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ABSTRACT

Economics education is examined as revealed by a study of science education at two-year colleges that involved a review of the literature, an analysis of the catalogs and class schedules of 175 representative institutions, and a survey of 69 economics instructors. Each of the three parts of the report reviews pertinent literature, reports study methodology and findings, and discusses trends and implications. Part I outlines trends in economics curricula and analyzes study findings as they relate to course offerings in six disciplinary areas: introductory courses, principles of economics courses, business related, technology related, American Economics, and special topics. Also considered are prerequisites, the distribution of courses by college governance and size, and the level of economics literacy experienced at two-year colleges. Part II notes the rapid growth of the number of students taking their introductory economics course at two-year colleges, discusses the lack of published literature dealing with economics instruction at these institutions, and presents survey findings illustrating enrollment and completion rates, the various instructional modes and materials used, and the grading practices that are most often employed. Part III discusses economics faculty, their status, and the assistance available to them. Summary conclusions and recommendations, a bibliography, and the questionnaire are included. (JP)

SCIENCE EDUCATION IN TWO-YEAR COLLEGES: ECONOMICS

by

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PREFACE

This monograph is one of a series of twelve publications dealing with the sciences in two-year colleges. These pieces are concerned with agriculture, biology, chemistry, earth and space sciences, economics, engineering, integrated social sciences and anthropology, integrated natural sciences, mathematics, physics, psychology, and sociology. Except for the monograph dealing with engineering transfer programs, each was written by staff associates of the Center for the Study of Community Colleges under a grant from the National Science Foundation (#SED 77-18477).

In addition to the primary author of this monograph, several people were involved in its execution. Andrew Hill and William Mooney were instrumental in developing some of the procedures used in gathering the data. Others involved in tabulating information were Miriam Beckwith, Jennifer Clark, William Cohen, Sandra Edwards, Jack Friedlander, and Cindy Isaacson.

Field Research Corporation in San Francisco, under the direction of Eleanor Murray, did the computer runs in addition to printing the instructor survey employed in that portion of the project dealing with instructional practices. Bonnie Sanchez of the ERIC Clearinghouse for Junior Colleges and Janice Newmark, Administrative Coordinator of the Center for the Study of Community Colleges, prepared the materials for publication. Carmen Mathenge was responsible for manuscript typing. Jennifer Clark didthe final compilation of the various bibliographies for each monograph.

Florence B. Brawer coordinated the writing activities and edited each of the pieces. Arthur M. Cohen was responsible for overseeing the entire project.

In addition to these people who provided so much input to the finalization of this product, we wish to thank Irving Morrissett of Social Science Education Consortium who reviewed the manuscript and Ray Hannapel and Bill Aldridge of the National Science Foundation, who were project monitors.

Arthur M. Cohen
Project Director

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SCIENCE EDUCATION IN TWO-YEAR COLLEGES: ECONOMICS

Community and junior colleges currently enroll more than four million students--one-third of all students in American higher education. Recent figures show that 40 percent of all first-time, full-time students are in community colleges. If one adds the people beginning college as part-time students, and those who attend the two-year college concurrently with or subsequent to their enrolling in a senior institution, one finds that the number of first-year students taking two-year college courses approximates two-thirds of all freshmen.

Community colleges, with their open-door admissions policy, have attracted an astonishingly diverse student population who enroll in a wide range of courses and programs. The size and diversity of the community college student population have important implications for those interested in raising the general level of economic literacy in America; for those charged with planning the economics curriculum in two-year colleges; for those concerned with devising effective methods of presenting economics subject matter; for those planning to teach economics in the community college; and for those aiming to strengthen the status of economics in postsecondary education.

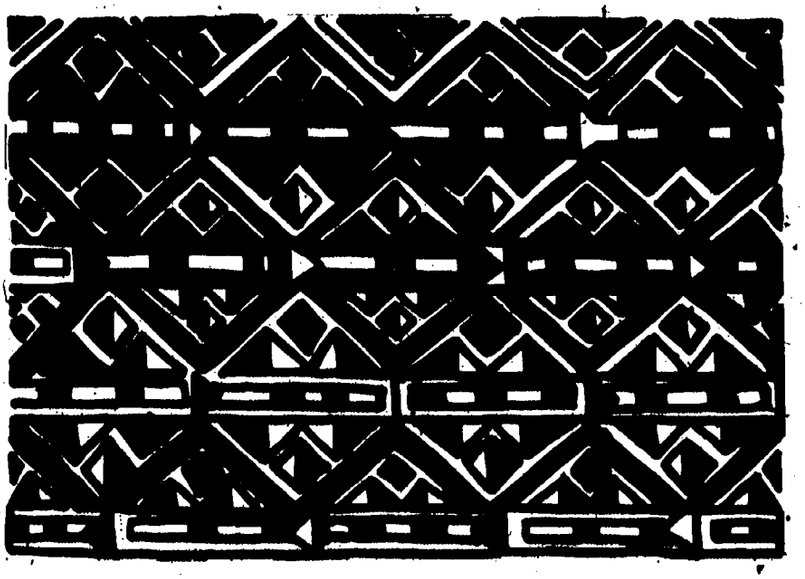
Background of Study

This monograph is part of a National Science Foundation (NSF) sponsored study of science education in America's community, junior, and technical colleges. The study, conducted by the Center for the Study of Community Colleges, was designed to provide a comprehensive picture of curriculum and instruction in the two-year college. In order to achieve this objective, three major research activities were undertaken. A literature review was conducted of the most important studies that have been reported in each of the NSF-included disciplines in the past 15 years

(1963-1978) to determine what was already known of curriculum and instruction in the sciences. Curriculum data (e.g., programs, course offerings, prerequisites, remedial courses) were gathered for one academic year (Winter 1977 through Fall 1978) from catalogs and class schedules of a representative national sample of 175 community/junior colleges to establish a trend line, and, more importantly, to consider the relative magnitude of the college effort in the various fields of study.

Teaching methods were ascertained from a random one-thirteenth of the science instructors teaching courses in the 175 sample institutions so that these procedures could be shared among all practitioners. The information obtained from the instructors included: course goals, reading requirements, materials used in class, instructional methods, grading practices, types of students enrolled, desired changes that would improve their classes, and instructor demographics (e.g., teaching experience, degree attainment).

The literature, methodologies, and findings related to economics curriculum, instruction, and faculty characteristics are reported in Parts One, Two, and Three of this report. Recommendations to various groups (e.g., curriculum planners, administrators, researchers, foundation people, as well as faculty members) who may be concerned with strengthening economics education in the community college are presented in Part Four.



PART I

ECONOMICS CURRICULUM IN COMMUNITY COLLEGES

Although the terms "community," "junior," and "two-year" college are used imprecisely to characterize institutions that offer the associate degree as their highest award, the comprehensive, publicly supported colleges are the dominant form. Thus most of this discussion relates to these institutions.

There are three distinguishing characteristics of the comprehensive community college of the 1970s that must be taken into account when considering the status of economics education in that institution. The first of these characteristics concerns the multiple missions of the community college. It offers programs for transfer students in different major fields; non-transfer students desiring a general education; students in

occupational and technical programs; educationally "underprepared" students needing remedial courses required for entry into the college's transfer or occupational programs; and non-degree oriented students desiring cultural, recreational, and community interest courses.

A second distinguishing characteristic of the community college is the massive transformation in the composition of its student body that has occurred in recent years. To illustrate, the percentage of two-year college students enrolled in occupational programs increased from 13 percent in 1965 to approximately 30 percent in 1970, and then to nearly 50 percent in 1976 (AACJC, 1976). In a recently completed review of occupational enrollment trends in the two-year college, Lombardi (1978) noted that "it is not unusual to find colleges, even entire state systems, where occupational enrollments exceed transfer enrollments" (p. 1).

The number of students participating in non-credit courses or programs has increased over 100 percent in one year (1.5 million in 1975 to 3.2 million in 1976). The importance of the phenomenal growth of continuing education enrollments in the two-year college curriculum becomes evident in the findings that in 1976 there were nearly as many students participating in non-credit courses as there were in credit courses (Lombardi, 1978).

Another major change that has now occurred in the two-year college concerns the composition of the student population itself. In the last decade there have been substantial increases in the percentage of community college students who fall into one or more of the following categories: over 25 years of age, women students returning after a prolonged absence, senior citizens, part-time students, members of minority groups, and academically "underprepared" students. Traditional full-time students entering the community college just after completing high school account for only about 20 percent of the enrollments in this institution.

A third distinguishing characteristic of the community college concerns the non-traditional course-taking pattern of its students. Much of the community college curriculum cannot accurately be viewed in classical terms; it is not a coherent integrated sequence of courses and experiences. In fact, regardless of how the programs are designed, they are not

sequential at all for most of the students who enroll in them. A sizeable majority of students do not complete planned programs--vocational, transfer, academic major, or anything else. They drop in and out, changing majors, beginning programs without completing them, using the institution as an ever present resource (Cohen, 1979).

Designing an economics curriculum to meet the diversity of student talents and objectives presents the following dilemmas. Should the curriculum offerings serve the educational needs of the transfer student? The occupational student? The general education student? Or all three groups? Should separate introductory courses be offered to meet the unique needs of each group or should one course be geared towards satisfying general education objectives? Should the courses be as demanding as those found in the transfer institution or should they be adjusted to the less academically inclined? The ways in which these questions are answered have an important bearing on the number of students in each of the various educational objective/ability groups exposed to economics education. Much of the literature reviewed here focuses on how these questions concerning the mission of the economics curriculum in community colleges have been addressed and the consequences of these decisions on course offerings and enrollments.

THE LITERATURE

For Whom Should the Introductory Course Be Designed?

Waller (1977) recommends that the social science offerings (including economics) should be designed as a one-term, terminal, general education course appropriate for all students. He is opposed to having colleges offer separate intrdductory courses for transfer and non-transfer students, for, as he states, many students move in and out of transfer and terminal programs. Thus, the audiences served by the course would not be sufficiently distinct to warrant two separate offerings. Furthermore, students who complete the terminal course and later decide to transfer may be penalized in that the baccalaureate degree-granting institution may not

consider it an adequate substitute for their introductory course.

A second point made by Waller is that the introductory course in economics should provide all students with a non-technical analysis of contemporary issues and problems, and should be designed as terminal in nature rather than as a prerequisite for more advanced work. Third, all students, regardless of their educational objectives, should be exposed to the same caliber course. Waller recognizes the difficulties of adequately providing for the conglomerate of student learning abilities and interests likely to be found in one class. However, he believes that instructors can answer this challenge by using innovative methods such as individualized instruction.

One argument for offering separate economics courses to students of different abilities and motivational levels is provided by Apsler (1967), who suggests that the community college, by proclaiming that it has something to offer to all according to their needs and abilities, is obliged to provide adequate and meaningful instructional offerings to its constituents. To fulfill the objectives of the open door policy, community colleges should provide transfer students with an economics course that will prepare them just as their counterparts at the universities are being prepared so that they can enter more advanced courses in the field with the same subject matter background. Non-transfer students (i.e., occupational, general education, continuing education) should be afforded the opportunity to take an economics course suitable to their abilities and interests. One reason for designing separate courses for different student groups is that many non-transfer students are neither willing nor capable of successfully completing a traditional transfer economics course and will either avoid it or if forced by requirements to enroll, will fail or drop out (p. 3). The high attrition rates (about 35%) reported by Dawson and Bernstein (1969) and Jones et al. (1975) in their studies of introductory economics courses lend some credence to Apsler's recommendation.

Course Offerings in Economics

The literature on course offerings in economics provides some

insights regarding the position that community colleges have taken on whether or not to offer separate courses for transfer, general education, and occupational students. The Thompson, Walthall, and Merson (1967) survey of economics education in California's junior colleges represents one of the first large-scale studies of economics curriculum in two-year colleges. Analysis of the 1966-67 catalogs obtained from each of California's 80 junior colleges showed that nearly all of these institutions (98%) offered a two-semester transfer course in principles of economics. A substantially smaller percentage of these colleges offered consumer economics (45%)--a one-semester course designed for general education and non-transfer students; American economic history (16%)--a one-semester transfer course designed primarily for general education students; and other economics (17%)--a category comprised of more specialized economics courses in such areas as business, labor, statistics, and regional problems.

Enrollment data from the Thompson, Walthall, and Merson study showed that over 80 percent of all economics enrollments were in the two-semester transfer course in economic principles. Course enrollments in the remaining areas of economics considered were, in descending order: consumer economics (6.4%), general economics (6.3%), other economics (3.3%), and American economic history (1.8%). The data on course offerings and enrollments demonstrate that the economics curriculum in California's junior colleges was primarily designed for and utilized by only one of the college's many constituencies--the transfer program student.

New York University's Center for Economic Education sponsored a nationwide survey of economics education in junior colleges during the academic years 1968 and 1969 (Dawson, 1970). Questionnaires obtained from 293 junior colleges (approximately one-third of all junior colleges listed in the 1968 Directory of the American Association of Junior Colleges (AAJC) showed that all of the schools in the sample offered at least one economics course. The number of economics courses given by a single institution ranged from one to ten. The mean was three. At least 35 different courses in economics or closely related subjects were identified

by the researcher in his sample of junior colleges. The transfer-oriented course in principles, which was offered by over 99 percent of the colleges, was by far the most common. This was followed by statistics (34%), business organization (31%), and economic geography (24%). The remaining economics-related courses identified in this study were offered in less than 20 percent of the colleges. It should be noted that the two categories of courses designed primarily for non-transfer students--consumer economics and general economics--were each offered at only 12 percent of the sample institutions.

The finding that economics offerings in community colleges were directed primarily towards transfer program students was also reported by Phillips (1971), who found that all of the 224 colleges (21.9% response rate) responding to his questionnaire offered a transfer-oriented course in both micro- and macro-economics. In addition to the principles courses, 60 percent of the colleges in Phillips' study offered a one-semester survey course in economics with a general education emphasis for non-majors. A one-semester non-transfer course in consumer economics was offered by 20 percent of the colleges, and another 30 percent of the schools were considering adding this course to their curriculum. Other economics courses, such as United States economic history, economic statistics, economic geography, and philosophy of economic thought, were offered in five percent of the community colleges. The heavy emphasis on transfer course offerings led Phillips to recommend that community colleges design economics courses for those students not planning to transfer to a four-year college or university. In terms of prerequisites, Phillips found that 90 percent of the principles of economics courses carried entrance requirements (e.g., satisfactory test scores in English, mathematics, sophomore standing), but only 30 percent of the survey courses did so. Only two percent of those colleges offering consumer economics courses specified prerequisites, but almost all (95%) of those colleges having specialized economics offerings listed entrance requirements.

Two observations related to Phillips' findings on prerequisites are worth noting. First, although many colleges listed sophomore standing

and/or college level mathematics proficiency as requirements for entry into their introductory economics courses, there is evidence which suggests that neither of these attributes is related to student performance in these courses (Dawson, 1975; Kim, 1976). A second observation is the fact that a general education-oriented introductory economics course was rarely specified as a prerequisite for entry into the more discipline-based principles course. This finding, in conjunction with those results gained from the research on course offerings conducted by Dawson (1971), Phillips (1971), and Thompson et al. (1967), indicates that neither Waller's recommendation that the introductory economics course be designed as a one-term general education class to be taken by all students or Apsler's suggestion (1967) that colleges offer separate introductory economics courses that are in line with student abilities and interests are being followed. The policy pursued by most two-year colleges is to use their transfer-oriented principles course to introduce all students to economics, regardless of their learning abilities, goals, or interests.

General vs. Principles Course

Several community colleges offer two types of introductory courses. The principles of economics course is designed to replicate the introductory course taught at most four-year colleges and universities. It is intended for potential transfer students, and it is accepted at most transfer institutions as being equivalent to their introductory course in economics. The general course is typically designed for non-transfer students who wish to be exposed to a non-technical survey of current issues and problems in economics. It is usually assumed that students in the general course learn less economics than those in the principles course and, as a result, most four-year institutions do not consider it an adequate substitute for their introductory course. One consequence of this articulation policy is that most students planning to transfer (only a small percentage actually do) to a four-year institution will take the principles over the general economics course, when in many instances, the introductory course may have been more in line with their learning aptitudes and interests.

Do students enrolled in a traditional transfer-type course learn more economics than students in a general course? This question was addressed in a study conducted by Lewis, Wentworth, and Orvis (1973). After controlling for ability, maturation, and past performance in economics, the investigators were unable to detect any significant differences in performance on a standardized economics test between students in two general and four transfer-type courses. The authors recommended that four-year institutions should not rule out, a priori, awarding credit to students completing the general introductory course; and that community college instructors should design courses suited to the learning needs and abilities of their students rather than try to replicate the text materials and content of the introductory course found in the transfer institutions. This latter recommendation is based on the assumption that many community college students may benefit more from an introductory economics course that is non-technical, applied, and perceived as being immediately relevant, than one which is more technical, theoretical, and somewhat abstract.

Some support for this assumption is found in a study conducted by Klos and Trenton (1969). These researchers compared the knowledge obtained by students in three sections of a one-semester, non-technical introductory course with that of students enrolled in three sections of a two-semester, traditional introductory course emphasizing theory and principles. Comparison of the test scores obtained by students exposed to the two different types of courses indicated that there were no significant differences in student learning. Furthermore, only a small percentage of students in the traditional class sections mastered the analytical tools and theories of economics that the course was specifically designed to teach. Klos and Trenton, who attributed these results to the lack of adequate background and motivation of students in the principles course to master the analytical tools of the discipline, recommended that the traditional two-semester introductory course be replaced by a one-semester general introductory course followed by a specialized economics course in some particular area that is of interest to the student.

Content of Introductory Economics Courses

Insights into the question of whether community college economics instructors adjust their courses to satisfy the unique learning orientations of their students can be gained from studies that focus on the content covered in introductory courses. Thompson et al. (1967) obtained outlines for the principles course from 46 instructors participating in his study of economics education in California's junior colleges. Analysis of the outlines revealed that there were no major variations in the topics covered.

A substantial degree of homogeneity in the content of the introductory courses was also reported by Koscielniak (1975) in his study of economics education in 23 two-year and 39 four-year colleges and universities located in the Midwest. About 94 percent of the faculty surveyed approached their introductory economics course from a macro-micro viewpoint. The other six percent approached their introductory economics course from one of three perspectives--history of economic thought, issues and problems, or a mixture of related principles and concepts that did not distinguish between macro- and micro-economics.

Koscielniak reached the same conclusion as Thompson et al. (1967)--namely, that the content and approaches found in most introductory textbooks were very similar, and that this lack of diversity was reflected in the course. The researcher listed several approaches that economics instructors might consider using in their introductory courses. Among those recommended were a chronological study of economic analysis, worldwide economic models, psychological and philosophical determinants of economic behavior, and/or an emphasis on normative or policy economics as opposed to pure or positive economics.

Like their counterparts in other fields of study, economists have not yet found satisfactory answers to the questions of what and how much content should be presented in their introductory courses. Few, however, are likely to disagree with the conclusion reached in the well-known Haley Report (1967) which noted that the introductory course in economics "often undertakes to cover too much territory, to serve too many different

purposes for different groups of students, and tends to be too technical and excessively involved with theoretical refinements" (p. 82). Similar criticisms of the principles course have been advanced by Clark (1976), Fels (1955), Lewis (1970), and in a series of papers presented at the 1971 Midwestern Economics Association Meeting by Mandelstamm, Petr, and Segebarth (1971).

Mandelstamm et al. (1971) noted that many instructors have added concepts and theories to an already overcrowded introductory course while others have almost completely abandoned economic theory in favor of current events. It was recommended that the introductory course contain a "reasonable" amount of theory followed immediately by a number of real-world problems. However, Mandelstamm et al. were quick to point out that a satisfactory solution to the problems of incorporating content related both to theory and practice into a one- or two-term introductory course has thus far eluded them as it has many others.

With few exceptions, discussions concerning topics that should be included in the introductory economics course have been based on the assumption that the course would serve "traditional" college and university students. Questions concerning what the course content, orientation, requirements, and methods of presentation should be for the various non-traditional and non-degree-oriented students attending community colleges have yet to be adequately addressed.

Economic Literacy and the Community College

In a speech to the Commonwealth Club of California, Glen S. Dumke (1976), Chancellor of California's State Universities and Colleges, noted that "on public questions involving economic issues, our schools and our universities in many ways fail to prepare the great majority of students to make wise decisions. And the adult public at large, having emerged from these same institutions, is in the same boat. Our citizens cannot in most cases make wise decisions on economics because, frankly, we are largely a nation of 'economic illiterates'" (p. 1). Dumke's statement on the general lack of economic literacy in the United States is well

documented (see Cobbs, 1976; Dawson, 1975; Dumke, 1976). Surveys of junior high school students (Joint Council on Economic Education, 1974); high school students (Schwartz, 1969); freshmen entering two-year (Dawson & Bernstein, 1969) and four-year (Dawson, 1975) colleges; high school social studies teachers (Bach & Saunders, 1965); well-educated adults in business, banking, and industry (Dawson, 1972); and members of the general public (Business Week, 1971) reveal a widespread ignorance of basic economics facts and concepts needed to make informal day-to-day economic decisions. To illustrate, Dawson and Bernstein (1969) found that over one-half of their sample of community college students in the metropolitan New York area failed to respond correctly to simple test items on the differences between communism and free enterprise, on government's role in a free economy, on the relationship between productivity and wages, and on the impact of tariffs.

The reasons for this economic illiteracy are apparent. Most people in the United States are not formally exposed to the basic concepts and principles of this discipline, as it is seldom taught as a separate subject in the elementary and secondary schools. In fact, according to a U.S. Office of Education Report (see Dumke, 1976), only 26.4 percent of the secondary schools in America offer a course in economics; and only 7.1 percent of the students in these schools take a course in this subject area. This lack of formal exposure to basic economic concepts is not adequately compensated for through information acquired in other courses (Bishop, 1976). Thus, as Dumke (1976) has noted, "the typical college freshmen know little of our economic system" (p. 5).

Unfortunately, only a minority of these students take an economics-related course in college. Lewftwich and Sharp (1974) reported that 75 percent of the students who graduate from a four-year college or university will do so without having had a course in economics. Estimates on the percentage of community college students who enroll in an economics course are substantially lower. Thompson et al. (1967) found that less than five percent of their sample of California junior college students enrolled in an economics course each semester. This figure would have

been even lower if students majoring in business administration were not required to take economics. The low participation rate in economics courses found among most segments of the two-year college population led the researchers to recommend that those educators concerned with economics in community colleges devise plans which would advance the economic literacy of all their students, develop economic courses which would be meaningful and appropriate for all students, and identify methods to encourage students to enroll in economic classes that are congruent with their educational needs.

About 14 percent of the total enrollment in Dawson's (1970) national sample of 293 two-year colleges participated in at least one economics course. (Dawson noted that this estimate was probably inflated due to the bias in the sample.) Economics was required of some students in 74 percent of the schools. Business majors had to take an economics course in 55 percent of the sample colleges, whereas social science majors were required to do so in only 12 percent of the institutions.

The literature reviewed in this section indicates that in community colleges, the students exposed to economics education are primarily the majors in economics and business administration. The majority of the remaining students take no courses in this area, despite the strong relationship that economics has to most major fields and occupational areas.

Most of the surveys of economics education at the two-year college level were conducted in the late 1960s and early 1970s. Since that time community colleges have undergone considerable expansion in terms of their numbers, aims, and populations served. Information on the current status of the economics curriculum in the two-year college was obtained in the Center's study of science education. Results of this study that are related to curriculum are presented in the following portion of this paper.

THE CURRICULUM STUDY

METHOD*

Sample

A representative national sample of 175 two-year colleges participated in the Center for the Study of Community Colleges' study of curriculum and instruction in the sciences (see Appendix A for a list of participating colleges by state). The sample, which comprises 15 percent of all colleges listed in the 1977 Community, Junior, and Technical College Directory (AACJC, 1977), was selected in the following manner.

Presidents of the 178 community colleges that participated in the Center's study of humanities education (Cohen & Brawer, 1977) were asked if they would be willing to take part in a similar project involving the sciences and social sciences. Acceptances were received from 144 of these schools.

At this point the participating colleges were placed in a 9 x 6 matrix on the basis of size and geographical location. Using the 1977 Community, Junior, and Technical College Directory, the ideal size/region composition of a 175-college sample was determined. The remaining 31 colleges were selected by arraying all colleges in the underrepresented categories and then randomly selecting the possible participants. The 175 colleges selected were found to be an accurate representation of the nation's two-year colleges on the basis of size, geographical location, and control (public vs. private).

Procedure

Catalogs for the academic year 1977-78 and class schedules for Spring 1977 through Winter 1978 were obtained from each of the 175 sample

*For a comprehensive treatment of the methodologies used in the Center's study of science education in the two-year college see Hill and Mooney (1979).

colleges. The college catalogs were gathered in order to obtain descriptions of the courses in terms of their prerequisites, content, and students served. The class schedules were required in order to gain a more accurate count of what courses were being offered than could have been ascertained from the college catalogs. This is because many college catalogs list courses which have not met for several years.

All economics courses appearing in the college catalogs and in the class schedules were placed into one of six categories on the basis of their content and intended audience (e.g., major field, degree objective). Descriptions of the six subject area categories into which the economics courses were classified are presented below.

INTRODUCTORY/GENERAL ECONOMICS

This category is comprised of non-technical, non-theoretical introductory survey courses of economic principles, problems, institutions, and issues as they pertain to individuals, business firms, and the nation. Among the topics covered in these courses are supply and demand, finance, money and banking, national income, economic growth, income distribution, unemployment, poverty, inflation, labor unions, and foreign trade. These courses assume no previous study in economics and are generally designed for students who are not business or economic majors.

PRINCIPLES OF ECONOMICS

Courses in this category focus on the principles of economics and the bearing of these principles on the economy. Topics related to macro-economics and micro-economics are often covered in separate courses, with the former typically offered before the latter. Among the topics discussed in the principles courses are economic analysis, institutions and policy issues, price systems, distribution of income, money and banking, national income, and public finance. The introductory principles course often serves as a prerequisite for more advanced courses in economics.

BUSINESS-RELATED ECONOMICS

This category includes courses in money and banking, real estate economics, labor economics, insurance economics, and business economics. The courses are usually offered by business departments and the emphasis is on the application of economic principles to the study of business-related concerns. Introductory courses in business and, to a lesser extent, economics, often serve as prerequisites for enrollment in these classes.

TECHNOLOGY-RELATED ECONOMICS

Consists primarily of courses in agriculture economics and, to a much lesser extent, courses in engineering, industrial, and transportation economics. These courses are designed to help students apply general

knowledge and theory of economics to problems related to their industry. Topics covered in agriculture economics include production, value, prices, credit, land tenure, marketing, and international trade. Engineering economics courses typically include such topics as investment, financing, depreciation, manufacturing, costs, and replacement analysis. These courses are offered by technology divisions and do not usually require previous course work in economics.

AMERICAN ECONOMICS AND HISTORY

These courses focus on the institutional, technological, and economic conditions that have influenced economic growth and development in the U.S. or in a particular region of the country from the colonial period to the present. Generally included are factors that have influenced the growth of American economic institutions (business, industry, agriculture, transportation, financial) and the affects of these changes on contemporary American life. These courses are often offered by a history department or social science division and, in many institutions, may be used to satisfy a history and/or American government graduation requirement.

SPECIAL TOPICS

Courses in economics that do not fit in any of the preceding economic categories. This category includes courses in comparative economic systems, economic development and issues of specific countries and regions of the world. Also included in this category are courses that examine economic problems of a particular group (e.g., women, Blacks), as well as courses focusing on contemporary economic issues.

A course was placed into one of the categories listed above if the primary focus of its content was on economic principles, analysis, issues, and/or institutions as they pertain to individuals, business firms, government, and other nations. Courses were omitted from this study if they did not carry college credit, if they were primarily concerned with consumer economics, if economics-related concepts were not the primary focus of the course, or if the courses were offered as an independent study.

RESULTS

Economics Offerings

A primary objective of this study was to identify the extent to which different areas of economics are represented in the community college curriculum. Table 1 presents the percentage of the 175 sample

colleges that listed at least one course in a given area of economics during Spring 1977 through Winter 1978 day and evening class schedules (summer session was not included). Also reported in this Table are the proportions of the total number of economics courses and class sections accounted for by each of the six subject area categories.

Table 1

Percentage of Two-Year Colleges Offering Courses in an Economics Area and the Proportion of Total Economics Courses Accounted for by Each Subject Area

Economics Area	Percentage of Colleges Listing Course in Class Schedule (n=175)	Percentage of Total Economics Courses on Class Schedules (n=553)
Intro/General	33	11
Principles	93	60
Business-Related	34	12
Technology-Related	22	8
American	16	5
Special Topics	9	5
Total	100	100

The data appearing in Table 1 reveal that 93 percent of the colleges listed at least one Principles of Economics course in their class schedules during the time period studied. The percentage of colleges offering a course in one of the remaining areas of economics considered in this study were in descending order--Business-Related (34%), Introductory (33%), Technology-Related (22%), American Economics and History (16%), and Special Topics (9%). Nearly all of the colleges (98.9%) listed at least one economics course in their class schedules during the one-year time period considered.

Students Served by the Courses

Insights into the extent to which community colleges are attracting different student groups (e.g., transfer, general education, occupational) to participate in economics education can be gained by examining the percentage of the total number of economics courses devoted to each of the subcategories (Table 1). Here we find that the Principles of Economics course which is designed primarily for students planning to transfer to a four-year institution accounted for 60 percent of all economics courses while the Introductory/General course, which is designed primarily for students who are not business or economics majors, accounted for only 11 percent of the total number of courses offered in this field of study. Twelve percent of the total number of course offerings in economics were in Business-Related, while eight percent were in Technology-Related areas (mostly agriculture).

Very few of the economics courses were designed for non-business and non-economics majors who wished to take a class related to the American economy or to a special topic. With the exception of agriculture--and to a lesser extent engineering--there were few courses designed specifically for students in occupational programs.

College Size and Course Offerings

A further purpose of this study was to ascertain if institutional size is related to the range of economics courses offered by a community/junior college. In order to address this concern, the colleges were divided into three size categories on the basis of their enrollments: Small (1-1,499), Medium (1,500-7,499), and Large (7,500 and over).

As shown in Table 2, a strong, positive, and expected relationship exists between institutional size and the percentage of colleges that offer a course in each of the economics areas considered. That is, with one exception (Technology-Related courses), large colleges were much more likely to offer a course in any one economics area than were the medium-sized colleges which, with the exception of the Principles course, were more likely to do so than the small colleges.

Table 2

Percentage of Colleges Offering a Course in an Economics Area by Institutional Size

Economics Area	Small (1-1,499)	Medium (1,500-7,499)	Large (7500+)
Intro/General	31.9	33.3	44.0
Principles	90.3	89.7	96.0
Business-Related	15.3	41.0	80.0
Technology-Related	12.5	28.2	20.0
American	*	16.7	36.0
Special Topics	*	12.8	20.0

*Less than one percent of the colleges offered a course in this category.

For example, a much greater percentage of the large colleges (80%) offered a course in a Business-Related area than did the medium (41%) or small (15.3%) size colleges. This finding indicates that the selection of economics courses available to students attending a large college is likely to be much greater than that available to students attending a medium or small institution.

Public vs. Private Colleges

The data presented in Table 3 demonstrate that public institutions are much more likely than private colleges to offer a course in each of the six areas of economics considered. In fact, less than one percent of the private colleges offered an economics course in areas other than Principles (75%) and Introductory/General (14.3%).

Prerequisites

Two further objectives of this study were to determine the percentage of economics courses that carry prerequisites and, relatedly, to identify the types of prerequisites that colleges require for entrance into their

economics courses. Information on prerequisites was obtained primarily from course descriptions found in the college catalogs.

Table 3
Percentage of Public and Private Colleges
Offering a Course in an Economics Area

Economics Area	Public (n=147)	Private (n=28)
Intro/General	37.4	14.3
Principles	99.3	75.0
Business-Related	39.5	*
Technology-Related	25.2	*
American	19.0	*
Special Topics	16.6	*

*Less than one percent of the colleges offered a course in this category.

The data appearing in Table 4 demonstrate that the courses most likely to carry a prerequisite are those in the Special Topics category (45.5%). Students are eligible to enroll in these courses if they have completed a Principles of Economics course (60%) or are of sophomore standing (40%).

Prerequisites are required in about 43 percent of the Principles courses. Completion of another Principles course, usually the first or second part of a series, is required in 82.2 percent of the courses in which a prerequisite is specified. It is instructive to note that an introductory economics course is rarely listed as a prerequisite for entry into classes in either the Principles or Special Topics categories. This indicates that many community colleges are using the transfer-oriented Principles course rather than the less technical General Economics survey course to introduce their students to the discipline.

Prerequisites were specified in just over 40 percent of the Business-Related courses. Close to 60 percent (58.6%) of the courses in this

Table 4

Percentage of Courses in Economics Categories with Prerequisites

Economics Area	Percentage with Prerequisites	Prerequisites Required						
		Intro/ General	Principles	Business	Intro to Discipline	English	Math	Sophomore Standing
Intro/General	3.3	50.0	--	--	--	--	--	50.0
Principles	43.2	3.4	82.2	2.0	--	2.0	1.4	8.9
Business-Related	40.8	--	41.4	58.6	--	--	--	--
Technology-Related	24.5	--	--	--	41.7	--	41.7	16.6
American	10.3	--	66.0	--	34.0	--	--	--
Special Topics	45.5	--	60.0	--	--	--	--	40.0

Note. Percentages based on total number of economics courses in a category with a requirement.

category that carry a prerequisite list an introductory business course. Completion of a Principles of Economics course (41.4%) is specified for entry into the remaining courses.

Entry requirements are specified in about one-fourth (24.5%) of the courses in the Technology-Related category. Completion of a course in a disciplinary area (41.7%) and/or mathematics (41.7%) is required in over 80 percent of the Technology courses that list a prerequisite. The mathematics requirement is, in most instances, associated with the engineering economics courses. Prerequisites are listed in only a few of the courses in the General (3.3%) or American Economics and History (10.8%) categories.

Macro- and Micro-Economics

The question of whether students should be exposed first to concepts related to aspects of macro- or micro-economics has been the subject of much debate. Analysis of the prerequisites associated with those courses specifically labeled as macro- or micro-economics showed that 50 percent of the colleges that offered both courses listed macro-economics as the prerequisite for entry into micro-economics courses. The reverse order was found in only 9 percent of the colleges that offered courses in both of these areas. The sequence in which students are to take the macro and micro courses is not specified in the remaining 41 percent of the institutions which present both of these courses. However, the macro-economics course is offered sequentially ahead of the micro-economics course in 69 percent of these colleges.

Departments Offering Economics

Knowledge of the departments or divisions which are responsible for economics offerings is important in that it is likely to have some influence on the orientation of the course. The data presented in Table 5 show that a division of economics, social science, or general education (clear distinctions between these three areas cannot be made from the information in the catalogs) is responsible for about 90 percent of the

community colleges offering economics courses in American Economics and History (91.7%), Principles (90.5), and Special Topics (90.0%).

Table 5

Departments Responsible for Offering Economics Courses

Economics Area	Department					
	Economics/ Soc. Sci./ General Ed.	Business	Agri-culture	Engin-eering	History	Trans-portation
Intro/General	87.3	12.7	--	--	--	--
Principles	90.5	9.5	--	--	--	--
Business-Related	27.9	72.1	--	--	--	--
Technology-Related	4.8	4.8	64.3	19.0	--	7.1
American	91.7	4.2	--	--	4.1	--
Special Topics	90.0	--	--	--	--	10.0

A business department or division is the source for Business-Related courses being offered in 72 percent of the colleges. Nearly all of the schools offer Technology-Related economics courses in their agriculture, engineering, or transportation departments.

Catalogs vs. Class Schedules

A comparison of the economics courses listed in the sample colleges' 1977-78 catalogs and those listed in their class schedules for the same time period can be instructive in two respects. It can provide a check on the relative accuracy of using catalogs as opposed to class schedules to determine a college's curriculum offerings. This is important since studies of college curriculum have typically obtained their data on course offerings from catalogs.

Discrepancies between the number of economics courses in a particular category noted in catalogs and class schedules can also provide some insights into the relative health of a particular area of economics in the community college. For example, if colleges list 200 Principles of Economics courses in their catalogs but only 50 of these courses appear in their class schedules, then one can infer that either the catalogs are hopelessly out-of-date or that student demand for the Principles course has diminished considerably.

The data presented in Table 6 show that only 77.8 percent of the economics courses are listed in both the college catalogs and the class schedules during the time period considered. The degree of correspondence in the number of economics courses listed in the college catalogs and class schedules is high in one area--Principles (94.8%); moderate in two areas--General (78.9%), Technology-Related (71.0%); and low in the remaining three areas--American Economics and History (60.4%), Business-Related (55.9%), and Special Topics (36.4%).

The percentage of colleges that list at least one economics course in a particular category in both their catalogs and class schedules is also presented in Table 7. Not surprisingly, the results of this analysis are parallel to those reported above.

These findings clearly demonstrate the value, in terms of increased accuracy, of using class schedules rather than catalogs in determining a college's actual course offerings. The findings also suggest that, with the exception of the Principles courses, student demand for the economics courses offered in community colleges may be decreasing. However, explanations on why the sometimes dramatic drops occur between the number of economics courses found in the catalog and the number appearing in the more current class schedules are not readily apparent from the data obtained in this study.

Table 6

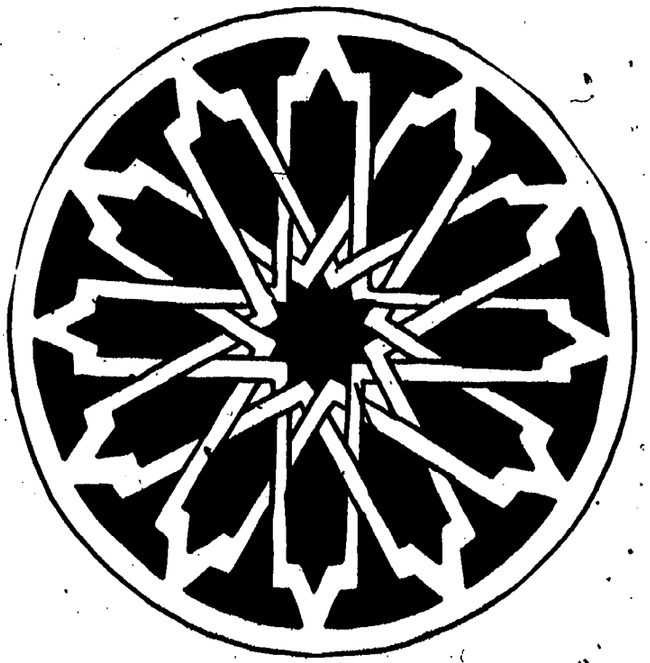
Percentage of Economics Courses Listed in Both the College Catalogs and Class Schedules

Economics Area	No. of Courses Listed in 1977-78 College Catalogs	No. of Courses Listed in 1977-78 Class Schedules	% of Courses Listed in Both Catalogs and Schedules
Intro/General	76	60	78.9
Principles	346	18	94.8
Business-Related	127	71	55.9
Technology-Related	69	49	71.0
American	48	29	60.4
Special Topics	44	16	36.4
Total	710	553	77.8

Table 7

Percentage of Colleges That Listed a Course in Their Catalogs and Class Schedules

Economics Area	Percentage of Colleges Listing This Type of Course in Their Catalog	Percentage of Colleges Listing This Type of Course in Both Catalog and Class Schedule
Intro/General	43	33
Principles	94	93
Business-Related	51	34
Technology-Related	32	21
American	21	16
Special Topics	18	9



PART II

INSTRUCTIONAL PRACTICES

As previously noted, most community colleges adhere to an open-admissions policy, admitting virtually anyone who wishes to enroll in their courses. One outcome of this admissions policy is that community college faculty members are often charged with providing instruction that is appropriate and meaningful to a group of students that varies considerably in terms of their backgrounds, educational goals, abilities, and attitudes toward learning. The range of students' academic abilities apt to be found in a single classroom is evidenced in the Thompson et al. (1967) observation that "in the same classroom one finds students who have eighth grade aptitudes, and students who could qualify for admission to some of the best four-year universities" (p. 1). The variation in attitudes toward learning found among community college students is also reflected in Brown and

Finch's (1973) observation that "there is a large percentage of students with lower middle class backgrounds who view intellectual activity as more or less irrelevant to everyday life, and who react in a very negative way against any activity which is not directly career-related or entertaining. On the other hand, there is a sizable minority of students who can and will exploit every opportunity to learn" (p. 40).

Given this diversity in student aptitudes and motivation, it would seem important to have information on such questions as: What instructional methods are most effective for what types of students attending community colleges? Can all students adequately learn the subject content typically presented in the Principles of Economics course? And if not, what skills are needed to acquire this information? Surprisingly, the literature in economics education pertaining specifically to community college students is silent on these issues. The few studies that have been concerned with instructional-related issues in the two-year college have been in three areas: comparisons of economic understanding obtained by students in two- and four-year schools; surveys of instructional approaches used in the community college; and studies comparing the effectiveness of various instructional techniques (e.g., individualized instruction, games, instructional objectives, audio-visual materials) on student learning with conventional lecture and discussion approaches.

The purposes of this section are two-fold: to review the literature on issues related to instruction in community college economics courses; and to present the findings of the Center's nationwide survey of instructional practices used by economics faculty in the two-year college.

THE LITERATURE

Student Understanding of Economics

One consequence of the rapid growth that has occurred in two-year college enrollments is that an increasing proportion of students will be taking their introductory economics course at this institution. This development has stimulated many individuals concerned with economics education to question whether students enrolled in community college principles

courses are as well prepared in the subject area as students in four-year colleges and universities who complete the same course.

A number of studies have measured the economic understanding of two-year college students. Most of these show that community college students begin and conclude their economics courses with considerably lower scores on standardized tests of economic understanding than their counterparts in four-year colleges and universities (Bellico, 1974; Bishop, 1976; Dawson & Bernstein, 1969; Healey, 1970; Lewis, Wentworth & Orvis, 1973; and Weidenaar & Dodson, 1972). These differences persist even when adjustments are made for differences between the two groups in ability levels and other relevant background characteristics (Lewis, Wentworth, & Orvis, 1973; Weidenaar & Dodson, 1972).

Findings that run contrary to those noted above were reported by Thompson et al. (1967) and Labinski (1974). These investigators found that there were no significant differences in the mean scores on standardized economics tests achieved by students in two-year and four-year colleges who had completed an introductory economics course. Unfortunately, none of the studies cited above used research designs that allowed the investigators to identify the instructional or student characteristics that caused two-year college students to learn less economics in their introductory courses than four-year college and university students. However, the hypotheses advanced by several of the investigators to account for the differences found between these two groups yield valuable insights into some of the instructional problems encountered by those teaching economics in two-year colleges.

Lewis, Wentworth, and Orvis (1973) hypothesized that the differential performance in economics between students in two-year and four-year institutions may be due to what Kenneth Clark (1965) has termed the self-fulfilling prophecy of educational atrophy. According to this hypothesis, instructors in two-year colleges are aware that their classes contain students with average or less-than-average academic ability. As a result, these teachers may expect less of their students and they may accept poorer performances than if they had taught those same students in a four-year

institution. Students may also internalize their allegedly inferior academic status, predisposing them to lower their own goals and contribute less to their own achievements.

Weidenaar and Dodson (1972) found that even after adjusting for differences in aptitude, community college students who were enrolled in 11 sections of an introductory economics course still scored lower than four-year college students on the Test of Economic Understanding (TEU). The researchers suggested that these differences may have occurred because of the poorer instruction provided by two-year college teachers as compared to that by instructors in four-year colleges. In order to test this "insufficient instruction hypothesis," Weidenaar and Dodson conducted regression analyses to determine whether certain characteristics of the 11 two-year college instructors were related to their students' test scores on the TEU. The results of the analysis showed that: instructor teaching experience is positively and significantly associated with students' performance on the TEU; students taught by instructors with a master's degree in economics (as compared to those instructors without this degree) achieved significantly higher scores on the TEU; and instructors' knowledge of economics, as measured by the TEU, was positively and significantly associated with students' performance on the TEU. These results are contrary to those of Dawson and Bernstein (1969) who found that formal preparation in economics and teaching experience of the instructor was not significantly related to student performance on a standardized test of economic understanding.

Several researchers have suggested that the lack of student motivation in learning economics--at least that which is typically presented in introductory courses--may be responsible for their poor performance in this subject area (Healey, 1970; Klos & Trenton, 1969; Lewis, Wentworth, & Orvis, 1973). To illustrate, Healey (1970) hypothesized that the lower post-test and gain scores on the TEU obtained by her sample of two-year college students, as compared to those of four-year college students, may have been due to the following factors: high absenteeism, low motivation, poor reading ability, and lack of maturity found among students in the two-year college economics course.

Labinski (1974) advanced a "different objectives" hypothesis to account for the discrepancies in performance on standardized economics tests found between community and baccalaureate degree-granting colleges. According to this hypothesis, the knowledge measured in tests such as the TEU is likely to be more congruent with course objectives outlined by four-year college instructors than those established by faculty in the two-year college. Labinski's "different objectives" hypothesis is based on the assumption that there are fundamental differences between two- and four-year college students who participate in introductory economics courses, and instructors at these institutions are responsive to these differences. Studies related to this assumption have yet to be conducted.

Attrition

Research reviewed in the preceding section on curriculum indicates that at many community colleges the transfer-oriented Principles of Economics course is used to introduce all segments of the student population to the discipline. However, as noted by Apsler (1967), increasing numbers of students attending community colleges are not adequately prepared either to succeed in academic courses or to submit to a vigorous routine of study. These students will most likely not enroll in transfer courses or, if they do, they will often fail or drop out. If this observation by Apsler is correct, we would expect to find a high attrition rate among community college students in transfer-oriented economics courses. Although no one study has focused specifically on this question of attrition, data reported by several investigators lend some support to Apsler's prognosis (Dawson & Bernstein, 1969; Jones et al., 1975).

Dawson and Bernstein (1969) found that 34 percent of their sample did not complete their economics course. Slightly higher figures were noted by Jones et al. (1975), who reported that the withdrawal rates of students in a mastery learning and a traditional lecture/discussion section of an introductory economics course each ran about 37 percent.

Modes of Instruction

It was noted at the outset of this section that community college

instructors are often faced with the serious challenge of introducing their subject to students who vary widely in terms of background, aptitudes, educational goals, and attitudes towards learning. The question of how economics instructors handle this situation is difficult to answer from the literature. What data are available would suggest that most two-year college economics instructors use traditional lecture or lecture-discussion modes supplemented by various resources such as programmed instruction materials and audio-visual aids (Koscielniak, 1975; Phillips, 1971).

Phillips (1971) found that programmed instruction materials were being used by economics instructors in over half (53.8%) of the 224 community colleges in his national sample. In addition, 30 percent of the colleges not using this approach expressed an interest in doing so. Programmed instruction materials were used as a supplement to the traditional lecture mode of presentation in all but two of the colleges.

About 80 percent of the respondents reported that audio-visual materials (e.g., transparencies, films, slides, cassettes, etc.) were used in their economics courses--mostly to supplement the instructors' lectures. The most commonly used of the audio-visual materials was prepared transparencies. Only a few of the respondents to the survey said that they had prepared their own slide, cassette, or video-tape presentation. According to Phillips, there is a strong demand for prepared audio-visual materials in economics education. However, few colleges or faculty have sufficient money, time, or facilities to develop their own audio-visual materials, and this need has not (at the time of his study) been adequately met by publishing houses.

About 65 percent of the two-year college economics instructors in Koscielniak's (1975) study used lecture or lecture-discussion modes of instruction to present their material. An additional 30 percent of the respondents supplemented their lectures with programmed instruction materials, audio-visual resources, or both. Other instructional techniques such as television cassettes and computer simulations were used by less than five percent of the instructors to supplement their lectures. Koscielniak also found that economics instructors in four-year institutions were more likely than those in two-year colleges to use traditional lecture or

lecture-discussion approaches. The four-year college and university instructors were also more likely than their counterparts in the community college to supplement their lectures with programmed instruction, but were less likely to employ audio-visual materials.

Effectiveness of Instructional Techniques

During the 1970s there has been a rapid increase in the use of individualized and self-paced instructional techniques at the college level. This heightened interest in these alternative teaching strategies can be partly attributed to the realization on the part of many teachers that students enrolled in a given class do not learn at the same pace, nor do they learn equally as well from the same mode of presentation.

Literature reviews on the effects various instructional approaches (e.g., programmed instruction, learning games) have on student learning conducted in community colleges (Berry, 1978) and in economics education at all levels of postsecondary education (Dawson, 1971, 1977) indicate that alternative modes of instruction such as individualized instruction, media, television, computer-assisted instruction, games and simulations, audio-visual tutorial systems, and peer-tutoring can have positive effects on student learning. However, empirical studies concerned primarily with the effectiveness of various instructional approaches in community college economics courses are rarely found in the economics-related literature on computer-assisted instruction (Lumsden, 1970; Soper, 1974); learning games (Lumsden, 1970; Wentworth & Lewis, 1975); video (Allison, 1976); personalized, individualized, and self-paced instruction (Dawson, 1977); television (Lumsden, 1970; Paden, 1977); or in studies involving two-year colleges (Berry, 1978). To illustrate, only two of the 40 studies reviewed by Dawson (1977) involving personalized, individualized, or self-paced instruction in economics at the postsecondary education level were concerned with two-year colleges.

The few empirical studies concerned with instruction in two-year college economics courses have compared conventional lecture discussion approaches with instructional objectives (Phillips, 1971); self-paced

audio-visual tutorial instruction (Becker & Salemi, 1976; Walstad, 1976); learning games (Wentworth & Lewis, 1975); mastery learning (Jones et al., 1975); and lectures supplemented with small group discussions (Phillips, 1974). The findings of these studies do not provide overwhelming support for the use of the nonconventional instructional approaches considered. However, they do seem to indicate that these nontraditional modes of instruction can offer community college teachers and students alternatives to the conventional lecture discussion approach without adversely affecting student achievement or attitudes towards learning economics.

Summary

The findings of an intensive review of the published literature on instruction--whether in journals or in ERIC--indicate that little has been written concerning the teaching practices used by two-year college economics instructors. One reason for this gap in the literature is apparent--community college instructors do not write about their professional activities, and researchers in the professional associations and universities have not shown much interest in filling this void. The Center's nationwide survey of the teaching practices of community college instructors presented in the following section will hopefully provide researchers and decision-makers with valuable information upon which they can direct their future efforts in this field.

SURVEY OF INSTRUCTORS' TEACHING PRACTICES

Method

A list of all science class sections appearing in the Fall 1977 day and evening class schedules was prepared for each of the 175 colleges participating in the Center's nationwide study of curriculum and instruction in the two-year college.* The class sections were then placed into one of

*A more thorough treatment of the methodology used in this study is reported in Hill and Mooney (1979).

the following disciplinary categories: Agriculture; Biological Sciences; Engineering Sciences and Technologies; Mathematics and Computer Sciences; Physical Sciences; and Social and Behavioral Sciences.

Sample

The sample of instructors to be surveyed was drawn from the list of class sections by selecting every thirteenth class that appeared in the Fall 1977 class schedules of the colleges involved. This procedure of selecting every thirteenth class section was performed independently for each of the six science areas noted above. Survey forms from the Center's sample were sent in the Winter of 1978 to campus facilitators. They were asked to distribute and collect these questionnaires from instructors who had taught a class section that Fall.

Questionnaires (see Appendix B for a copy of the questionnaire) were mailed to 1,683 instructors. Since the surveys were sent after the completion of the Fall 1977 term, a number of instructors (114) were no longer with the colleges and could not be reached. Also, 77 class sections were cancelled. Of the 1,492 surveys delivered, 1,275 were returned. This established an excellent response rate of 85.5 percent. Surveys were obtained from 69 instructors who were teaching an economics course in the Fall 1977.

It was felt that instructors in the other social science areas considered in this study would provide a more appropriate basis for comparison than would the instructors in the natural or physical sciences. Thus, in an effort to put into perspective the economics instructors' responses to the survey items, their answers will be presented along with those of instructors teaching classes in anthropology, psychology, and sociology, as well as a composite score for the total sample.

RESULTS

Course Enrollment and Completion Rates

Analysis of course enrollment and completion rates showed that, on the average, 81.7 percent of the 34.5 students who initially enroll in an

economics class complete it and receive a grade. The average completion rate for the total sample was 79.6 percent.

Males were much more likely to enroll in economics courses than females (21.1 vs. 13.4). The reverse was true for the other social science areas considered.

Table 8

Course Enrollment and Completion Rate for Social Sciences and Total Sample by Sex

Category	Economics	Anthropology	Psychology	Sociology	Total
Number of males enrolled	21.1	13.6	14.0	16.4	16.3
Number of females enrolled	13.4	16.2	24.7	18.9	15.5
Percent of males completing course	81.0	76.5	80.0	79.3	78.5
Percent of females completing course	82.8	82.7	85.4	86.8	80.7
Total number of students enrolled in course	34.5	29.8	38.7	35.3	31.8
Percent of students completing course	81.7	79.9	83.5	83.3	79.6

Instructional Modes

Faculty members were asked to indicate whether or not they used each of nine instructional modes in their course (Table 9). With two exceptions--lectures and quizzes/examinations--economics teachers were less likely than those in the other social sciences to use each of the instructional methods considered in their courses. These results, along with the findings on the percent of class time instructors devote to each of the nine instructional activities (Table 10), demonstrate that economics teachers still rely primarily on lecture and class discussion to present information to their students.

Table 9

Percent of Faculty Using Various Modes of Instruction

Mode of Instruction	Economics	Anthropology	Psychology	Sociology	Total
Own Lectures	100.0	100.0	99.3	100.0	94.4
Guest Lectures	15.9	32.3	25.2	30.9	11.8
Student Verbal Presentations	33.3	54.8	33.6	48.9	24.5
Class Discussion	94.2	96.8	93.7	95.7	81.3
Viewing Media	42.0	83.9	81.1	75.5	46.4
Simulation/Gaming	11.6	19.4	20.3	21.3	9.6
Quizzes/Examinations	89.9	77.4	89.5	87.2	88.1
Field Trips	4.3	25.8	8.4	6.4	10.0
Lecture/Demonstration	2.9	12.9	37.8	7.4	28.5

Table 10

Percent of Class Time Devoted to Various Instructional Activities

Mode of Instruction	Econ-omics	Anthro-pology	Psych-ology	Soci-ology	Total
Own Lectures	63.1	45.9	47.8	48.8	44.8
Guest Lectures	--	3.3	2.1	--	--
Student Verbal Presentations	3.3	8.0	3.8	5.87	2.6
Class Discussion	19.0	19.5	19.4	23.4	15.0
Viewing Media	3.2	10.8	9.4	7.9	4.4
Simulation/Gaming	1.0	1.4	1.6	2.6	1.0
Quizzes/Examinations	9.1	6.3	8.4	7.9	9.7
Laboratory Experiments by Students	--	--	1.9	--	11.3
Laboratory Practical Exams	--	--	--	--	1.7
Field Trips	--	2.3	--	--	--
Lecture/Demonstration	--	--	3.6	--	3.2
Other	--	--	1.3	--	4.9

Instructional Media

With few exceptions, economics instructors were much less likely than instructors in the other social sciences or in the total sample to use the various forms of instructional media considered in this study. As evidenced in Table 11, the instructional media most commonly used by economics teachers were maps-charts-illustrations-displays (68.1%), films (44.9%), and overhead transparencies (39.1%). Less than 20 percent of the economics instructors used any of the remaining forms of instructional media examined.

Table 11

Percent of Faculty Using Instructional Media

Media	Economics	Anthropology	Psychology	Sociology	Total
Films	44.9	90.3	90.2	79.8	49.4
Film Loops	4.3	3.2	5.6	4.3	13.9
Filmstrips	18.8	22.6	20.3	41.4	19.0
Slides	14.4	45.2	30.1	28.8	29.7
Audiotape/Slide/Film	17.4	12.9	24.5	27.7	18.6
Overhead Transparencies	39.1	32.2	36.4	31.9	47.7
Audiotapes, Cassettes, Records	17.4	35.5	39.2	31.9	19.9
Videotapes	13.0	45.1	35.0	30.8	19.2
T.V.	11.6	12.9	14.0	13.9	8.4
Maps, Charts, Illustrations, Displays	68.1	71.0	42.7	41.5	55.8

Intended Audience for Course

Instructors were asked to describe the audiences for whom their class was intended by checking one or more of the descriptive statements listed in Table 12.

Table 12

Intended Audience for Course

Course Designed for or Intended as	Economics	Anthropology	Psychology	Sociology	Total
Parallel or equivalent to course at transfer inst.	87.0	90.3	87.4	92.6	67.7
Transfer students majoring in a natural resources field or an allied health field	13.0	38.7	37.1	37.2	27.3
Transfer students majoring in a physical or biological sciences, engineering, math, or health sciences	18.8	29.0	32.2	28.7	32.7
Transfer students majoring in a non-science area	60.9	58.1	49.7	55.3	35.4
Occupational students in an allied health area	7.2	22.6	35.7	30.9	19.0
Occupational students in a science technology or engineering technology area	13.0	16.1	12.6	18.1	30.3
High school make up or remedial course	--	6.5	--	--	11.7
General education course for non-transfer and non-occupational students	17.4	32.3	20.3	27.7	16.5
Continuing education or personal upgrading of adult students	42.0	61.3	43.4	55.3	35.2

Note. Instructors were asked to check as many of these statements as applied to their course.

The data presented in Table 12 show that most (87%) of the economics instructors in this sample described their course as parallel or equivalent to a lower-division college level course at transfer institutions. A smaller percentage of the economics instructors thought their course was appropriate for transfer students majoring in a non-science area (60.9%) or for continuing education students (42%). It is important to note that economics instructors were less likely than instructors in the other social sciences to describe their course as appropriate for students in each of the following groups: transfer students majoring in one of the physical, biological, or health sciences; students in a natural resource or allied health field; occupational students; general education courses for non-transfer and non-occupational students; and students in remedial education programs.

Instructional Materials

Most economics instructors (98.6%) used a textbook in their course. A substantially smaller number of these teachers used one or more of the following materials: syllabi and handouts (55.1%), newspapers (43.5%), journals/magazines (37.7%), or lab materials and workbooks (27.5%). Economics instructors were more likely than instructors in the other social science areas to use textbooks, newspapers, and problem books. The reverse was true for the remaining five types of instructional resources considered (Table 13).

Reading Requirements

On the average, economics instructors required students in their course to read 470 pages; the number of pages assigned by instructors in the other social science areas was as follows: Sociology, 576; Anthropology, 539; Psychology, 396. Textbooks accounted for most of the assigned pages in both economics and other social science classes (Table 14).

Table 13

Percent of Faculty Using Various Types of Instructional Materials

Instructional Material	Economics	Anthropology	Psychology	Sociology	Total
Textbooks	98.6	83.9	97.9	98.9	94.5
Lab Materials and Workbooks	27.5	19.4	36.4	16.0	43.5
Collections of Readings	21.7	48.4	25.2	35.1	13.9
Reference Books	18.8	25.8	21.0	21.3	21.5
Journals/Magazines	37.7	61.3	40.6	44.7	25.2
Newspapers	43.5	25.8	9.8	23.4	11.1
Syllabi and Handout Materials	55.1	67.7	69[illegible]	69.1	62.1
Problem Books	10.1	--	2.8	2.1	9.7

Table 14

Pages Instructors Required Their Students to Read

Instructional Material	Economics	Anthropology	Psychology	Sociology	Total
Textbooks	350	325	279	416	291
Lab Materials and Workbooks	35	18	40	17	44
Collections of Readings	21	123	27	56	18
Reference Books	18	23	23	47	23
Journals/Magazines	12	12	7	17	6
Newspapers	13	5	2	8	3
Syllabi and Handout Materials	11	33	18	15	18
Problem Books	10	--	--	--	9
Total	470	539	396	576	412

Knowledge Tested

Close to 85 percent of the economics instructors noted that it was "very important" that their students demonstrate on their tests an acquaintance with the concepts of the discipline. About one-third or more of the economics faculty members stressed other competencies: ability to synthesize course content (55.1%); understanding the significance of certain works, events, phenomena, experiments (47.8%); and recall of specific information (33.3%). These results are reported in Table 15.

Table 15

Percentage of Instructors Who Noted It Was "Very Important" That Their Students Demonstrate a Particular Skill on Tests

Learning Skill	Economics	Anthropology	Psychology	Sociology	Total
Mastery of a Skill	29.0	12.9	21.0	10.6	5.1
Acquaintance with Concepts of the Discipline	84.1	74.2	87.4	86.2	83.1
Recall of Specific Information	33.3	25.8	52.4	33.0	42.7
Understanding the Significance of Certain Works, Events, Phenomena, and Experiments	47.8	54.8	55.2	53.2	44.9
Ability to Synthesize Course Content	55.1	67.7	51.0	62.8	46.5
Relationship of Concepts to Student's Own Values	30.4	58.1	50.3	59.6	24.0

Examination Items

Some 80 percent of the economics instructors said they frequently include multiple response items on their examinations. A much smaller percentage called upon their students to provide written answers to essay questions (47.8%), construction of graphs and diagrams (39.1%), solution of math problems (24.6%), and completion items (13%).

Table 16

Percentage of Instructors Who "Frequently Used" a Particular Type of Examination Item

Examination Item	Economics	Anthropology	Psychology	Sociology	Total
Multiple Response	79.7	51.6	85.3	77.7	50.0
Completion	13.0	19.4	23.1	14.9	25.4
Essay	47.8	67.7	43.4	62.8	30.6
Solution of Math Problems	24.6	3.2	1.4	--	49.0
Construction of Graphs, Diagrams	39.1	--	1.4	--	25.6

Grading Practices

The instructors in the Center's sample were asked to note the emphasis they gave to each of 15 course-related activities in determining students' grades. The data presented in Table 17 show that more than 70 percent of the economics instructors used objective tests to determine 25 percent or more of their students' grades. This was followed by essay tests (44.9%), papers written outside of class (10.1%), papers written in class (5.8%), research reports (4.3%), homework assignments (4.3%), field reports (2.9%), oral recitations (2.1%), and participation in class discussions (1.4%). In general, economics instructors were less likely than instructors in the other social science areas to use written assignments (e.g., papers written outside and inside of class, research reports) in determining student grades.

Table 17

Percentage of Instructors Who Based 25 Percent or More of Grade on a Particular Activity

Grading Practice	Economics	Anthropology	Psychology	Sociology	Total
Papers Written Outside of Class	10.1	25.8	21.7	33.0	8.9
Papers Written in Class	5.8	6.5	8.4	4.3	4.9
Quick-Score/Objective Tests	72.5	48.4	73.4	64.9	59.6
Essay Exams	44.9	45.2	35.7	48.9	40.8
Field Reports	2.9	3.2	5.6	12.1	1.8
Oral Recitations	2.1	12.9	4.2	4.3	1.9
Workbook Completion	--	--	2.8	1.1	3.5
Regular Class Attendance	--	3.2	4.9	5.3	2.8
Participation in Class Discussions	1.4	6.5	3.5	6.4	1.9
Research Reports	4.3	12.9	6.3	10.6	2.7
Non-Written Projects	--	3.2	2.1	1.1	1.8
Homework	4.3	--	5.6	2.1	6.5
Laboratory Reports	--	--	--	--	10.4
Laboratory Unknowns/ Practical Exams	--	3.2	--	--	6.5
Problem Sets	--	--	--	--	5.3

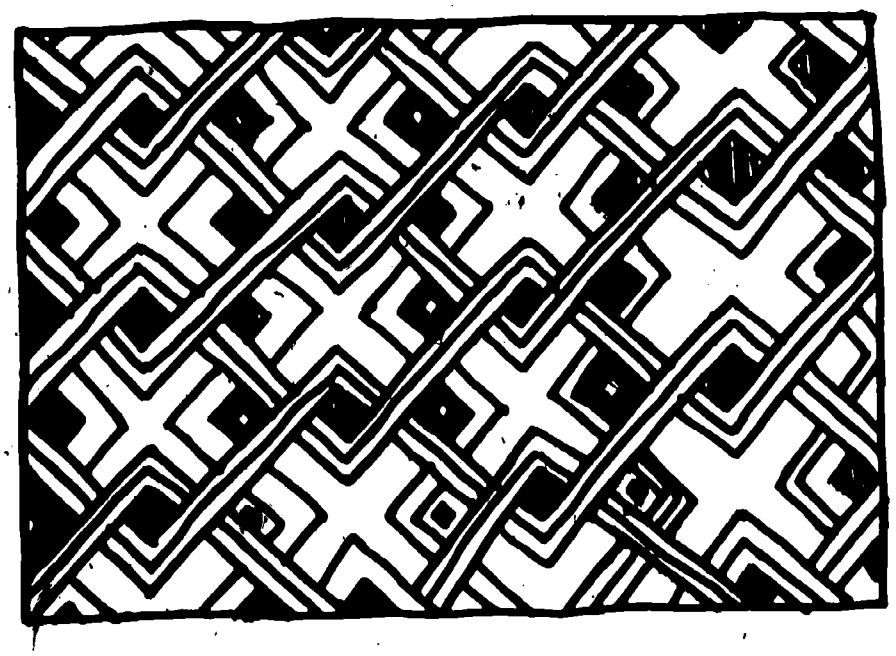
Use of Out-of-Class Activities

The findings reported in Table 18 reveal that with the exception of tutoring, economics instructors were less likely than the other social science instructors either to recommend or require their students to attend out-of-class course-related events in the ten activity categories considered. The most common out-of-class activities which the economics instructors encouraged their students to view or attend were television programs (49.3%); tutoring (37.6%), outside lectures (37.6%), on-campus educational films (26%), and other films (30.4%), and on-campus educational films (26%).

Table 18

Percentage of Instructors Who Encouraged Their Students to Attend Out-of-Class Activities

Activity	Economics	Anthropology	Psychology	Sociology	Total
On-Campus Educational Films	26.0	67.7	43.4	51.0	29.8
Other Films	30.4	54.9	44.8	52.1	24.9
Field Trips to Industrial Plants, Research Labs	11.6	29.1	16.2	17.0	20.9
Television Programs	49.3	67.7	59.4	64.9	33.5
Museums/Exhibits	5.8	38.7	9.1	10.6	12.6
Volunteer Service on an Environmental Project	2.9	12.9	16.8	13.8	8.8
Outside Lectures	37.6	51.6	46.9	53.2	30.5
Field Trips to Natural Formation or Ecological Area	4.3	29.0	2.8	8.5	11.3
Volunteer Service on Education/Comm. Project	8.7	22.6	30.8	26.6	12.4
Tutoring	37.6	16.1	30.1	31.9	40.0



PART III

ECONOMICS INSTRUCTORS IN TWO-YEAR COLLEGES

THE LITERATURE

Surprisingly, very little has been written about those people who teach economics in the nation's community colleges. The few studies that have focused on this topic have been concerned primarily with academic degree attainment and employment status (Dawson, 1970; Koch, 1968; Lewis, 1970).

Degree Attainment

Dawson's (1970) nationwide study of economics education in community/junior colleges showed that 38 percent of those instructors teaching one or more economics courses at the two-year college did not have an

undergraduate or graduate degree in economics. About 45 percent of the respondents in his sample held a master's degree in economics, and an additional three percent possessed a doctorate. A somewhat higher percentage of instructors teaching economics at a two-year college without holding a degree in that subject area was reported by Koch (1968) in his sample of Minnesota faculty, and by Lewis (1970) in his sample of faculty teaching in Illinois and Missouri.

Employment Status

In terms of employment status, only 43 percent of the instructors in Dawson's (1970) national sample, and just 32 percent of those surveyed by Koch (1968) were teaching economics on a full-time basis. Lewis (1970) noted that these results may have been linked to the small size of most two-year colleges and to the low enrollments in economics courses. At the time that these surveys (pre-1970) were conducted, the total student population at over half of the nation's two-year colleges was under 1,000. Since colleges often had insufficient enrollments in economics to justify employing a full-time economist, many colleges would hire a generalist who was charged with teaching courses in several social science areas.

While the studies cited above provide a considerable amount of information, they were conducted nearly a decade ago. Therefore, it would be useful to have current information on the instructors who teach in two-year colleges--their training, teaching experience, activities, working conditions, opportunities for professional growth and advancement, and their perceptions of competencies needed to perform their roles successfully. Information related to most of these questions was obtained in the Center for the Study of Community Colleges' nationwide survey of instructors teaching economics in the two-year college.

THE FACULTY SURVEY

Method

The Center's Instructor Survey, which was returned by 1,275 instructors, 69 of whom were teaching economics, contained several items

concerned with faculty demographics, activities, and working conditions. Data reported in this part of the monograph are based on the same sample of instructors and the same survey instrument described in the preceding section on instructional practices (Part II).

RESULTS

Degree Attainment

Just under 90 percent of the economics instructors held either a master's degree (78.3%) or a doctorate (10.1%). Thus, there has been a substantial increase since the late 1960s in the percentage of instructors teaching economics in community colleges who hold an advanced degree in that field. As shown in Table 19, economics instructors were less likely than instructors in the other social sciences and in the total sample to have a doctorate degree.

Table 19

Percentage of Instructors at Each Level of Degree Attainment, Employment Status, and Teaching Experience

	Economics	Anthropology	Psychology	Sociology	Total
Degree Attainment					
Bachelor's degree	8.7	3.2	4.2	1.1	8.3
Master's	78.3	83.9	73.4	81.9	74.3
Doctorate	10.1	12.9	21.0	17.0	14.5
Employment Status					
Full-time	69.6	74.2	71.3	78.7	74.3
Part-time	21.7	16.1	16.1	11.7	15.6
Chairperson/Administrator	4.3	6.4	7.0	2.1	4.2
Teaching Experience					
0-2 years	17.4	9.7	11.9	10.7	12.7
3-10 years	56.5	58.1	60.9	62.8	55.6
Over 10 years	24.6	32.2	25.9	26.6	31.0

Employment Status

The data presented in Table 19 reveal that 70 percent of the economics instructors were teaching full-time at their college, while 22 percent were doing so on a part-time basis. The remaining four percent of the respondents characterized themselves as department/division chairpersons or administrators. The percentage of faculty members teaching economics part-time (21.7%) was higher than that found in the other social sciences, or in the total sample.

Teaching Experience

Over half (56.5%) of the economics instructors have been teaching at a community college between three and ten years, while an additional 25 percent have taught for 11 years or more. The finding that a greater percentage of economics instructors (17.4%) than those in the other social sciences or in the total sample (12.7%) have taught in a two-year college for two years or less suggests that student demand for economics courses may be increasing at a greater rate than in the other areas considered in this study.

Selection of Course Materials

Instructors were asked to indicate the extent to which they participated in the selection of the instructional materials they used in their course. The data appearing in Table 20 demonstrate that just under half (47.1%) of the economics instructors who used a textbook said that they had "total say" in its selection; close to 30 percent (27.9%) had their textbook selected by someone else. Somewhat similar results were found concerning the selection of workbooks.

The data presented in the left-hand side of Table 20 represent the percentage of economics instructors who expressed satisfaction with the resource material they used in their class. In general, most faculty members seemed to be satisfied with their instructional materials.

Table 20

Economics Faculty Satisfaction and Degree of Influence in the Selection of Instructional Materials (Percentages)

Instructional Material	Number Using Material	Satisfaction		Influence in Selection		
		Well Satisfied	Would Like to Change	Total Say	Some Say	Someone Else Selected Them
Textbooks	68	70.6	26.5	47.1	25.0	27.9
Laboratory Materials and Workbooks	19	63.2	31.6	52.6	21.0	26.3
Collections of Readings	15	66.7	33.3	80.0	13.4	6.7
Journals/ Magazines	13	69.2	23.1	84.6	7.7	7.7
Newspapers	30	93.3	6.7	93.3	--	3.3
Syllabi and Handout Materials	38	81.5	5.3	94.7	2.6	--
Problem Books	7	42.9	57.2	71.4	--	28.6
Reference Books	19	69.2	23.1	84.6	7.7	7.7

Note. Percentages are based on the number of instructors who used the material in question. The percentages do not add up to 100 due to missing responses.

Use of Support Services

Nearly 80 percent of the economics instructors received assistance from the colleges' clerical help. Library assistance (53.6%), media production facilities/assistance (46.4%), test-scoring facilities (34.8%), and tutors (31.9%) were also used by a considerable number of the economics instructors.

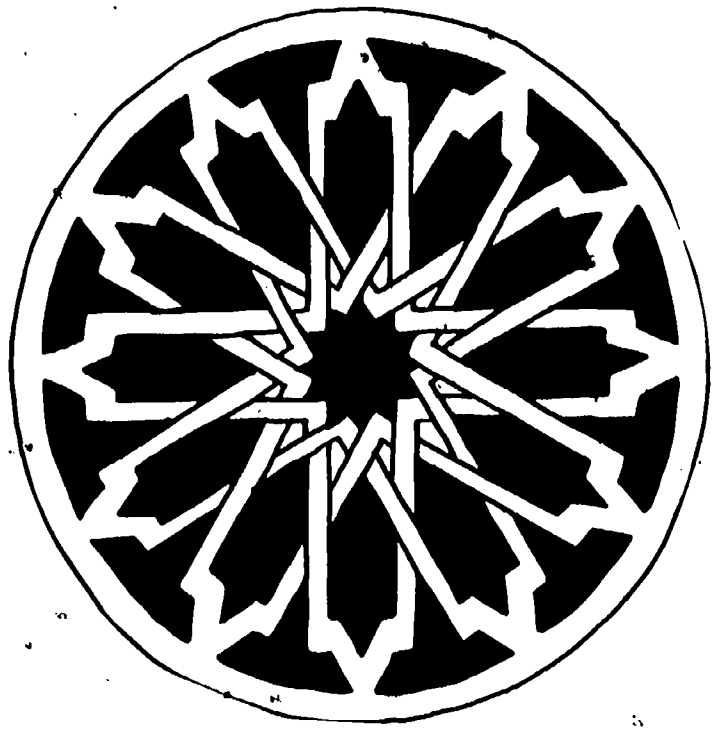
Working Conditions

One of the items on the survey instrument asked faculty members to indicate what it would take to make their course better. The information summarized in Table 21 demonstrates that 62 percent of the economics instructors noted that their class could be improved if they had students who were better able to handle the course requirements, other changes desired by 30 percent or more of the economics faculty were: smaller classes (33.3%), professional development opportunities (31.9%), instructor release time (30.4%), stricter prerequisites (30.4%), and availability of more media (30.4%).

Table 21

Percentage of Economics Instructors Who Indicated That Change in a Particular Institutional Area Could Make Their Course More Effective

Institutional Area	Economics	Total
More Freedom to Choose Materials	15.9	9.4
More Interaction with Colleagues or Administrators	20.3	18.0
Less Interference from Colleagues or Administrators	2.9	4.3
Larger Class	7.2	8.3
Smaller Class	33.3	28.9
More Reader/Paraprofessional Aides	15.9	13.3
More Clerical Assistance	21.7	17.2
Availability of More Media or Instructional Materials	30.4	35.9
Stricter Prerequisites for Admission to Class	30.4	30.5
Fewer/No Prerequisites	--	.5
Instructor Release Time to Develop Course and/or Material	30.4	38.0
Different Goals and Objectives	7.2	3.8
Professional Development Opportunities for Instructors	31.9	24.5
Better Laboratory Facilities	2.9	21.2
Students Better Prepared to Handle Course Requirements	62.3	53.0
Changed Course Description	4.3	5.6



PART IV

SUMMARY AND RECOMMENDATIONS

The final part of this report is presented in two sections. The first section is devoted to summarizing the major findings of the literature reviews and the Center's studies on economics education in community colleges. The report concludes with a list of recommendations made to various groups who may be concerned with strengthening economics education in the community college.

SUMMARY

Economics Curriculum

Community and junior colleges currently enroll more than four million students--one-third of all students in American higher education. Estimates

93 percent of the colleges listed at least one Principles of Economics course in their class schedules during the time period studied. The colleges offering a course in one of the remaining areas of economics were: Business-Related (34%), Introductory (33%), Technology-Related (22%), American Economics and History (16%), and Special Topics (9%). Nearly all colleges listed at least one economics course in their class schedules during the one-year time period.

The variety of economics courses available to students in transfer programs was very limited and it was nearly nonexistent for those in occupational, remedial, and continuing education programs. This was especially true for middle-sized and small colleges as well as private institutions.

The Principles of Economics course designed primarily for students planning to transfer to four-year institutions accounted for 80 percent of all the introductory courses offered in this field of study. This practice may be somewhat inappropriate since less than one-fourth of the students in two-year colleges transfer to four-year institutions. Nonetheless, the policy pursued by most community colleges is to use their transfer-oriented principles course to introduce all students to economics, regardless of their learning abilities, goals, or interests.

Over 40 percent of the courses in the Special Topics and Business-Related categories carried a prerequisite--usually an introductory course in economics, and, in the case of business, another course in that field. Prerequisites associated with the economics offerings in the Technology-Related category were divided between mathematics and completion of an introductory course in that discipline.

Responsibility for providing economics courses was divided among several departments or divisions. Business departments were responsible for giving economics courses related to business in approximately 70 percent of the colleges. Nearly all of the schools that offered technology-related economics courses did so in their agriculture, engineering, or transportation departments. Offerings in Principles, Special Topics, and American Economics and History were sponsored by an economics department or social science division in about 90 percent of those colleges that gave these courses.

Instructional Practices

Most community colleges adhere to an open-admissions policy, admitting virtually anyone who wishes to enroll in their courses. One outcome of this admissions policy is that community college faculty members are often charged with providing instruction that is appropriate and meaningful to a group of students who vary considerably in terms of their educational backgrounds, goals, and attitudes towards learning. Surprisingly, an intensive review of the published literature on economics education yielded little information on questions concerning course content, orientation, requirements, and methods of presentation for the various nontraditional and non-degree-oriented students attending community colleges.

A number of studies have measured the economic understanding of two-year college students. Most of these investigations show that community college students begin and conclude their economics courses with considerably lower scores on standardized tests of economic understanding than their counterparts in four-year colleges and universities. These differences persist even when adjustments are made for differences between the two groups in ability levels and other relevant variables.

Hypotheses advanced to explain why two-year college students learn less economics in their introductory courses than four-year college students include:

1) Two-year college instructors may expect less of their students and may accept poorer performances than if they had taught those same students in a four-year institution. Students may also internalize their allegedly inferior academic status, predisposing them to lower their own goals and contribute less to their own achievement.

2) The quality of instruction provided for students by faculty members in four-year institutions is better than that provided by teachers in two-year colleges.

3) Many two-year college students lack the motivation and skills needed to learn economics--at least that which is typically presented in introductory courses.

4) The knowledge measured on the standardized tests of economic understanding may be more congruent with course objectives outlined by four-year college instructors than with those established by faculty in two-year colleges.

Other studies have shown that students enrolling in a traditional transfer-type course do not learn more economics than students in a non-technical general course. In fact, only a few of the students in the traditional class sections seem to master the analytical tools and theories of economics that the courses are specifically designed to teach. An explanation advanced to account for this phenomenon is that many students in the principles course do not have the background and motivation needed to master the analytical tools of the discipline. However, most students planning to transfer to a four-year institution will take the principles over the general economics course when, in many instances, the general course may be more in line with their learning aptitudes and interests.

Additional findings reported in the literature reveal that instructional approaches used by most two-year college economics teachers are traditional lecture or lecture-discussions supplemented by various resources such as programmed instruction materials and audio-visual aids. The few studies that have compared conventional lecture-discussion approaches with instructional objectives, self-paced audio-visual tutorial instruction, learning games, mastery learning, and lectures supplemented with small group discussions indicate that these nontraditional modes of instruction can offer community college teachers and students alternatives to the conventional lecture discussion approach without adversely affecting student achievement or attitudes towards learning economics.

The results of the Center's study on instructional practices showed that, on the average, 81.7 percent of the 34.5 students who initially enrolled in an economics class completed it and received a grade. Males were much more likely to enroll in an economics course than females. The reverse was true for the other social science areas considered.

Most of the economics instructors noted that their courses were designed to be parallel or equivalent to a lower division college level course at transfer institutions. The instructional approaches used by most of the two-year college teachers appear to be rather traditional. They rely primarily on lecture and class discussion to transmit information to their students. Textbooks are used in nearly all of the classes and they account for the bulk of the pages students are required to read.

About 85 percent of the economics instructors indicated that it was "very important" that their students demonstrate on their tests an acquaintance with the concepts of the discipline. Other competencies stressed by economics faculty members were, in descending order, ability to synthesize course content; understanding the significance of certain works, events, phenomena, experiments; and recall of specific information. Student grades were based primarily on the results of objective tests and, to a much lesser extent, essay tests, papers written outside of class, and participation in class discussions. In general, economics instructors were less likely than instructors in the other social science areas to use written assignments in determining student grades.

Economics instructors appeared to be more traditional in their approach to teaching than faculty members in the other social sciences. The former were less likely than the latter to indicate that their courses were appropriate for students in most of the colleges' constituency groups, to use instructional modes other than lectures and examination, and to use a variety of instructional-related materials, media, grading practices, and out-of-class activities in their courses.

Economics Instructors

The literature on instructors teaching economics courses in the two-year college consists primarily of a few surveys conducted during the late 1960s. These findings showed that under 40 percent of the instructors teaching one or more economics courses at the two-year college did not have an undergraduate or graduate degree in economics; and that less than half of those teaching economics did so on a full-time basis.

The results of the Center's Instructor Survey show that there has been a substantial increase since the late 1960s in the percentage of instructors with advanced degrees (88.4%) who are teaching economics in community colleges and in the percentage of instructors who are teaching economics on a full-time basis (70%). Over half (56.5%) of the economics instructors have been teaching at a community college between three and ten years while an additional 25 percent have taught for eleven years or more.

In terms of working conditions, the Center's study found that just under half of the economics instructors who used a textbook said they had "total say" in its selection; the textbooks for 30 percent, however, were selected by someone else. Somewhat similar results were found concerning the selection of workbooks. Nevertheless, most faculty members seemed to be satisfied with their instructional materials.

Over 50 percent of the economics instructors noted that their classes could be improved if they had students who were better able to handle the course material. Other changes desired by 30 percent or more of the economics faculty were: smaller classes, opportunities for professional development, release time for course requirements, stricter prerequisites, and availability of more media.

RECOMMENDATIONS

The suggestions presented in this report are based on a synthesis of the information gained from the literature reviews, Center studies of curriculum and instruction in the sciences, and its study of humanities education in the two-year college (Brawer, 1978). This latter study, which involved case studies of 20 diverse community colleges to identify the internal and external influences that shape the curriculum, is an extremely fertile source for suggestions on how community college instruction can be strengthened.

Increasing Enrollments in Economics Courses

What can people in a position to influence economics education in the two-year college do to stimulate the interest of more students in their discipline? We recommend that:

1. Faculty members identify the types of students who enroll in economics courses and determine the extent to which the educational objectives of these individuals as well as the goals of the faculty members are being met.

2. Colleges offer courses that are in line with the educational aspirations and interests of students in each of the many groups they

serve. The most obvious solution to this problem would be for two-year colleges to offer general, transfer, occupational, remedial, and personal enrichment courses in a wide range of economics areas. Unfortunately, few of the colleges (especially the middle-sized and small institutions) can afford the luxury of hiring faculty to teach such a wide variety of courses in economics. However, departments could expand their course offerings through the use of self-instructional learning packages. For example, a two-year college could offer a course called "Economics I." Students who enrolled in this class could take such self-instructional courses as "Economics for the Health Professions," "Economics for Auto Mechanics," or "Economics of the City." One or two staff members would supervise the courses, and students would receive credit in the area of economics they completed (e.g., "Economics I: Economics for the Health Professions").

3. Departments offer courses closely aligned to student educational needs and interests. Introductory and more specialized courses can be structured to include such themes as economics of the Third World, the city, the community, environment, stock market, or current events in an economics perspective.

4. Instructors introduce economics modules or entire economics courses into non-economics programs. Examples of such a modular approach would be a unit on economics of the city offered by an economist for history students; a unit on economics of health care for students in nursing and allied health; or a unit on price determination for students in auto mechanics. These short presentations could motivate a number of students who might not otherwise enroll in an economics course.

5. Economics faculty become involved in planning programs and courses with instructors in other academic and occupational areas. For example, economics instructors and biology instructors could develop and teach jointly a course in the economics of air pollution.

6. Faculty members make overt efforts to recruit students into their classes. This can be done by describing their courses to non-economics colleagues, who then, familiar with the content and the instructors, could recommend the courses to their students.

7. Faculty members encourage college counselors and program advisors to recommend that students in all program areas take an economics course. Instructors may have to convince counselors to "sell" economics to prospective students.

8. Economics instructors offer their services as guest lecturers at the local secondary schools as a method of generating interest in economics, and thus laying a foundation for the continuation of such interest at the college level. This awareness and interest in economics can also be enhanced through publicity and exhibits. Increased articulation with secondary schools is especially important in that most students at this time are not exposed to economics in these institutions.

9. Economics faculty offer non-credit courses, lectures, and special-interest programs through the community service and continuing education divisions. The importance of attracting individuals participating in courses or programs not carrying credit becomes evident when one considers that in 1976 there were nearly as many students participating in non-credit courses (3.2 million) as there were in credit courses (3.9 million).

10. Instructors utilize the campus public information office to publicize their courses.

11. Courses be made more attractive to potential students by changing titles and catalog descriptions. Some colleges have found this very effective.

Designing Courses Appropriate for All Students

If economics departments wish to increase their course enrollments, they will have to be more aggressive and imaginative in the methods they employ to attract new students. They will also have to be more skillful in devising effective instructional approaches to meet the diverse learning needs and objectives of students in each of the colleges' constituency groups. The success instructors have in meeting this challenge depends on their initiative, on opportunities for their professional development, and on the quality of their formal educational training in preparing them to teach in the two-year college. In order to offer economics courses that are appropriate for all two-year college students, we recommend that:

12. Community college instructors design courses suited to the learning needs and abilities of their students rather than try to replicate the text materials and content of the courses found in the transfer institutions. Many community college students may benefit more from a course that is non-technical, applied, and perceived as being immediately relevant than one more technical, theoretical, and somewhat abstract.

13. Disciplinary associations work to provide information on new courses and combinations of courses appropriate to the unique needs of individual students.

14. More research and sharing of information be undertaken on questions concerning what the course content, orientation, requirements, and methods of presentation should be for the various nontraditional and non-degree-oriented students attending the two-year colleges.

15. Research be conducted on what instructional materials and approaches are appropriate for students who have poor language, reading, and math skills, as well as for those whose orientation to learning is much more practical and concrete than that of traditional college students.

16. Textbook publishers and developers of educational technologies work with economics instructors to produce materials that are consistent with students' educational competencies and objectives.

17. Instructors design economics courses in line with the unique learning abilities, goals, and interests of students in each of the colleges' programs--general education, transfer, occupational, remedial, and continuing education. This can be achieved by offering separate courses for each of the colleges' constituency groups and/or through the use of specially developed learning packages as well as other individualized instruction techniques.

18. Faculty members be given additional opportunities to develop different instructional approaches suitable for different student groups. College administrators can contribute to the professional development of their instructors by offering faculty fellowships, instructional development grants, summer pay, release time to aid faculty in developing their own courses and instructional materials, and sabbatical leaves for studies appropriate to instructors' teaching fields.

19. Disciplinary associations sponsor programs so that faculty members will be apprised of special events in their fields, new approaches to teaching, and opportunities for special training.

20. Federal and state agencies provide economics instructors with grants to develop specialized courses, learn about the latest developments in their field and be exposed to economics teachers from institutions other than their own.

21. University graduate departments in economics develop training programs for current and prospective two-year college instructors. These programs should develop students' knowledge of economics, pedagogical skills, familiarity with instructional technologies, and research competencies needed to test the effectiveness of various teaching techniques.

Community colleges, by virtue of their size and the diversity of the population served, play a key role in determining the level of economic literacy in this country. Whether the majority of the four million-plus students attending two-year colleges continue to enter and leave their institutions without exposure to basic economic principles depends upon the economics instructors' developing distinctive courses and programs to make their subject area an attractive elective for all categories of students--transfer, occupational, and continuing education.

The subject of economics pervades all aspects of the world in which we live today. In permitting the neglect of such a subject educators are actually guilty of sending out their students ill-equipped for life in our society.

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APPENDIX A

Region I NORTHEAST

Connecticut

Greater Hartford
Mitchell
Quinebaug

Massachusetts

Bay Path
Bunker Hill
Mt. Wachusett

Maine

University of Maine/
Augusta

New Hampshire

New Hampshire Tech.
White Pines

New York

Cayuga County
Genesee
Hudson Valley
North Country

Vermont

Champlain
Vermont Col. of
Norwich U.

Region 2 MIDDLE STATES

Delaware

Delaware Tech. and C.C./
Terry Campus
Goldey Beacom

Maryland

Dundalk
Hagerstown
Harford
Howard
Villa Julie

New Jersey

Atlantic
Middlesex County

Pennsylvania

Allegheny County/Boyce Campus
Delaware County
Harcum
Keystone
Northampton County
Northeastern Christian

West Virginia

West Virginia Northern
Potomac State

Region 3 SOUTH

Alabama

James Faulkner State
John C. Calhoun State
Lurleen B. Wallace State
Northwest Alabama State

Arkansas

Central Baptist
Mississippi County
Westark

Florida

Brevard
Edison
Florida
Palm Beach
Seminole
Valencia

Georgia

Atlanta
Bainbridge
Clayton
Floyd
Georgia Military
Middle Georgia
South Georgia

Kentucky

Southeast

Mississippi

Itawamba
Mary Holmes
Mississippi Gulf Coast/
Jefferson Davis Campus
Pearl River
Southwest Mississippi
Wood

North Carolina

Chowan College
Coastal Carolina
Edgecombe Tech.
Halifax City Tech.
Lenoir
Richmond Tech.
Roanoke-Chowan Tech.
Wake Tech.

South Carolina

Greenville Tech.
University of South Carolina/
Lancaster

Tennessee

Jackson State
Martin
Morristown
Shelby State

Texas

Angelina
Lamar University/Orange Branch
San Antonio
Vernon Regional
Weatherford

Virginia

Central Virginia
Northern Va./Alexandria
New River
Southern Seminary
Tidewater
Thomas Nelson
Wytheville

Region 4 MIDWEST

Illinois

Central YMCA
Danville
Highland
Kishwaukee
Lincoln Land
Oakton
Waubonsee
William Rainey Harper

Iowa

Clinton
Hawkeye Institute of Technology
Indian Hills
Iowa Lakes
Marshalltown
Southeastern

Region 5 MOUNTAIN PLAINS

Michigan

Bay de Noc
Delta
Kalamazoo Valley
Kirtland
Monroe County
Oakland
Suomi

Minnesota

Austin
North Hennepin
Northland
University of Minnesota Tech.
Willmar

Missouri

St. Paul's
Three Rivers

Nebraska

Metropolitan Tech.
Platte Tech.

Ohio

Edison State
Lorain County
Northwest Tech.
Shawnee State
Sinclair
University of Toledo
Comm. and Tech.

Wisconsin

District One Tech.
Lakeshore Tech.
Milwaukee Area Tech.
University Center System/Sheboygan.
Western Wisconsin Tech.

Colorado

Arapahoe
Community College of Denver
Auraria Campus
Morgan
Northeastern

Kansas

Barton County
Central
Coffeyville
Hesston
St. John's

Montana

Miles

North Dakota

North Dakota St. Sch. of Science

Oklahoma

Connors State
Hillsdale Free Will Baptist
Northern Oklahoma
South Oklahoma City
St. Gregory's

South Dakota

Presentation

Utah

College of Eastern Utah
Utah Tech.

Wyoming

Central Wyoming

APPENDIX A (continued)

Region 6 WEST

Alaska

Ketchikan

Arizona

Cochise
Pima

California

American River
Butte
Citrus
College of San Mateo
College of the Desert
College of the Sequoias
Fresno City College
Hartnell
Lassen
Los Angeles Pierce
Mendocino
Merced
Mt. San Jacinto
Saddleback
San Bernardino Valley
San Diego Mesa
Santa Rosa

Nevada

Clark County

Oregon

Chemeketa
Mt. Hood
Umpqua

Washington

Green River
Lower Columbia
Peninsula
South Seattle

460-006

Center for the Study of Community Colleges

INSTRUCTOR SURVEY

Your college is participating in a nationwide study conducted by the Center for the Study of Community Colleges under a grant from the National Science Foundation. The study is concerned with the role of the sciences and technologies in two-year colleges — curriculum, instructional practices and course activities.

The survey asks questions about one of your classes offered last fall. The information gathered will help inform groups making policy affecting the sciences. All information gathered is treated as confidential and at no time will your answers be singled out. Our concern is with aggregate instructional practices as discerned in a national sample.

We recognize that the survey is time-consuming and we appreciate your efforts in completing it. Thank you very much.

1a. Your college's class schedule indicated that in Fall, 1977 you were teaching:

_____ (Course) 11-13 _____ (Section)

If this class was assigned to a different instructor, please return this survey to your campus facilitator to give to the person who taught this class.

If the class was not taught, please give us the reason why, and then return the uncompleted survey form in the accompanying envelope.

b. Class was not taught because: (explain briefly) _____

_____

_____

Please answer the questions in relation to the specified class.

2. Approximately how many students were initially enrolled in this class?

Males _____ 14-16

Females _____ 17-19

3. Approximately how many students completed this course and received grades? (Do not include withdrawals or incompletes.)

Males _____ 20-22

Females _____ 23-25

4. **Check each of the items below that you believe properly describes this course:**

a. Parallel or equivalent to a lower division college level course at transfer institutions . . . . . ☐ 1 — 26

b. Designed for transfer students majoring in one of the natural resources fields (e.g., agriculture, forestry) or an allied health field (e.g., nursing, dental hygiene, etc.) . . . . . ☐ 2

c. Designed for transfer students majoring in one of the physical or biological sciences, engineering, mathematics, or the health sciences (e.g., pre-medicine, pre-dentistry) . . . . . ☐ 3

d. Designed for transfer students majoring in a non-science area . . . ☐ 4

e. Designed for occupational students in an allied health area . . . ☐ 5

f. Designed for occupational students in a science technology or engineering technology area . . . . . ☐ 6

g. Designed as a high school make up or remedial course . . . . ☐ 7

h. Designed as a general education course for non-transfer and non-occupational students . . . . . ☐ 8

i. Designed for further education or personal upgrading of adult students . . . . . ☐ 9

j. Other *(please specify)*: _____ ☐ 10

5a. **Instructors may desire many qualities for their students. Please select the one quality in the following list of four that you most wanted your students to achieve in the specified course.**

1) Understand/appreciate interrelationships of science and technology with society . . . . . ☐ 1 — 27

2) Be able to understand scientific research literature . . . . . ☐ 2

3) Apply principles learned in course to solve qualitative and/or quantitative problems . . . . . ☐ 3

4) Develop proficiency in laboratory methods and techniques of the discipline . . . . . ☐ 4

b. **Of the four qualities listed below, which one did you most want your students to achieve?**

1) Relate knowledge acquired in class to real world systems and problems . . . . . ☐ 1 — 28

2) Understand the principles, concepts, and terminology of the discipline . ☐ 2

3) Develop appreciation/understanding of scientific method . . . . ☐ 3

4) Gain "hands-on" or field experience in applied practice . . . . . ☐ 4

c. **And from this list, which one did you most want your students to achieve in the specified class.**

1) Learn to use tools of research in the sciences . . . . . ☐ 1 — 29

2) Gain qualities of mind useful in further education . . . . . ☐ 2

3) Understand self . . . . . ☐ 3

4) Develop the ability to think critically . . . . . ☐ 4

6a. **Were there prerequisite requirements for this course?** Yes ☐ 1 No ☐ 2 — 30

b. **IF YES: Which of the following were required? (CHECK AS MANY AS APPLY)**

1) Prior course in the same discipline taken in high school ☐ 1 . . college ☐ 7 — 31

2) Prior course in any science taken in high school ☐ 2 . . college ☐ 8

3) Prior course in mathematics taken in high school ☐ 3 . . college ☐ 9

4) Declared science or technology major . . . . ☐ 4

5) Achieved a specified score on entrance examination . ☐ 5

6) Other *(please specify)*: _____ ☐ 6

7. Over the entire term, what percentage of class time is devoted to each of the following:

a. Your own lectures	_____%	32/33
b. Guest lecturers	_____%	34/35
c. Student verbal presentations	_____%	36/37
d. Class discussion	_____%	38/39
e. Viewing and/or listening to film or taped media	_____%	40/41
f. Simulation/gaming	_____%	42/43
g. Quizzes/examinations	_____%	44/45
h. Field trips	_____%	46/47
i. Lecture/demonstration experiments	_____%	48/49
j. Laboratory experiments by students	_____%	50/51
k. Laboratory practical examinations and quizzes	_____%	52/53
l. Other *(please specify)*: _____	_____%	54/55

Please add percentages to make sure they agree with total

TOTAL: 100 %

8. How frequently were each of the following instructional media used in this class?

Also check last box if you or any member of your faculty developed any of the designated media for this course.

	Frequently used	Occasionally used	Never used	Developed by self or other faculty member	
a. Films	☐ 1	☐ 2	☐ 3	☐ 4	56
b. Single concept film loops	☐ 1	☐ 2	☐ 3	☐ 4	57
c. Filmstrips	☐ 1	☐ 2	☐ 3	☐ 4	58
d. Slides	☐ 1	☐ 2	☐ 3	☐ 4	59
e. Audiotape/slide/film combinations	☐ 1	☐ 2	☐ 3	☐ 4	60
f. Overhead projected transparencies	☐ 1	☐ 2	☐ 3	☐ 4	61
g. Audiotapes, cassettes, records	☐ 1	☐ 2	☐ 3	☐ 4	62
h. Videotapes	☐ 1	☐ 2	☐ 3	☐ 4	63
i. Television (broadcast/closed circuit)	☐ 1	☐ 2	☐ 3	☐ 4	64
j. Maps, charts, illustrations, displays	☐ 1	☐ 2	☐ 3	☐ 4	65
k. Three dimensional models	☐ 1	☐ 2	☐ 3	☐ 4	66
l. Scientific instruments	☐ 1	☐ 2	☐ 3	☐ 4	67
m. Natural preserved or living specimens	☐ 1	☐ 2	☐ 3	☐ 4	68
n. Lecture or demonstration experiments involving chemical reagents or physical apparatus	☐ 1	☐ 2	☐ 3	☐ 4	69
o. Other *(please specify)*: _____	☐ 1	☐ 2	☐ 3	☐ 4	70

9. **Which of the following materials were used in this class? CHECK EACH TYPE USED. THEN, FOR EACH TYPE USED, PLEASE ANSWER ITEMS A-D.**

	A.	B.			C.		D.			
							How much say did you have in the selection of these materials?			
Check Materials Used	How many pages in total were students required to read?	How satisfied were you with these materials? Well satisfied	Would like to change them	Definitely intend changing them	Did you prepare these materials? Yes	No	Total say	Selected them but had to verify with a chairperson or administrator	Was member of a group that selected them	Someone else selected them
☐ 1 Textbooks	____ 13-15	16 ☐ 1	☐ 2	☐ 3	17 ☐ 1	☐ 2	18 ☐ 1	☐ 2	☐ 3	☐ 4
☐ 2 Laboratory materials and workbooks	____ 19-21	22 ☐ 1	☐ 2	☐ 3	23 ☐ 1	☐ 2	24 ☐ 1	☐ 2	☐ 3	☐ 4
☐ 3 Collections of readings	____ 25-27	28 ☐ 1	☐ 2	☐ 3	29 ☐ 1	☐ 2	30 ☐ 1	☐ 2	☐ 3	☐ 4
☐ 4 Reference books	____ 31-33	34 ☐ 1	☐ 2	☐ 3	35 ☐ 1	☐ 2	36 ☐ 1	☐ 2	☐ 3	☐ 4
☐ 5 Journal and/or magazine articles	____ 37-39	40 ☐ 1	☐ 2	☐ 3	41 ☐ 1	☐ 2	42 ☐ 1	☐ 2	☐ 3	☐ 4
☐ 6 Newspapers	____ 43-45	46 ☐ 1	☐ 2	☐ 3	47 ☐ 1	☐ 2	48 ☐ 1	☐ 2	☐ 3	☐ 4
☐ 7 Syllabi and handout materials	____ 49-51	52 ☐ 1	☐ 2	☐ 3	53 ☐ 1	☐ 2	54 ☐ 1	☐ 2	☐ 3	☐ 4
☐ 8 Problem books	____ 55-57	58 ☐ 1	☐ 2	☐ 3	59 ☐ 1	☐ 2	60 ☐ 1	☐ 2	☐ 3	☐ 4
☐ 9 Other *(please specify)* ____	____ 61-63	64 ☐ 1	☐ 2	☐ 3	65 ☐ 1	☐ 2	66 ☐ 1	☐ 2	☐ 3	☐ 4

10. Please indicate the emphasis given to each of the following student activities in this class.

	Not included in determining student's grade	Included but counted less than 25% toward grade	Counted 25% or more toward grade	
a. Papers written outside of class	☐ 1	☐ 2	☐ 3	67
b. Papers written in class	☐ 1	☐ 2	☐ 3	68
c. Quick-score/objective tests/exams	☐ 1	☐ 2	☐ 3	69
d. Essay tests/exams	☐ 1	☐ 2	☐ 3	70
e. Field reports	☐ 1	☐ 2	☐ 3	71
f. Oral recitations	☐ 1	☐ 2	☐ 3	72
g. Workbook completion	☐ 1	☐ 2	☐ 3	73
h. Regular class attendance	☐ 1	☐ 2	☐ 3	74
i. Participation in class discussions	☐ 1	☐ 2	☐ 3	75
j. Individual discussions with instructor	☐ 1	☐ 2	☐ 3	76
k. Research reports	☐ 1	☐ 2	☐ 3	77
l. Non-written projects	☐ 1	☐ 2	☐ 3	78
m. Homework	☐ 1	☐ 2	☐ 3	79
n. Laboratory reports	☐ 1	☐ 2	☐ 3	80
o. Laboratory unknowns and/or practical exams (quantitative and qualitative)	☐ 1	☐ 2	☐ 3	12
p. Problem sets	☐ 1	☐ 2	☐ 3	13
q. Other *(please specify)*:_____	☐ 1	☐ 2	☐ 3	14

11. Examinations or quizzes given to students may ask them to demonstrate various abilities. Please indicate the importance of each of these abilities in the tests you gave in this course. (CHECK ONE BOX FOR EACH ITEM)

	Very important	Somewhat important	Not important	
a. Mastery of a skill	☐ 1	☐ 2	☐ 3	15
b. Acquaintance with concepts of the discipline	☐ 1	☐ 2	☐ 3	16
c. Recall of specific information	☐ 1	☐ 2	☐ 3	17
d. Understanding the significance of certain works, events, phenomena, and experiments	☐ 1	☐ 2	☐ 3	18
e. Ability to synthesize course content	☐ 1	☐ 2	☐ 3	19
f. Relationship of concepts to student's own values	☐ 1	☐ 2	☐ 3	20
g. Other *(please specify)*:_____	☐ 1	☐ 2	☐ 3	21

12. What was the relative emphasis given to each type of question in written quizzes and examinations? (PLEASE RESPOND BY CHECKING ONE OF THE THREE BOXES FOR EACH ITEM.)

	Frequently used	Seldom used	Never used	
a. Multiple response (including multiple choice and true/false)	☐ 1	☐ 2	☐ 3	22
b. Completion	☐ 1	☐ 2	☐ 3	23
c. Essay	☐ 1	☐ 2	☐ 3	24
d. Solution of mathematical type problems where the work must be shown	☐ 1	☐ 2	☐ 3	25
e. Construction of graphs, diagrams, chemical type equations, etc.	☐ 1	☐ 2	☐ 3	26
f. Derivation of a mathematical relationship	☐ 1	☐ 2	☐ 3	27
g. Other *(please specify)*:_____	☐ 1	☐ 2	☐ 3	28

13. What grading practice did you employ in this class?

ABCDF	☐ 1	29
ABCD/No credit	☐ 2	
ABC/No credit	☐ 3	
Pass/Fail	☐ 4	
Pass/No credit	☐ 5	
No grades issued	☐ 6	
Other _____ *(please specify)*	☐ 7	

14. For each of the following out-of-class activities, please indicate if attendance was required, recommended or neither.

	Attendance required for course credit	Attendance recommended but not required	Neither required nor recommended	
a. On-campus educational type films	☐ 1	☐ 2	☐ 3	30
b. Other films	☐ 1	☐ 2	☐ 3	31
c. Field trips to industrial plants, research laboratories	☐ 1	☐ 2	☐ 3	32
d. Television programs	☐ 1	☐ 2	☐ 3	33
e. Museums/exhibits/zoos/arboretums	☐ 1	☐ 2	☐ 3	34
f. Volunteer service on an environmental project	☐ 1	☐ 2	☐ 3	35
g. Outside lectures	☐ 1	☐ 2	☐ 3	36
h. Field trips to natural formation or ecological area	☐ 1	☐ 2	☐ 3	37
i. Volunteer service on education/ community project	☐ 1	☐ 2	☐ 3	38
j. Tutoring	☐ 1	☐ 2	☐ 3	39
k. Other *(please specify)*: _____	☐ 1	☐ 2	☐ 3	40

15a. Was this class conducted as an interdisciplinary course?

Yes	☐ 1	41
No	☐ 2	

b. IF YES: Which other disciplines were involved? _____ *(please specify)*

_____

_____ 42-43-

16. Were instructors from other disciplines involved . . .

	YES	NO	
. . . in course planning?	☐ 1	☐ 2	44
. . . in team teaching?	☐ 1	☐ 2	45
. . . in offering guest lectures?	☐ 1	☐ 2	46

17a. Which of these types of assistance were available to you last term? CHECK AS MANY AS APPLY.

b. Which did you utilize? CHECK AS MANY AS APPLY.

	a. Assistance was available to me in the following areas	b. Utilized
a. Clerical help	47 ☐ 1	48 ☐ 1
b. Test-scoring facilities	☐ 2	☐ 2
c. Tutors	☐ 3	☐ 3
d. Readers	☐ 4	☐ 4
e. Paraprofessional aides/instructional assistants	☐ 5	☐ 5
f. Media production facilities/assistance	☐ 6	☐ 6
g. Library/bibliographical assistance	☐ 7	☐ 7
h. Laboratory assistants	☐ 8	☐ 8
i. Other *(please specify)*:_____	☐ 9	☐ 9

18. Although this course may have been very effective, what would it take to have made it better? CHECK AS MANY AS APPLY.

a. More freedom to choose materials	☐ 1	49
b. More interaction with colleagues or administrators	☐ 2	
c. Less interference from colleagues or administrators	☐ 3	
d. Larger class (more students)	☐ 4	
e. Smaller class	☐ 5	
f. More reader/paraprofessional aides	☐ 6	
g. More clerical assistance	☐ 7	
h. Availability of more media or instructional materials	☐ 8	
i. Stricter prerequisites for admission to class	☐ 9	
j. Fewer or no prerequisites for admission to class	☐ 1	50
k. Changed course description	☐ 2	
l. Instructor release time to develop course and/or material	☐ 3	
m. Different goals and objectives	☐ 4	
n. Professional development opportunities for instructors	☐ 5	
o. Better laboratory facilities	☐ 6	
p. Students better prepared to handle course requirements	☐ 7	
q. Other *(please specify)*:_____	☐ 8	

Now, just a few questions about you . . .

19. How many years have you taught in any two-year college? 51

- a. Less than one year . . . . . ☐ 1
- b. 1-2 years . . . . . ☐ 2
- c. 3-4 years . . . . . ☐ 3
- d. 5-10 years . . . . . ☐ 4
- e. 11-20 years . . . . . ☐ 5
- f. Over 20 years . . . . . ☐ 6

20. At this college are you considered to be a: 52

- a. Full-time faculty member . . . . . ☐ 1
- b. Part-time faculty member . . . . . ☐ 2
- c. Department or division chairperson . . . ☐ 3
- d. Administrator . . . . . ☐ 4
- e. Other *(please specify)*:

_____ . . . ☐ 5

21a. Are you currently employed in a research or industrial position directly related to the discipline of this course? 53

Yes ☐ 1
No ☐ 2

b. IF YES: For how many years?_____ 54/55

c. If previously you had been employed in a related industry or research organization, please indicate the number of years:_____ 56/57

22. What is the highest degree you presently hold? 58

- a. Bachelor's . . . . . ☐ 1
- b. Master's . . . . . ☐ 2
- c. Doctorate . . . . . ☐ 3

IMPORTANT INSTRUCTIONS

Thank you for taking the time to complete this survey. Please seal the completed questionnaire in the envelope which is addressed to the project facilitator on your campus and return it to that person. After collecting the forms from all participants, the facilitator will forward the sealed envelopes to the Center.

We appreciate your prompt attention and participation in this important survey for the National Science Foundation.

Arthur M. Cohen
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Florence B. Brawer
Research Director

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