In order to realize the goal of full opportunity that open admissions implies and to meet the needs of new types of students, we must restructure our educational institutions to meet the needs of individuals. Factors underlying the need to restructure are: (1) analysis of results of credit by examination shows that no particular method of college instruction is measurably preferred when evaluated by student examination performance; (2) tuition fees, which must be kept low to realize the open-door policy, are rising rapidly but still do not begin to meet expenses; and (3) statistics show that we keep out, drop out, and turn off more people than we graduate. Two examples of the response from community colleges to the need to restructure are: (1) competency-based learning--Minnesota Metropolitan State College and Vermont Community College; and (2) the cluster college concept--New York's Rockland Community College, California's Chabot Community College, and Illinois's DuPage Community College. (KM)
SOLUTIONS FOR THE SEVENTIES: AN ANALYSIS OF COMPETENCY-BASED LEARNING AND CLUSTER COLLEGES

A report of the National Dissemination Project for Community Colleges

By: Chuck Weinstock
Washington State Board for Community College Education
Research and Planning Project
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FOREWORD

Several study commissions have documented the tremendous increase of students attending and planning to attend community junior colleges in the United States. This growth has been traced to three factors: (1) The "open door" philosophy implied by a commitment to full educational opportunity for all, (2) more learners wishing education beyond high school to prepare them for a job field demanding highly trained workers, (3) persons desiring to continue learning to keep pace in a rapidly changing world to cultivate an interest in leisure hours or learn a new skill to maintain viability in one's profession. To realize the goal of full opportunity, meet new needs, and account for learners outside the traditional educational system does not mean a simple extrapolation of the present system. It indeed may mean restructuring.

This paper will attempt to fulfill these objectives. First, it will present several points basic to the rationale for restructuring. No doubt there are others. Second, two examples from community colleges of responses to this need will be presented. They are competency-based learning, as reflected by Minnesota Metropolitan State College and Vermont Community College, and the cluster college concept demonstrated by
Rockland Community College (Suffern, N. Y.), Chabot Community College (Heyward, California), and DuPage Community College (Glen Ellyn, Illinois).
THE NEED FOR NEW
STRUCTURAL APPROACHES
What is needed are community colleges that fulfill the promise of their name--colleges organized to meet the specific needs of the students they serve. For these students, many of whom come from a minority/disadvantaged background, we have developed an educational system to fulfill our social commitment to a stated goal of full educational opportunity for all. Yet a majority never complete their course of study. It may be that they do not fit the system we have presented them with. The new students of the open door era to a degree are those not presently included in the "mainstream of society" and probably not in the educational mainstream either. How can we best serve them?

FULL OPPORTUNITY

We need to make explicit our commitment to the philosophy of full opportunity in education. As a society we must define "full opportunity" so that planning for the future has a legitimate base from which to operate. The community college, in theory, is a response to a growing need and demand for post-secondary education outside of four-year colleges and universities.

However, with a threatening financial crisis, budgets are being tightened. As a result, accountability is the cry. This has tremendous implications for education,
traditional and non-traditional, as more and more educators are calling for a return to a higher degree of student selectivity. This usually means curtailment of any "special" programs, such as those serving educationally marginal students or non-traditional programs.

As the "open door" policies implied that educational opportunities were available to "anyone over age eighteen who could benefit," we must recognize new needs confronting our education system. If we choose to limit access to higher education, on grounds of protecting the integrity of our institutions or on the basis of some "natural aristocracy," then those who could have benefited will be relegated to second-class citizenship and economic status in a society which demands formal credentials and increasingly requires a highly trained labor force. Most educators have come to realize that the learning capacity of individuals differs greatly. Many of the reasons for this have been attributed to socio-economic status, language differences, a genetic inheritance, that is, factors outside of the school. However, research by Benjamin Bloom is beginning to point out that "much of what we have termed individual differences in school learning is the effect of the particular school conditions rather than of basic differences in the capabilities of our students."¹ In addition to challenging our traditional

basis for determining who can benefit from higher education, this shows that as we learn more about how individual students learn and how these differences can be maximized, our accountability to learners will be greater. We need to evaluate programs, perhaps more than we need to evaluate students.

NEEDS OF NEW STUDENTS

What of the new students of the open door era? Project Focus, a study done by the American Association of Junior Colleges, indicated that there was a great variation in the backgrounds and characteristics that shape the interests and values of community college students, especially among the disadvantaged and minority students. These characteristics should serve as background information upon which the colleges can build their strategies for helping students learn. For example, studies which document the dramatic increase in the number of minority students infer that the community college will be faced with a new diversity of learners. However, judging by the drop-out rate, it appears as though this new diversity is not being met with any real variation in approach. Furthermore, the present campus is oriented to the young and mobile. We have found, however, that both black and Spanish-speaking students report a

higher percentage of their parents are unskilled laborers and a lower family income overall. Thus, it is unlikely that such students who develop interests in obtaining a degree will become full-time, on-campus students, perhaps due to lack of finances or self-confidence to accept such a status.

The Carnegie Commission on Higher Education in New Students and New Places predicts a trend in higher education away from immediately entering college after high school, and toward a freer form of participation spread out over a span of years. Students will be encouraged to gain work experience before or after one or two years of college. The advantage lies in that this exposure will aid the student in gaining clearer career goals and perceptions of how higher education will best benefit him. However, this changing pattern needs to be reinforced with innovation allowing more flexible avenues in higher education.

Research by the Newman Commission discovered that there were literally millions who can benefit from new approaches to education. These may include those, as mentioned, who choose to delay their college experience but still want some contact with higher education. With a rapidly changing technology and economy successful
participation in the labor market is partially dependent on being able to obtain particular skills. Thus, programs must be adaptable for those needing professional training for new careers and advancing within some profession or vocation. The women's movement has signalled the beginning of an era where women will play a more significant role outside of the home. Programs should enable them to choose both family and education. There have been further increases in adult education programs, which must be available to workers already committed to jobs and families. Finally, there are those who find the traditional college setting undesirable for whom valid alternatives should be available.

RESTRICTURING

Do our educational institutions meet the needs of individuals, or is it the other way around? The answer is somewhat unequivocal and embarrassing. Even the staunchest supporters of higher education admit the system is not very efficient. The 1960's was a decade of educational reform. However the changes did not involve restructuring. Rather they involved reforms in new teaching techniques and curricular changes. If indeed progress was made, and if the 1970's are to further this progress in a lasting and meaningful way, we must begin to deal
with structure. The Carnegie Commission and the Newman Task Force call for a fundamental change in the structure of higher education, that is, more than just a tinkering, patching, and re-packaging of old methods. Further, they point to the need to create new institutions and arrangements to meet needs, currently unmet, of potential learners.

Several factors underlie this approach. Some of these were first recognized in early attempts at structural change through the external degree granted by "regional" or "national" universities (Arbolino and Valley, 1970). The first of these is that analysis of results of credit by examination has made it fairly clear that no particular method of college instruction is measurably preferred when evaluated by student examination performance. Secondly, although tuition fees are increasing rapidly, they still do not begin to meet expenses. The Carnegie Commission suggested that if we want to meaningfully realize the "open-door", tuition needs to be kept low. In fact, even if we set annual tuition at a community college at $100, this hardly begins to offset annual per student costs, commonly exceeding $1000. Third, statistics show that we keep out, drop out, and turn off more people than we graduate. At the same time, a parallel system of education is developing within business and industry, the armed
services, labor organizations, and government-sponsored programs such as Peace Corps and VISTA. Even if we could extend our present system to meet the growing demands, there is serious question as to whether it is the kind of structure that allows the flexibility and freedom for individuals to grow intellectually and realize continuing education goals. We live in an information-rich world, and we must develop and recognize instructional possibilities outside of traditional higher education. Thus, we cannot afford to continue as we have, denying a person what he knows because of where he learned it. We are only perpetuating waste, driving up college costs, and stifling the self-directedness and motivation required and designed to continue learning.
COMPETENCY-BASED
LEARNING
Competency-based learning explicitly is based on the belief that an individual is educated only when he has knowledge and understanding, and the values or attitudes which enable and compel him to use his knowledge and understanding. Thus a degree is awarded on the basis of demonstrated and verified competence, not on the basis of credit hours accumulated. The student can take up where he needs to, recognizing learning that has already occurred, and concentrate in areas in which he/she is deficient. The learner develops his/her educational goals within the general competencies required by the college, and thus the student is self-directed as well.

MINNESOTA METROPOLITAN STATE COLLEGE

Minnesota Metropolitan State College describes itself as an "urban college for 'new kinds of students' on a 'new kind of campus'." The new students are those whose needs for higher education are largely unmet in the area. The college understands that those who work or maintain a home full-time must often go to college at times and in places different from the times and places of those who study full-time. Meeting these needs is of great priority. The college has no central campus of its own. Instead, it utilizes unused and underused facilities in the entire twin
cities metropolitan area as its campus. The idea is to bring college to where the students are, not compel students to come to the college.

The College admits students and awards degrees on the basis of demonstrated competence, and not on the basis of credit hours accumulated or courses taken. The student has considerable responsibility in designing educational goals and means to achieve them. He is, of course, aided by faculty whose only responsibility is teaching. The curriculum, then, stresses that liberal studies and professional studies should be combined in a degree program so that each student is equipped and has demonstrated a capability to:

1. continue to learn after college
2. understand and shape his own development
3. function as a responsible citizen
4. utilize lifetime leisure skills
5. earn his way in a contemporary, changing economy.

The purpose of MMSC, in responding to those who need and can profit from higher education, is to show that flexibility does not diminish quality. That is, rigidities in admissions, degree requirements, or scheduling delay and discourage many from completing or even starting programs they are qualified to finish.
The college presently offers a Bachelor of Arts Degree with no "major" as such designated. The diploma itself refers to the enumeration of competencies contained in the student's narrative transcript. To date the college has established vocational competencies in Administration (Public and Private) and Human Services.

The college recognizes several assumptions fundamental to its existence.

1. Traditionally, colleges have created academic communities which are separate from, and many times antagonistic to, the larger community. The function of MMSC is not to create a college community, but to support the creation of a total community where students are not dependent on the college. Instead the program is to teach students how to function as effective members of the community as a whole.

2. Though the college believes the student must be a major partner in designing his education, they also recognize two related facts. First, very little in most students' previous educational experience may prepare them for accepting responsibility for education. In fact, the student probably has been taught it was someone else's responsibility to "educate" him. The college must, then, teach students how to design their own education. Secondly, a college exists to provide students with contact with those
who know more about education than they. Therefore, the college does not accept all educational goals and methods of potential students. However, by analysing student goals and needs, faculty members can point out those that are conflicting, meaningless or fallacious. This is done by presenting alternatives, not by imposing them.

The educational format at MMSC occurs in five phases: application and admission, orientation, educational pact development, implementation of the pact, and final evaluation.

Admission procedures do not differ significantly from those of most colleges. Applicants are required to complete an application form, and provide official transcripts of all previous formal education. However, an applicant who has not completed any formal program may be accepted upon demonstrating to the college that he/she has achieved a level of achievement to insure a chance of succeeding. To aid this decision, the applicant must submit a "comprehensive, narrative summary of publically verifiable evidence of competence in such areas as the college specifies."

Following admission, all students entering Minnesota Metropolitan State College in a particular month must complete an orientation session. Following a convocation the students' orientation group will meet during the month as often as the group and the group coordinator find it desirable or necessary.

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to complete the orientation function. This usually consists of two hour sessions meeting twice weekly.

The orientation period has two basic purposes. First, it insures that students understand the policies and procedures involved as related to their education. Secondly, the period enables the student and the school to complete a competency analysis describing the competencies the student already has. The students will use the college to gain competency only where they do not already have them. Thus, the student is able to avoid repetition.

The third phase consists of the development of an educational pact. The student determines his educational goals, the strategies which will reach those goals, and methods of evaluation to be used to mark progress toward those goals. The pact is reviewed by a review committee of students and faculty members. This committee thoroughly evaluates the pact on several criteria: Is the plan of action feasible? Is it consistent with designed goals? Is it worthy of a degree? The review committee may make suggestions for improvement. This pact then becomes the student's own individualized curriculum.

Following the development of the pact, the student engages in what was set forth in that pact. This implementation may be carried out through independent study,
negotiating and fulfilling study contracts with faculty members, internships, participating in group learning experiences, or even formal course work to fulfill educational goals. The college states that most students will have to engage in some college sponsored or college approved learning experiences in each of the five competency areas before they are ready for the final evaluation.

Lastly, when the student and advisor determine that the former has completed his educational pact, a Formal Evaluation Committee is organized, and the student is verified as having completed the required competencies.

The areas of basic competency are as follows:

A. Basic Learning and Communications
   1. The ability to find and use information.
   2. The general ability to identify one's own learning needs and to plan a strategy to meet those needs.
   3. The ability to write coherently.
   4. The ability to communicate orally.
   5. The ability to comprehend written information.
   6. The ability to listen, to be totally receptive to another person.
   7. The ability to handle computational tasks.
B. Civic Involvement

1. To actually participate in a civic, decision-making process.

2. To demonstrate the ability to organize in and work through a group in order to achieve a particular goal.

3. To demonstrate an understanding of the mass communications media: how to use them, how they affect our society and what they say about it, and how the diverse facts, events, and processes they report should be interrelated.

4. To demonstrate an understanding of the various roles each urban citizen must play and the existence of actual and potential role conflicts.

5. To recognize the importance of attitudes in solving urban problems, specifically to be tolerant, or even accepting, of diversity and to be able to handle complexity and ambiguity without experiencing distress.

C. Professional, Vocational, Career Competencies

1. Each student should know about the range of occupational choices available.
2. Each student should demonstrate that he possesses the knowledge/skill base necessary to a particular vocational area to the degree that he is "employable" in that area.

3. Each student should understand the social and philosophical implications of his own occupational behavior.

4. Each student should understand the changes that may be expected to occur in his chosen vocation and the factors that will cause those changes to occur.

5. Each student should have a knowledge/skill base in a second vocational area which may or may not be related to his primary occupational area.

D. Leisure and Recreational Competencies.

1. To demonstrate active and regular participation in individual and group recreational activities of one's own choosing.

2. To demonstrate an understanding of the materials, techniques, and language of one artistic activity.

3. To develop a long range plan for the use of one's time in the face of a radical change in
life-style such as retirement.

E. Personal Growth and Development/Personal and Social Awareness

1. To engage in self-assessment.
2. To evolve a sense of personal identity.
3. To understand the process of perception, especially as it applies to the perceiving of others.
4. To be able to communicate the social patterns, mores, customs of one's own sub-culture, especially the strategies that sub-culture has developed for defending itself against others who do not belong to it.

THE COMMUNITY COLLEGE OF VERMONT

The Community College of Vermont serves rural Vermont adults who lack access to traditional educational programs. The College recognizes that the average person will be changing jobs and needing new career skills within his working life. Therefore the Vermont system utilizes a competency-based learning program committed to education that is not terminal. This enables the student to continue learning and adapt to a changing community.

The system begins with the learner in his community. The student body is varied; most students are 25 to 44
years old and range from 16 to 70; more than 70% have no access to other institutions of higher education; 40% are low income; approximately one-fourth have dropped out of school at some point. Thus, to meet these diverse education needs a wide variety of learning modes and curriculum must be available.

The goals of the students are as varied as their backgrounds. To meet this challenge, the college must provide a setting for an exciting and useful education. Thus, an individualized curricula insures a flexible response. All community college programs will be conceived as "journeys in individual growth." Though it is expected that many will choose avenues to career goals that are previously mapped out, many will design unique routes to serve their own particular interests.

The Community College of Vermont was established in 1970 to enable more residents to continue their education. Prior to this time, most Vermonters had been unable to further their education needs because of high college costs, the rural nature of the state, and family or job responsibilities. These people found it difficult to gain meaningful employment and even to further personal interests without a college degree and training. Thus, the college has enabled the citizens to exercise personal control over their future through learning.
The Community College of Vermont is a decentralized system with Regional Sites. The state is split up into three equal regions, and each site is responsible for developing and implementing courses in its geographical area. The College attempts to avoid any duplication of existing services by effectively using the talent and facilities already available in the communities.

The Regional Sites have no formal campus, saving construction costs, and utilize existing space in schools, offices, club halls, and other community buildings. By combining the locally supplied classrooms, the talent of neighboring teachers, and skills of the Community College staff, college education is provided from within the community itself. Each regional site operates under two constraints. First, all credit courses must be developed to meet objectives determined by the appropriate State Advisory Council. Secondly, the Regional Sites Course Planning and Evaluation System must reflect implementation of the Community College of Vermont's requirements. Each site must explicitly state the rationale for the system it adopts. It is assumed that Regional Site variations will require alternative staffing patterns, interests, and skills in order to meet suggested guidelines.
As mentioned, education in the Vermont system is competency-based. Thus, as students choose and articulate educational goals, their learning will be evaluated through the use of measurable instructional objectives. The College awards degrees to those students who clearly demonstrate competence in three major areas. These areas include:

**Intellectual competence:** The student must be able to think and act clearly.

a. Communication skills.
b. Critical skills.
c. Analytical skills.
d. Methods of inquiry.
e. Value clarification.
f. Information gathering skills.

**Social Competence:** The student should have an awareness of himself in relation to society.

a. Interaction with the general public and community organizations.
b. Awareness of institutions within the community and their impact.
c. Awareness of the relationship of the community and its history.
d. The role of the individual in the community.
e. The future of the community.
Physical and Manual Competence: The student should be able to relate to the community through physical and manual means.

a. The ability to apply manual skills.
b. The ability to communicate verbally and/or creatively.
c. An understanding of man's relationship to his physical environment.
d. The ability to apply skills to modify the physical environment.

Since many community college students enroll to pursue a specific career, the Vermont system makes available a number of curriculum guidelines for students. These guidelines specify the skills required to be competent in the particular area. The Community College of Vermont presently offers degree programs in Human Services with Child Development, Mental Health Technician, Education Professions, and Counseling Aid study areas. Programs currently being planned include Business Administration and General Studies. Attainment of the appropriate career skills for the individual student will result from mastering these skills as competencies as defined above. These program guidelines are developed by State Advisory Councils whose function is to define skills in which a person must be competent.
Each council includes three potential students in the field, three persons actively involved in teaching in the field, three citizens practicing in the curricular areas, and a representative of the Community College of Vermont Director. Thus, the system relies heavily on citizens of known and identified capabilities in recognized career areas.

The educational format occurs in five steps: admission, orientation, exploration, contract to complete, and final evaluation.

The Community College of Vermont system has an admissions policy which allows area residents to participate in activities of the College regardless of age, sex, income, or previous educational experience. Admission occurs when the applicant fills out the student information form, and a file is opened for the student. However, there is a limit to the number of students effectively served. Approximately 1,000 students have been enrolled per trimester.

Next, through an orientation period the student receives the basic information about the College. This can be accomplished individually or in a group, and lasts as long as is necessary to familiarize the student with the philosophy and alternatives available to him. This includes an understanding of course descriptions, knowledge of the "course planning and evaluation handbook," knowledge of options for
learning such as internships, seminars, independent study, or lectures, and a knowledge of learning objectives.

Students may select a single course or an entire program of study leading to a degree. Courses are developed in response to community needs after carefully evaluating local resources such as teachers, materials, classroom space, student interest, etc. After orientation a student is encouraged to take any course desired. It is expected that every student will go through a period of exploration, though the length of time will obviously vary considerably. This allows the student to search for some direction and shop around, taking courses that meet his interests. When the student decides on some educational goal, he/she negotiates a contract to complete.

The College believes each student should be a partner with staff and faculty in the development of his own educational program. The student identifies his educational goals with a counselor through the specified competencies. This should also serve as an "in-process" review by the student and staff of the student. Programs are worked out which focus on the competencies the student wishes to develop.

A student portfolio is developed when the student contracts to complete. This is a chronological description of the
student's educational experiences. Included are records of any previous work at other colleges, course outlines, and any other material pertinent to the student's achievement.

Throughout the contract to complete there are provisions for modifying the contract. The contract then must be approved by the Regional Site Review Committee. The factors used in this review are the needs assessment of the individual student, learning experiences outside of the college, and any prior courses taken at the Community College of Vermont.

The review process is one of the most critical in the educational process. The formal review process begins when the student negotiates the contract to complete. Each student taking courses for credit participates in an End of Course Evaluation in which the faculty member certifies that the student has met the instructional objectives of the course. Final review takes place when the student and counselor feel the student has completed the contract requirements.
Minnesota Metropolitan State College and the Community College of Vermont both are clear responses to community needs. They serve those who can benefit from higher education, but for whom no institution is able or willing to serve. Both systems bring education to people, and do not make them leave families and/or jobs to come to it. This is a unique and vital service to the disadvantaged. Figures show that earning forgone while students attend college make up three-fifths of the allocative costs of college education. Also, students' learning experiences are continuously shared with families, friends, other students, making the whole community a learning center.

Though both systems operate in completely different settings--MMSC an urban center and CCV many decentralized rural centers--both teach learners how to operate in the larger context of life, not just within the university or college setting. They teach how to take advantage of opportunities and resources available every day. This is important to enable students to be continuing learners throughout life, to further complete career goals and investigate personal, leisure interests.

The success achieved by both systems demonstrates that flexibility does not necessarily reduce quality. The individualized process allows the use of varied modes of learning for a great diversity of learners. Study
opportunities are limited only by a student's imagination and the area resources. The use of the community faculty, educators and professionals actually working within the subject area, insures a touch of reality. This enables the student not only to see the relation between what he learns and how the concepts are actually practiced, but also how the work he is doing relates to the completion of his contract.

An important aspect of the two programs is formal recognition of prior learning experiences, regardless of where or how it has been learned. The pre-assessment period is used to establish the competencies a student does not have or wishes to develop. Thus, the system is able to avoid repetition and wasted time and resources. This is also important to disadvantaged students, as it enables them to start their education at a level that is reasonable and comprehendable, and insures a decent chance of success.

Financially both systems keep college costs low as they utilize existing space and qualified community personnel. By taking advantage of these existing resources a more efficient use of structures and talent can be achieved. A greater degree of accountability is also gained, for when a student completes a program, a degree is granted based on the competencies a student has.
demonstrated, not on the number of courses taken, nor on the amount of time spent in study.
CLUSTER COLLEGES
The cluster college concept, though not new to the four-year institutions of higher education, is a fresh concept in its possible application to the needs of community colleges. A cluster college can be defined as a semi-autonomous school on the campus of a larger college which shares facilities and services with the parent college, but maintains a separate identity. This concept is based on a belief in alternatives, that there is no one single best approach to learning for all students. It assumes, rather, that the diversity of learners requires a diversity in program structure.

The tremendous growth of the community college system in the United States has brought with it a number of critical problems. One is the depersonalized, non-supportive environment for most students. This is reflected in the climbing drop-out rate. The community colleges, as they grow even larger, have been unable to create a sense of community or offer personalized instruction. Secondly, to a great extent community colleges have been characterized by a lack of diversity in both course offerings and teaching techniques. The centralized, homogenous community college has not been able to provide the diversity reflected in the wide range of student interests and backgrounds.
Lastly, the present community college has been unsuitable for program experimentation. The traditional restraints and inertia of the established community college make major attempts at restructuring untenable.

To deal with these problems of size, impersonality, and lack of diversity, most college systems have undertaken certain reform measures. The cluster college offers one alternative to meet the basic structural and organizational change needed. A large centralized campus can be structured so that students are placed in smaller groups, may become more involved in their education, feel the environment is more supportive, and experience less alienation. Cluster colleges, each with a distinct program or approach, may be able to supply needed diversity in the learning process. Cluster colleges also will allow community colleges to carry out experimentation at the periphery of traditional established programs.

Three examples of community colleges utilizing the cluster college concept will be presented: Rockland Community College, Suffern, New York; College of DuPage, Glen Ellyn, Illinois; and Chabot Community College, Hayward, California. Though a bond issue for the facilities failed at Chabot Community College, and the program was never implemented, they undertook a major planning effort which may be useful to examine.
ROCKLAND COMMUNITY COLLEGE

Rockland Community College has planned and implemented three cluster colleges over the past few years. These have operated in addition to courses at four separate satellite centers. The decision to develop cluster colleges was a direct attempt to meet the educational needs of disadvantaged residents desiring higher education.

Administrators and officials at Rockland recognized a series of obstacles that had previously prevented the disadvantaged from acquiring their education. These barriers are physical, financial, and psychological in nature. Many, for example, never thought it was possible to attend college, and there was something about going to a campus right in one's own neighborhood that was both convenient and worth a try. Being located nearby facilitated attendance since many areas are not well served by public transportation. The use of community centers broke the middle-class image that college has for many of America's poor, that is, that education beyond the secondary level is for the young, affluent, and mobile. In addition, because a large portion of the College's curricula is individual or independent based, continuous counseling is utilized, and the College draws leaders from all aspects of the community into the counseling and recruitment program.
College A involves about 150 students and six full-time faculty in a separate facility from the main campus of Rockland Community College. Studies are interdisciplinary and students are encouraged to plan and develop their own program. Participation can take the form of seminars, individual consultations with a faculty member, critiques or group projects. Also general topics of interest are decided upon by the "community" (students in College A) at a beginning session each semester. These may be revised at town meetings held each week. Discussions range from the American Indian to housebuilding to exploring all fields of human existence. Students are formally evaluated through a verbal or written presentation, such as a resume of studies, portfolio, or faculty recommendation, at the end of each term.

College B is an Urban College with an emphasis firmly on community based learning. Students are involved with public service agencies in a nearby community, and so take some courses on campus. This year the college has been discontinued pending reassessment.

College C is a college of interdisciplinary humanities for students who are oriented toward transfer to a four year institution. The curricula included a two-year integrated program of humanities with studies in Literature,
Art, History, Music and Philosophy. The college presently serves 55 students with one full-time and several part-time faculty members. The student program consists of seven components to represent the equivalent of 15 to 17 credits each semester.

1. At least one large group lecture or presentation per week.
2. Several hours a week in small group seminars.
3. One or more hours of "cross talk" a week, where seminars combine to compare notes.
4. An individual study project under the direction of an instructor.
5. One three or four credit course of the student's choice outside College C in Mathematics, Science, Foreign Language, or Psychology.
6. A cultural component, including the complete use of the facilities of Rockland Community College, as well as special trips to New York City.
7. Possible tie-ins abroad.
Although College of DuPage had a 1971 enrollment of only 8,705 students, due to the size and expected growth of the area it serves, its student population is projected to rise to about 20,000 by 1980. Thus, a study was undertaken to examine the organizational structure of the College. Although largeness is not necessarily bad, many times size can preempt effective learning by making it impersonal, authoritative, or bureaucratic. Thus, while size can have advantages in terms of economy or efficiency, it can negate the reason for the institution's existence—in this case, individualized, personal attention for students. DuPage was looking for a college setting where learners and faculty could work together in close proximity and also retain an atmosphere where they are important as individuals. In choosing the cluster concept, DuPage recognized it would not solve all problems of the institution, but the plan did offer a way of restoring a sense of identification within it.

The Cluster arrangement developed at DuPage is an attempt to meet four identified needs of students and faculty, summarized as follows:

1. **Identity:** Within large institutions, small groups can give students a sense of belonging and a place where they will be recognized not
as statistics but as human beings.

2. **Social and Academic Interaction:** In order to realize the complete development of the student, the intellectual issues of coursework should not be separated from the rest of student life. When students cannot make the connection between classwork and lifestyle, their personal and social habits are not apt to be affected by their intellect.

3. **Closer faculty and student contact:** When students and teachers are given the opportunity to develop closer relationships, they will, in addition to knowing each other better, be able to recognize and respond to each other's needs and goals more effectively. The smaller units created by clustering will also increase the opportunity for frequent meetings and conferences between the learner and the instructor.

4. **Greater Involvement:** Given the typical college hierarchy, it is difficult to facilitate increased involvement by students and faculty in educational affairs. Involvement may be increased by bringing the level of governance to the level of students and faculty.
Each cluster college develops the governmental pattern and structure that the personnel, faculty, and students feel will best suit its needs, with the concurrence of the central administration. A certain degree of coordination is necessary to insure student flexibility to move from one college to another. Students have the option to choose or be assigned to a college, and may take courses in and out of their college. There are three general guidelines for the colleges:

1. Each college must be comprehensive in keeping with the educational philosophy of College of DuPage and criteria of the State of Illinois.

2. Each college should develop within its curriculum a distinctive theme determined by the college's community.

3. Each college must develop its program with the existing curriculum of courses. However, this curriculum will probably be modified as the college develops.

Presently the College of DuPage has six more formal colleges operating and one "experimental" cluster. Among the first six cluster colleges, no one significant pattern has yet developed, although all share three important aspects:
(1) a faculty that is seriously concerned with students in their involvement with advising, quality of instruction, and commitment to innovation and change, (2) being accountable to students and the community as to the results of the efforts, and (3) student involvement in the process of government, activities, and evaluation. In general, this means a total learning environment that reflects a definite concern for individuals and their interrelationships with others in society.

Internal organizational structure reflects programmatic functions rather than academic departments. Each college offers programs of two natures--those available and those emphasized. Many programs are available from more than one college, however, each college tends to specialize in several program areas. As colleges develop individual identities and the cluster as a whole becomes operational, it will have the flexibility to add, drop, and/or combine courses and programs in such a manner as to support and strengthen its program.

The seventh cluster college, called Alpha One, is of "experimental" nature. It explores alternative teaching/learning strategies, and generates its own topics and means to an end. This college reflects the fact that there are many ways to put together an education, and to really take
an active part in designing and pursuing one's college education. It encourages those who want to develop their own program to use the ways they learn best and the things they want to learn most. Presently there are five basic approaches: free study; educational advising, tutorials and small group experiences; problem-centered study; the traditional classroom; and a prescribed study program.

CHABOT COMMUNITY COLLEGE

Planned for a day enrollment of 6,300 students, Chabot Cluster College is a confederation of small units called Academies. These act as relatively autonomous units in general education and specific technical-vocational programs. As such each Academy is free to develop its own identity and style to best meet the needs of its students. Originally planned are 18 Academies of 350 students each.

The college's organization is based on several fundamental ideas.

1. Clustering should be created to facilitate educational programs, not just to divide students into smaller groups.
2. Clustering will serve an educational program best if the basis for clustering takes educational programs into account.
3. Student choice should be the basis of cluster assignment, and that choice should have a meaningful rationale related to the educational goals of the student.

In addition, student involvement programs, where students are an active part of the teaching-learning process, are an integral part of the program of each Academy.
The first step students take toward the Cluster College is through the placement examination and through application to the college itself. This is completed prior to meeting with a counselor. Those in continuing education may waive the placement exam.

Upon application to the Cluster College, the student indicates his choice(s) of Academy(ies). If enrollments allow, he is then assigned to the counselor of that Academy. If the student has no preference, he is assigned to a counselor in one of the Academies. The counselor, assisted by the examination, previous experience, and the interview itself, aids the student in evaluating his aptitude and defining interests and goals. If it is judged that the particular Academy is not the best to meet the student's needs, he will be transferred to another one. If the Academy is deemed appropriate, then together they plan the student's program. The final responsibility for the selection of the proper learning activities rests with the students.
LEARNER ACTIVITIES PROCEDURES

1. Information about Cluster Coll.

2. Application Testing

3. Selection of or Assignment to an Academy

4. Conference with Counselor on goals, programs, etc.

5. Appointment with Academy Counselor

6. Register with Program of Study

7. Transfer to Another Academy

8. First week of Term Begin Activities

9. Complete Term

10. Continue at Academy for Next Term

11. Leave Cluster College
The variety of instruction methodologies and systems available to the students and faculty include most found on the larger campus, such as books, slide and artifact depository, campus radio station, and audio-tutorial laboratory facilities. These are examples of the instructional flexibility in all college programs. Four non-traditional methodologies are proposed for Chabot to more explicitly demonstrate the instructional flexibility available through clustering.

The first of these methodologies is Computer Assisted Learning. Each Academy is equipped with one teletype data communications terminal, and it is used as an instructional guide. During registration periods the terminals are used by counselors to program students into all-campus learning activities. One of the key characteristics of this program is that it allows two-way communication. The student has a method of responding to material, and the computer reads the response and reacts accordingly. Real problem simulation and instructional games are typical uses.

The second methodology is an Audio-Tutorial system which centers around learning laboratories that are directed towards individual study. This system, because it is an individual method, accommodates students with a wide diversity of background information, learning skills, interests, and
needs. It places the responsibility for learning and the mechanics of scheduling upon the student. The instructor is present to motivate students and provide orientation or elucidation.

In at least one Academy, a third methodology, Learning Teams, will be used. Students will be assigned to work as a part of a Team in a general studies program. The teams are to meet together two hours per week to review their program with their team advisor, tutor one another in specific learning activity areas, and engage in a colloquium study each term on a topic relevant to the students. The rationale behind this approach is to allow friendships to grow in an academic, intellectual environment, and to provide the interaction afforded by a heterogeneous group. Learning Teams are an attempt to involve students in their own academic programs, and utilize the powerful effect of peer groups as an educational tool.

A fourth educational tool that will be used is Instructional Television. A closed circuit system, used as an extention of teacher's skills, may be employed in a number of ways. Planned for exclusive television offerings are two college-wide courses, a general health course and vocational orientation. These lecture-demonstrations can be rebroadcast at various times. Closed circuit television can also be used by individual Academies as a supplementary teaching tool.
COLLEGE GOVERNING COUNCIL

Student Members

Faculty Members

College Proctors' Council

College Proctor

College President

Council on Teaching-Learning Activities

Council on Comm. Serv. and College Wide Activ.

Membership:
- Academy Proctors
- Director of Community Service and All-Campus Activities
- President of the College

Membership:
- Academy Mentors
- College Proctor
- College Directors
- Business Assistant
- College Coordinators

Policy Recomm.
In conclusion, the cluster concept provides a greater opportunity for learning. Division into cluster colleges has several advantages for community colleges. One of the most obvious is that by decentralizing students have a greater chance for identity, more comprehensive relationships and greater involvement. A cluster college provides greater opportunity for college-wide participation and personal identification. This can create an atmosphere of unity of purpose as the cluster college provides a workable unit in terms of instruction, and allows on-the-spot management and administration. Thus recognition and solution of problems is facilitated. As a result of smaller size and constant contact, change is potentially more meaningful and democratic. Because students and faculty members know one another better, they may be able to respond to each others needs and goals more meaningfully. Further, because each cluster acts as a semi-autonomous unit, clustering allows an institution to experiment and test alternative learning strategies and environments in a setting apart from the established mode(s). This enables the college to initiate, test, and evaluate ideas and innovations to insure that it remains flexible, open, and responsive to the needs of individuals within the larger community.
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