attempt to synthesize the following basic ideas:

- *Each student is different but each must find his place in the total society.*
- *Students learn at different rates and the rate may differ from one content area to another.*
- *Each student processes data cognitively in a different way, often according to the type of data processed.*
- *Students maintain high motivation for learning meaningful, goal-directed information.*

- *Instructional strategies must address the learning strategies and learning needs of the students.*

- *Tender loving care should be given the instructor because the instructor really makes the difference.*

EVALUATION OF DEVELOPMENTAL PROGRAMS

Basic to the planning of a developmental program is the development of an evaluative design. This should be a two-part design reflecting short-range and long-range evaluation. The short range design is concerned with student progress toward mastery in the cognitive and psychomotor domains and changes in the affective domain. Progress in the cognitive and psychomotor domains is usually determined by criterion-referenced instruments. Since each instructional unit is planned to include preassessment measurements, performances, outcomes, and diversified learning activities or strategies, criterion-referenced postassessment appears to be the most effective technique for measuring student progress. This type of evaluation serves as a motivating force for developmental students because they can easily discern how far they have moved toward mastery and the remaining distance they must cover. The student sees himself in terms of his own movement rather than as belonging to a group's movement and because of this lack of comparison with a group, there is less chance of the student becoming a victim of the failure syndrome.

The evaluation of short-range affective goals may be criterion-referenced measures which have been adopted to measure attitudinal change. Such adaptations usually are in the form of an opinion poll, a questionnaire, or simulation. The simulation technique is by far the most interesting and often reveals more about attitudinal change than any other form of measurement.

Long-range evaluations are designed as on-target and post-target measurements. The on-target evaluation deals with measurements related to the achievement of the student goals; that is, whether the student met his/her goal objectives, transferred the number completed, or accomplished a high rate of completion and level of achievement. The post-target evaluation is concerned with determining the success of the developmental student after leaving the community/junior college. It should include information on what the student is doing, how well the student is performing, and the student's perception of the relevance of the developmental program to his/her success, and suggestions for improving the program.

Operating procedures should include some means for disseminating the results of the evaluation for, unlike the traditional programs of the college, the developmental program must continue to demonstrate its effectiveness. Many colleges and many college

instructors still cling to the idea of separate, pre-college remedial programs for non-traditional students.

The promise of developmental programs for meeting the needs of veterans, matured women, senior citizens, minorities, and other groups with some academic or socio-personal deficiencies is being fulfilled in many community colleges. The success experiences of these colleges has been greatly enhanced by institutional commitment through the allocation of adequate financial assistance to the student and adequate resources to the program.

A closer look at the organizational and operational structure of developmental programs would reveal that such programs could be the most dynamic approach for teaching not only developmental or non-traditional students, but also for providing an effective program for all postsecondary students.

CHAPTER IV

PENN VALLEY COMMUNITY COLLEGE LEARNING SKILLS LABORATORY: A RESOURCE CENTER FOR DEVELOPMENTAL EDUCATION

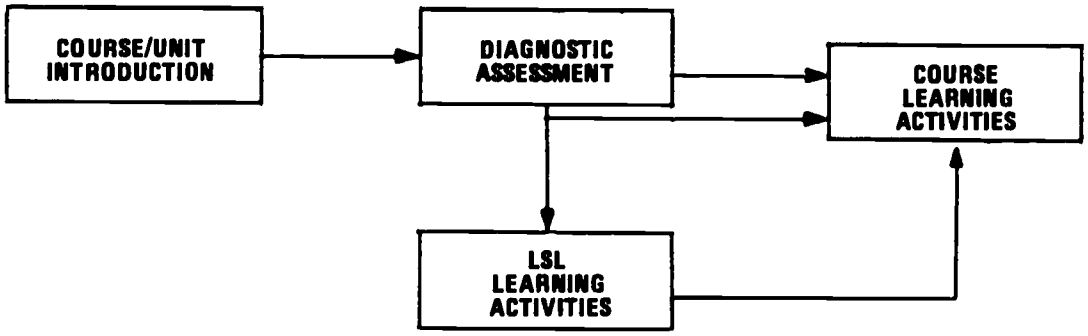
Dr. Marge L. Ford

IV. PENN VALLEY COMMUNITY COLLEGE LEARNING SKILLS LABORATORY: A RESOURCE CENTER FOR DEVELOPMENTAL EDUCATION

Dr. Marge L. Ford

The Penn Valley Community College Developmental Studies Program, funded by AIDP Title III, has attempted to integrate the developmental educational concept into the mainstream of the college. Faculty members in all divisions have worked diligently with the Coordinator of Educational Development to develop a learning laboratory concept as a classroom resource to help take the student from "where he is to where he wants to be."

The Learning Skills Laboratory (LSL), which began operation in late September 1975, has become an extension of the classroom, especially in math and English courses. The faculty has identified the remedial skills components for its courses, and individual students are channeled into the LSL to correct diagnosed deficiencies. The process is diagrammed below to depict how students entering a course or a unit of work are tested to determine if they have the basic skills or knowledge to succeed in the course or unit learning activities. The student may complete the LSL instructional activities, as prescribed by the faculty members, before progressing in the course activities, or may complete both course and lab concurrently.



The LSL is under the direction of the Coordinator of Educational Development in Academic Affairs. Faculty members are assigned by the Dean of Academic Affairs to the lab for the purpose of developing and testing materials. These faculty members, who receive three to six hours of released time, also tutor and counsel students. The lab will eventually serve all content areas; however, at the outset, it has served primarily English and math courses. Two English instructors and one math instructor received released time to work in the LSL during the 1975-76 school year. The lab also employs two clerks and eight paraprofessionals on a part-time basis to manage the resources and to tutor students.

The Learning Skills Lab is set up on a diagnostic, prescription basis and the materials used in the lab must meet specific learning needs of the students. Materials may be those which can be used for mini-courses for remediation, review, or reteaching. The lab addresses itself to students who lack basic skills or who have problems with the content of a course.

The LSL materials and activities are structured in a modified PSI (Personalized Systems of Instruction) method, a technique which has proven successful for structured independent learning situations requiring individualized interaction and feedback. F.S. Keller, who developed the PSI concept, points out that students in PSI learning situations "have not only been found to learn more than students in conventionally taught courses, but the latter group also reported that they would be interested in taking courses organized in a similar fashion. PSI courses typically emphasize such components as goal specification, required criterion performance, frequent quizzing, proctors, and self-pacing."[1]

Materials selected for use in the LSL are divided into modules which are, in turn, divided into smaller units. These units teach one major concept and the related parts (components) of that concept. Each module includes a pre-test to determine which units the student must complete. Also, the unit has an interactive response system which requires a defined response for learning; thus, the student must respond to the material if he is to learn. There is ample oppo: tunity for interaction, testing, and feedback in each unit. If the student encounters difficulty with the material, he receives immediate help from a paraprofessional or faculty member. The student is directed in a one-to-one basis in whatever activities are necessary for him to achieve at a 100 percent competency level.

Penn Valley offers developmental courses in reading, math, and English, which are basic, non-credit preparatory courses. Counselors or advisors recommend that students take these courses based on student responses to questions on a self-assessment instrument. There is a wide range of abilities in the students who enroll in the courses, and it is impossible to meet all their instructional needs within the classroom setting. Faculty members identifed what would be taught in the developmental courses and what support materials would meet the diversified needs of the students.

Considerable time and careful study have gone into the selection of the math material. ***The Arithmetic Module Series***, by Thomas McHale and Paul Witzke, was chosen because it could be easily adapted to the PSI format. A diagnostic test is given in courses in developmental math, intermediate and college algebra, meteorology, and beginning accounting. The test is keyed to the four modules (whole numbers, fractions, decimals and percent, and ratio) of the ***Arithmetic Module Series***, and students are expected to pass with at least a 70% level in each section of the test. Using test results, faculty members prescribe the modules that students must complete in the LSL.

An algebra proficiency test is also administered to students in transfer algebra courses. The developmental math course, which has a PSI format, permits the student to work in the needed modules as determined by the algebra proficiency test. It is highly recommended that students who receive below 60% on the algebra proficiency exam reschedule themselves into the developmental math course, which can be taken in the LSL or in a traditional classroom setting. Additional self-study math materials are also available for the students' use as review or reinforcement in the college transfer courses.

English faculty members have identified 45 composition skills modules which students should have mastered at the end of the transfer composition course. Materials from a number of publishers have been assembled in learning packages for each module, using the PSI format. A module may have up to four different packages which will provide additional reinforcement or practice for the student having difficulty with a skill.

A diagnostic test is given to students in developmental and English composition courses, and the instructor, based upon the test results and course objectives, prescribes the package of work to be completed. The packages are being field-tested, but only a small number of English faculty members utilized them last year. Extensive research will be undertaken next year to determine if the materials are meeting the students' learning needs.

The LSL served 462 students during the Fall semester, and 889 in the Spring. Four hundred and seventy-one students worked in math modules. Ninety-one percent of those students who completed the prescribed lab work achieved a C or better in their math or math-related course. (The complete statistical analysis of the Spring, 1976 LSL activities will be published August 1st. The report will include an analysis of diagnostic data, time spent, tasks completed, student expectations, and grades.)

It appears that the LSL at Penn Valley is achieving its objectives. The lab is concerned with student learning and requires that the student accept the responsibility of mastery of content. Concerted efforts are being made by staff and faculty to help students understand the reality of their learning needs, and to assure them that all possible help will be provided to enable them to reach their goals. The philosophy of the lab permits options to be kept open so that the student can progress toward and achieve personal educational goals according to his own motivation.

To realize the full potential of the LSL, it is important that instructors see the lab as an extension of their own teaching function, and as a useful component of the total instructional process. As faculty members assume this responsibility and more courses and programs are added, we can be assured that we are increasing the probability of student success at Penn Valley Community College.

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CHAPTER V

DEVELOPMENTAL EDUCATION: TOWARDS A MODEL

Dr. John E. Roueche

V. DEVELOPMENTAL EDUCATION: TOWARDS A MODEL

Dr. John E. Roueche

THE NEED: GREATER THAN EVER

The contemporary community college faces the challenge of promoting learning in a student population that is increasing in diversity as well as in numerical size. The interaction of these two factors results in increased numbers of students who possess similar characteristics but who traditionally have not been served by the college in such sheer numbers as loom ahead. If, in the past, a college had its occasional "non-high school graduate," today many more come into its doors, and tomorrow's technological change promises a multitude. If, in the past, a college had its occasional blind or wheel-chair student, today it has its few, and tomorrow will bring more. If, in the past, the college had its occasional "Negro," "Mexican," and "Indian," today it has many Blacks, Chicanos, and Native Americans, and tomorrow's thrust toward equal opportunity promises a surging tide of minority students. Thus, the "nontraditional" student we typically hear about today is herein introduced. He is one or more of all of these: a non-graduate of high school, an older person, physically handicapped, from an ethnic minority, and/or from a low-income neighborhood.

Another type of individual that we must consider in defining the "non-traditional" student is the one who is a recent high school graduate, most probably white, and, perhaps, middle-class, but who scores low on "achievement" tests given by the college. He is labeled "under-achiever" or "high-risk" and is placed in "remedial" or "guided studies" or "developmental studies" classes, which usually results in his remaining a nontraditional student in the sense that he often becomes a non-student. There are, of course, other types of "nontraditional" students that are now or soon will be entering the community college.

The following may be some of the reasons why the nontraditional or "new student" will be coming to the community college in increasing numbers: technological change that makes obsolete some jobs and creates new ones, "credentialing" or "the certificate society" that requires more and higher level certificates as evidence of job qualification, and equality of opportunity. These reasons are not independent of one another and may be argued to lie in a casual relationship. Other and perhaps more deep-seated reasons may be suggested and argued by some, but it is sufficient here to observe that such pressures as those mentioned have contributed to the phenomenal expansion of the community college over the last two decades to serve a wider clientele than the four-year colleges were and are now serving. If, in the past, America was called the melting pot because it offered a home to people of all creeds, colors, and nationalities, the community college is fast becoming the melting pot of higher education by offering post-

secondary education to all. At least, it has the opportunity to do so if it can successfully face the challenge that this opportunity represents. For we must ask, "Will the community college only provide another level of 'schooling' for the society?" in the sense that education authority Ivan Illich refers to, or will it provide measurable learning and an education for the individual? In another way, will the community college "salvage" and provide learning that leads to social mobility and true opportunity for all, or will it simply provide "custody"?

Upon one point almost everyone agrees – it is not likely that the community college is going to produce results if it stays with its "traditional" instructional methods, organization, curriculum, and staffing. Community colleges have been most successful to date in being "custodians" rather than "salvagers" of students. The organization and instructional methods traditionally utilized by the public schools and often copied by the community college, and that produced the "drop-outs" or the "under-achieving" high school graduates (indeed, the 26 million illiterate American adults are not likely to succeed where before they failed [Cross, Roueche, Moore, Cohen]). However, one cannot simply grab a new concept in organization or method, untried and untested, when results are clearly being called for.

WHERE TO BEGIN

The individual teacher is, for all intents and purposes, the key to the design and implementation of an effective program for the students we have described.

It is crucial that the college, the president, dean, and even the trustees value the need for such a program. Somebody in the organization has ***to decide*** to effect a model that overcomes the deficiencies of the educational experiences that students bring with them to the community college. It cannot be a patchwork operation. It cannot be sustained with yearly proposals to the U.S. Office of Education. It demands institutional priority and requires dollar commitments. Rarely can the teacher make these decisions. The college leadership must decide what ***can*** and ***will be done*** for the "new students."

Once the college has decided to create and support a developmental program, the teacher is the key to effective program design, given of course, continued administrative interest and support.

Illustrated here are the various decision roles that teachers play and how those decisions impact upon the students to be served.

1. WHAT IS TO BE LEARNED?

No individual in a college has as much influence in determining the content for any course as does the instructor assigned to teach it. It is the individual teacher who

decides *what* is to be learned, *where* the course will begin, and *whether* students will have any input to the decision or not. The following illustrate this point:

A teacher in a developmental program recently remarked in front of her faculty colleagues that her efforts to individualize her developmental English course had failed miserably and she felt bad for having tried a different approach. Asked if she had her course with her, she indicated that she had her syllabus. A sample unit was provided to see if any difficulties with the materials or the instructional design could be discovered.

The teacher presented a sample unit from her syllabus entitled "Sonnets." The shock of a unit on sonnets for developmental students is obvious. The teacher was asked, "Do you write sonnets?" She replied, "I can write a sonnet." When countered with, "How long has it been since you last wrote a sonnet?", she indicated that she had only written them for class requirements in graduate classes. This was even more dumbfounding. The teacher was then asked, "*Why* would you select 'Sonnets' for study with developmental students when you as a professional don't engage in the production of them?" She looked amazed and said she had never really thought about it that way. She indicated that she had always included "Sonnets" in her introductory course.

Or take the case of a community college's math faculty who complained about the students' lack of motivation to learn math. The faculty also indicated that their students experienced high attrition and low achievement. It was later found that the career-related instructors were unhappy over the math fiasco. Their career students were required to take three or more hours of math, but were developing none of the math skills required in career courses. The students were frustrated and discouraged at having to take a course for which they could see no practical value.

It was suggested to the math faculty that they confer with the career faculty to determine the math skills and applications that are needed in trade (technical) courses. They began the process by meeting initially with the air conditioning/refrigeration faculty. The first session resulted in scores of math applications needed by air conditioning students -- applications that had never been taught by math faculty before this time. The visitation process continued and several improvements were readily observable.

First of all, students were learning math which they would need and could apply in the shop the same day. Their performance in shop also improved but, most importantly, students began to see and appreciate math. It now had value to and for them. The career instructors were pleased with the "good work" now being accomplished by the math faculty and the math instructors were delighted with the improved student motivation and good attitudes they observed.

All of the changes hinged on the willingness of the math department to find out *what* students should be learning. So many times we do not really think about content decisions.

We adopt a textbook and "cover" it. Few teachers really utilize the free dom they have as content determiners to get students "hooked" on content early in a course.

Content selection can be the most powerful incentive to student motivation and significant learning. This point can be illustrated with another actual case sample. This writer recently was invited to evaluate a jail release program in a Southern community college. All of the students were in developmental curricula since most of them were illiterate. The students were 97 percent Black and over three-fourths of them were "long-termers." The program director, an elderly Black woman, met the evaluator at the airport and began the discussion by relating that she was conducting the reading classes. She went on to explain that she had no practical knowledge of reading or of technique sfor teaching reading. She did say, however, "THe boys are reading and seeming to enjoy it." The boys were reading, to be sure. That afternoon scores of men were observed in a relaxed reading area "reading." It was learned that they were there on their own time because they *chose* to be there. The evaluator had assumed that they would be reading comic books and other visual-based books. On the contrary, they were reading hardback books: *Soul on Ice*, *The Fire Next Time*, and *Another Country*. When amazement was expressed at the choice of content given the students' tremendous deficiencies in verbal skills, the instructor responded, "Dr. Roueche, these men are going to read these books." Each student had a pocket dictionary and they were looking up the many new and unfamiliar terms, but they were reading!

This wonderful woman had selected books that verbalized all of the thoughts and feelings these Black prisoners had developed while in jail. They were valuing the material and "enjoying and appreciating" reading. She had touched her students' value base right from the beginning. She started where she knew they were.

Two key principles in content determination are illustrated by these examples. To get students to *value* content, the material either must have perceived practical utility and/or be of interest to the learner. If students learn early that content can be useful or related to their own interests and values, they will want to learn the material. In fact, they will likely go beyond that which is required.

What is to be learned is infinitely more important than how it is to be taught. Educators are only now expressing some concern over what can be called the "unintended outcomes of learning." Sometimes, when teachers get students to learn subject matter, they also teach them to dislike the learning process, or they do it in a way that injures students' self-esteem. Consequently, "effective teaching" should not be judged by a single criterion, such as subject matter learning. Multiple criteria should be assessed simultaneously, such as effects on students' self-concepts, effects on attitudes toward learning, and effects on students' abilities to cope effectively with problems on their own initiatives.

2. HOW SHALL IT BE TAUGHT?

Again, the teacher makes the crucial decisions regarding instructional delivery. It would be unfair to hold the teacher totally responsible for all the variables involved in deciding instructional procedures. For example, the college may require that grades be turned in by semester's end. An individual teacher may not be able to reverse college policy single-handedly. The key question is, "What will the teacher do to accommodate student needs within the time available?" While the teacher may not be able to extend time beyond a semester for her students, she can decide to make more time available for instruction during the semester. These are the daily instructional decisions that teachers can make or choose to ignore.

As a result of a three-year study funded by the National Institute of Mental Health, Professor Oscar Mink and Dr. John Roueche have substantiated that the most appropriate system for helping students who enter the community college with an array of deficiencies developed through years of failure, and who do not try because they do not believe they can succeed, is an individual learner-oriented instructional system.

Empirical evidence from the study indicates that students in the participating project are staying in school with high retention rates, good achievement and, most importantly, new perceptions that they can succeed in college and that they are okay as human beings. The keys to success are: (1) the systematic design of the total learning environment; (2) the provision for multiple levels of entry into carefully ordered instructional sequences; (3) staff involvement personally and professionally; and (4) an openness to approaching specific problems (grades, dropouts) on generalized, fundamental levels (locus of control).

Individualized instruction means that learning is geared to the present capabilities of each student. Students come to community colleges with a variety of abilities, knowledge levels, and perceptions. If they expect to fail, it is because they have failed in the past. The only experience which will create an expectancy to succeed is actual success. Individual instruction is designed to permit each student to achieve success one step at a time beyond his present level of cognitive and skill development. At first, the steps should be well within the reach of the student so that success is guaranteed. The basic strategy being advocated is a systematic design of several skill development sequences arranged in graduated learning steps from the simple to the complex (e.g., be able to write a grammatical phrase, sentence, and then a paragraph).

Furthermore, students should know exactly what is expected of them. Arbitrary payoffs lead to development of external orientations. If students receive a detailed description of steps necessary for program (or unit) completion, they will, perhaps for the first time, know they must take action to complete the program and, very importantly, they will know which specific actions are necessary. Consequently, the relationship between behavior and payoff will be made clear. Basically then, each educational strategy takes advantage of four propositions: (1) the student's ability to act; (2) the psychological-social learning situation; (3) a payoff; and (4) the student's evaluation of the payoff.

Individualized instruction should also take cognizance of the mastery learning concept and the preceding four fundamental requirements of Rotter's social learning model. Means for determining performance standards (criteria) must be made clearly and objectively. The student may then be involved in self-assessment and evaluation, a further boost to establishing internality. Each student should be evaluated against performance criteria and student performances should never be compared. Good behavioral sequencing in the instructional design should enable each client to move from the level of skills possessed at the time of program entry to the established performance standards. Criterion performance, not time, is the determining consideration.

The Mink-Roueche study involves a sample of 1,200 students attending participating community colleges. The basic research design examines the main effects of: (1) instruction, either self-paced or traditional; and (2) counseling, either composite or traditional. Half of the schools in the study have converted 50% of their courses to self-paced instruction, while the rest are using more traditional approaches. Half of the schools have counselors specifically trained in methods shown to be effective for causing E to I (externally to internally) shifts, while the rest are using traditional counseling methods. The third year of the study is now being completed, and substantive data from those students who began in community colleges last year is being received.

According to the hypothesis tested, significant gain scores (representing significant shifts toward internalization) were observed more often in students receiving individualized instruction than those receiving traditional instruction. Students enrolled in individualized courses scored more homogeneously on control expectancy scales than students enrolled in more traditional courses. Also, the average increase in internality was in excess of three skill points, indicating overall movement in the direction of internal control orientation. Individualized instruction does produce a shift toward internal locus of control in students, if at least a period of one semester is involved.

It is important to emphasize here that the form of instruction (methodology and the like) may not be as important as the students' perceptions of the teacher's behavior and their perception that the teacher is endeavoring to help students succeed. A teacher who is willing to develop materials, specify objectives, and accommodate individual differences is simply showing his students that he is willing to make learning possible. More than this, he also is indicating that he "cares" about his students to the extent that he is willing to go extra miles in an effort to help them succeed.

3. WHAT SHALL THE ENVIRONMENT BE?

In the March 1972 issue of the *Community and Junior College Journal*, an article by Dr. John Roueche, entitled "Creating an Environment for Learning," appeared. This article attempted to depict the essence of a caring and therapeutic environment in which good learning (growth and development) can occur. It is absured to emphasize here that

some teachers still engage in the deliberate setting of failure expectancies. For example, it was only two years ago that an instructor in a college not far from Austin explained to his students that most of them would not do well in his class. He elaborated that he had been at the college for ten years and that most students simply did not have the intellectual ability to handle the content he was teaching. He then indicated to the students that they could do something about it, that they did not have to fail. He said to them, "You can drop the damn course, and you can do it right now."

After this particular session, the instructor was queried as to his most pressing problem in teaching community college students. He responded without hesitation, "These students just are not motivated; they do not even *try* to learn." Remember that this remark came from a community college teacher who had just indicated to his students that he was going to kill 50% or more of them. Little wonder that his learners were not willing to try! They had already learned that when the authority (the teacher) did not think they would do well, there was little chance of their reversing that expectation. Students who have learned to fail really see little relationship between their own behavior and what is happening to them in their world. We call these individuals "externals," and they believe it is the "powerful others" that control what happens to them in their daily lives. So, when a "powerful other" — the authority in the classroom — communicates a failure expectancy, a failure-oriented student quickly buys into it. The point emphasized here is that teachers determine the environments in which their teaching occurs and, hopefully, where student learning occurs. We can decide as teachers either to facilitate student growth and development, to encourage cooperation and compatibility, to utilize positive reinforcement, and to assist in this process, or we can decide to have environments that are competitive at best, and that encourage student cheating, student attrition, and low student performance. The following illustrates the kinds of teacher behaviors that facilitate an invornment conducive to the needs of low-achieving students.

Teachers Need to Get Involved with Their Students

This involvement presupposes that teachers will know the names of learners; this means knowing the name of every student by the end of the first week. Some teachers respond to this suggestion with the comment that it is impossible to learn the names of all students that quickly. The truth is that anybody can learn the names of several hundred students during the first week of school if that is an important priority. In fact, in the NIMH study just completed by Oscar Mink and Dr. Roueche, significant relationships were found between the amount of time that teachers are willing to spend early in the semester in getting involved with students and in the amount of content those students are later able to master in the semester. In fact, those teachers who invest heavily of themselves and of their class times initially indicate that their student learning ratio is greater than that of those teachers who plunge immediately into content matters.

Knowing the names of students and getting involved with them communicates to the student that the teacher is interested in the student as a person, as a human being. It focuses the proper attention of learning upon the learner, rather than upon the content. Students want to be valued as individuals, and for a teacher to indicate that students are important is one way of getting the student involved meaningfully with whatever the content might be.

Teachers Communicate Expectations Daily by Classroom Behavior (the Overall Environment)

This writer has visited many classes where teachers utilized "classroom discussion" methods of teaching. What actually occurred was that the teacher talked about 75% of the time and perhaps four or five other students participated in the classroom discussion. By far, most students were uninvolved, passive, and not very attentive (certainly not valuing the actual class activities).

It is important for teachers to get all learners actively involved in the process. Knowing the names of students to the point that students can be called upon is important, but also being aware that the teacher's role is to get students actively involved is an important consideration in the kind of environment that is indicated as needed. Classrooms where the minority students in the class were not called upon at all by the teacher for an entire class session while other students were called upon four or five times have been observed. The teacher called upon those students that she ***believed*** knew the answer and would respond correctly. All of us know that teachers like to call upon students who will answer the questions correctly. What the teacher is communicating simultaneously to the other learners in the classroom is that she has some doubts about their abilities and/or whether or not they can respond with the correct answer.

Some teachers touch certain students and obviously do not touch (perhaps even avoid any direct contact with) others in the class. This behavior communicates more than any words what the actual expectations of the students are. Not only do we need to be aware of this teacher phenomena, but consciously try to make sure that we communicate positive regard for all of our learners every time the class is together. Caring is communicated to students by behavior.

Here, we need to make a distinction between "saying the right thing" and "doing the right thing." Almost all teachers indicate on questionnaires of teacher attitude and the like that they honestly "care" and that they are willing to help students learn, grow, and develop. It is necessary to emphasize that ***caring*** is more than a verbal affirmation. Caring is our daily behavior and it is our behavior more than anything else that communicates to people who and what teachers really are. Keeping one's commitments and engaging in activities that communicate to the student that you really care about him are the keys to implementing a caring (therapeutic) environment.

Oscar Mink and John Roueche have been looking at the impact of individualized instruction and innovative counseling on student motivation. They have found that both strategies positively affect students' perceptions of themselves and of their abilities to succeed. What has also been found is that it is practically impossible to isolate any single variable (such as the writing of learning objectives) as it relates to the overall outcome of increased student persistence and better achievement. Students react to these behaviors as evidences that teachers really *care* – that is, that the teacher is doing things to help students learn. Each of us can take the initiative with our students in communicating to them that we care about them. Our behavior speaks louder than our words.

Another example can be cited here. A recent visit to Santa Fe Community College's innovative Developmental Studies program revealed that 90% of their developmental students who commence a school year in September complete the experience and are in school the following May. When asked about various strategies utilized by the staff to promote this fantastic retention, it was found that teachers and peer counselors take the responsibility of visiting a student the first time the student is absent from class. An individual college teacher taking the initiative to go and visit the student and to express concern about the student's absence is quite unusual. The teacher also takes along the assignment sheet for the next class period and elicits a commitment from the student to be present. Caring and the real expectations we have are communicated by our behavior.

It is obvious that our list of environmental factors could go on and on. Attention should be called to another article written by Oscar Mink and John Roueche which goes into some detail with this particular discussion. The article is entitled "Toward Personhood Development in the Community College," and was published in the Spring 1976 Issue of the *Community College Review*.

PUTTING IT ALL TOGETHER

As a result of a new National Study of Developmental Programs around the country (including both two- and four-year colleges), the extent and involvement of developmental programs in all institutions is impressive. Practically every four-year college and university today has some "offering" and/or "special services" for nontraditional students who are enrolling in increasing numbers. Even more important, it has been found that some colleges and some teachers have created environments and learning situations where students actually stay in school to program completion, enroll for a second semester, earn grades that are comparable to the grades earned by other students not in developmental education, and that these students indicate some overall enthusiasm and happiness with schooling for the first time in their lives.

It would be wonderful if the "state-of-the-art" in developmental education could be reported as excellent at the present time. Unfortunately, it cannot. This writer is convinced

that we are still doing ridiculous things to students, that we are not willing to abandon our content orientation, and the syndrome that the teacher is the most important person in the classroom -- even in an effort to help students become involved in the succeeding college.

What is significant, however, is that a few colleges are really doing an outstanding job with our most difficult client. The models are there and the technology is available to help students succeed and to be successful. The real question is, "Do we want to really do anything about it?" If so, all we have to do is to ***decide*** that we are going to design and implement effective programs. Not only can it be done, it is being done in innovative programs across the country.

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CHAPTER VI

DEVELOPMENTAL STUDIES AT SANDHILLS COMMUNITY COLLEGE

George Lewis, Richard Lewis, Arthur Spong, and Dr. Norwood Taylor

VI. DEVELOPMENTAL STUDIES AT SANDHILLS COMMUNITY COLLEGE

George Lewis, Richard Lewis, Arthur Spong, and Dr. Norwood Taylor

Sandhills Community College does not have a self-contained developmental studies program which exists as a separate entity. Several years ago the college decided to integrate the developmental program with the other instructional programs of the college. At the present time, the college offers six services to developmental students. These services are described below.

THE LEARNING LABORATORY

The learning laboratory provides instructional services for adult students who have not finished high school. Many of the students who receive their high school diploma through the learning lab are admitted to the regular college program. The learning lab also serves college students who wish to improve their skills in mathematics or English.

THE COUNSELING/ ADVISING PROGRAM

Through the use of AIDP funds, a counseling/advising program has been set up to meet the needs of selected developmental students. At the present time, this program is limited to students who have been denied admission to health-related occupational programs because of low placement test scores. These students are given intensive academic advising to insure that they are placed in appropriate developmental studies courses. After a period of remediation these students are permitted to retake the placement tests. During this period the students are also involved in career exploration experiences. These experiences allow students to assess the appropriateness of their original career preferences.

THE TUTORING PROGRAM

Through the use of AIDP funds, a recently established tutoring program has been expanded. Both students and paraprofessionals are used as tutors. These tutors work with all students who request assistance.

THE REMEDIAL ENGLISH PROGRAM

Four years ago the English Department at Sandhills Community College offered fourteen writing courses categorized as technical, vocational, college transfer, and remedial. Upon careful examination of the actual skills taught in these courses, the English Department found many of the same skills being taught in different courses. Rather than continuing to offer what amounted to duplicative courses under different titles for students in different programs, the English Department decided to define the writing skills needed for any program the college offered, to combine the skills common to all programs, and to arrange these skills in a devlopmental sequence, open to all students based upon their needs and abilities. Instead of fourteen different courses, the department developed four different sets of skills, arranged in a sequence of six eleven-week courses, designed to meet the needs of students from a variety of backgrounds. Courses were to be identified by skill objectives rather than by program title, with the result that students previously identified as "technical," "vocational," "college transfer," or "remedial," would now find themselves in the same course if their skill level and writing needs were the same.

Next, the English Department developed a writing sample placement test to determine the skills students already had developed. After taking the writing sample test, students now are placed into English courses based upon the requirements of their program, and also upon their skill development. Thus, for some students, their writing sample performance indicates the need to assign them to a lower level course than required by their program; for others, assignment to a higher level than required gives them credit for the required course whose skills they have already mastered. Moreover, students are placed at their present level of development so that they can begin or continue to develop effective writing skills.

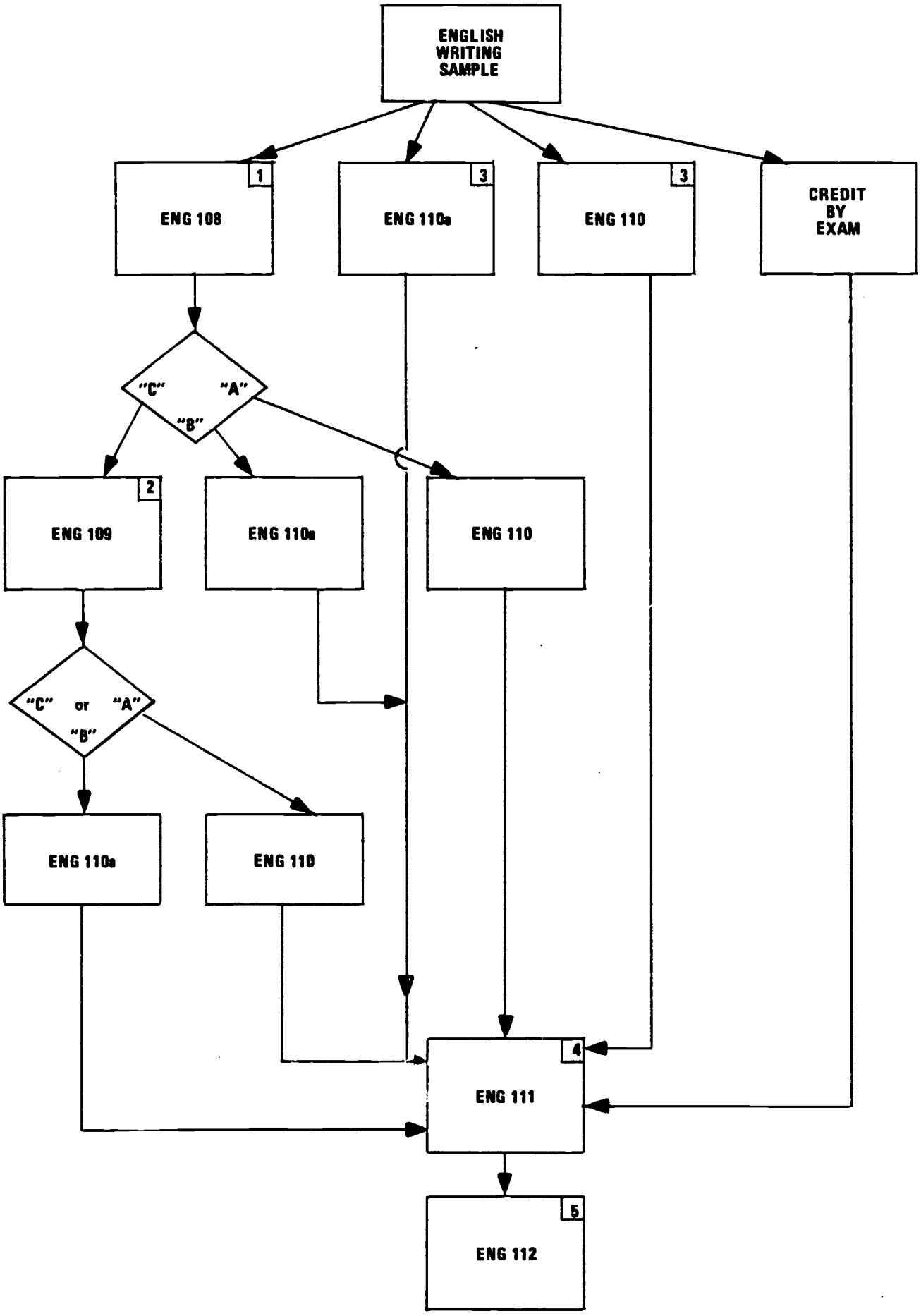
Exhibit I and the following notes describe the operation and objectives of the Sandhills writing program.

1. ENG 108 — GRAMMAR AND INTRODUCTION TO COMPOSITION I

Skills Taught: Subject/verb agreement, pronoun-antecedent agreement, pronoun reference, verb tense, complete sentences (including subordination), modifiers, punctuation, spelling, and capitalization are taught in the context of paragraph development. The stress is on the varieties of development of a topic sentence in the paragraph form. Unity and coherence are taught with the use of transitional expressions.

Students Enrolled: Required of all vocational students and Landscape Gardening, Civil Engineering, and Architectural Technology students. Also required of any College Transfer, Technical Business, or Allied Health Technical student who does not place into ENG 110a or 110.

Exhibit I


ENGLISH WRITING SAMPLE
1
ENG 108
3
ENG 110a
3
ENG 110
CREDIT BY EXAM
"C"
"A"
"B"
2
ENG 109
ENG 110a
ENG 110
"C"
or
"A"
"B"
ENG 110a
ENG 110
4
ENG 111
5
ENG 112

2. ENG 109 — GRAMMAR AND INTRODUCTION TO COMPOSITION II

Skills Taught: Course objectives are the same as those of ENG 108.

Students Enrolled: Required of those students who made a "C" in ENG 108, and who plan or are required to take ENG 110.

3. ENG 110A OR ENG 110 — ENGLISH COMPOSITION I

Skills Taught: The varieties of development of a thesis statement in essay form using transitional expressions between paragraphs are taught in both ENG 110a and 110. The difference in 110a and 110 is that students who have an understanding of development, but lack skill in achieving unity and coherence, or who have skills in mechanics are placed in 110a, which meets five days per week instead of three, with fifteen students instead of twenty-five. The students in 110a thus have the opportunity of more individual help to meet the course objectives. Mechanics such as those listed for ENG 108 above are taught in the context of the essay.

Students Enrolled: Required of all Technical, College Transfer, and Vocational Business students.

4. ENG 111 — ENGLISH COMPOSITION II

Skills Taught: Logic as related to composition and reading, critical analysis of argumentative essay, writing argumentative essays, library research, and argumentative research papers.

Students Enrolled: Required of all Technical and College Transfer students.

5. ENG 112 — ENGLISH COMPOSITION III

Skills Taught: Analysis and interpretation of drama, fiction, and poetry, and writing essays about literature.

Students Enrolled: Required of all College Transfer and Allied Health Technical students.

The English Department at Sandhills sees five benefits in its writing program. First, students are placed into courses based upon their level of development of writing skills, and they receive instruction only in those skills they do not already possess. The emphasis in each course is on effective skill development rather than on correctness.

Next, students from a variety of technical, vocational, and college transfer programs may be in the same class, providing a broader background for discussion.

Third, the objectives were developed by all instructors, and instructors choose the courses they wish to teach. Furthermore, although objectives are standard requirements throughout the department, instructors are free to use their own methods, some of which are individual conferences instead of regular class meetings, tutorial approach, small group sessions within a class structure for peer evaluation, and the contract approach, allowing students to write and rewrite until an acceptable paper is developed. In some classes, students select the methods they want; in others, the instructor determines the method. The result, the English Department feels, is that the most successful method of instruction for both teacher and student is used.

Fourth, students may receive credit-by-exam for courses if they already have mastered the skills of those courses. The placement test serves as this examination.

Finally, three hours of credit are earned for each course, regardless of level, and the remedial designation has been removed from the courses taught at a lower level. Instead, the emphasis is on the skills taught in the course, and the course description reflects that emphasis. Thus, the feeling of being penalized by taking a course to develop writing skills has been eliminated.

THE READING PROGRAM

PURPOSE

The purpose of the developmental reading program at Sandhills Community College is twofold. Basic skill development is the basis of the program; however, the building of a positive self-concept based on success is of equal importance. Our desire is to help each student become more of an independent learner. We hope to develop both an effective community college student and a productive member of the working world.

SELECTION OF STUDENTS

The majority of the students in developmental classes at Sandhills Community College usually begins on reading levels from virtual non-readers to tenth grade level.

We select these students in the following manner: All students who enter Sandhills are given the ***Comparative Guidance and Placement Test***. A score of 50 or below on the reading test automatically designates the student as a candidate for developmental reading. The students with the lowest scores are put into fall quarter classes. Once the

students are put into a class (classes are offered at 8 a.m., 9 a.m., 10 a.m., 11 a.m., 1 p.m., and 2 p.m. three days a week), they are tested again with the *Nelson Denny Reading Test*. The students in each time period (approximately 30) are then placed into a basic skills class or a higher level class dealing with the reading of factual literature and identifying patterns of literature.

As is suggested above, the Reading class (Reading 100) is actually two classes in one. We will refer to these classes as R100 and R100-A.

In the R100 class, we are concerned with basic comprehension skills. These include identifying subject matter, main ideas, supporting details, and clarifying devices, as well as predicting outcomes, drawing inferences, critical reading, and detecting propaganda. There is also a concerted effort to build a strong reading vocabulary. This is done by teaching basic word parts – prefixes, suffixes, and root words – and by stressing the use of context clues.

Textbooks for the course are *Six Way Paragraphs* by Dr. Walter Pauk, and *Words People Use* by Roth and Commacho.

Students are required to attend lab at least once every two weeks. In the lab, they utilize the *SRA Reading for Understanding Kit*, Jamestown Press' *Topics for the Restless*, *Selections from the Black*, and *A Skill at a Time*.

Approximately 60% of the student's work is done independently. The other 40% is utilized for group discussions, using the newspaper and skill games. A reward system is utilized (bubble gum) and it has been very successful.

In R100-A, the student is concerned with reading factual (textbook) material. There is a greater stress put on understanding subject matter and generalizations. Patterns of literature such as direct explanation, thesis-proof and newspaper (5W) are examined.

The test used is the *Sack-Yourman Reading Course* from College Skills Center. It is supplemented by *88 Passages* – also from College Skills Center – and the *Probe* tape program.

Our newest course is Reading 101 – Study Skills. This is an elective course that was first offered in the Fall of 1975. Enrollment has increased every quarter since the inception of the course. Approximately 30 students were enrolled during the spring quarter.

In Study Skills, we stress notetaking from lectures and textbooks. Presently, we are utilizing the *Sack-Yourman Study-Skills Program*. However, we hope we will soon be able to videotape our own lectures for use in teaching notetaking in this class. Various instructors will be asked to prepare and tape an introductory lecture for their content area.

In 101 we also stress test taking, organization of content class materials, development of a more effective memory, organization of study time, reasoning, skimming and scanning, and building a content area vocabulary.

FUTURE PLANS

We are expecting a new building to be ready in two years with an expanded area available for reading. This will include space for two classrooms and a reading laboratory. Hopefully, this will allow us to extend our reach and aid in the expansion of our paraprofessional tutoring program.

Presently we are looking into the possibility of sequencing our R100 and R100-A classes, so that students who first are placed in R100 might be allowed to follow up the next quarter in R100-A and receive credit for doing so. Some problems remain to hold up this plan, but we are confident they will be overcome.

The Study Skills class will be reexamined and hopefully improved with age.

PROBLEMS

Our major problem at the moment is that of getting the support of all advisors and instructors to strengthen our placement program. At this time too many students are not being placed into our reading classes at the appropriate time or in some cases not at all.

We also would like to improve our testing program, but there is a shortage of good diagnostic tests at the college level.

The reading program at Sandhills Community College is still in the process of growing. Our progress is encouraging and we feel sure that it will continue.

THE REMEDIAL MATHEMATICS PROGRAM

The Mathematics Department at Sandhills Community College is in the process of individualizing various remedial and technical math courses. This includes not only the traditional sequence in algebra, where students may require as many as four courses before they are ready for college algebra, but also the specialty areas such as automotive, electronics, engineering technology, nursing, and allied medical, etc. The courses for the latter specialty areas involve problem-solving focusing on applications in their respective fields. The traditional sequence aims at the college transfer student who may need further courses in math, e.g., trigonometry, calculus.

In each course, behavioral objectives have been set up. However, it must be admitted that any such set of objectives is less than totally specific. Essentially, we have compiled a minimum set of objectives. Objectives are grouped together in such a way as to form units, and for each objective three versions of short tests have been made. To have attained an objective, a student must make a score of one hundred on one of the short tests, but these short tests do not go toward final grades. While it is rarely necessary to go that far, a student has at least three chances to attain each objective (the instructor may develop more tests if necessary). At the end of each unit a longer test covering all objectives in that unit is given. If the student decides he did poorly on the first test, he has the chance to take a retest.

In attaining the objectives, the student is given a choice of avenues. Each objective is keyed to the textbooks, a semi-programmed book, and talking pages. The talking page is a device which is not widely used; it consists of a page with a magnetic oxide on the back. In conjunction with a talking page machine (3M Company), it is possible for the student to listen to a four-minute lecture on any objective. These recorded lectures are written and recorded by members of the Sandhills Mathematics faculty. The talking pages have some advantages over other methods: the pages can be typed on or run through a copier, thus displaying the visual aspects of the lectures; and the talking page machines are less susceptible to theft than cassette recorders. The major feature of our program, however, is this option in avenues provided by a multi-media approach.

The classes themselves involve a system of modified self-pacing. One room other than a lecture room is set aside as a lab for the use of talking page machines, tests and other materials, with assistance available. Students who can move faster than the general pace of the class can work there. Similarly, students can use this lab at any time during the day to help maintain their position relative to the class, for there *is* a classroom lecture on each objective. Every student at the beginning of the quarter starts in the lecture class. The teacher sets a baseline pace for the students. After about a 15-minute lecture on an objective, the teacher gives a short objective test to the students. If a student passes a test, i.e., makes a score of one hundred, he can leave for the day (an incentive by itself), or he can go to the lab and work ahead. If he gets two objectives ahead of the lecture class, he does not have to return there each day; instead he can go straight to the lab. Thus, those capable of a faster pace can finish early if they wish.

Those who do not pass the first objective test in the lecture class benefit by the thus reduced student-teacher ratio. The teacher can then work with these students on a more individual basis. He may lecture, work sample problems, or have his students work under his guidance. At the end of the hour, a second short objective test is given. If the student does not pass that test, he should put in extra time in the lab. Obviously, there are always one or two students who cannot even maintain this pace. They may have to use the lab exclusively to go even slower than the class.

In the laboratory situation, paraprofessionals as well as peers are available for tutoring. The paraprofessionals also handle the tasks of grade keeping, absences, and location of students. A counselor is available for the students to provide an ongoing, formative evaluation.

Sandhills has found its process to be a rather efficient one. We can handle more students with the same number of instructors. Six instructors alone without the lab could not teach on a very individualized basis, nor could they provide technical specialty courses all year around. Technical students will be able to work on their own in the lab with tutoring any time of the year. Thus, Sandhills can get more effective work from the limited number of teachers it has, and students have a greater amount of freedom in pacing the course.

In evaluating this optional pacing course versus a traditional lecture class, it is doubtful that significant grade differences ***in these courses*** will be found. However, three unobtrusive measures of apparent success have been observed in the college parallel area: (1) more students are taking trigonometry (the next course after the algebra-sequence); (2) students tend to be positive about what they are doing in the course; and (3) more students are placed and begin in the appropriate starting algebra courses — the occasional stigma of remedial placement does not seem as apparent when students can go at their own pace. Thus, whereas students formerly continued to avoid remedial algebra and take the transfer college algebra course instead, they now realize they can complete credit for college algebra by completing the remedial sequence and two other individualized packages. Misplacement in college algebra has declined, and grades in the course have improved.

We feel that individualization of instruction, despite the amount of work required in making the transition, is already helping our department in providing the student with those mathematical tools he needs. Fitting our program to the best interest of the student can only be to the best interest of our department.