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A description of selected characteristics of Virginia community college graduates from Associate in Applied Science degree programs, 1966-1971

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A Description of Selected Characteristics of Virginia Community College Graduates from Associate in Applied Science Degree Programs, 1966-1971

By

James Christopher Phillips

Dissertation

Submitted in partial fulfillment of the requirements
for the degree of Doctor of Education
in the School of Education
The College of William and Mary

Williamsburg, Virginia

1974

APPROVAL SHEET

We the undersigned do certify that we have read this dissertation and that in our individual opinions it is acceptable in both scope and quality as a dissertation for the degree of Doctor of Education.

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PREFACE

The descriptive study described herein was performed to provide answers to specific questions relating to the Associate in Applied Science graduates of the Virginia Community College System. This study is unique in that it is the first statewide study conducted in Virginia to generate data for this particular population.

The writer wishes to express appreciation for that aid and encouragement of his committee members, Dr. Daniel R. Gerber (Chairman), Dr. Armand J. Galfo, and Dr. Roger R. Ries.

Further acknowledgements are extended to Dr. Fred A. Snyder, Dr. Ted Gustilo, and Mr. John Harris of the State Department of Community Colleges for their assistance and guidance in making this study a reality. Without their contributions this study would not have been possible.

A special thanks is due Mrs. Dorothy T. Berlin for typing the dissertation. She was most helpful in enabling me to produce the final report. I also would like to express my gratitude to Mr. J. R. Dawson of The College of William and Mary Computer Center for his assistance in the development of the statistical analyses for this study.

Finally, I am particularly grateful to my wife, Lela, for her patience, encouragement, and the personal sacrifices that she made throughout my doctoral program.

Chapter I

Introduction

A. Community College Movement in Virginia

Legislation was passed in 1966 that created the statewide system of public community colleges in Virginia. The impetus necessary for this development was initiated much earlier than 1966. As early as the first of the twentieth century there were positive statements made as to the desire for the democratization of higher education in Virginia. In 1909, J. D. Eggleston, Jr., State Superintendent of Public Instruction, stated that the "great work to be done in this State is not merely to put children to school, but to put all the people to school. . . that is, to put all the people, young and old, to studying how to improve community conditions through proper cooperation."[1] In 1925, Edwin A. Alderman, President of the University of Virginia, said that "the distinction men draw between primary, secondary, and higher education is not an essential distinction, but one of convenience."[2]

Thomas D. Eason, Director of Higher Education, Virginia State Board of Education, noted in 1934 the arguments for the creation of junior colleges as follows:

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[1] J. D. Eggleston, Jr., "Extension Work in Virginia--Its Possibilities and Needs." Address delivered to the Annual Meeting of the State Farmers Institute, (1909), p. 1.

[2] Edwin A. Alderman, "The Present State of Higher Education in Virginia." Richmond, Virginia: Central Committee, Institutions of Higher Education in Virginia, 1925, p. 1.

> In the cases now under consideration, junior college advocates emphasize the advisability of keeping boys and girls under the influence of the home and the local community, and point out the financial inability of parents to maintain their children at colleges where it is necessary for them to board, and the relatively low costs, to the community, of adding two years of instruction to an established high school.[3]

A study released in 1939 revealed the concern of the Superintendent of Public Instruction for Virginia for the expansion of the educational offerings. His major emphasis was oriented toward a "comprehensive high school." Nevertheless, he also noted that an educational program with more diverse areas than that of the usual program of academic studies could contribute to the continued growth of the community.[4] He even suggested that each community be surveyed to see how the schools could best serve the needs of the community.[5]

In 1928 the O'Shea Report was released. Authorized by the General Assembly, the report recommended that no public community colleges be established until all public elementary and secondary education were adequately funded first.[6] The O'Shea Commission recognized that all students were not

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[3]Thomas D. Eason, "Junior College Movement in Virginia," The Junior College Journal, Volume IV (February 1934), p. 232.

[4]Virginia State Board of Education. Expanding Education to Meet the Needs of Rural Community Life in Virginia, by Sidney B. Hall, Richmond, Virginia: State Board of Education, 1940, pp. 27-28.

[5]Ibid., p. 44.

[6]Public Education in Virginia: Report of the Educational Commission of Virginia of a Survey of the Public Educational System of the State. Richmond, Virginia: Superintendent of Public Printing, 1928, p. 233.

prepared or desirious of traditional liberal arts education. These students would be more productive and be better satisfied in some type of vocational field. However, there was no recommendation in the report to broaden the base of higher education.[7] The O'Shea Commission did lay the groundwork for the later development of a statewide system of publicly supported community colleges.

Another commission was appointed by the General Assembly in 1944, and it recommended broader post-high school offerings in Virginia; however, there was never any legislation passed to make it possible.[8]

In 1948 the General Assembly requested the Virginia Advisory Legislative Council (VALC) to study all of higher education in the state and to make recommendations. The subcommittee report recommended a comprehensive system of post-high school education. This report established guidelines for a more detailed study that was conducted in 1950 and headed by Fred J. Kelly, Specialist in Higher Education, U. S. Office of Education.[9] The recommendations did not include that of a comprehensive community college system, but rather more branch colleges and extension work were recommended.

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[7] Ibid., p. 250.

[8] Virginia Public School System: Report of the Virginia Education Commission. Richmond, Virginia: Commonwealth of Virginia, Division of Purchase and Printing, 1945, p. 24.

[9] Higher Education in Virginia: Report of the Virginia Advisory Legislative Council to the Governor and the General Assembly of Virginia. Richmond, Virginia: Commonwealth of Virginia, Division of Purchase and Printing, 1951, p. 33.

The General Assembly in 1954 again directed the VALC to study higher education in the state with special emphasis on extension offerings of the institutions. Entitled "The Crisis in Higher Education in Virginia and a Solution", the report highlighted the tremendous increase in demand for higher education by Virginia's youth and suggested that a possible solution might rest in establishing additional two-year branches of existing institutions.[10]

The State Council of Higher Education for Virginia authorized in 1959 a study directed by S. V. Mortorana, who was then associated with the U. S. Office of Education. The study recommended among other things a statewide system of community colleges. These community colleges were to be branches of the existing senior institutions.[11] These recommendations were never realized, but they did serve to pave the way for future developments.

The Slaughter Commission in 1963 recommended the creation of a system of technical institutes.[12] In 1964 the General Assembly, as a result of the

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[10] The Crisis in Higher Education in Virginia and a Solution: Report of the Virginia Advisory Legislative Council to the Governor and the General Assembly of Virginia. Richmond, Virginia: Commonwealth of Virginia, Division of Purchase and Printing, 1955, p. 11.

[11] Needs, Policies, and Plans for 2-Year Colleges in Virginia. Richmond, Virginia: Commonwealth of Virginia, State Council of Higher Education, 1959, p. 5.

[12] Vocational and Technical Education in Virginia: Present and Future Needs; Report of the Commission on Vocational Education to the Governor and the General Assembly of Virginia. Richmond, Virginia: Commonwealth of Virginia, Department of Purchases and Supply, 1963, pp. 15-16.

Slaughter Commission recommendations, passed legislation creating the State Board for Technical Education.[13] The State Board for Technical Education existed until 1966.

The 1964 General Assembly also provided for the Virginia Higher Education Study Commission. Among the many recommendations of this commission, headed by John Dale Russell, was the creation of a statewide system of comprehensive community colleges.[14] In 1966 the General Assembly passed legislation providing for a statewide system of community colleges to replace the technical institutes.[15]

Several important issues were readily obvious in reading the studies and reports up to this point. A number of statements throughout the review of the literature revealed the concern of top legislative officials as well as other influential groups and agencies about the need for additional post-secondary educational opportunities for Virginia's youth. Another observation related to the influence exerted by the existing institutions in maintaining the status quo in regard to further efforts to expand higher education.

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[13] Acts and Joint Resolutions of the General Assembly of the Commonwealth of Virginia, 1964. Richmond, Virginia: Commonwealth of Virginia, Department of Purchases and Supply, 1964, pp. 672-675.

[14] John Dale Russell, Report of the Higher Education Study Commission. Richmond, Virginia: Commonwealth of Virginia, State Council of Higher Education, 1965, p. 18.

[15] Acts and Joint Resolutions of the General Assembly of the Commonwealth of Virginia, 1966. Richmond, Virginia: Commonwealth of Virginia, Department of Purchases and Supply, 1966, pp. 1136-1141.

By the fall of 1966, there were two colleges in operation in the Virginia Community College System (VCCS). They were Northern Virginia Community College and Virginia Western Community College. In the fall of 1972 there were twenty-three colleges in the system with a total of thirty campuses. In less than six years, Virginia had developed a community college system that included twenty-three operating institutions with 41,301 full and part-time students.

Prior to 1966, there were twelve state-controlled two-year branch institutions in the state under the auspices of three of the four-year institutions. There were three other four-year institutions operating two-year technical institutes.

The Community College Act, passed in 1966, provided for the conversion of the three technical institutes into community colleges, the transfer of seven of the two-year branch institutions to the system at a future date, and the immediate transfer of the post-high school programs in five area vocational-technical schools to the community college program. The Master Plan of the Community College System provided for the establishment of colleges in twenty-three regions (see Figures 1 and 2).

Governor Mills E. Godwin, Jr., in his message to the combined houses of the General Assembly in 1966, stated, "If we look at the numbers of potential students, and if we also look at the relative costs involved, the implication is clear that a community college system is the quickest, and most

efficient, the most economical, in fact, virtually the only way the future demands of our young people can be met."[16]

Therefore, the Virginia Community College System officially began operations on July 1, 1966, and Dr. Dana B. Hamel (former State Director of Technical Education) was appointed as the State Director of the Virginia Community College System by Governor Godwin. The State Board for Community Colleges consisted of fifteen members appointed by the governor. It served as the governing board for each of the community colleges in the system. The State Board was responsible for master planning and providing standards and policies for each college in the system. Funds appropriated to the system by the legislature were allocated, and tuition fees were fixed by the State Board. Standards for the various curriculums and the right to confer diplomas, certificates, and associate degrees were also designated the responsibility of the State Board.[17] The Code of Virginia stated:

> The State Board shall establish policies providing the creation of a local community college board for each institution established under this chapter and the procedures and regulations under which such local boards shall operate.[18]

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[16] Journal of the Senate of Virginia, Regular Session, 1966, February 3, 1966, p. 165.

[17] Code of Virginia, Volume V, Title 23, Chapter 16, Richmond, Virginia: Commonwealth of Virginia, Department of Purchases and Supply, 1968, pp. 214-215.

[18] Ibid., p. 215.

Figure 1 —

VIRGINIA COMMUNITY COLLEGE SYSTEM

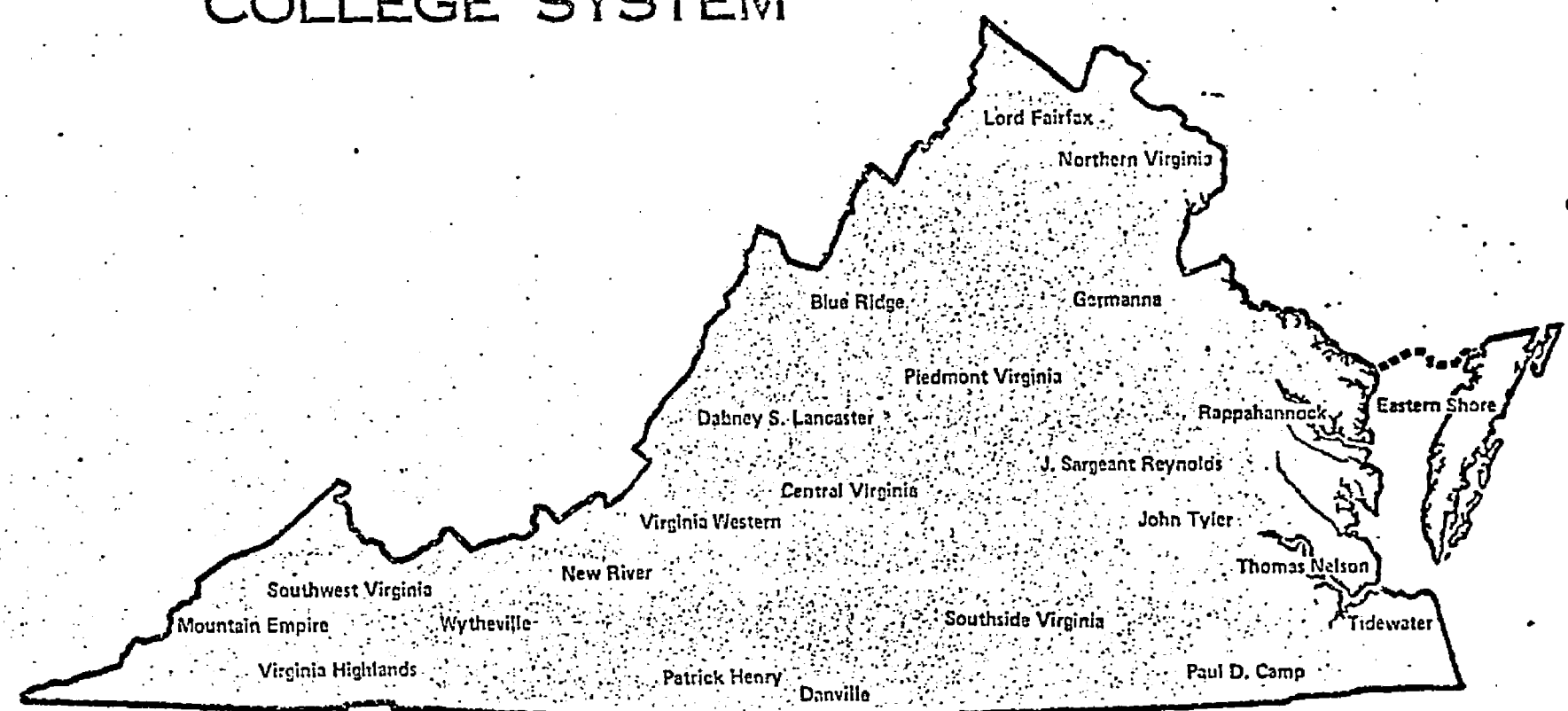

Figure 2 -- Virginia Community Colleges

Blue Ridge Community College
Weyers Cave, Virginia

Central Virginia Community College
Lynchburg, Virginia

Dabney S. Lancaster Community College
Clifton Forge, Virginia

Danville Community College
Danville, Virginia

Eastern Shore Community College
Wallops Island, Virginia

Germanna Community College
Fredericksburg, Virginia

J. Sargeant Reynolds Community College
Richmond, Virginia

John Tyler Community College
Chester, Virginia

Lord Fairfax Community College
Middletown, Virginia

Mountain Empire Community College
Big Stone Gap, Virginia

New River Community College
Dublin, Virginia

Northern Virginia Community College
Bailey's Crossroads, Virginia
Annandale, Virginia
Sterling, Virginia
Manassas, Virginia
Woodbridge, Virginia

Patrick Henry Community College
Martinsville, Virginia

Paul D. Camp Community College
Franklin, Virginia

Piedmont Virginia Community College
Charlottesville, Virginia

Rappahannock Community College
Glenns, Virginia

Southside Virginia Community College
Alberta, Virginia
Keysville, Virginia

Southside Virginia Community College
Richlands, Virginia

Thomas Nelson Community College
Hampton, Virginia

Tidewater Community College
Portsmouth, Virginia
Virginia Beach, Virginia
Chesapeake, Virginia

Virginia Highlands Community College
Abingdon, Virginia

Virginia Western Community College
Roanoke, Virginia

Wytheville Community College
Wytheville, Virginia

Table 1 -- Increase in Number of Community Colleges and Enrollment Fall 1966 to Fall 1972[a]

Community College	Year College Entered the System	Head-Count Enrollment Fall 1966	Head-Count Enrollment Fall 1972
Blue Ridge	1967	--	1,203
Central Virginia	1967	--	1,862
Dabney S. Lancaster	1967	--	666
Danville	1967	--	1,960
Eastern Shore	1971	--	189
Germanna	1970	--	672
J. Sargeant Reynolds	1972	--	508
John Tyler	1967	--	1,881
Lord Fairfax	1970	--	856
Mountain Empire	1972	--	613
New River	1969	--	1,304
Northern Virginia	1966	2,226	13,920
Patrick Henry	1971	--	574
Paul D. Camp	1971	--	634
Piedmont Virginia	1972	--	464
Rappahannock	1971	--	497
Southside Virginia	1970	--	1.037
Southwest Virginia	1968	--	1,116
Thomas Nelson	1968	--	2,423
Tidewater	1968	--	3,928
Virginia Highlands	1969	--	749
Virginia Western	1966	1,352	3,329
Wytheville	1967	--	916
Total		3,578	41,301

[a]State Council of Higher Education enrollment reports for 1966-67 and 1972.

The local college boards were orginally advisory in capacity, but in 1968 certain operating responsibilities were delegated to the local boards by the State Board.[19]

The master plan developed for the system divided the state into twenty-two community college regions. In several regions two or more campuses were planned to serve high density areas or to serve large geographical areas. Regions were designed to include a general population of at least 100,000 people and 1,000 high school graduates per year. Each region normally consisted of three or more political subdivisions. These subdivisions were responsible for land acquisition, site development, and the appointment of local board members.

Once the land was obtained by the local political subdivisions, the major financial burden for financing the operations of the colleges was placed upon the state. The state was required to provide the initial instructional facilities and the basic financial support for operating expenses. The growth of the community college system is depicted in Table 1 (page 10) which presents the dates of entry to the system and enrollment data for each college.

B. Background and Purpose of the Study

Founded in 1966, Virginia's Community College System increased its head-count enrollment from 3,578 students in the fall of 1966 to 41,301

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[19] Dana B. Hamel and Fred L. Wellman, "Community College Progress in Virginia," Junior Colleges: 50 States/50 Years. ed. Roger Yarrington (Washington, D. C.: American Association of Junior Colleges, 1969), p. 240.

students in the fall of 1972, representing a 1054 percent increase in six years. The full-time-equivalent (FTE) enrollment for 1966-67 was 3,074 as compared to 25,066 in 1971-72, representing a 715 percent increase in five years.[20] The impetus for this rapid growth could be attributed in part to the increase in state support and to the demand from the youth of Virginia for increased opportunities in higher education.

The Carnegie Commission projected that by 1980 over one-third of all undergraduates will be attending two-year institutions, compared to 1955 when only one-fifth of all undergraduates were attending two-year institutions.[21] Another projection estimated that by 1980 about one-half of all first and second-year college students will be enrolled in community colleges.[22] Finch noted that in the fall of 1969 more freshmen students entered junior colleges than four-year institutions.[23]

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[20] Mathias J. Schon, III, Resident and Extension Enrollment/Virginia State-Controlled Institutions of Higher Education--1971-72 (Richmond, Virginia: State Council of Higher Education for Virginia, June, 1972), pp. 17 and 33.

[21] Leland L. Medsker and Dale Tillery, Breaking the Access Barrier (Berkeley, California: McGraw-Hill Book Company, 1971), p. 27.

[22] Ralph Tyler, "Higher Education in the Next Decade," The Chronicle of Higher Education, November 17, 1969, p. 5.

[23] Robert H. Finch, "Career Education: A Program for Community Colleges," Junior College Journal, November, 1969, p. 12.

The Virginia Community College System serves a large number of heterogeneous students composed of individuals with great diversity of needs, tastes, talents, and goals. By the Fall of 1980, the head-count enrollment for the Virginia Community College System has been projected to be 86,500 students. This would represent more than a doubling of enrollment compared with the Fall 1972 head-count enrollment of 41,301. This projection was consistent with the projected growth of junior college enrollments on a national basis. Increases in enrollments have also been accompanied by an expansion of the curricular offerings. In the associate in applied science degree programs alone, there were approximately thirty-five different programs.[24] It has been projected that a majority of the increased enrollments in the VCCS will continue to be in the occupational-technical programs.

The purposes of this study were to describe certain characteristics of former Associate in Applied Science (AAS) students, to identify post-college activities of these former students, and to study the opinions and reactions of the former students toward their community college experience and current employment.

The questions to be answered by this study were as follows:

1. What were the characteristics of the graduates in terms of age, sex, marital status, and previous academic achievement? -- e.g.,

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[24] State Department of Community Colleges, First Four Years of Impact: on Individuals, on Communities, on the State, on the Future. Annual Report of Virginia Community College System, 1969-70. Richmond, Virginia, pp. 15-16.

type of curriculum completed, cumulative grade point average (GPA), and total number of credits earned at the community college?

2. What were the opinions and evaluations of the graduate toward his college experience? -- e.g., teaching and faculty, curriculum, social activities, counseling and placement service?
3. Were the graduates working in occupations for which they were trained? If not, why not?
4. In the graduate's opinion, what has been the level of satisfaction in his present or most recent job?
5. What were the similarities and differences among the responses of the graduates of different years from the various curricula toward their community college experience?

The analyses of the data in answering these questions are presented in Chapter III. The objective of this study was to make available specific data on the characteristics, experiences, and opinions of the AAS graduates, in the belief that such information might serve (1) as a basis for counselors to advise students about career choices, course selections, success expectations and (2) as a means of developing, organizing, and evaluating the programs of the colleges.

C. Need for the Study

A number of studies have been conducted to identify institutional research practices at junior colleges.[25] Most of these studies revealed that little competent research has been done at the institutions.[26] Several community colleges in Virginia have conducted studies of their graduates, but these studies have been insufficient in number and were difficult to bring together and evaluate as a group.

There is a great deal of literature illustrating the need for follow-up studies of the occupational-technical graduates of the community colleges. Cross stated:

> While we have some information about students' reactions to their junior college experiences, almost all of it is from students who later transferred to four-year colleges. We really do not know how vocationally-oriented students feel about their junior college experience. . .[27]

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[25] Alton L. Taylor, "Research Methods for Conducting Follow-Up Studies in Higher Education," Institutional Research and Communication in Higher Education (Proceedings of the Tenth Annual Forum on Institutional Research sponsored by the Association for Institutional Research, New Orleans, Louisiana, May 13-16, 1970), p. 242.

[26] John E. Roueche and John R. Boggs, Junior College Institutional Research: State of the Art (Washington, D. C.: Monograph Series, ERIC Clearinghouse for Junior College Information, American Association of Junior Colleges, 1968), p. 48.

[27] K. Patricia Cross, The Junior College Student: A Research Description (published by Educational Testing Service in cooperation with Center for Research and Development in Higher Education, University of California, Berkeley, and American Association of Junior Colleges), p. 50.

Cross posed several questions: "How well is the junior college serving the vocationally-oriented student? What are his aspirations? How can the junior college serve him better?"[28]

In a dynamic society all organizations, such as business corporations or educational institutions, must be aware of their effectiveness in meeting the needs of the clientele they serve.[29] One input into determining the effectiveness of such a program is the opinion of the clientele served. Business organizations have conducted evaluation research for years. Industries have conducted follow-up studies in order to find out how their products have sold and what criticisms people have made of them. Former students can express both positive and negative opinions about their experiences.

D. Definition of Terms

1. State Board for Community Colleges denotes the State agency responsibile for the establishment, control, and administration of all comprehensive community colleges.

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[28] Ibid., p. 52.

[29] Thomas J. O'Conner, Follow-Up Studies in Junior Colleges: A Tool for Institutional Improvement (Washington, D. C.: American Association of Junior Colleges, 1965), p. 9.

2. Virginia Department of Community Colleges (VDCC) represents the administrative unit to the State Board.

3. Virginia Community College System (VCCS) refers to all the community colleges in the State.

4. Diploma and certificate programs differ from associate degree programs in that they are at a different educational level. A "diploma program" is defined as a two-year curriculum with a major in an occupational area. A "certificate program" is defined as a curriculum of less than two years in length with a major in an occupational area.[30]

5. Occupational-technical education programs are designed to meet the increasing demand for technicians, semi-professional workers, and skilled craftsmen for employment in industry, business, the professions, and government. The curricula are planned primarily to meet the needs for workers in the region being served by the college.[31]

6. The Associate in Applied Science degree (AAS) is awarded to students majoring in one of the occupational-technical curricula and who plan to obtain full-time employment immediately upon graduation from the college.[32]

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[30] State Department of Community Colleges, Policies, Procedures, and Regulations Governing the Establishment and Operation of the Comprehensive Community Colleges of Virginia (Richmond, Virginia: Department of Community Colleges), Chapter 5, Section 5.32, p. V-15.

[31] Ibid., Chapter 5, Section 5.11, p. V-1.

[32] Ibid., Chapter 5, Section 5.31, pp. V-14-V-15.

7. Follow-up study is that research which attempts to describe the present status of former students in the light of certain prior experiences for the purpose of evaluating their experiences.[33]

8. Career student is a person whose immediate goal is employment in business, industry, or public and human service at graduation from community college.[34]

9. Full-time-equivalent (FTE) student enrollment is a convenient statistic derived from the student-credit-hour-productivity of an institution.[35]

10. Head-count student is any student enrolled for one or more credits (excluding extension enrollment).[36]

E. The Population

The population of this study consisted of all Associate in Applied Science (AAS) graduates from the Virginia Community College System (VCCS) for the period 1966-67 through 1971-72. For the 1971-72 school year the number of graduates included only those that graduated in August of 1971.

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[33]Fletcher F. Carter, "Communicating Through Studies--Student Follow-Up Studies," Institutional Research and Communication in Higher Education (Proceedings of Tenth Annual Forum on Institutional Research sponsored by the Association for Institutional Research, New Orleans, Louisiana, May 13-16, 1970), p. 234.

[34]Fred A. Snyder, The Employment of Career Graduates -- Harrisburg Area Community College, a report prepared for Harrisburg Area Community College, 1971, Harrisburg, Pennsylvania, p. 1.

[35]Schon, p. 3.

[36]Ibid.

A total of 2, 138 AAS graduates were identified by the various community colleges from their respective records. To obtain consistent data from the various colleges the same form (see Appendix F) was used by each college in recording the basic data.

Presented in Table 2 is a summary of the population data by year of graduation. Included in Table 2 is the actual number of AAS graduates that responded to the questionnaire. Appendix D presents a complete analysis of AAS graduates by year of graduation and by curriculum completed.

Table 2 -- Summary Distribution of AAS Graduates by Year of Graduation

Year of Graduation	Number of AAS Graduates	Number of AAS Respondents	Percent Return
1966-67	83	43	51.8
1967-68	158	92	58.2
1968-69	328	197	60.1
1969-70	614	427	69.5
1970-71	860	608	70.7
1971-72	95	68	71.6
Total	2,138	1,435	67.1

The percent of return increased each successive year from 1966-67 to 1971-72. This fact was not in itself surprising, but it did highlight the fact that the overall percent of returns was very high when one considers the time span of the study. These percentages reflected the returns without reference to those graduates that could not be located. By eliminating those graduates that could not be located from the total number of AAS graduates, the percent of return increased from 67.1 percent to 73.6 percent. Appendix E presents a complete analysis of AAS respondents by year of graduation and by curriculum completed.

F. Collection of Data (Procedure)

Data for this study was collected from two basic sources. The first source was from the college records of the various community colleges. Each community college received a form (Virginia Community College System -- Data Elements for Former Students (see Appendix F)) that was completed from existing records. The following data elements were thereby obtained for each AAS graduate:

a. Social Security Number
b. Name
c. Home Address
d. Year of Birth
e. Sex
f. Curriculum First Enrolled
g. Curriculum Last Enrolled
h. Credits Earned
i. Cumulative Grade Point Average
j. Year Graduated

After this preliminary data was compiled by the various community colleges, the form was forwarded to the Office of the Director of Research and Planning at the VDCC. The data provided by the colleges were then converted to a computer file. From this file, address labels were prepared for mailing questionnaires to the former student population.

The second source of data used in this study was derived from a questionnaire developed by the author and included in the final questionnaire of the VDCC (see Appendix A). The author worked very closely during this stage of the study with the staff at the Office of the Director of Research and Planning in order to

incorporate these questions into the final questionnaire. These questions were developed to answer the basic research questions presented previously. Once the address labels were available, they were attached to the questionnaires.

Four mailing contacts were planned and completed in order to get a satisfactory percentage of completed questionnaires. An initial packet containing the cover letter/questionnaire and a self-addressed reply envelope was mailed to all AAS graduates on April 22, 1972. A follow-up postcard was mailed on April 27, 1972, and on May 4, 1972 another packet of materials containing the questionnaire and postcard was mailed to the non-respondents. A final letter was mailed to the non-respondents on May 10, 1972, as a reminder, and the cut-off date was set for May 24, 1972.

During May 24-27, 1972, telephone interviews of the non-respondents were conducted. A five percent random sample was selected from all occupational-technical graduates. This random sample included AAS graduates as well as certificate and diploma graduates. Since the diploma and certificate graduates accounted for a larger proportion of the total graduates, the actual sample for AAS graduates consisted of a three percent sample. Once the random samples were selected, a listing was forwarded to preselected interviewers from each of the respective schools. Each interviewer had previously been trained as to the kinds of techniques to use and the proper procedures for the telephone interview. Each non-respondent was contacted by a representative of the college from which they had graduated. The questionnaire and instructions for the telephone interviews are presented in Appendix B. The questions used in the

telephone interview are the same as those used on the mail questionnaire except the actual number of questions was reduced.

G. Treatment of Data

Presented in Chapter III is descriptive analyses of the data. However before such analyses are reviewed, the author intends to demonstrate in this section how the findings in Chapter III can be generalized to the total population of this study.

A random sample (5 percent) of the mail responses of the AAS graduates was compared with the telephone responses through the use of the chi-square statistical test. The criteria used in the chi-square comparisons between the mail and telephone respondents were present activity, overall rating of community college experience, and employment status. Presented below in tabular form is a summary of these comparisons.

Criterion	X^2	df	Conclusion
Employment Status	4.319	3	Not Significant
Overall Rating of Community College	2.454	2	Not Significant
Present Activity	0.045	1	Not Significant

The null hypothesis for each of the three criteria was the same. The null hypothesis was that there was no significant difference (10 percent level) between the telephone respondents and the mail respondents. The results of the three chi-square tests all indicated that null should be accepted (see Appendix C).

Therefore, generalizations from the data of the mail respondents to the total population as defined for the study could be made.

All data processing for the study, except the conversion of the data from questionnaire to magnetic tape and then to cards, was completed by the Computer Center of The College of William and Mary. The conversion of data from questionnaire to tape was contracted by the Virginia Department of Community Colleges with National Scanning Incorporated, and the conversion of data from tape to cards was accomplished through the assistance of the Computer Center of the Virginia Department of Community Colleges.

Chapter II

Review of the Literature

This chapter contains a review of the literature pertaining to follow-up studies of occupational-technical graduates. In order to provide some classification of the material reviewed, the chapter is divided into the following sections:

a. guides for conducting follow-up studies of occupational-technical graduates;

b. national and statewide follow-up studies; and

c. follow-up studies conducted by individual community colleges.

A. Guides for Conducting Follow-Up Studies of Occupational-Technical Graduates

Huinker, in a doctoral dissertation, provided a model follow-up plan for both transfer and occupational-technical students who were formerly enrolled in community colleges. Guidelines were presented that can be used in planning, conducting, and reporting follow-up studies. In a six page summary of the model plan, Huinker listed the proper sequence of steps to follow, what each step included, and who was responsible for each step.[1] Huinker noted that:

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[1] Arthur T. Huinker, "The Development, Application and Evaluation of a Model Plan for Conducting Follow-up Studies of Former Students in Community Colleges" (unpublished doctoral dissertation, University of Illinois, 1970), pp. 35-40.

> The proposed model plans, procedural design is not intended to define in detail each step necessary for conducting follow-up studies of former students. Such exactness would not allow for the differences that exist between community colleges.[2]

According to a recent report from the Virginia Department of Community Colleges, nearly all community colleges in the United States have conducted follow-up studies of their occupational-technical graduates.[3] Most of these individual studies were found to be inadequate because of the following reasons:

1. Lack of formality which resulted in no written reports.
2. Weakness in designs of most studies
3. Inadequate procedural methods.[4]

Williams and Snyder noted that their review of the current literature revealed some information on the characteristics and attitudes of former occupational-technical students but little on the post-college activities. The population for the study included all community colleges in the United States that offered occupational-technical programs prior to September, 1970. The data for the study were gathered in two ways. First, a questionnaire was sent to 720 community colleges requesting information relative to any follow-up research that may have been conducted on occupational-technical graduates. The rate

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[2] Ibid., p. 44.

[3] William G. Williams and Fred A. Snyder, A National Review of Community College Follow-up Studies of Former Occupational-Technical Students (Research Report No. 1; Virginia: Virginia Department of Community Colleges 1973), p. 1.

[4] Ibid.

of return for the questionnaires was 73 percent. Second, 85 follow-up reports furnished by cooperating institutions were content coded and reviewed in an effort to answer specific research questions. The research questions were:

1. What student population or samples are studied and how are subjects selected?
2. How many attempts are made to obtain student replies and what response rates are obtained with varying numbers of contacts?
3. What is the general format of reports?
4. Are statistical procedures employed, such as tests of non-response bias or of the population significance of sample-based findings?
5. What number of community colleges obtain employer evaluations of skills and work attitudes of former students?
6. Are data commonly controlled for pre-enrollment experiences of former students?
7. Do colleges conduct longitudinal studies in order to measure career advancement or to obtain more mature reflections of the former students?
8. Given the usual low student questionnaire response rates, are questions being asked which could be eliminated by obtaining the data from college records?
9. How many colleges request baccalaureate and post-baccalaureate transfer information from former occupational-technical students?
10. How many colleges solicit educational evaluations and advice from former students?
11. To what extent are follow-up studies designed to measure the attainment of educational goals?
12. Which goals receive the greatest amount of attention by college follow-up researchers?[5]

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[5] Ibid., p. 12.

Williams and Snyder included in their report recommendations for improving the quality of follow-up studies.[6]

Henderson in his report Program Planning with Surveys in Occupational Education stressed the purposes for which surveys should be used and suggested the findings of the report to be used as a guideline to those planning to implement occupational programs.[7] Henderson wrote:

> The relationship between student characteristics, manpower needs and projections, institutional resources, and educational objectives in the overall planning process may be established, or clarified, by application of effective surveys. Surveys can help planners to know what programs to offer, what the curriculum should be, the duration of the course work, and ultimately whether the program accomplished its goals.[8]

In summary, Huinker, Williams and Snyder, and Henderson emphasized that a follow-up study should have specific purposes and objectives by which to assess the programs being evaluated. Although each of the reports provides information relative to conducting follow-up studies, each emphasizes the need for a comprehensive guide to planning, conducting and reporting follow-up studies of former occupational-technical students.

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[6] Ibid., p. 42.

[7] John T. Henderson, Program Planning With Surveys In Occupational Education (Washington, D. C.: American Association of Junior Colleges, 1970), p. 2.

[8] Ibid., p. 3.

B. National and Statewide Follow-Up Studies

Gartland and Carmody surveyed 689 two-year community or junior colleges and 351 vocational-technical schools to learn more about institutional guidance and research programs.[9] Their study included students of both the transfer and vocational-technical programs of the community or junior colleges. The study sought to obtain a broad array of information and requested those institutions that had conducted follow-up studies on former vocational-technical students return copies of these reports. Of the 518 community colleges responding to the question of frequency of conducting follow-up studies, 18 percent reported they never conducted such studies, 28 percent reported rarely, and 55 percent stated that they conducted them on a regular basis.[10] Based upon a review of selected follow-up studies, Gartland and Carmody observed that approximately 80 percent of the graduates of the community colleges found work related to their training.[11] It was also found that vocational-technical students tended to be very favorable in their evaluations of their institutions in preparing them for employment.[12] Of those follow-up studies

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[9]Thomas G. Gartland and James F. Carmody, Practices and Outcomes of Vocational-Technical Education in Technical and Community Colleges (American College Testing Program Research Report No. 37; Iowa City, Iowa: American College Testing Program, 1970), p. 2.

[10]Ibid., p. 15.

[11]Ibid., p. 17.

[12]Ibid., p. 19.

reviewed, only 2.5 percent of the graduates were unemployed.[13] The study reported only a few institutions had actually gathered data regarding salaries earned by their graduates. One institution that had collected information on salaries noted that the starting salaries were strongly related to the age of the graduates.

A national follow-up study of former vocational-technical students was conducted by Somers, Sharp, and Myint.[14] Even though the questionnaire used in the study was lengthy, it could serve as a useful reference for those preparing to conduct a follow-up study. Repeated contacts of the population and the use of tests for non-response bias were utilized to increase response rates and to determine whether or not the respondents were representative of the total study population.

Somers, et. al. included in their study vocational graduates from high schools, post-secondary vocational schools and junior college vocational programs in 1966. The graduates were surveyed three years later to determine the effectiveness of their training. Eighty-nine percent of the junior college

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[13] Ibid., p. 23.

[14] Gerald G. Somers, Laura M. Sharp, and Thelma Myint, The Effectiveness of Vocational and Technical Programs. National Follow-up Survey (Madison, Wisconsin: University of Wisconsin, Center for Studies in Vocational and Technical Education, 1971), p. 1.

graduates indicated that they perceived a positive relationship between their current jobs and their community college training. Ninety-one percent of the post-secondary graduates indicated a positive relationship between their current jobs and their community college training as compared to 69 percent of the high school graduates.[15] Ninety-two percent of the graduates from the junior college vocational programs were white as compared to 89 percent from post-secondary programs.[16]

Little surveyed follow-up studies of graduates from secondary, post-secondary and adult level programs of vocational-technical education.[17] The purpose of the study was "to mine the literature for significant trends in the job histories of graduates of programs of vocational and technical education; and through such information to provide baselines for evaluating vocational programs of education and training."[18] The greater proportion of information presented in the report was about graduates of vocational programs from the secondary level.

Little noted that in the health related programs, 92 percent were placed in occupations related to their training.[19] Eighty percent of all graduates found jobs related to curriculum completed.[20] Three-fourths of the graduates who moved

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[15] Ibid., p. 89.

[16] Ibid., p. 15.

[17] J. Kenneth Little, Review and Synthesis of Research on the Placement and Follow-up of Vocational Education Students (Columbus, Ohio: The Center for Vocational and Technical Education, The Ohio State University, 1970), p. v.

[18] Ibid.

[19] Ibid., p. 14.

[20] Ibid., p. 20.

to new locations for employment found jobs within 300 miles of the community in which they attended school.[21]

A national study (60 community or junior colleges throughout the United States) was conducted by Garbin and Vaughn from the Center for Vocational and Technical Education at Ohio State University to determine selected characteristics, experiences, and perceptions of students enrolled in occupational programs.[22] Even though this study was devoted to furthering an understanding of enrollees in occupational programs versus graduates of such programs, its scope and contribution to a limited body of relevant research was significant. The methodology used in the study is worthy of review by any person or institution contemplating a follow-up study.

Garbin and Vaughn analyzed their data by geographic region. Virginia was included in the South Atlantic region of which Delaware, District of Columbia, Florida, Georgia, Maryland, North Carolina, South Carolina and West Virginia were also included.[23]

Fifty-eight percent of the junior college occupational enrollees in the

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[21] Ibid., p. 18.

[22] A. P. Garbin and Derrald Vaughn, Community-Junior College Students Enrolled in Occupational Programs: Selected Characteristics, Experiences and Perceptions (Columbus: Ohio State University Center for Vocational and Technical Education, 1971), p. 15.

[23] Ibid., p. 36.

South Atlantic region were males.[24] Forty-five percent of the enrollees in the South Atlantic region evaluated their training as "very adequate", 44 percent as "fairly adequate", 6 percent as "fairly inadequate" and 5 percent as "very inadequate."[25]

Gillie's study of demographic variables of associate degree graduates from Pennsylvania State University provided an excellent example of the technique of sampling in conducting follow-up studies. The study population included "about 6,200 graduates of electronics and drafting design curriculums from each of the years 1955-1969."[26] The stratified random sample resulted in a sample of 33 percent of the total population. A ten percent random sample was selected from the non-respondents and contacted by telephone.

The mean present salaries for the graduates from the electronics curriculum by year of graduation was as follows:[27]

Year	Mean Monthly Salary
1955	$1,075
1956	995
1957	1,065
1958	988
1959	978

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[24] Ibid., p. 47.

[25] Ibid., p. 172.

[26] Angelo C. Gillie, Pennsylvania State University Associate Degree Technician Graduates: Some Demographic Variables (University Park, Pennsylvania: Department of Vocational Education, Pennsylvania State University, 1971), p. 1.

[27] Ibid., p. 37.

Year	Mean Monthly Salary
1960	944
1961	946
1962	882
1963	909
1964	748
1965	728
1966	886
1967	664
1968	549
1969	605
Average	864

Gillie noted that earlier graduates were less likely to pursue advanced degrees (baccalaureate, master's, and doctorate). He suggested that one of the constraints on additional study in the earlier years might have been the fact that there were no educational institutions in Pennsylvania until the mid-sixties that would accept the associate degree graduate as a junior in full standing.[28] Gillie states, "The conjecture here is that this almost complete lack of transferability of academic credit to the bachelor's degree was the major constraint in aspiring for an advanced degree by the earlier graduation classes."[29]

The statewide study most closely associated with the objectives of the current study was conducted in Pennsylvania. In the Fall of 1971 the Vocational Education Management Information System (VEMIS), which is the authorized data collection and processing agency for the Bureau of Vocational Education

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[28] Ibid., p. 23.

[29] Ibid., p. 24.

in Pennsylanvia, conducted the first follow-up survey of occupational graduates from fourteen Pennsylvania Community Colleges, seventeen Penn State Branch Campuses and twenty-eight proprietary schools approved for associate degree occupational programs. The major objective of the survey was "to provide information to help evaluate the effectiveness of such programs as a source of qualified, entry-level skilled manpower to the Pennsylvania economy."[30] The study asked questions about post-college activities, methods of obtaining employment, location of employment, relationships between curriculums studied and current jobs, reasons for not getting jobs in fields of preparation, and student ratings of their curriculums.

They found that 66 percent of the community college graduates were employed full-time, and 93 percent were employed in Pennsylvania.[31] Overall, 42 percent of the community college graduates received employment leads from the school. Sixty-six percent of the community college graduates reported a high relationship between present employment and curriculum completed. The most common reason for not getting a job in the field of preparation was due to the fact that they could not find a job. Eighty-seven percent of the community college graduates rated their preparation for present employment as excellent to good.[32]

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[30] John W. Struck, Pennsylvania Follow-up Study of Occupational Graduates--Class of 1971 (Pittsburgh, Pennsylvania: Bureau of Vocational Education, 1973), p. 1.

[31] Ibid., p. 2.

[32] Ibid., p. 3.

The VEMIS study was sound methodologically, and the objectives paralleled many of the same items included in this study. Two characteristics not included in the VEMIS study were salary and job satisfaction of the graduates.

In summary, there exist a number of national and statewide follow-up studies of vocational-technical graduates. The goals and objectives of the various studies vary, making specific generalizations of the findings almost impossible. Even the populations of the various studies differ (e.g.,--Little surveyed graduates of not only secondary and post-secondary schools but also junior colleges whereas Garbin and Vaughn surveyed enrollees in occupational programs versus graduates of such programs).

Generally, graduates of vocational-technical programs, whether high school or college, appear to be able to find jobs for which they were trained. High ratings were generally provided by the graduates of their preparation for present employment.

A model nationwide follow-up study of community college vocational-technical graduates is needed. It would provide national data against which other statewide as well as individual studies could be compared.

C. Follow-up Studies Conducted by Individual Community Colleges

The Office of Institutional Research at Moraine Valley Community College (MVCC) in Palos Hills, Illinois conducted a follow-up study of their transfer and career graduates from 1969 through 1971. The objectives of the

study were divided according to the type of curriculum completed (occupational or transfer). The occupational objectives were:

1. To determine the type of entry jobs MVCC graduates found.
2. To determine the relationship between employment experiences after graduation and MVCC program.
3. To determine extent of MVCC success in preparing graduates for employment in their field of specialization.
4. To determine student evaluation of MVCC strengths and weaknesses.[33]

Sixty percent of the questionnaires from the occupational graduates were returned.[34] Over 80 percent of the career graduates reported they were employed full-time. The graduates from the transfer programs rated the element of availability of faculty and staff higher than the occupational graduates. Approximately 80 percent of the

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[33]Office of Institutional Research, Follow-up of 1969-71 Moraine Valley Community College (Palos Hills, Illinois: Moraine Valley Community College, 1971), p. 3.

[34]Ibid., p. 4.

occupational graduates held jobs related to their community college preparation.[35]

The most comprehensive study of career graduates conducted by any one institution was a study completed at the Harrisburg Area Community College (HACC). The purposes of the study were to analyze the post-college activities of the career graduates, to obtain their opinions about their current employment and previous education at HACC, and their employer attitudes.[36] The study covered those career graduates who earned their degrees from 1966 through June, 1970. Overall, 78.5 percent of the identified population returned completed questionnaires.[37] Three-fourths of the respondents were men, and seven-tenths of the total (men and women) were employed full-time.[38] Approximately nine-tenths of the graduates reported their jobs were related to the curriculum studied.[39] The median salary for all years combined was $6,906.[40] Overall, 75 percent of all graduates rated their job satisfaction as superior or good.[41]

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[35] Ibid., p. 1.

[36] Fred A. Snyder and James W. Selgas, The Employment of Career Graduates (Research Report No. 7; Harrisburg, Pennsylvania: Harrisburg Area Community College, 1972), p. 1.

[37] Ibid., p. 2.

[38] Ibid., p. 6.

[39] Ibid., p. 9.

[40] Ibid., p. 13.

[41] Ibid., p. 15.

The placement services at HACC were not rated as either strongly positive or negative overall, but there were graduates from several curricular areas that rated the placement services as low. Nine-tenths of the graduates indicated they would recommend HACC to a potential student seeking the same program of studies they had pursued.[42] One of the recommendations of the study was that more resources should be devoted to counseling and placement activities.

A follow-up study of Santa Fe Junior College graduates from 1964 to 1970 was conducted by the Office of Research to assist in the appraisal of existing curricular offerings.[43] Of the 1,202 questionnaires sent out, 55 percent were returned. A secondary purpose of the study was to compare those graduates who continued their education as full-time students with those who did not. It was found that nearly half of the graduates who were employed had jobs unrelated to their college training.

In a study entitled Career Placements: Functions and Service, 1972, Cochise Community College in Arizona surveyed their transfer and career graduates to determine their employment status.[44] It was found that 81 percent of the occupational graduates were employed. Of the 89 occupational graduates

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[42] Ibid., p. 30.

[43] Ann Bromley, Follow-up Study of Santa Fe Junior College Graduates 1968-70 (Gainsville, Florida: Office of Research, Santa Fe Junior College, 1971), p. vii.

[44] Dan W. Rehurek, Career Placement: Functions and Service 1972 (Douglas, Arizona: Cochise Community College, 1972), p. 1.

identified, 14 percent indicated that they were continuing their education.[45] The major portion of the study was devoted to listing each graduate by name and his employer.

A follow-up study of the graduates from one curriculum was conducted at Westark Community College in Arkansas. The study population consisted of those graduates from the secretarial science curriculum from 1969 to 1972. Of the 61 percent of the graduates responding, 21 percent were over 30 years of age.[46] Seventy-one percent were employed full-time, and 23 percent were unemployed at the time of the survey. Of those that were employed full-time, the average monthly salary was $389 or $4,668 annually. Approximately 97 percent indicated they would recommend Westark to others seeking training in the same field.[47]

McKeown found in a follow-up study of the graduates (both career and transfer) of Canada College that the average cumulative Grade Point Average (GPA) was 2.47.[48] The rate of return on the questionnaires was only 29.3 percent, but the report indicated that the records from the college were used to compare the

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[45] Ibid., p. 2.

[46] Paul Leggett, A Follow-up Study of Secretarial Science Students at Westark Community College (Fort Smith, Arkansas: Westark Community College, 1972), p. 5.

[47] Ibid., p. 7.

[48] William H. McKeown, Follow Through Study (Redwood City, California: Canada College, 1972), p. 11.

respondents with the non-respondents and it was decided that the rate of return was satisfactory.[49] Eighty-eight percent of the graduates were Caucasian, five percent were black and seven percent were other.[50] Students were asked to evaluate selected characteristics of Canada College. "Instructional Methods" received a lower overall rating than "Student Personnel Services."[51]

In a study conducted by the personnel at Mount Hood Community College (MHCC) in Oregon, the rationale for generalizing that the non-respondents and respondents were the same rested on the fact that a majority of the entire population had responded.[52] Since a majority had responded, the authors considered the return sufficient to generalize that the respondents were typical of the total population. The study was comprehensive in scope and would have been a major contribution in the field if certain methodological improvements had been observed.

The study was designed to determine "whether former students are using their MHCC education, either in employment or as continuing students and

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[49] Ibid., p. 3.

[50] Ibid., p. 6.

[51] Ibid., p. 21.

[52] Jennis J. Bapst, Bill F. Stewart, and Wilfred Burgess, The Initial Follow-up Study of Mount Hood Community College Students, 1966-72 (Gresham Oregon: Mount Hood Community College, 1972), p. 2.

how the former students rated the education received at MHCC as a preparation for their careers."[53]

The study population was divided according to the students' majors at the college (either collegiate transfer or vocational-technical).[54] Of the vocational-technical graduates responding to the questionnaire, 62 percent were employed full-time, 20 percent part-time and 6 percent were in the armed forces. The rest were students.[55] Sixty percent of the former occupational-technical graduates indicated their training at MHCC was related to their employment.[56]

Thomason conducted a survey of selected technical education graduates from Broward Community College. The curriculums surveyed were Aerospace, Civil Engineering, Data Processing, Drafting and Design Technology, and Electronic Technology.[57] Included in the study were all graduates of these five curriculums from 1968 to 1972.

Seventy-eight percent of the data processing graduates indicated they were working in the area of specialization for which they were trained,

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[53] Ibid.

[54] Ibid., p. 4.

[55] Ibid., p. 5.

[56] Ibid., p. 72.

[57] Walter F. Thomason, Survey of Selected Technical Education Graduates (Fort Lauderdale, Florida: Broward Community College, 1972), p. 3.

compared to 80 percent for drafting and design graduates, 69 percent for electronic graduates, 66 percent for contracting and civil engineering and 61 percent for aerospace graduates.[58]

In the first chapter it was mentioned that several community colleges in Virginia have conducted follow-up studies of their occupational-technical graduates. Morse conducted follow-up studies of the career graduates from Blue Ridge Community College for each of the past three years. The latest study included the graduates of the AAS programs and the diploma and certificate programs from December, 1971 through September, 1972.[59] In addition, Morse found that the average annual salary for AAS graduates from Blue Ridge Community College in 1971 was $5,643 as compared to $5,995 in 1972. Seventy percent of the graduates indicated their employment was related to their community college training.[60]

Another follow-up study conducted at one of the community colleges in Virginia was completed by Stallings at Lord Fairfax Community College. Stallings studied the occupational-technical graduates and the transfer graduates from Lord Fairfax for the year 1972. He found the average salary for the AAS graduates to

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[58] Ibid., p. 4.

[59] Edwin B. Morse, Jr., Career Placement Follow-up 1971-72 (Weyers Cave, Virginia: Blue Ridge Community College, 1973), p. 1.

[60] Ibid., p. 2.

be $5,678.[61] Analyses were presented by type of curriculum, and it was found that 87 percent of the graduates were employed in positions for which they were trained.[62]

In summary, the findings from the various studies reveal that graduates of occupational-technical programs are very successful in obtaining employment related to their training. Only two studies reported they had collected evaluative reports from employers of former graduates. Over three-fourths of the research studies pertained only to recent graduates. Only three reports contained information on current salaries of former students. Most of the studies did not include demographic information about former students. Further generalizations of the findings of the various reports were not possible because of the differences in populations, curriculums and graduation dates of the graduates.

There exists a considerable body of literature relating to the community college student. The bulk of the research refers to the transfer students with only cursory comments on the characteristics and post-college activities of the occupational-technical graduates. Although the need for sound follow-up studies of the occupational-technical graduates exists, a review of the literature reveals a shortage of formal research in this area.

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[61] Neil A. Stallings, Follow-up Study of 1972 Graduates (Middletown, Virginia: Lord Fairfax Community College, 1973), p. 2.

[62] Ibid., p. 3.

Monroe, Koos, Thorton, Cross, Dobbin, O'Conner represent those researchers who have contributed to the literature on the community college student. The literature supports the need for well-planned, objective research of former occupational-technical students, but provides very few examples of it. The study, herein presented, attempts to provide an objective description of the AAS graduates from the Virginia Community College System from 1966 to 1972.

Chapter III

Characteristics and Responses of the AAS Graduates

Although there are many curricular offerings available for a community college student in Virginia, the various curricular offerings were consolidated in this study into six major categories. The individual curriculums included in the six categories are described in Appendix G. The six curricular categories were structured as follows:

1. Business and Related Programs
2. Communication and Media Programs
3. Engineering and Related Programs
4. Health Services and Related Programs
5. Public Service and Related Programs
6. Miscellaneous (Other)

For each characteristic and response, the data were analyzed by the six curriculums and by year of graduation. As indicated in Chapter I a related concern of this study was to ascertain the similarities and differences among the graduates of different years from the various curriculums toward their community college experience. In addition to the descriptive data, chi-square and Crammer's coefficient of strength were computed for those items pertinent to the research questions; however, there were several instances in which the limitations of the chi-square statistic prevented its use.

A. Characteristics

The demographic data which were collected involved the indigenous characteristics of the graduates such as age, sex, marital status, race, and state in which the respondent was employed. The data reported in this section are intended to answer the question entitled "What are the characteristics of the graduates in terms of age, sex, marital status, and previous academic achievement?--e.g., type of curriculum completed, cumulative grade point average (GPA), and total number of credits earned at the community college" as stated in Chapter I.

Age

The AAS graduates were first examined on the characteristic of age, and approximately 12 percent were either 21 years of age or under at the time of the survey. This group was composed of graduates that had graduated in the past three years. The median age for all respondents for the past six years was 23.

Of the respondents that graduated in the 1966-67 academic year, 95 percent were between 25 and 29 years of age at the time of the survey. This means that during their college years at the community college, they were in the 18-21 age group. The 18 to 21 age group has been defined traditionally as the college-age population. Thirty-one percent of the 1970-71 graduates were 25 years of age or older.

Presented in Table 3 is a summary of the age distribution of the graduates for the past six years as taken from the college records. A chi-square value of 433.78 with 30 degrees of freedom (the values obtained from the chi-square analysis

Table 3 -- Distribution of Age of Respondents by Year of Graduation

Year of Graduation	Age Categories													
	(18-21)		(22-24)		(25-29)		(30-39)		(40-49)		50 and Over		Total	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
1966-67	--	--	--	--	41	95.4	1	2.4	1	2.4	--	--	43	3.0
1967-68	--	--	23	25.0	51	55.5	13	14.2	4	4.4	1	1.1	92	6.4
1968-69	--	--	132	67.1	41	20.9	15	7.7	8	4.1	1	0.6	197	13.7
1969-70	3	0.8	295	69.1	82	19.3	30	7.1	13	3.1	3	0.8	427	29.8
1970-71	165	27.2	254	41.8	117	19.3	43	7.1	18	3.0	9	1.5	608	42.4
Summer,1971	8	11.8	30	44.2	18	26.5	9	13.3	1	1.5	2	3.0	68	4.7
Total	176	12.3	734	51.2	350	24.4	111	7.7	45	3.2	16	1.1	1,435	100.0

$X^2 = 433.78$ Degrees of freedom = 30 Strength of Relationship = .06

of Table 3) indicates a significant relationship between year of graduation and age of respondents at the one percent level. However, the strength of the relationship was weak. The graduates from the earlier years were older than the more recent graduates, but the data indicate that recent graduates were older during their college years than were their colleagues before them. This finding has some far reaching implications for curriculum design, counseling and other related matters.

Sex

Of the total number of AAS respondents answering the questionnaire, nearly two-thirds or sixty-five percent were males, and thirty-five percent were females. Table 4 presents a breakdown of the respondents by sex and by year of graduation.

Table 4 -- Distribution of Sex of Respondents by Year of Graduation

Year of Graduation	Sex					
	Male		Female		Total	
	No.	%	No.	%	No.	%
1966-67	40	93.1	3	6.9	43	3.0
1967-68	61	66.3	31	33.7	92	6.4
1968-69	139	70.6	58	29.4	197	13.7
1969-70	274	64.2	153	35.8	427	29.8
1970-71	381	62.7	227	37.3	608	42.4
Summer 1971	44	64.7	24	35.3	68	4.7
Total	939	65.4	496	34.6	1,435	100.0

$X^2 = 19.17$ Degrees of freedom = 5 Strength of Relationship = .01

A chi-square value of 19.17 with five degrees of freedom indicates a relationship between sex of respondents and year of graduation at the one percent

level. However, the strength of this relationship was extremely weak. Males have outnumbered females each year, but the trend indicates a substantial increase in females graduating from the AAS programs each successive year from 1968-69 to 1970-71. Changes in the sex distribution of the graduates as well as changes in the age distribution have implications for curricular revisions.

The distribution by sex within each curriculum category for all years combined appears as follows:

Curriculum	Percent
Business	57.6 males 42.4 females
Communication	72.2 males 27.8 females
Engineering	98.2 males 1.8 females
Health	6.8 males 93.2 females
Public Service	94.4 males 5.6 females
Miscellaneous	80.4 males 19.6 females

Business graduates accounted for over one-half of all respondents, and 42.4 percent of this group were females. Included in the business curriculum are the secretarial science graduates--a fact which accounts for the high percentage of females. The health related field was, as would be expected, dominated by females at 93.2 percent. The reason for this high percentage of females in the health related area was the high percentage of females in the nursing curriculum.

Marital Status

The marital status of the graduates was obtained from data requested on the questionnaire. Three percent of the total number of respondents gave "no response" for the question on marital status and 2.8 percent checked "other". Included in the "other" category were those graduates that were either divorced or separated. Of the remaining 94.2 percent, 49.7 percent were married, and 44.5 percent were single. The 1966-67 AAS respondents revealed that 65.2 percent were married and 30.2 percent single; whereas, in 1970-71, 42.4 percent were married and 52.4 percent were single. This difference probably relates to the fact that those respondents from 1966-67 have been out of school for a considerable period of time and therefore could have changed their marital status since their formal education. Table 5 presents a year-by-year analysis of the respondents according to their marital status. A chi-square value of 55.72 with 15 degrees of freedom indicates a relationship between year of graduation and marital status at the one percent level. However, the strength of the relationship was weak. The implication is that the earlier graduates tend to be married and the more recent graduates single. In the percentage distribution for the recent graduates the disparity between married and single graduates is not as large as the disparity for the earlier graduates. The implication is that in recent years the percentage of married students attending the community colleges has increased. The data does not support this statement since the population for this study includes only graduates. The marital status of the graduates during their college days would have to be determined before such a statement could be supported.

Table 5 -- Distribution of Marital Status By Year of Graduation

Year of Graduation	Marital Status									
	No Response		Single		Married		Other		Total	
	No.	%	No.	%	No.	%	No.	%	No.	%
1966-67	1	2.4	13	30.3	28	65.2	1	2.4	43	3.0
1967-68	4	4.4	33	35.9	49	53.3	6	6.6	92	6.4
1968-69	4	2.1	62	31.5	128	65.0	3	1.6	197	13.7
1969-70	21	5.0	182	42.7	216	50.6	8	1.9	427	29.8
1970-71	13	2.2	318	52.4	258	42.5	19	3.2	608	42.4
Summer, 1971	--	--	31	45.6	34	50.0	3	4.4	68	4.7
Total	43	3.0	639	44.5	713	49.7	40	2.8	1,435	100.0

$X^2 = 55.7222$ Degrees of freedom = 15 Strength of relationship = .01

Race

The race of the graduates was also obtained from the questionnaire. Two percent of the respondents did not answer this question. Of those that did answer, 91.9 percent were white and 4.8 percent were black. Another 1.3 percent were either American Indian, Oriental, Spanish, or Other. The data indicated that the number of minorities graduating from the community college has increased from 1966-67 to 1970-71; however, the data indicated that the percentage of minorities has not increased significantly. Since the data for the 1971-72 academic year represent only those graduates who graduated in August, 1971, the number of respondents does not reflect the total number of minorities graduating in that academic year. Presented in Table 6 is a distribution of the graduates by race for each of the years. A chi-square value of 33.69 with 30 degrees of freedom indicates no relationship between year of graduation and race of respondents at the five percent level.

State In Which Presently Employed

Respondents were requested to indicate the state in which they were presently working. For whatever reasons, 17.7 percent chose not to respond to this question. Of the remaining respondents for all years combined, 80.8 percent found employment in Virginia, 2.2 percent in Maryland, 1.2 percent in West Virginia, 2.2 percent in North Carolina, 1.3 percent in Tennessee, 6.8 percent in District of Columbia, 1.0 percent in Kentucky, and 4.5 percent in the remaining states. The District of Columbia was the second largest employing region, attracting almost 7.0 percent of the AAS graduates.

Table 6 — Distribution of Race By Year of Graduation

Year of Graduation	Race															
	White		Black		American Indian		Oriental		Spanish		Other		No Response		Total	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
1966-67	39	90.7	1	2.4	--	--	--	--	--	--	1	2.4	2	4.7	43	3.0
1967-68	84	91.4	3	3.3	--	--	--	--	--	--	1	1.1	4	4.4	92	6.4
1968-69	188	95.5	3	1.6	--	--	--	--	1	0.6	1	0.6	4	2.1	197	13.7
1969-70	396	92.8	23	5.4	1	0.3	--	--	1	0.3	--	--	6	1.5	427	29.8
1970-71	554	91.2	29	4.8	1	0.2	2	0.4	3	0.5	7	1.2	12	2.2	608	42.4
Summer, 1971	58	85.3	9	13.3	--	--	--	--	--	--	--	--	1	1.5	68	4.7
Total	1,319	91.9	68	4.8	2	0.1	2	0.1	5	0.4	10	0.7	29	2.0	1,435	100.0

$X^2 = 33.69$ Degrees of freedom = 30 Strength of Relationship = .0047

Salaries

Salaries reported by graduates are shown for both their initial jobs and current jobs.

These data must be interpreted with caution in the absence of more detailed analyses since there are other variables not presented that could affect such data. These preliminary data do not break down the information by specific geographic region, job fields, or previous experience. The salary data are for only those respondents who indicated they were employed full-time. In the study salaries were analyzed in several ways: year of graduation, sex, initial and present salary, and curricular areas. The overall median initial salary of the respondents for all years was $5,781. The median salaries by year of graduation are as follows:

	Initial	Present
1966-67	$5,726	$9,666
1967-68	6,749	9,166
1968-69	5,631	7,734
1969-70	6,018	7,207
1970-71	5,491	6,791
Summer, 1971	5,544	6,888
Median for All Years	$5,781	$7,314

The highest initial salary for all years combined was earned by those graduates from the health related curriculum with an average of $7,249. Table 7 illustrates this initial salary information by year of graduation and by curriculum. Those graduates from the 1967-68 academic year received the highest initial salary ($6,749) as compared to each of the other years.

Table 7 -- Median Initial Salaries By Year and Curriculum

Curriculum	Year of Graduation						
	1966-67	1967-68	1968-69	1969-70	1970-71	Sum. 71	All Years
Business	$5,624	$5,999	$4,638	$5,363	$4,897	$4,937	$5,087
Communications	---	---	---	5,500	3,500	---	5,166
Engineering	5,999	6,999	6,666	6,576	5,856	7,249	6,381
Health	---	7,299	8,500	7,277	7,149	7,374	7,249
Public Service	5,499	3,000	6,500	5,500	6,749	2,500	6,388
Miscellaneous	5,749	6,999	6,500	5,499	5,916	---	5,799
Total	$5,726	$6,749	$5,631	$6,018	$5,491	$5,544	$5,781

As would be expected, present salaries are greater for those graduates from the earlier graduating classes. Career and personal development of the graduates probably account for these differences. Expectedly, average salaries for present jobs were much higher than for initial jobs for each year. The median salary of the respondents for their present jobs for all years was $7,314 or approximately 21 percent higher than their initial salaries.

Presented in Table 8 is average present salary information by curriculum and by year of graduation.

Table 8 -- Median Present Salaries By Year and Curriculum

Curriculum	Year of Graduation						
	1966-67	1967-68	1968-69	1969-70	1970-71	Sum. 71	All Years
Business	$ 9,166	$ 9,199	$6,499	$6,525	$5,968	$6,142	$6,457
Communications	---	---	---	6,499	6,499	---	6,499
Engineering	10,249	10,213	8,856	7,916	7,428	7,999	8,169
Health	---	8,582	8,999	8,315	7,718	8,624	8,231
Public Service	10,999	5,500	8,666	7,499	8,374	2,500	8,363
Miscellaneous	8,999	8,999	5,832	7,124	7,499	---	7,544
Total	$ 9,666	$ 9,166	$7,734	$7,207	$6,791	$6,888	$7,314

As a total group the median present salary was $7,314, and the highest average salary, as would be expected, was earned by those respondents who graduated in 1966-67. The highest present salary for all years combined was earned by those graduates who graduated in the public service curriculums ($8,363). Second highest was earned by those graduates from the health related curriculums with $8,231 followed closely by the engineering graduates with $8,169.

Salaries of Men and Women

From a total of 691 males and 357 females reporting full-time employment, it was determined that the median salary for males was $7,773 and $5,897 for females. These figures represent the averages for all six years and all curriculums. The average for both males and females was $7,314. Therefore the median female wage of $5,897 was 24 percent less than the $7,773 reported by males. Table 9 presents the present salary data by sex. A chi-square value of 146.00 with nine degrees of freedom indicates a relationship exists between sex and salaries at the one percent level. The strength of the relationship was found to be supportive of the chi-square value. The tendency for men to attract higher salaries than women is demonstrated through this analysis.

Present Employment Status

Of the 1,435 AAS graduates that responded to the questionnaire, 73 percent were employed full-time; 3.8 percent were employed part-time; 8.3 percent were full-time college students; 4.2 percent were in military service; 3.6 percent were housewives; 2.3 percent were unemployed; and 1.6 percent marked "other". There were 46 respondents or 3.2 percent that gave "no response". Of

Table 9 — Distribution of the Salaries By Sex for All Years Combined

Sex	Salaries											
	No Response		Up To $3,999		$4,000-$4,999		$5,000-$5,999		$6,000-$6,999		$7,000-$7,999	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
Male	50	7.2	21	3.0	35	5.1	77	11.1	100	14.5	113	16.4
Female	43	12.0	32	9.0	72	20.2	59	16.5	34	9.6	38	10.6
No Response	—	—	—	—	—	—	—	—	—	—	—	—
Total	93	8.9	53	5.1	107	10.1	136	13.0	134	12.8	151	14.4

Sex	Salaries										
	$8,000-$8,999		$9,000-$9,999		$10,000-$10,999		$11,000 And Over		Total		Median
	No.	%	No.	%	No.	%	No.	%	No.	%	
Male	103	14.9	67	9.8	57	8.2	68	9.8	691	65.9	$7,773
Female	54	15.2	19	5.3	3	0.8	3	0.8	357	34.1	$5,897
No Response	—	—	—	—	—	—	—	—	—	—	
Total	157	15.0	86	8.2	60	5.7	71	6.8	1,048	100.0	$7,314

$X^2 = 146.00$ Degrees of freedom = 9 Strength of Relationship = .12

the 1,048 graduates reporting full-time employment, the highest percentage was reported by those who graduated in 1966-67 with 88.4 percent. In 1971-72 there were 11.8 percent attending college compared to only 4.6 percent from the 1968-69 academic year. By comparing the various years, it appears that the more recent the graduate the greater his chances of continuing his education immediately after graduating from the community college. Table 10 presents the distribution of the present employment status of the AAS graduates. The chi-square value indicated no relationship between present employment status and year of graduation at the five percent level.

There were some variations among the curricular groups in terms of their present employment status. Responses of those graduates from the communication curriculums indicated 27.7 percent were pursuing full-time college work; whereas, the second highest area pursuing college work was the public service graduates with 13.9 percent. The communication graduates had the lowest percent employed full-time with only 50.0 percent, as compared to 75.7 percent for engineering graduates. The highest rate of unemployment was found to exist among those graduates from the public service curriculums. The employment status of the graduates by curriculum is presented in Table 11. A chi-square of 109.8 with 35 degrees of freedom indicates a relationship exists between present employment status and curriculum completed at the one percent level. However, the strength of the relationship was weak. The conclusion is that the graduates from some curriculums have a higher rate of employment than those from other curriculums.

Table 10 -- Distribution of Present Employment Status by Year of Graduation

Year of Graduation	Present Employment Status																	
	Full-Time Employment		Part-Time Employment		College Full-Time		Military Service		Housewife		Unemployed		Other		No Response		Total	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
1966-67	38	88.4	--	--	3	7.0	2	4.7	--	--	--	--	--	--	--	--	43	3.0
1967-68	63	68.5	5	5.5	5	5.5	8	8.7	4	4.4	3	3.3	2	2.2	2	2.2	92	6.4
1968-69	146	74.2	8	4.1	9	4.6	11	5.6	6	3.1	3	1.6	5	2.6	9	4.6	197	13.7
1969-70	310	72.6	16	3.8	32	7.5	14	3.3	20	4.7	12	2.9	7	1.7	16	3.8	427	29.8
1970-71	440	72.4	22	3.7	62	10.2	24	4.0	21	3.5	11	1.9	9	1.5	19	3.2	608	42.4
Summer, 1971	51	75.0	4	5.9	8	11.8	1	1.5	1	1.5	3	4.5	--	--	--	--	68	4.7
Total	1,048	73.0	55	3.8	119	8.3	60	4.2	52	3.6	32	2.3	23	1.6	46	3.2	1,435	100.0

$X^2 = 37.73$ Degrees of freedom = 35 Strength of Relationship = .0053

Table 11 -- Distribution of Present Employment Status by Curriculum For All Years Combined

Curriculum	Present Employment Status																	
	Full-Time Employment		Part-Time Employment		College Full-Time		Military Service		Housewife		Unemployed		Other		No Response		Total	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
Business	563	73.2	25	3.3	70	9.1	28	3.6	32	4.2	21	2.7	9	1.2	21	2.7	769	53.6
Communication	9	50.0	--	--	5	27.7	--	--	1	5.6	--	--	2	11.1	1	5.6	18	1.2
Engineering	252	75.7	8	2.4	24	7.2	21	6.3	3	0.9	2	0.6	7	2.1	16	4.8	333	23.2
Health	104	71.2	17	11.6	3	2.1	2	1.3	11	7.5	3	2.1	3	2.1	3	2.1	146	10.2
Public Service	45	62.5	2	2.8	10	13.9	6	8.3	3	4.2	4	5.6	2	2.8	—	--	72	5.0
Miscellaneous	75	77.3	3	3.1	7	7.2	3	3.1	2	2.1	2	2.1	--	--	5	5.2	97	6.8
Total	1,048	73.0	55	3.8	119	8.3	60	4.2	52	3.6	32	2.3	23	1.6	46	3.2	1,435	100.0

$\chi^2 = 109.8$ Degrees of freedom = 35 Strength of Relationship = .071

Cumulative Grade Point Average

Most of the demographic data presented in this study deals with characteristics over which the respondent had little or no control such as age, sex, and race. However, one of the basic indicators of future success is the students' grade point averages. The grade point data were obtained from the community college records.

Table 12 indicates that those students that graduated in the 1970-71 academic year had the highest cumulative grade point average with 2.80 (on a 4.00 point scale); whereas, those that graduated in 1966-67 had the lowest with 2.46. The data suggest at least three interpretations. First, it might be interpreted that the community colleges are becoming more selective in admissions because of the general trend for higher grade point averages in recent years; second, this information might be indicative of improved teaching techniques and/or teachers; or third, the instructors simply may be awarding higher grades than in the past. The information presented herein, however, is not sufficient to support conclusively any of these interpretations. The chi-square value indicated no relationship between GPA and year of graduation at the five percent level.

The cumulative grade point averages by curriculum indicates little variation. The health related curriculums accounted for the highest grade point average with 2.86, and the communication curriculums had the lowest with 2.45. Table 13 presents grade point averages by curriculum. The chi-square value indicated no relationship between GPA and curriculum completed at the five percent level.

Number of Quarter Hours Earned

In 1966-67 the median number of quarter hours earned at the community college was 92.4 as compared to 101.0 in 1970-71. The

Table 12 -- Distribution of Cumulative Grade Point Average by Year of Graduation

Year of Graduation	Cumulative Grade Point Average																		Median
	4.00-3.50		3.49-3.00		2.99-2.50		2.49-2.00		1.99-1.50		1.49-1.00		.99 And Under		No Response		Total		
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	
1966-67	3	7.0	9	21.0	8	18.7	21	48.9	2	4.7	--	--	--	--	--	--	43	3.0	2.46
1967-68	6	6.6	25	27.2	31	33.7	27	29.4	3	3.3	--	--	--	--	--	--	92	6.4	2.76
1968-69	14	7.2	37	18.8	70	35.6	68	34.6	7	3.6	1	0.6	--	--	--	--	197	13.7	2.66
1969-70	40	9.4	87	20.4	134	31.4	145	34.0	20	4.7	1	0.3	--	--	--	--	427	29.8	2.68
1970-71	72	11.9	157	25.9	186	30.6	170	28.0	23	3.8	--	--	--	--	--	--	608	42.4	2.80
Summer, 1971	10	14.8	13	19.2	19	28.0	21	30.9	5	7.4	--	--	--	--	--	--	68	4.7	2.72
Total	145	10.1	328	22.9	448	31.2	452	31.5	60	4.2	2	-0.1	--	--	--	--	1,435	100.0	2.73

$X^2 = 30.72$ Degrees of freedom = 25 Strength of Relationship = .0043

Table 13 -- Distribution of Cumulative Grade Point Average by Curriculum For All Years Combined

Curriculum	Cumulative Grade Point Average																		Median
	4.00-3.50		3.49-3.00		2.99-2.50		2.49-2.00		1.99-1.50		1.49-1.00		.99 And Under		No Response		Total		
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	
Business	89	11.6	170	22.1	233	30.3	239	31.1	38	4.9	--	--	--	--	--	--	769	53.6	2.73
Communication	2	11.1	1	5.6	5	27.7	9	50.0	1	5.6	--	--	--	--	--	--	18	1.3	2.45
Engineering	21	6.3	72	21.6	111	33.3	112	33.6	15	4.6	2	0.6	--	--	--	--	333	23.2	2.67
Health	18	12.3	42	28.8	48	32.9	37	25.3	1	0.7	--	--	--	--	--	--	146	10.1	2.86
Public Service	8	11.1	17	23.6	26	36.1	20	27.8	1	1.4	--	--	--	--	--	--	72	5.0	2.79
Miscellaneous	7	7.2	26	26.8	25	25.8	35	36.1	4	4.1	--	--	--	--	--	--	97	6.8	2.69
Total	145	10.1	328	22.9	448	31.2	452	31.5	60	4.2	2	0.1	--	--	--	--	1,435	100.0	2.73

$X^2 = 34.68$ Degrees of freedom = 25 Strength of Relationship = .0236

median quarter hours earned by year of graduation are as follows:

Year of Graduation	Quarter Hours Earned
1966-67	92.4
1967-68	97.0
1968-69	97.0
1969-70	100.0
1970-71	101.0
Summer, 1971	100.3
Median for All Years	99.5

Normally a student on a quarter system would have to complete six quarters (two years) with fifteen hours each quarter or a total of 90 quarter hours. The community college requirements vary slightly from curriculum to curriculum on the number of quarter hours required for graduation. For example, an AAS degree in Pre-Engineering requires 105 quarter hours; whereas, the AAS degree in Data Processing Technology requires 97 quarter hours. The number of hours earned will vary from student to student depending upon his interest and background. Table 14 presents a distribution of quarter hours earned by curriculum for all years. The business and public service curriculums showed a low median of 98 quarter hours earned in contrast to the health curriculums with a high median of 103 quarter hours earned.

Continued Education of Respondents

The final element of demographic data studied was the extent to which the AAS graduates continued their education either at the community college or elsewhere. The graduates were asked to respond to a series of statements which

Table 14 -- Distribution of Number Quarter Hours Earned by Curriculum For All Years Combined

Curriculum	Number Quarter Hours Earned											
	30-39		40-49		50-59		60-69		70-79		80-89	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
Business	--	--	3	0.4	7	0.9	7	0.9	16	2.1	43	5.6
Communication	--	--	--	--	--	--	--	--	--	--	3	16.7
Engineering	--	--	5	1.5	5	1.5	5	1.5	8	2.4	12	3.6
Health	--	--	3	2.1	1	0.7	--	--	1	0.7	9	6.2
Public Service	--	--	--	--	2	2.8	1	1.4	1	1.4	4	5.6
Miscellaneous	--	--	--	--	--	--	2	2.1	4	4.1	9	9.3
Total	--	--	11	0.8	15	1.0	15	1.0	30	2.1	80	5.6

Curriculum	Number Quarter Hours Earned								
	90-99		100 And Over		No Response		Total		Median
	No.	%	No.	%	No.	%	No.	%	
Business	358	46.6	333	43.3	2	0.3	769	53.6	98.0
Communication	2	11.1	13	72.2	--	--	18	1.3	102.0
Engineering	90	27.0	204	61.3	4	1.2	333	23.2	101.0
Health	13	8.9	119	81.5	--	--	146	10.2	103.0
Public Service	32	44.4	32	44.4	--	--	72	5.0	98.0
Miscellaneous	33	34.0	48	49.5	1	1.0	97	6.7	99.0
Total	528	36.8	749	52.2	7	0.5	1,435	100.0	99.5

indicated the extent to which they had pursued further education. Table 15 enumerates these statements and the response patterns. Since the respondents completing the questionnaire were asked to mark each item which applied to them, the rows may not total 100 percent. As a total group, four percent of the AAS graduates were still enrolled at a community college; 47 percent had pursued no further education; 21 percent had completed an employer training program; two percent had taken courses at another two-year college; 17 percent had taken courses at a four-year college or university; five percent had completed a bachelor's degree; less than one-half of one percent had completed a master's degree; and 11 percent indicated "other". The category "other" includes such things as correspondence work and proprietary schools.

Therefore, approximately 840 respondents or 58 percent of the AAS respondents indicated a continuation of their education after earning their AAS degree from the community college--either in college courses, employer training programs, or through some other learning environment. The distribution of the responses among the various curriculums indicates that the highest percentage of graduates continuing their education were those graduating with an AAS degree in the area of communications (94 percent) followed closely by the public service category (88 percent). There appears to be considerable evidence as exemplified in Table 15 that many of the AAS graduates do continue their education in some form after graduating with the terminal degree from the community college.

Table 15 -- Distribution of Continued Education of Respondents by Curriculum For All Years Combined

Curriculum	Continued Education															
	Still Enrolled At Community College		None		Completed Employer Training Program		Courses At Another Two-Year College		Attended Four-Year College Or University		Completed A Bachelor's Degree		Completed Master's Degree Or Above		Other	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
Business	26	1.8	398	27.7	131	9.1	13	1.0	131	9.1	29	2.0	2	0.1	68	4.7
Communication	--	--	2	0.1	6	0.4	--	--	3	0.2	2	0.1	1	0.1	5	0.3
Engineering	14	1.0	138	9.6	83	5.8	5	0.3	52	3.4	14	1.0	--	--	46	3.2
Health	3	0.2	70	4.9	48	3.3	1	0.1	9	0.1	3	0.2	--	--	19	1.3
Public Service	1	0.1	23	1.6	15	1.0	--	--	25	1.7	12	1.0	--	--	10	0.7
Miscellaneous	9	0.6	36	2.5	16	1.1	2	0.1	24	1.6	4	0.3	--	--	8	0.6
Total	53	3.7	667	46.5	299	20.8	21	1.5	244	17.0	64	4.5	3	0.2	156	10.9

Those graduates who stated that they had continued their education were asked their reasons for doing so. The predominant two reasons given for continuing their education was to obtain additional general education and to achieve a degree of personal satisfaction, each with 54.5 percent. The third highest reason given was to prepare for further job opportunities in present occupation with 49.2 percent. The reasons given for continuing education from highest to lowest were as follows:

Reasons	Percent
General education	54.5
Personal satisfaction	54.5
Prepare for further job opportunities in present occupation	49.2
To improve my skills and abilities in present job	39.0
It is expected of me by my employer	12.9
To change occupation	11.2
Other	5.8

There are implications that can be derived from this information that should be given attention by those in authority. The apparent need on the part of the graduates for more work in the liberal arts is just one of the implications. The first three reasons, presented in the ranking, all imply a need on the part of the graduates for more work that will prepare them for more than one area. This observation is not strongly supported when compared with the results presented in Table 21. According to Table 21 only 15 percent of the graduates for all years recommended an increase in the proportion of general education courses. Nevertheless, the combined results should justify further study in this area.

B. Evaluation of Community College Experience

This section of the paper is devoted to answering one of the basic research questions presented in Chapter I. That question is: "What are the opinions and evaluations of the graduates toward their college experience?" Included on the questionnaire were several questions in which the graduates were asked to rate certain aspects of their college experience and the value of these items to them later in life. The opinions of the AAS graduates are one measure of how well the community colleges are meeting the needs of the students.

The AAS graduates or career graduates were asked to evaluate certain aspects of their college experience and its relation to their employment. The following areas were emphasized: (1) the assistance from the community college in getting the first job; (2) the curriculum changes while at the community college; (3) the rating of certain aspects of the college experience; (4) the rating of the preparation received at the community college; and (5) the recommendations from graduates as to the proper "mix" of technical and general courses in their curriculums.

Sources Most Helpful in Getting First Job

Graduates were asked to check the one source most helpful in obtaining their first full-time job upon leaving the community college. Of the 1,435 AAS graduates, 22 percent did not answer the question. Those graduates that continued their education after completing the AAS degree would account for a portion of the "no responses". Of the remaining 78 percent, 24 percent listed a relative or friend as the major source; whereas, only 7 percent listed the community college

placement service. The 1966-67 graduates listed the community college placement service higher (14 percent) than the graduates from any other year (Table 16). The chi-square value indicates that there is no relationship between year of graduation and source most helpful in getting the initial job.

By comparing the respondents of the graduates by curriculums there were some variations disclosed. The graduates from the engineering curriculums indicated that the placement service of the community colleges were most helpful. Of the engineering graduates for all years, 15 percent said the community college placement service was the source responsible for their first jobs. Table 17 gives the number and percentage of graduates by curriculum responding to the question regarding the source of assistance in obtaining an initial job. A chi-square value of 137.67 with 35 degrees of freedom indicates a relationship exists between curriculum completed and source most helpful in getting initial job at the one percent level. The strength of the relationship is weak but does support the fact that a relationship exists. The engineering graduates appear to have had greater success with the community college placement service than the other graduates; whereas, the business graduates appear to have been more successful finding jobs through a relative or friend. The health graduates had more success than other graduates finding jobs through employer contact at the college.

In reviewing the effectiveness of the community colleges in terms of the help received by the graduates, it is readily apparent that the graduates were not overly complementary of the assistance received. The graduates were asked to

Table 16 -- Distribution of Sources Reported by Respondents as Most Helpful in Getting Initial Full-Time Job by Year of Graduation

Year Of Graduation	Sources																	
	Community College Placement Service		College Staff Other Than Placement Staff		Employer Contact At The College		State Employment Service		Answered An Advertisement		Relative Or Friend		Other		No Response		Total	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
1966-67	6	14.0	4	9.4	3	7.0	2	4.7	5	11.7	11	25.6	10	23.3	2	4.7	43	3.0
1967-68	11	12.0	4	4.4	10	10.9	1	1.1	6	6.6	18	19.6	21	22.9	21	22.9	92	6.4
1968-69	10	5.1	7	3.6	14	7.2	10	5.1	20	10.2	59	30.0	43	21.9	34	17.3	197	13.7
1969-70	29	6.8	28	6.6	23	5.4	18	4.3	32	7.5	103	24.2	98	23.0	96	22.5	427	29.8
1970-71	47	7.8	41	6.8	41	6.8	21	3.5	41	6.8	137	22.6	130	21.4	150	24.7	608	42.4
Summer, 1971	3	4.5	9	13.3	3	4.5	6	8.9	6	8.9	13	19.2	11	16.2	17	25.0	68	4.7
Total	106	7.4	93	6.5	94	6.5	58	4.0	110	7.7	341	23.8	313	21.8	320	22.3	1,435	100.0

$X^2 = 47.1340$ Degrees of freedom = 35 Strength of Relationship = .0066

Table 17 — Distribution of Sources Reported by Respondents as Most Helpful in Getting Initial Full-Time Job By Curriculum For All Years Combined

Curriculum	Sources																	
	Community College Placement Service		College Staff Other Than Placement Service		Employer Contact At The College		State Employment Service		Answered An Advertisement		Relative Or Friend		Other		No Response		Total	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
Business	48	6.2	54	7.0	32	4.2	46	6.0	65	8.5	207	26.9	146	19.0	171	22.2	769	53.6
Communication	--	--	1	5.6	--	--	1	5.6	2	11.1	3	16.6	2	11.1	9	50.0	18	1.3
Engineering	49	14.7	20	6.1	33	9.9	10	3.0	23	6.9	70	21.0	67	20.1	61	18.3	333	23.2
Health	--	--	11	7.5	22	15.1	--	--	7	4.8	20	13.7	48	32.9	38	26.0	146	10.2
Public Service	2	2.8	1	1.4	2	2.8	1	1.4	4	5.5	17	23.6	24	33.3	21	29.2	72	5.0
Miscellaneous	7	7.2	6	6.2	5	5.2	--	--	9	9.3	24	24.7	26	26.8	20	20.6	97	6.7
Total	106	7.4	93	6.5	94	6.6	58	4.0	110	7.6	341	23.8	313	21.8	320	22.3	1,435	100.0

$X^2 = 137.67$ Degrees of freedom = 35 Strength of Relationship = .296

check each statement that denoted their feelings about the help obtained at the community college in getting their first job. There were two positive statements and three negative statements available for them to check, and each received approximately the same percentage of responses. Of the five possible statements, the highest ranked was a positive statement, and the lowest was negative. The statements and their rankings are as follows:

	Rank Order	Percent of Total
Faculty members were helpful	1	31.4
Job placement service was not adequate	2	20.0
Placement office was helpful	3	17.8
Little help was given me in my curriculum	4	14.5
Faculty members were willing but not informed	5	11.8

Curriculum

There were several questions included in the questionnaire regarding the ramifications of the curricular structure at the community colleges. The opinions of the graduates toward the curriculums and whether or not they would recommend the same curriculum in which they were enrolled to a person seeking a similar program are important data to people working within the system as well as to those external to the system.

Of the total AAS respondents, 73 percent indicated that they had not changed from one curriculum to another while at the community college. There was little variation to this question among the graduates according to year of graduation. The responses to the question regarding curriculum changes by year of graduation are presented in Table 18. The chi-square value indicates that there is no relationship between year of graduation and curricular changes of the respondents.

Table 18 — Distribution of Curricular Changes of Respondents by Year of Graduation

Year of Graduation	Categories							
	No Response		Yes		No		Total	
	No.	%	No.	%	No.	%	No.	%
1966–67	1	2.2	6	14.0	36	83.8	43	3.0
1967–68	12	13.1	8	8.7	72	78.3	92	6.4
1968–69	19	9.7	37	18.8	141	71.6	197	13.7
1969–70	46	10.8	70	16.4	311	72.9	427	29.8
1970–71	66	10.9	104	17.2	438	72.1	608	42.4
Summer, 1971	4	5.9	18	26.5	46	67.7	68	4.7
Total	148	10.4	243	16.8	1,044	72.8	1,435	100.0

$X^2 = 14.43$ Degrees of freedom = 10 Strength of Relationship = .0050

The highest percentage of graduates who indicated they had changed their curriculums were those that had graduated in the communication and business curriculums, with percentages of 22 and 19 respectively. Those graduates from the health area showed the lowest percent of change with 3 percent. The data lead one to conclude that those students who had majored in health generally have decided their career goals much earlier than those people who graduated from other curriculums. Table 19 presents the graduates' responses to curricular change by curriculum completed. A chi-square value of 26.24 with 10 degrees of freedom indicates a significant relationship between curricular changes and curriculum completed. The strength of the relationship is weak but does support the fact that a relationship exists. As noted earlier, graduates from the health curriculums generally did not change curriculums while in attendance at the community colleges. The same is true of the other curriculums to a lesser degree.

Only 16 percent of the graduates indicated that they had changed their curriculums while at the community college. Those graduates that answered positively were asked to indicate the reasons for changing their curriculums. Because the respondents were afforded the opportunity to check one or more reasons, the totals do not add to 100 percent. Presented below in rank order are the graduates' reasons for changing curriculum:

Table 19 — Distribution of Curricular Changes of Respondents by Curriculum for All Years Combined

Curriculum	Categories							
	No Response		Yes		No		Total	
	No.	%	No.	%	No.	%	No.	%
Business	74	9.6	148	19.3	547	71.1	769	53.6
Communication	2	11.1	4	22.2	12	66.7	18	1.2
Engineering	41	12.3	55	16.5	237	71.2	333	23.2
Health	19	13.0	5	3.4	122	83.6	146	10.2
Public Service	5	6.9	12	16.7	55	76.4	72	5.0
Miscellaneous	7	7.2	19	19.6	71	73.2	97	6.8
Total	148	10.3	243	16.9	1,044	72.8	1,435	100.0

$X^2 = 26.24$ Degrees of freedom = 10 Strength of Relationship = .13

Reason	Rank
Changed career goals	1
Wrong choice of curriculum	2
Dissatisfied with curriculum	3
Loss of interest	4
Other	5
Dissatisfied with instruction	6
Low achievement	7
Counselor's advice	8
Personal problem	9
Little opportunity in field	10
Parents objected	11

Graduates were also asked the question: "Would you recommend the community college to a person seeking to complete the same program that you studied?" Overall, 86 percent said "yes" (Table 20), 9 percent said "no", and 5 percent gave "no response". The chi-square value indicates that there is no relationship between year of graduation and recommendation of respondents to others seeking the same program.

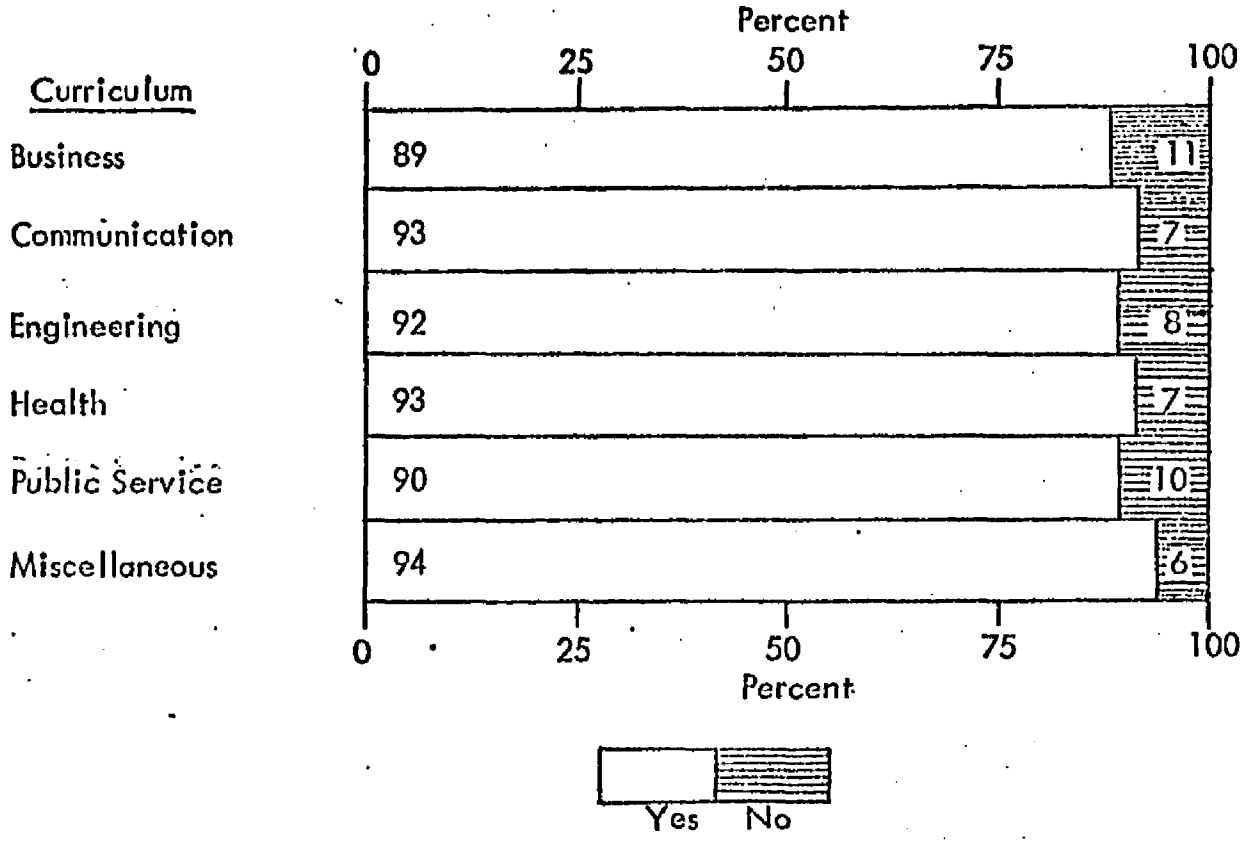
There were also some variations in the recommendations by curricular groups. One out of every seven business graduates gave a negative response. Figure 3 demonstrates differences in the recommendations by curricular groups.

Table 20 — Distribution of Recommendations to Others Seeking Same Program by Year of Graduation

Year of Graduation	Recommendation							
	No Response		Yes		No		Total	
	No.	%	No.	%	No.	%	No.	%
1966-67	1	2.3	41	95.4	1	2.3	43	3.0
1967-68	6	6.5	82	89.2	4	4.3	92	6.4
1968-69	10	5.0	161	81.8	26	13.2	197	13.7
1969-70	27	6.3	357	83.7	43	10.0	427	29.8
1970-71	30	5.0	525	86.4	53	8.6	608	42.4
Summer, 1971	3	4.4	59	86.8	6	8.8	68	4.7
Total	77	5.4	1,225	85.4	133	9.2	1,435	100.0

$X^2 = 11.69$ Degrees of freedom = 10 Strength of Relationship = .0041

Figure 3 -- Recommendations of Respondents to Someone Seeking Same Program



The final analysis regarding curriculums relates to the balance of courses within the occupational-technical curriculums. In every occupational-technical curriculum, there is a "mix" of courses in (a) applied technical and skills preparation and (b) general education. The graduates were asked to evaluate the "mix" of courses as (a) acceptable as is; (b) increase the proportion of courses in technical and skills area; or (c) increase the proportion of courses in general education. Disregarding the 6 percent that did not respond, 48 percent or almost one-half recommended an increase in the proportion of technical and skills courses. Only 34 percent recommended the status quo; whereas,

there were 15 percent who felt more general education courses were needed. The responses showed very little variation by year of graduation (Table 21). The chi-square value indicates that there is no relationship between year of graduation and recommendations of respondents for proportional mix of general and technical courses.

The business curriculums showed the highest percentage of any curriculum in recommending more general education courses. Communications, engineering, and health curriculums had relatively high percentages of graduates desiring more technical courses. Figure 4 presents the recommendations on the proper "mix" of courses by curricular groups.

Figure 4 -- Recommendations of Respondents on the Proportional "Mix" of General and Technical Courses

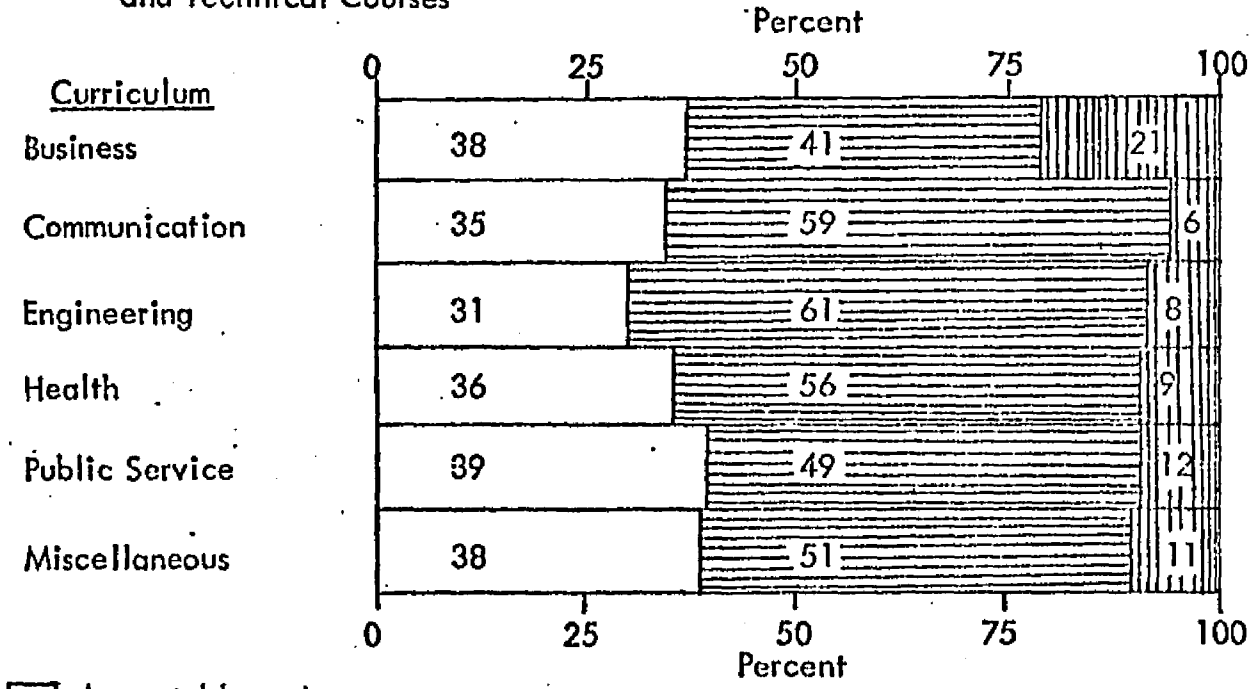


Table 21 — Distribution of Recommendations of Respondents on the Proportional "Mix" of General and Technical Courses by Year of Graduation

Year of Graduation	Categories									
	No Response		O.K. As Is — Don't Change It		Increase Proportion Of Technical Courses		Increase Proportion Of General Education Courses		Total	
	No.	%	No.	%	No.	%	No.	%	No.	%
1966-67	3	7.0	14	32.6	19	44.2	7	16.2	43	3.0
1967-68	7	7.6	35	38.1	31	33.7	19	20.6	92	6.4
1968-69	16	8.1	57	29.0	89	45.2	35	17.7	197	13.7
1969-70	29	6.7	137	32.1	196	46.0	65	15.2	427	29.8
1970-71	28	4.7	219	36.1	283	46.5	78	12.7	608	42.4
Summer, 1971	4	5.8	22	32.4	33	48.5	9	13.3	68	4.7
Total	87	6.1	484	33.7	651	45.4	213	14.8	1,435	100.0

$X^2 = 15.75$ Degrees of freedom = 15 Strength of Relationship = .0037

Preparation Received by Respondents from Community Colleges

The AAS graduates were asked to rate how well the community college had prepared them on seven aspects of their programs. The rating used was "superior," "good," "fair," or "poor." The aspects included:

1. Technical knowledge and understanding
2. Job or learning skills
3. Getting along with people
4. Self-understanding
5. Knowledge about career opportunities in your field
6. Communication skills (oral or written)
7. General education

In the following table (Table 22) the breakdown of responses from all respondents is illustrated.

Table 22 -- Preparation Received by Graduates from Community Colleges

Preparation	Rating					
	Superior (1)	Good (2)	Fair (3)	Poor (4)	Number	Mean*
Technical knowledge	289	900	189	17	1,395	1.95
Job or learning skills	228	837	287	33	1,385	2.09
Getting along with people	234	812	283	45	1,374	2.10
Self-understanding	157	781	354	61	1,353	2.24
Career opportunities	185	563	463	172	1,383	2.45
Communication skills	164	804	366	39	1,373	2.20
General education	183	968	198	19	1,368	2.04

*The mean was found by (1) multiplying the number of "1" responses by 1, the number of "2" responses by 2, etc., (2) adding the products, and (3) dividing by the total number of respondents of that group. This method of computation was utilized in all subsequent tables in which means are reported.

The AAS graduates at the time of the survey rated "technical knowledge" and "general education" as the most valuable aspects with means of 1.95 and 2.04

respectively. The least valuable preparation they received was knowledge about "career opportunities."

Table 23 illustrates the differences in the graduates' ratings for the preparation received by curriculum. Overall, ratings were favorable with each area receiving on the average a "good" rating. Generally, the public service graduates rated all aspects the highest. Only in two instances did another curricular group rate items higher. The graduates from the communications curriculums listed higher ratings for "communication skills" and "general education". The graduates from the "other" or "miscellaneous" curriculums normally gave the lowest ratings.

Table 23 -- Preparation Received by Graduates from Community Colleges by Curriculum--Mean Values

	Curricula					
	Business	Communications	Engineering	Health	Public Service	Miscellaneous
Technical knowledge	2.00	1.89	1.91	1.79	1.73	2.12
Job or learning skills	2.03	1.94	2.29	1.99	1.85	2.25
Getting along with people	2.03	2.17	2.22	2.08	1.97	2.32
Self-understanding	2.24	2.00	2.34	2.12	1.99	2.30
Career opportunities	2.48	2.44	2.56	2.22	1.96	2.53
Communication skills	2.17	1.94	2.35	2.10	2.04	2.30
General education	2.04	1.83	2.10	2.03	1.87	2.04

The area receiving the lowest rating was "knowledge about career opportunities in your field", and the graduates giving this item the lowest rating were from the engineering curriculums. The graduates from the business curriculums, which accounted for the largest number of graduates in the study, rated all areas approximately the same with a rating of "good" except for "career opportunities" which received a mean of 2.48. The unusually low ratings awarded the area of

"knowledge about career opportunities in your field" is consistent with the information presented earlier in the section regarding Sources Most Helpful in Getting First Job. In both instances the data are indicative of the fact that the AAS graduates feel as though more information and assistance should be given about career opportunities.

The preparation received by the graduates in the area of "technical knowledge" received the second highest rating. However, in reviewing the means of this category, it is interesting to note that the graduates from business, the largest group of graduates, were next to the lowest group in their rating of this aspect.

Opinions Toward Certain Aspects of Community College Experience

Graduates were also asked their opinions about several elements of their community college experience. The elements are as follows:

1. Shop and laboratory instruction
2. Academic instruction
3. Shop and laboratory facilities and equipment
4. All other college facilities
5. Counseling given to students
6. Social activities
7. Interest in students shown by faculty
8. Evaluation of students' performance by faculty
9. Overall

The graduates were asked to rate the nine elements as "superior," "good," "fair," or "poor". In Tables 24 and 25 the ratings are presented first in summary form and then by curriculum studied.

Table 24 -- Opinions of Respondents Toward Community College Experience

Element	Rating				Number	Mean
	Superior (1)	Good (2)	Fair (3)	Poor (4)		
Shop and laboratory instruction	230	775	285	51	1,341	2.12
Academic instruction	245	960	148	6	1,359	1.94
Shop and laboratory facilities	271	702	283	78	1,334	2.13
All other facilities	91	821	392	32	1,336	2.27
Counseling	197	501	453	167	1,318	2.45
Social activities	27	307	607	389	1,330	3.02
Interest in students by faculty	375	646	253	60	1,334	2.00
Evaluation of performance	147	794	324	40	1,305	2.20
Overall	131	972	213	12	1,328	2.08

In Table 24 the element receiving the highest rating in the opinion of the AAS graduates is "academic instruction" with a mean of 1.94; whereas, the lowest rated element was "social activities" with a mean of 3.02. The second highest rated element was "interest in student by faculty" with a mean of 2.00, and the second lowest rated element was "counseling" with a mean of 2.45. The low rating for "counseling" once again substantiates information furnished earlier regarding the lack of information furnished the graduates on career opportunities at the colleges and the small amount of assistance afforded the graduates in getting their first jobs by the community college placement services.

Over 68 percent of all ratings were either "superior" or "good". This high percentage of positive ratings is generally reflected throughout each of the elements with the exceptions already mentioned. For comparative purposes the "shop and laboratory instruction" received a lower rating with a mean of 2.12 than did the "academic instruction" with a mean of 1.94. The "shop and laboratory facilities" also received a lower rating than did the "other facilities" with 2.13 and 2.27 respectively.

There were significant differences in the ratings of the graduates by curriculum completed. Table 25 presents a summary of these data by curriculum. Each of the numbers on the table are means.

Table 25 -- Opinions of Respondents Toward Community College Experience by Curriculum

Element	Curricula					
	Business	Communications	Engineering	Health	Public Service	Miscellaneous
Shop and laboratory instruction	2.18	1.47	1.98	2.11	2.14	2.24
Academic instruction	1.95	1.94	1.94	1.94	1.74	1.98
Shop and laboratory facilities	2.11	2.18	2.11	2.23	2.12	2.15
All other facilities	2.27	2.11	2.33	2.32	2.09	2.20
Counseling	2.44	2.06	2.50	2.40	2.46	2.51
Social activities	2.98	2.77	3.14	3.09	2.73	3.11
Interest in students by faculty	1.99	1.71	2.07	2.07	2.12	1.93
Evaluation of performance	2.21	2.00	2.24	2.23	1.94	2.11
Overall	2.07	1.94	2.14	2.12	1.90	1.93

"Shop and laboratory instruction" was rated highest by the communication graduates with a mean of 1.47 and lowest by the graduates from the miscellaneous curriculums. Engineering graduates had the second highest mark for "shop and laboratory instruction" followed by the health graduates. "Academic instruction" received very high ratings from each of the curriculums. The opinions of the graduates regarding the facilities at the community colleges received a good overall rating; however, the "shop and laboratory facilities" were a little higher with a mean of 2.13 as compared to 2.27 for "all other facilities."

"Counseling" as already noted generally received a low rating. The lowest rating for "counseling" was from the AAS graduates in the engineering curriculums.

The element of the community college experience receiving the lowest rating of all elements was that of the "social activities" at the community colleges. The low rating from "social activities" was consistent in each of the curriculum categories. The graduates of the communications curriculums gave the highest rating for the element of "faculty interest in students," and the lowest was from the public service curriculums. The faculty from each curriculum received a rating of "good" for their evaluation of student performance. The "overall" rating was also "good" for all curriculums. The highest rating was given by the public service curriculums, and the lowest was from engineering with a range of only 0.24 points between the highest and lowest.

Value of Community College Experience to the Graduates Now

In a previous section the graduates rated how well their community college experience had prepared them for certain aspects of their present jobs. Those aspects were as follows:

1. Technical knowledge and understanding
2. Job or learning skills
3. Getting along with people
4. Self-understanding
5. Knowledge about career opportunities in your field
6. Communication skills (oral or written)
7. General education

The emphasis of this section is to evaluate the value of those same aspects of the community college experience to the graduates now. Table 26 presents the data (means) by year of graduation.

Table 26 -- Value of Community College Experience to Respondents Now By Year of Graduation

Aspects	Year of Graduation						Total
	1966-67	1967-68	1968-69	1969-70	1970-71	Sum. 1971	
Technical knowledge	1.68	1.83	2.15	1.86	1.96	1.78	1.94
Job or learning skills	1.88	1.96	2.24	1.95	2.00	1.85	2.00
Getting along with people	1.74	1.94	1.98	1.85	1.87	1.67	1.88
Self-understanding	2.18	2.04	2.22	2.04	2.03	1.86	2.06
Career opportunities	2.59	2.67	2.73	2.45	2.43	2.21	2.48
Communication skills	2.15	1.96	2.20	2.07	2.07	2.02	2.08
General education	2.08	2.10	2.12	1.98	1.96	1.90	2.00

Generally the earlier the year of graduation, the higher the rating for each aspect. In other words the graduates from the academic year 1966-67 appear to value certain aspects of their college experience more highly than those who graduated in 1970-71. The 1966-67 graduates rated "technical knowledge" the highest; whereas, the 1970-71 graduates rated "getting along with people" the highest. The graduates from each of the years rated "knowledge about career opportunities in your field" the lowest. The category of "general education" received rather high ratings from the graduates of each year.

C. Relation of Present Activity to Curriculum Completed

In order to obtain the information necessary to determine if AAS graduates were finding jobs for which they were trained, they were asked to describe the relationship between the curriculum completed and their present job as "Yes, very much," "Yes, somewhat," or "No, or very little."

By eliminating the "no responses" from the total, 80 percent of all AAS graduates indicated there was a relationship. The highest relationship between present job and curriculum completed was presented by the 1971-72 AAS graduates

with 90 percent indicating some type of relationship. The relationship between present activity and curriculum completed for the remaining years are as follows:

Year	Relationship
1966-67	85 percent
1967-68	84 percent
1968-69	76 percent
1969-70	79 percent
1970-71	79 percent
Summer, 1971	90 percent

Greater variations from the norm were revealed in reviewing the relationship by curriculums. For example, the graduates from the health curriculums indicated an overwhelmingly high relationship between present job and curriculum studied with 99.1 percent. The curriculum categories for all years combined are as follows:

Curriculum	Relationship
Business	79 percent
Communications	67 percent
Engineering	77 percent
Health	99 percent
Public service	67 percent
Miscellaneous	75 percent

Those graduates whose curriculums were not related to their present jobs were asked to indicate the reason. Overall, there were 413 AAS graduates responding to this question. Of that group 32 percent said they "could not find a job in their field of preparation"; 19 percent said they "found a better paying job in another field"; 18 percent said they "preferred working in another field"; 6 percent said they had "qualified for a new job by continuing their education"; 9 percent said they were "not sufficiently qualified for a job in their field of college preparation"; and 16 percent gave the reason of "other".

The graduates from business and communication curriculums had the most difficulty in finding jobs in their field of preparation. Table 27 and 28 illustrate the reasons for lack of congruence between present job and curriculum completed. Since the graduates were afforded the opportunity to check each response that applied to them the categories are not mutually exclusive. Therefore, chi-square analyses were not attempted for Tables 27 and 28.

D. Level of Job Satisfaction

The data presented in this section are intended to answer the question: "In the graduates' opinion, what has been the level of satisfaction in their present and most recent job?" as presented in Chapter I under the "Background and Purpose of the Study".

The AAS graduates were asked to rate their level of satisfaction on five aspects of their present job as "superior," "good," "fair," or "poor". The aspects of the job are as follows:

1. Challenging and interesting work
2. Relations with colleagues
3. Salary
4. Opportunity for advancement
5. Overall aspects of your job

Results were evaluated for each of the five job aspects by year of graduation and by curricular area. The results are presented in Tables 29 and 30. The numbers in each of these tables reflect the mean for each item.

Table 27 — Distribution of Reasons for Lack of Congruence Between Present Job and Curriculum Completed by Year of Graduation

Year Of Graduation	Categories													
	Could Not Find A Job In Field Of Preparation		Found Better Paying Job In Another Field		Perferred To Work In Another Field		Qualified For New Job By Continuing My Education		Not Sufficiently Qualified For Job In Their Field of College Preparation		Other		Total	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
1966-67	2	13.3	4	26.7	1	6.7	2	13.3	4	26.7	2	13.3	15	3.6
1967-68	4	14.3	3	10.7	8	28.6	3	10.7	3	10.7	7	25.0	28	6.8
1968-69	16	26.2	16	26.2	10	16.4	2	3.3	6	9.8	11	18.0	61	14.8
1969-70	42	32.8	23	18.0	28	21.9	7	5.5	10	7.8	18	14.1	128	31.0
1970-71	64	38.3	28	16.8	25	15.0	9	5.4	14	8.4	27	16.2	167	40.4
Summer, 1971	3	21.4	3	21.4	2	14.3	1	7.1	2	14.3	3	21.4	14	3.4
Total	131	31.7	77	18.7	74	17.9	24	5.8	39	9.4	68	16.5	413	100.0

Table 28 -- Distribution of Reasons for Lack of Congruence Between Present Job and Curriculum Completed for All Years Combined

Curriculum	Categories													
	Could Not Find A Job In Field Of Preparation		Found Better Paying Job In Another Field		Perferred To Work In Another Field		Qualified For New Job By Continuing My Education		Not Sufficiently Qualified For Job In Their Field Of College Preparation		Other		Total	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
Business	79	35.3	42	18.8	39	17.4	11	4.9	24	10.7	29	12.9	224	54.2
Communication	2	50.0	1	25.0	--	--	1	25.0	--	--	--	--	4	1.0
Engineering	32	28.3	23	20.4	20	17.7	7	6.2	7	6.2	24	21.2	113	27.4
Health	--	--	--	--	2	28.6	2	26.6	--	--	3	42.8	7	1.7
Public Service	7	25.0	5	17.8	5	17.8	--	--	4	14.4	7	25.0	28	6.8
Miscellaneous	11	29.7	6	16.3	8	21.6	3	8.1	4	10.8	5	13.5	37	8.9
Total	131	31.7	77	18.7	74	17.9	24	5.8	39	9.4	68	16.5	413	100.0

Table 29 -- Level of Job Satisfaction By Year of Graduation

Job Aspect	Year of Graduation						
	1966-67	1967-68	1968-69	1969-70	1970-71	Sum. 1971	Total
Interesting work	1.65	1.91	1.98	2.00	2.37	1.89	1.94
Relations with colleagues	1.88	1.68	1.90	1.83	1.79	1.76	1.81
Salary	2.35	2.31	2.33	2.47	2.52	2.40	2.46
Opportunity for advancement	2.28	2.56	2.42	2.55	2.47	2.32	2.48
Overall	2.05	2.14	2.15	2.20	2.16	2.06	2.16
Median present salary	$9,666	$9,166	$7,734	$7,207	$6,791	$6,888	$7,314

The highest degree of satisfaction realized by the graduates was in the area of "relations with colleagues" with a mean of 1.81, followed by "challenging and interesting work" with a mean of 1.94. Generally the earlier the graduates had completed their formal education, the higher the rating they gave to each of the aspects of their present job. The aspect of the job that received the lowest rating was that of "opportunity for advancement" with a mean of 2.48, followed closely by "salary" with a mean of 2.46. The median present salary for all years and for all curriculums was $7,314 (see last line of Table 29). The reasons for the graduates' dissatisfaction with their salaries cannot be determined from the data presented herein. Men and women are continuously trying to up-grade their positions in life and will often be dissatisfied with their current situation. Many people view salaries of their fellow man as a major determinant of his socio-economic status.

Table 30 presents the means for each job aspect by curriculums. The graduates from the health curriculums gave the highest rating for "interesting work" and the next to the lowest rating for "opportunity for advancement" with means of 1.63 and

Table 30 — Level Of Job Satisfaction By Curriculum For All Years Combined

Job Aspect	Curricula						
	Business	Communications	Engineering	Health	Public Service	Miscellaneous	Total
Interesting work	1.99	1.90	2.00	1.63	1.91	1.78	1.94
Relations with colleagues	1.78	1.80	1.85	1.77	1.77	1.90	1.81
Salary	2.45	2.20	2.47	2.28	2.64	2.57	2.46
Opportunity for advancement	2.28	2.56	2.42	2.55	2.47	2.32	2.48
Overall	2.15	2.00	2.22	2.04	2.22	1.96	2.16
Median present salary	$6,457	$6,499	$8,169	$8,231	$8,363	$7,544	$7,314

2.55 respectively. Public service graduates indicated the lowest level of satisfaction with their salaries even though they received the highest median salary.

Chapter IV

Conclusions and Implications

The purpose of this study was to obtain data on certain characteristics of the graduates of Associate in Applied Science degree programs offered in the Virginia community colleges. The conclusions and implications of the first four questions will be presented as sections of the present chapter, and the conclusions and implications of the fifth question will be presented as an integral part of each of the first four sections. The final section of the chapter contains some suggestions for further research.

1. What are the characteristics of the graduates in terms of age, sex, marital status, and previous academic achievement?--e.g., type of curriculum completed, cumulative grade point average (GPA), and total number of credits earned at the community college.

1. The median age for all AAS graduates (at the time of the survey) was 23.2. Over half (51.2 percent) were between 22 and 24 years of age, and 75.6 percent were between 22 and 29 years of age. The general trend indicates that more non-traditional or older students are taking advantage of the community college programs.

2. Approximately two-thirds of the AAS graduates were males. The percentage of females increased during more recent years. The health related curriculum was the only curriculum dominated by females (93 percent). Men were dominant in curricular areas related to Communications, Engineering, and Public Service. A high percentage of females were enrolled in business curriculums as the result of programs in Secretarial Science and Data Processing.

3. There appears to be a direct relationship between year of graduation and marital status at the time of the survey. In other words the earlier the year of graduation the more likely the respondent is to be married. For 1966-67 there were over two married graduates for each single graduate. In 1970-71 there were 1.25 single graduates for every married graduate. Since the data represents the status of the graduates at the time of the survey, it is not possible to determine the actual marital status of the graduates during their "college days." In that the more recent graduates had higher percentages in the single category, a logical assumption would be that a majority of the community college students enrolled in the AAS programs are single.

4. Data indicate that the community colleges served a predominately white clientele in the AAS programs during the past six years (92 percent were white). Only 4.8 percent of the respondents were black. Since 1968, the percentage of non-whites has shown an increase for each successive year. Non-whites include Blacks, American Indians, Orientals, Spanish-speaking persons, and others.

5. More than four-fifths of the graduates were employed in Virginia. The District of Columbia was the second largest employing area with 7 percent. Since the largest and one of the oldest community colleges (Northern Virginia Community College) in the Virginia Community College System is located within commuting distance of the District of Columbia, this seemingly high percentage may not be significant. Residency of the graduates was not obtained, but it could be that many of the graduates working in the District of Columbia are still Virginia residents.

6. Salary data were collected for both initial jobs after graduation and present jobs. The pattern for initial salaries is inconsistent for the various year. Normally, it would be expected that starting salaries would increase for each successive year. However, the highest median initial salary, $6,018 was earned by the 1969-70 graduates. This phenomenon cannot be explained from the data, but the fluctuations might have resulted from the economic conditions for each year. The highest paid curriculum for initial jobs is the health related area, and the highest paid curriculum for present jobs is the public service area.

Present salaries reflect an expected pattern between the years. The fact that earlier graduates have had an opportunity to mature, gain experience, and to improve their positions through promotions would lead to the expectation that the early graduates should be earning higher salaries than the more recent graduates. The data support this assumption in that present salaries were progressively higher, the earlier the year of graduation. The highest median present salary was earned by the graduates in the public service area, followed closely by the health and engineering graduates.

Median salary for men was $1,876 higher than for women. This is true regardless of the fact that women dominated the health area which accounted for the second highest median salary of all curriculums.

7. Approximately three-fourths of the AAS graduates were employed full-time. Only 2.3 percent were unemployed. If housewives and those in military service were added to the full-time category, over four-fifths would be

classified as employed full-time. In addition there were 119 respondents, or 8.3 percent, indicating their status as full-time students. This figure is not significant in and of itself, but when viewed by year of graduation, it is interesting to note that increasing numbers of the more recent graduates are going on to full-time college study.

8. The overall median Grade Point Average (GPA) for all AAS graduates was 2.73, out of a possible 4 point system. The 1970-71 graduates had the highest median GPA with 2.80, and the lowest was earned by the 1966-67 graduates with 2.46. Graduates of the health related fields maintained the highest GPA with 2.86, while the lowest was earned by the graduates from the communication fields with 2.45.

9. The median number of quarter hours earned for all years was 99.5. Normally it would take two years or six quarters of full-time study, including summer schools, to complete an AAS degree. A student would need to take a little over 16 credits per quarter in order to graduate in two years. In more recent years the graduates have been earning just over 100 credits for graduation.

10. There were 840 respondents indicating that they had continued their education in some form after earning their AAS degree, either in college courses, employer training programs, or through some other learning experience. It is important to note that 244 AAS respondents indicated they had attended a four-year college or university, and 67 AAS graduates have earned advanced degrees (e.g., baccalaureate, master's and doctorates). Proportionally, about five percent of the total respondents have earned advanced degrees. This

information is important because it has implications for higher education. Under current conditions it is extremely difficult for an AAS graduate to find a four-year institution that will accept his or her AAS degree for placement as a junior in full standing. There are two institutions in Virginia that offer Bachelor of Technology programs. They are Old Dominion University and Virginia Polytechnic Institute and State University. Assuming that more and more AAS graduates will aspire to advanced degrees, the trend toward offering baccalaureate programs for technicians might gain additional impetus.

The major reasons presented by graduates for continuing their education were for "general education" and "personal satisfaction", followed closely by "prepare for further job opportunities in present occupation." Only 11.2 percent indicated they had continued their education in order to change occupations.

II. What are the opinions and evaluations of the graduates toward the college experience?--e.g., teaching and faculty, curriculum, social activities, counseling and placement service.

1. The placement service is an extremely important element in the total operation of the community college, especially since the community college was designed to fulfill the needs of the community in which it is located. However, only 7 percent of the AAS graduates listed the community college placement service as the source most helpful in getting them their first full-time job upon leaving the community college. More significant is the fact that the percentage of graduates listing the community college placement service as the source for getting their first job has decreased almost every year since 1966. In 1966-67,

14 percent listed the community college placement service as most helpful; in 1971-72 only 4.5 percent listed the placement service as helpful. On the positive side, the college staff (excluding the placement staff) have been increasingly more helpful in getting initial full-time jobs for each successive year, according to the graduates.

The graduates were also asked to check any one of five statements that best described their feelings about the help received at the community college in getting their first full-time job. There were two positive statements and three negative. The ranking of the statements by the graduates reveals similar attitudes to those previously reported regarding the one source most helpful in getting their first full-time job. The inadequacy of the job placement services received next to the highest percentage of response. Assistance from faculty members received the highest rating; help from placement office was third; help provided in curriculum was fourth; and willing but poorly informed faculty members was fifth.

The graduates were asked to rate how well the community college prepared them in several areas. The "knowledge about career opportunities in your field" received the lowest rating with a mean of 2.45 (on a scale of 1.00-Superior to 4.00-Poor); whereas, "technical knowledge" received the highest rating with 1.95.

The graduates were also asked their opinion toward certain aspects of their community college experience; of these, "social activities" received the lowest score with a mean of 3.02, followed closely by "counseling" with a mean of 2.45.

In summary, two of the most emphasized functions, counseling and placement,of the community colleges received very low ratings by the graduates.

2. Almost three-fourths of all graduates did not change curriculums while in attendance at the community colleges. Of the 243 (16.9 percent of total population) graduates that did change, 61 percent graduated from the business related curriculums. Those graduates selecting one of the health related programs and graduating from that program generally had not changed their curriculum. Two possible explanations for the persistence of the health graduates are their early commitment to the field and the rigorous sequence of courses which discourages one from changing.

Of those who changed their curriculums, the most prevalent reason stated was a change in career goals. The four major reasons, in order of magnitude, for changing curriculums were: changed career goals, wrong choice of curriculum, dissatisfied with curriculum, and loss of interest. Each of these reasons indicate that the perceptions held by the graduates of their initial curriculums were different than expected. Changes in curriculums were generally not the result of counselor's advice. Of the eleven reasons provided for curricular change, graduates ranked the advice of counselors fourth from the bottom. Such information is once again consistent with earlier findings regarding the general opinions of the graduates toward the counseling and placement services.

3. Approximately nine-tenths of the AAS graduates reported they would recommend the community college to someone seeking a similar program of study. Whatever the weaknesses of the system are, the true value of the community college

experience to the students after graduation seems exemplified in the responses to this question. When a graduate is willing to recommend his or her program to a potential student, he or she must have gained from that experience.

4. Only one-third of the graduates felt the "mix" between technical and general education courses was adequate. Approximately one-half stated that there should be an increase in the proportion of technical and skills courses, and 15 percent stated that the general education courses ought to be increased. Graduates from the business-related programs recommended the highest increase in general education courses. Apparently the business graduates desire a broader perspective from which to deal with both the human problems as well as the technical problems in their various organizational settings. The graduates of the engineering programs recommended the highest increase in technical courses. Since the engineering field is a highly specialized area, the engineering graduates apparently desire more skill courses in order to move forward in their chosen field.

There are several explanations that might be drawn from the fact that the graduates were not overly happy with the mix of courses at their respective colleges. First, their employers might have stressed the need for more preparation in certain technical areas. Second, the graduates, not finding jobs in the fields for which they were trained, might have desired additional general education courses to prepare them for more diverse opportunities. Third, graduates desiring to continue their education might have desired more transferable courses (e.g.--history, mathematics, or physics).

5. While the overall ratings by graduates of their community college preparation and value of the community college experience were high, there was general agreement that a lack of "knowledge about career opportunities" existed.

6. The vast majority of AAS graduates rated their education at the community colleges as superior or good. Ratings varied from one aspect to another; the "overall" rating was eighty-three percent in the good and superior categories. In other words over four-fifths of the AAS graduates thought of their community college experience as being either good or superior.

The element receiving the lowest rating was "social activities". This is not surprising since the community colleges are not residential institutions and do not have organized sports or other social activities, such as Greek letter fraternities. The distance some students have to travel and the fact that many students have part-time jobs to help finance their education are partial explanations for the lack of social activities. Even though community colleges are not residential institutions, it may be desirable to study new approaches to provide social activities for the students. For example, community colleges in Virginia are normally within one or two hours drive of a four-year institution (public and private). Therefore, it may be desirable to explore the possibility of full-time community college students attending certain social events (i.e.--concerts or sports events) at four-year institutions at lower rates than charged the general public.

The low rating for "counseling" is even more significant. Community college personnel have stressed that counseling services are an integral element, along with the open-door policy, in the total community college operation. In that the graduates were almost evenly split on their opinions towards the counseling services (53 percent gave superior or good and 47 percent gave fair or poor), it appears that additional study needs to be given to the counseling function. "Interest in students by faculty" received next to the highest rating with a mean of 2.00.

III. Are the graduates working in occupations for which they were trained? If not, why not?

1. Four-fifths of the AAS graduates are working in jobs which they consider related to their college training. By far the greatest congruence between present jobs and curriculum completed was evidenced by the graduates from the health related programs (over 99 percent indicated a positive relationship). This high degree of congruence might result from a high demand for their kinds of services.

Of those graduates indicating that their current jobs were not related to their completed curriculum, 32 percent said they could not find jobs in their fields. Fifty percent of the graduates from the communication programs stated that they were not able to find jobs in their field of preparation. Thirty-five percent of the business graduates stated likewise. On the whole, career

graduates from the two-year AAS programs of Virginia's community colleges do appear to be finding jobs for which they were trained.

IV. In the graduates' opinions, what has been the level of satisfaction in their present or most recent job?

1. The perceptions of the former students toward their current jobs are indicative of how well their prior experiences (including their community college experience) have prepared them.

Generally, the graduates stated that they were satisfied with their current jobs. Overall, three-fourths of all AAS graduates rated their job satisfaction as superior or good. Among the reasons given for this satisfaction, the highest rating was given to "relations with colleagues" with a mean of 1.81, followed by "challenging and interesting work," with a mean of 1.94. "Opportunity for advancement" and "salary" were rated the lowest with means of 2.48 and 2.46 respectively.

Implications for Further Research

The main objectives of this study were to describe selected characteristics of the AAS graduates from the Virginia Community College System and their opinions toward their current jobs and their community college experiences. As a result of the findings generated from this study, there are several specific areas that the writer believes should be researched in more detail. The data generated by this

study provide a base for further study. Further studies should be conducted to determine the effects of cross-referencing certain variables. For example, previous academic achievement (GPA) might have some relationship to the attitudes the graduates may have toward faculty or counseling services; or age might have some relationship to present salary. Specifically, it is suggested that the following areas be considered for more in-depth study as a result of the findings of this study.

1. An in-depth study should be devoted to the counseling and placement services of the community colleges. A careful review of the effectiveness of such activities and possible ways for improvement could be considered.

2. Various methods of attracting blacks and other minorities into the AAS programs should be explored.

3. Employer attitudes toward the AAS graduates could be researched. This study might include questions to determine their opinions of the graduates' preparation and the "mix" of courses that the graduates are receiving.

4. Periodic follow-up studies should be conducted to determine if trends or changes occur in the graduates' perceptions of their college experiences and of their employment practices.

5. Data generated by this study of the AAS graduates should be compared with similar data from the Associate in Science graduates, Associate in Arts graduates, Diploma graduates, Certificate graduates, and drop-outs.

Appendices

Appendix A

VIRGINIA COMMUNITY COLLEGE SYSTEM
SURVEY OF FORMER STUDENTS
SPRING, 1972

Dear Former Student:

Community colleges in Virginia are still in their early stages of growth, and we are searching for ways to improve our educational programs.

To help us, we ask you to complete this questionnaire. It requires information about your current activities and your earlier community college experience. It will require about 10 minutes of your time to complete. Your responses will be grouped with those of other former students, and will be used only for this study.

Please complete the questionnaire and return it to us within three days. A pre-addressed and stamped return envelope is enclosed for your convenience.

Thank you for your help.

Very truly yours,

Fred A. Snyder

Fred A. Snyder, Director
Research & Planning Division
Virginia Department of Community Colleges

DIRECTIONS:
USE PENCIL ONLY. MARK THE BOX ☒ OPPOSITE EACH ITEM THAT BEST REPRESENTS YOUR ANSWER(S). COMPLETELY ERASE ANY ANSWERS YOU WISH TO CHANGE.

(Please correct name and address if necessary)

1. (The following is needed as information about equal opportunity for education or employment.) I consider myself as:

[1] ☐ White
[2] ☐ Black or Afro-American
[3] ☐ American Indian
[4] ☐ Oriental
[5] ☐ Spanish surnamed American
[6] ☐ Other (specify) _____

2. Show your father's and your mother's highest educational level.

		Father	Mother
Under 8 years	[1]	☐	☐
Completed 8th grade	[2]	☐	☐
Attended high school	[3]	☐	☐
High school graduate	[4]	☐	☐
Attended college	[5]	☐	☐
Four-year college graduate	[6]	☐	☐
Master's or higher degree	[7]	☐	☐

3. Father's type of work. If he is retired or deceased, refer to his former job.

[1] ☐ Clerical and Sales – bank teller, salesman, office or sales clerk, etc.
[2] ☐ Managerial or Office Occupations – office or sales manager, bank officer, etc.
[3] ☐ Professional – CPA, dentist, engineer, teacher, military officer, etc.
[4] ☐ Proprietor or Owner – farm owner, owner of a small business, etc.
[5] ☐ Semi-professional and Technical – engineering technician, dental technician, practical nurse, surveyor, etc.
[6] ☐ Semi-skilled worker – machine operator, bus driver, meat cutter, etc.
[7] ☐ Service worker – barber, policeman, waiter, fireman, etc.
[8] ☐ Skilled worker or foreman – baker, carpenter, electrician, foreman, etc.
[9] ☐ Unskilled worker – laborer, filling station attendant, farm worker, etc.
[10] ☐ Unemployed
[11] ☐ Unknown

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4. Your Marital Status.

1 ☐ Single
2 ☐ Married
3 ☐ Other

5. Mark the one item that best describes your present employment or related status.

1 ☐ Full-time employment
2 ☐ Part-time employment
3 ☐ College full-time
4 ☐ Military service
5 ☐ Housewife
6 ☐ Unemployed
7 ☐ Other (specify)_____

IF YOU HAVE NEVER BEEN EMPLOYED FULL-TIME SINCE LEAVING THE COLLEGE, GO DIRECTLY TO QUESTION 14.

6. Show the state in which you presently work.

1 ☐ Virginia
2 ☐ Maryland
3 ☐ West Virginia
4 ☐ North Carolina
5 ☐ Tennessee
6 ☐ District of Columbia
7 ☐ Kentucky
8 ☐ Another state (specify)_____

7. Show the approximate distance of your present employment from your former community college.

1 ☐ Up to 25 miles
2 ☐ 25 – 49 miles
3 ☐ 50 – 99 miles
4 ☐ 100 miles and over

8. Was the curriculum you were enrolled in at the community college related to your first job? Your present job?

	First Job	Present Job
Yes, very much	☐	☐
Yes, somewhat	☐	☐
No, or very little	☐	☐

9. If your present job is not related to your community college curriculum, please check each reason which applies.

1 ☐ Could not find a job in field of preparation
2 ☐ Found better paying job in another field
3 ☐ Preferred to work in another field
4 ☐ Qualified for new job by continuing my education
5 ☐ Was not sufficiently qualified for a job in my field of college preparation
6 ☐ Other (specify)_____

10. Please indicate both your initial yearly salary upon leaving the community college and your present salary. (This information will not be identified with you as an individual, but will be grouped with that from other former students.)

Initial Salary		Present Salary
1 ☐	Up to $2,999	1 ☐
2 ☐	$3,000 – 3,999	2 ☐
3 ☐	$4,000 – 4,999	3 ☐
4 ☐	$5,000 – 5,999	4 ☐
5 ☐	$6,000 – 6,999	5 ☐
6 ☐	$7,000 – 7,999	6 ☐
7 ☐	$8,000 – 8,999	7 ☐
8 ☐	$9,000 – 9,999	8 ☐
9 ☐	$10,000 – 10,999	9 ☐
10 ☐	$11,000 – 11,999	10 ☐
11 ☐	$12,000 and over	11 ☐

11. Please rate your satisfaction with your present job in terms of each of the aspects shown below. Mark one answer for each aspect.

	Superior	Good	Fair	Poor
a. Challenging and interesting work	☐	☐	☐	☐
b. Relations with colleagues	☐	☐	☐	☐
c. Salary	☐	☐	☐	☐
d. Opportunity for advancement	☐	☐	☐	☐
e. Overall aspects of your job	☐	☐	☐	☐

12. Please mark the one source most helpful in getting your initial full-time job upon leaving the community college. Mark one only.

1 ☐ Community college placement service
2 ☐ College staff member other than a placement service
3 ☐ Employer contact at the college
4 ☐ State employment service
5 ☐ Answered an advertisement
6 ☐ Relative or friend
7 ☐ Other (specify)_____

13. Please mark (X) each statement which shows your feelings about the help you obtained at the community college in getting your first job upon leaving.

1 ☐ The placement office was helpful
2 ☐ Faculty members were helpful
3 ☐ Little help was given to me or others in my curriculum
4 ☐ Faculty members were willing to help, but didn't seem to know what opportunities were available
5 ☐ Job placement service was not adequate

ALL PERSONS SHOULD ANSWER QUESTIONS 14 THRU 22.

14. To what extent have you continued your education since leaving the community college? Mark each statement that applies.

1 ☐ Still enrolled at the community college
2 ☐ None
3 ☐ Completed one or more employer training program
4 ☐ Took courses at another two-year college
5 ☐ Took courses at a four-year college or university
6 ☐ Completed an associate degree
7 ☐ Completed a bachelor's degree
8 ☐ Completed master's degree or beyond
9 ☐ Other (specify)_____

15. If you have continued your education since leaving the community college, please mark each reason for such further education or training which applies to you.

1 ☐ To prepare for further job opportunities in my present occupation
2 ☐ To improve my skills and abilities in my present job
3 ☐ For my own general education and personal satisfaction
4 ☐ To change occupation
5 ☐ It is expected of me by my employer
6 ☐ Other (specify)_____

16. Was the curriculum you were enrolled in at the community college related to your later study, if you have continued your education?

1 ☐ Yes, very much
2 ☐ Yes, somewhat
3 ☐ No, or very little

17. Did you at any time change from one curriculum to another while at the community college?

1 ☐ Yes
2 ☐ No

18. If your answer to question 17 was Yes, please mark the reason(s) for changing your curriculum as noted below.

1 ☐ Dissatisfied with curriculum
2 ☐ Dissatisfied with instruction
3 ☐ Low achievement
4 ☐ Loss of interest
5 ☐ Personal problem
6 ☐ Little opportunity in this field
7 ☐ Parents objected
8 ☐ Counselor's advice
9 ☐ A wrong choice of curriculum in the first place
10 ☐ Changed career goal(s)
11 ☐ Other (specify)_____

19. Would you recommend the community college to a person seeking to complete the same program you studied? 1 ☐ Yes 2 ☐ No

20. How well did the community college prepare you in each of the following aspects? Mark only one answer for each aspect.

	Superior	Good	Fair	Poor
a. Technical knowledge and understanding	☐	☐	☐	☐
b. Job or learning skills	☐	☐	☐	☐
c. Getting along with people	☐	☐	☐	☐
d. Self-understanding	☐	☐	☐	☐
e. Knowledge about career opportunities in your field	☐	☐	☐	☐
f. Communication skills (oral or written)	☐	☐	☐	☐
g. General education	☐	☐	☐	☐

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21. How valuable are each of these aspects of your community college education to you now? Mark only one answer for each aspect.

	Highly Valuable	Valuable	Some Value	Little or No Value
a. Technical knowledge and understanding	☐	☐	☐	☐
b. Job or learning skills	☐	☐	☐	☐
c. Getting along with people	☐	☐	☐	☐
d. Self-understanding	☐	☐	☐	☐
e. Knowledge about career opportunities in your field	☐	☐	☐	☐
f. Communication skills (oral or written)	☐	☐	☐	☐
g. General education	☐	☐	☐	☐

22. Please give your opinion about each of the following aspects of your community college experience. Mark only one answer for each aspect.

	Superior	Good	Fair	Poor
a. Shop and laboratory instruction	☐	☐	☐	☐
b. Academic instruction	☐	☐	☐	☐
c. Shop and laboratory facilities and equipment	☐	☐	☐	☐
d. All other college facilities	☐	☐	☐	☐
e. Counseling given to students	☐	☐	☐	☐
f. Social activities	☐	☐	☐	☐
g. Interest in students shown by faculty	☐	☐	☐	☐
h. Evaluation of students' performance by faculty	☐	☐	☐	☐
i. Overall	☐	☐	☐	☐

ONLY THOSE WHO EARNED A CERTIFICATE, DIPLOMA, OR ASSOCIATE DEGREE SHOULD ANSWER QUESTION 23.

23. In every occupational-technical curriculum, there is a "mix" of courses in (a) applied technical and skills preparation and (b) general education. Please show the proportional "mix" of such courses that you would like to see in your curriculum at your community college.

1 ☐ O.K. as is. Don't change it.

2 ☐ Increase the proportion of courses in technical and skills areas.

3 ☐ Increase the proportion of courses in general education.

ONLY THOSE WHO DID NOT COMPLETE AN EDUCATIONAL PROGRAM AT THE COMMUNITY COLLEGE SHOULD ANSWER QUESTIONS 24 THRU 27.

24. What was your primary educational goal when you initially enrolled at the community college? Mark one only.

1 ☐ Earn a certificate or diploma to improve my employment and career skills.

2 ☐ Earn an associate degree or a higher degree

3 ☐ Upgrade technical knowledge and skills in specific fields by taking just one or several courses

4 ☐ Increase my general knowledge and level of education

5 ☐ Other (specify)

25. Was the goal you noted above achieved before you left the community college?

1 ☐ Yes 2 ☐ No

26. What principal reason(s) made you decide to discontinue attendance at the community college? Mark each that applies.

1 ☐ Employment
2 ☐ Marriage
3 ☐ Entered military service
4 ☐ Lack of financial support
5 ☐ Transferred to another college
6 ☐ Moved to another area
7 ☐ Lack of transportation
8 ☐ Completed my educational goal
9 ☐ Personal adjustment problem
10 ☐ Lack of interest
11 ☐ Low achievement
12 ☐ Change in educational goal
13 ☐ Other

27. Do you intend to return to a community college for additional work?

1 ☐ Yes 2 ☐ No

THANK YOU FOR YOUR ASSISTANCE

Appendix B

GENERAL INSTRUCTIONS TO INTERVIEWERS

1. Identify yourself and school (See interview sheet.)
2. Explain your mission (See interview sheet.)
3. Ask the questions verbatum from the sheet.
4. Should the individual not know how to respond appropriately, then give him examples from the questionnaire. Repeat the questions if necessary.
5. Mark the interviewee's responses on the interview sheet according to the specific instruction for each item. Ask clarifying questions if necessary.
6. DO NOT ENGAGE THE INTERVIEWEE IN A RUNNING DISCOURSE ABOUT HIS EXPERIENCES AT THE COMMUNITY COLLEGE OR ELSEWHERE. Tactfully stay with the questions.
7. Close the interview.

VIRGINIA COMMUNITY COLLEGE SYSTEM
SURVEY OF FORMER STUDENTS
TELEPHONE INTERVIEW
Spring, 1972

SUGGESTIONS FOR THE INTERVIEWER IF RESISTANCE IS MET IN THE FOLLOWING AREAS:

1. WHY THE STUDY?

   The information gathered will be used to get a better picture of our students and their reactions to experiences at college and later. We hope that this information will help us develop more effective programs to serve our students.

2. WHY THE TELEPHONE FOLLOW-UP?

   We are calling just a small proportion (5%) of those who did not return the questionnaire. We wonder if those who did not return the questionnaire had different opinions from those who did; and if so, in what ways. It adds to the study by making sure we have as broad a cross-section of answers as possible.

3. WHY DO YOU NEED TO KNOW MY SALARY?

   We are attempting to find out the ranges of initial salaries so we can better counsel students as to what they can expect in different entering positions. We are interested in your later salary to help us evaluate whether your training helped you progress in your job.

4. TOTALLY RESISTANT OR REFUSES TO RESPOND TO THE QUESTIONNAIRE.

   Tactfully close the interview as pleasantly as possible.

5. PARENT, SPOUSE OR BROTHER/SISTER STATES HE IS NOT HOME.

   Ask how to contact him now, or ask when he will return home. Assure them that you are going to take just 3 minutes to survey his college experiences. (Also, that you are not a salesman.)

6. PARENT, BROTHER OR SISTER STATES THAT HE DOESN'T LIVE THERE ANYMORE.

   Ask for his new number, even though it is far away (wherever, within USA). Again assure them that your purpose is to get some information about his college and later experience.

VIRGINIA COMMUNITY COLLEGE SYSTEM
SURVEY OF FORMER STUDENTS
TELEPHONE INTERVIEW
Spring, 1972

DIRECTIONS: INDICATE THE ANSWERS BY WRITING THE APPROPRIATE NUMBER IN THE BLANK SPACE ON THE LEFT. WHERE THE INTERVIEWEE REFUSES TO RESPOND TO A SPECIFIC QUESTION, THEN JUST LEAVE THE SPACE BLANK AND PROCEED TO THE NEXT QUESTION. BEGIN TELEPHONE CONVERSATION:

I am (state your name & position) from (state name of college). As part of a survey of former students of (state name of community college), we mailed you a questionnaire to obtain information about your activities and opinions. Since we did not get a response from you, would you please help us by answering a few questions which appeared on the original questionnaire? It should take just three minutes. Let me assure you that your answers will be held in strictest confidence.

(2) What is the highest educational level completed by your father? (Pause for response) Your mother? (Use the answer given to select the appropriate number. Write this number in the blank space.)

___Father
___Mother

1 Under 8 years
2 Completed 8th grade
3 Attended high school
4 High school graduate
5 Attended college
6 Four-year graduate
7 Master's or higher degree

___(5) What is your present employment or school status? Are you employed full-time, part-time, or what? (Accept only one answer.)

1 Full-time employment
2 Part-time employment
3 College full-time
4 Military service
5 Housewife
6 Unemployed
7 Other (specify)_____

___(5A) Have you ever been employed full-time since leaving the college?

1 Yes
2 No

IF THE RESPONSE IS NO, SKIP QUESTIONS 8, 10, AND 11, AND GO DIRECTLY TO QUESTION 19.

(8) How much was your community college curriculum related to your initial full-time job upon leaving the community college? (Read the three choices.) Your present full-time job?

___Initial
___Present

1 Very much
2 Somewhat
3 Very little

(10) Would you please give us an estimate of your salary in your first full-time job after leaving the community college? (Pause for response) Also your present salary?

___Initial
___Present

1 Up to $2,999
2 $3,000-3,999
3 $4,000-4,999
4 $5,000-5,999
5 $6,000-6,999
6 $7,000-7,999
7 $8,000-8,999
8 $9,000-9,999
9 $10,000-10,999
10 $11,000-11,999
11 $12,000 and over

___(11) ASK THIS QUESTION ONLY IF THE SUBJECT IS NOW EMPLOYED FULL-TIME. Please rate your satisfaction with your present job in terms of the overall aspects of the job. Enter only one response.

(a) Is your satisfaction: (1) Superior? (2) Good? (3) Fair? (4) Poor?

(continue on other side)

___(19) Would you recommend your community college to a person seeking to complete the same program you studied?

1 Yes
2 No

(20) I want you to rank as (1) SUPERIOR, (2) GOOD, or (3) POOR, how well the community college prepared you in terms of:

___(a) Technical knowledge and understanding

___(b) General education

(22) Using the same ranks of (1) SUPERIOR, (2) GOOD, (3) FAIR, and (4) POOR, will you please evaluate several more aspects of your community college experience? These include: (For each aspect enter only one response.)

___(a) Shop and Laboratory Instruction

___(b) Academic Instruction

___(c) Counseling given to students

___(d) Overall

FOR NON-GRADUATES ONLY. LOOK FOR THE CODE N AT THE RIGHT CORNER OF THE LABEL.

(26) Would you please tell me the principal reason or reasons which caused you to discontinue your attendance at the community college? Give two or three examples of possible reasons if necessary. (Check (x) each reason that the individual has given.)

___1 Employment
___2 Marriage
___3 Entered military service
___4 Lack of financial support
___5 Transferred to another college
___6 Moved to another area
___7 Lack of transportation
___8 Completed my educational goal
___9 Personal adjustment problems
___10 Lack of interest
___11 Low achievement
___12 Change in educational goal
___13 Other _____

Do you have some additional comments about your previous college experiences?

_____

_____

_____

We appreciate your help with our survey. I enjoyed talking with you (or something similiar).

END OF INTERVIEW. COMPLETE ADDED INFORMATION SHOWN BELOW

Check reason (s) for failure to conduct interview:

___1. Refused
___2. Deceased
___3. Military-Service-Overseas
___4. Civilian-abroad
___5. Already mailed questionnaire
___6. Other

INTERVIEWER'S NAME _____
(Please Print)

Appendix C

Chi-Square Comparisons

1. Chi-square comparisons between mail and telephone responses of Associate in Applied Science graduates on EMPLOYMENT STATUS

	Full-Time		Part-Time		Unemployed		Other		Total
	O_f	E_f	O_f	E_f	O_f	E_f	O_f	E_f	
Mail	55	(53.0)	2	(3.3)	2	(1.7)	13	(14.0)	72
Telephone	9	(11.0)	2	(0.7)	0	(0.4)	4	(2.9)	15
Total	64		4		2		17		87

Computations

Categories	O_f-E_f	$(O_f-E_f)^2$	E_f	$\frac{(O_f-E_f)^2}{E_f}$
M/F-t	2.0	4	53.0	0.076
M/P-t	-1.3	2	3.3	0.606
M/Un.	0.3	0	1.7	0.000
M/Other	-1.0	1	14.0	0.071
T/F-T	-2.0	4	11.0	0.364
T/P-T	1.3	2	0.7	2.857
T/Un.	-0.4	0	0.4	0.000
T/Other	1.1	1	2.9	0.345
				4.319

$\frac{72}{87} \times 64 = 53.0$

$\frac{15}{87} \times 64 = 11.0$

$\frac{72}{87} \times 4 = 3.3$

$\frac{15}{87} \times 4 = 0.7$

$\frac{72}{87} \times 2 = 1.7$

$\frac{15}{87} \times 2 = 0.4$

$\frac{72}{87} \times 17 = 14.0$

$\frac{15}{87} \times 17 = 2.9$

$$\text{Chi-square} = \sum \frac{(O_f-E_f)^2}{E_f} = 4.319$$

df = (rows -1) (col.-1)

df = (2-1) (4-1) = 3

3 df: 1% = 11.34

2. Chi-square comparisons between mail and telephone responses of Associate in Applied Science graduates on OVERALL RATING OF COMMUNITY COLLEGE

	Superior		Good		Other		Total
	O_f	E_f	O_f	E_f	O_f	E_f	
Mail	5	(6.6)	55	(53.8)	12	(11.6)	72
Telephone	3	(1.4)	10	(11.2)	2	(2.4)	15
Total	8		65		14		87

Computations

Categories	O_f-E_f	$(O_f-E_f)^2$	E_f	$\frac{(O_f-E_f)^2}{E_f}$
M/S	-1.6	2.56	6.6	.388
M/G	1.2	1.44	53.8	.027
M/O	0.4	.16	11.6	.014
T/S	1.6	2.56	1.4	1.829
T/G	-1.2	1.44	11.2	.129
T/O	-0.4	.16	2.4	.067
				2.454

Chi-square = 2.454

df = (2-1) (3-1)
df = 2

2 df: 1% = 9.21

$\frac{72}{87} \times 8 = 6.6$

$\frac{15}{87} \times 8 = 1.4$

$\frac{72}{87} \times 65 = 53.8$

$\frac{15}{87} \times 65 = 11.2$

$\frac{72}{87} \times 14 = 11.6$

$\frac{15}{87} \times 14 = 2.4$

3. Chi-square comparisons between mail and telephone responses of Associate in Applied Science graduates on PRESENT ACTIVITY

	Related		Unrelated		Total
	O_f	E_f	O_f	E_f	
Mail*	50	(50.2)	9	(8.8)	59
Telephone**	7	(6.8)	1	(1.2)	8
Total	57		10		67

*-13 no responses
**- 7 no responses

Computations

Categories	O_f-E_f	$(O_f-E_f)^2$	E_f	$\frac{(O_f-E_f)^2}{E_f}$
M/R	-0.2	.04	50.2	.0008
M/U	0.2	.04	8.8	.0045
T/R	0.2	.04	6.8	.0059
T/U	-0.2	.04	1.2	.0333
				.0445

$\frac{59}{67} \times 57 = 50.2$

$\frac{8}{67} \times 57 = 6.8$

$\frac{59}{67} \times 10 = 8.8$

$\frac{8}{67} \times 10 = 1.2$

Chi-square = .0445

df = (2-1) (2-1)
df = 1

1 df: 1% = 6.64

Appendix D--
Number of Associate in Applied Science Graduates By Curriculum and Year of Graduation

Curriculum	Year of Graduation													
	1966-67		1967-68		1968-69		1969-70		1970-71		Sum. 1971		Total	
	No.	Percent	No.	Percent	No.	Percent	No.	Percent	No.	Percent	No.	Percent	No.	Percent
Business	32	2.8	60	5.3	186	16.4	332	29.2	470	41.4	56	4.9	1,136	53.1
Communications	--	--	--	--	3	8.3	19	52.8	14	38.9	--	--	36	1.7
Engineering	27	5.5	45	9.2	84	17.1	152	31.0	168	34.3	14	2.9	490	22.9
Health	--	--	25	11.4	26	11.9	58	26.5	88	40.2	22	10.0	219	10.2
Public Service	4	4.1	7	7.1	16	16.3	21	21.4	47	48.0	3	3.1	98	4.6
Miscellaneous	20	12.6	21	13.2	13	8.2	32	20.1	73	45.9	--	--	159	7.4
Total	83	3.9	158	7.4	328	15.3	614	28.8	860	40.2	95	4.4	2,138	100.0

Appendix E—
Number of Associate in Applied Science Respondents to Questionnaire By Curriculum and Year of Graduation

Curriculum	Year of Graduation													
	1966-67		1967-68		1968-69		1969-70		1970-71		Sum. 1971		Total	
	No.	Percent	No.	Percent	No.	Percent	No.	Percent	No.	Percent	No.	Percent	No.	Percent
Business	15	2.0	38	5.0	110	14.4	225	29.3	341	44.4	40	5.3	769	53.6
Communication	—	—	—	—	—	—	13	72.3	5	27.8	—	—	18	1.2
Engineering	15	4.6	28	8.5	54	16.3	102	30.7	124	37.3	10	3.1	333	23.2
Health	—	—	15	10.3	12	8.3	45	30.9	58	39.8	16	11.0	146	10.2
Public Service	3	4.2	5	7.0	12	16.7	17	23.7	33	45.9	2	2.8	72	5.0
Miscellaneous	10	10.4	6	6.2	9	9.3	25	25.8	47	48.5	—	—	97	6.8
Total	43	3.0	92	6.4	197	13.7	427	29.8	608	42.4	68	4.7	1,435	100.0

Appendix F

College ______________________ Code __________ [1]

Campus ______________________ Code __________ [2]

Person Completing Form ______________________

VIRGINIA COMMUNITY COLLEGE SYSTEM
DATA ELEMENTS FOR FORMER STUDENTS

PLEASE PRINT ALL ENTRIES

Date Prepared ______________________ [3] Page ______ of ______

[4] Social Security Number	NAME [5] Last	[6] First	[7] MI	HOME ADDRESS Number	[8] Street	[9] City	[10] State	[11] Zip	[12] Year of Birth	[13] Sex	[14] Home Residence	[15] Quarter Year First Enrolled	[16] Quarter Year Last Enrolled	[17] Curriculum First Enrolled	[18] Curriculum Last Enrolled	[19] Credits Earned	[20] Cumulative GPA	[21] Degree	[22] Year Graduated
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Appendix G

MASTER CURRICULUM LIST AND CODE NUMBERS

Standard Code Number	Curriculum
	Business and Related Programs
203	Accounting Tech. and Accounting
209	Data Proc. (Computer Programming)
210	Data Proc. (Mach. and Computer Opr.)
212	Business Mgt. and/or Gen. Business
214	Data Proc. (Unit Records)
215	Data Proc. (Aux. Equip. Opr.)
216	Data Proc. (Keypunch)
218	Clerical Studies
235	Hotel, Restaur. and Inst. Mgt.
240	Hotel-Motel Management
241	Food Service Management
242	Institutional Management
252	Merchandising Mgt. and/or Gen. Merch.
272	Real Estate Management
275	Stenography
276	Secretarial Science
280	Traffic Management
	Communications and Media
513	Commercial Art and/or Media Adv. Arts
	Engineering and Related Programs
901	Architectural Tech. (Include Engr.)
902	Auto Analysis and Repair (Mechanics)
904	Air Conditioning and Refrigeration
905	Aeronautical Technology (Aviation) and/or Aircraft Maintenance
908	Auto Body Repair
909	Automotive Technology
910	Auto Diagnosis and Tune-Up
912	Auto Engine Mechanics
913	Chemical Technology
915	Civil Engineering Technology
916	Broadcast Engineering Technology
918	Costmetology
920	Diesel Mechanics
921	Draft. and Des. Tech. and/or Draft. and Des.
922	Drafting
923	Mechanical Drafting
924	Electrical Engineering Technology
925	Electronics Tech. and/or Electronics
926	Automotive Mechanic
927	Civil Technology
930	Architectural Drafting
931	Structural Drafting
937	Ind. Engr. Tech. and/or Ind. Mgt.
938	Instrumentation
941	Electrical Tech. and/or Electrical-Electronics Tech. and/or Electrical-Electronics Engr. Tech.
942	Electricity
943	Electrical-Electronics
944	Ind. Electricity and Electronics
945	Electromechanical Technology and/or Ind. Electromechanical Repair
947	Electronics Appliance Servicing
948	Electronics Servicing
949	Industrial Electronics
950	Machine Technology
952	Mach. Tool Operator (Operation)
953	Marine Technology
954	Masonry
955	Mechanical Engineering Technology
956	Mechanical Technology
957	Machine Operation
958	Machine Operator and Machinist
959	Machine Shop
960	Mach. Tool Maintenance and Repair
961	Tool-Making
962	Plumbing
963	Industrial Technology
964	Printing
966	Engineering Technical Assistant
972	Television and Radio Serv. and Rpr.
980	Sheet Metal
983	Textile Management
995	Welding
996	Carpentry
998	Mining Technology
999	Water Well Drilling Tech. and/or Water Well Drilling
	Health Services and Related Programs
117	Dent. Lab. Tech. and/or Dent. Assist
151	Medical Laboratory Technology
152	Medical Records Technology
154	Mental Health Technology
155	Mortuary Science
156	Nursing
157	Practical Nursing
172	Radiologic Technology
188	Animal Technology
	Public and Related Technology
176	Community and Social Serv. Tech. and/or Comm. and Social Serv. Assist.
427	Fire Science and/or Firefighting
460	Recreation and Parks Leadership
463	Law Enforcement
464	Police Science and/or Corrections
468	Citizenship Development
828	Environmental Technology

Standard Code Number	Curriculum
	Miscellaneous
302	Agricultural Business Technology
328	Forest Technology
628	Teacher Aide
632	Library Aide
633	Audio Visual Aide
	College Transfer Codes
504	Art
213	Business Administration
648	Liberal Arts
555	Music
831	Pre-Engineering
625	Pre-Teacher Education
880	Science
	General
001	No Curriculum Area
002	General Education
003	Pre-Professional

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ABSTRACT

The purposes of this study were to describe certain characteristics of former Associate in Applied Science (AAS) students, to identify post-college activities of these former students, and to study the opinions and reactions of the former students toward their community college experience and current employment. Five research questions provided the major focus for the study.

1. What are the characteristics of the graduates in terms of age, sex, marital status, and previous academic achievement?--e.g., type of curriculum completed, cumulative grade point average (GPA), and total number of credits earned at the community college.
2. What are the opinions and evaluations of the graduate toward his college experience?--e.g., teaching and faculty, curriculum, social activities, counseling and placement service.
3. Are the graduates working in occupations for which they were trained? If not, why not?
4. In the graduates' opinions, what has been the level of satisfaction in his present or most recent job?
5. What are the similarities and differences among the responses of the graduate of different years from the various curriculums toward his community college experience?

A total of 2,138 AAS graduates were identified and contacted by questionnaire. Sixty-seven percent returned completed questionnaires. Basic data (such as name, address, sex, grade point average, year of birth, year of graduation, and etc.) were obtained from existing community college records.

The following findings were among those generated by the study:

1. Approximately two-thirds of the AAS graduates were males. More than four-fifths were employed in Virginia. The median initial salary of the graduates was $5,781, and the median present salary was $7,314. Median salary for men was $1,876 higher than for women. Approximately three-fourths of the AAS graduates were employed full-time. The overall median grade point average for all AAS graduates was 2.73 on a 4 point scale.
2. Only seven percent of the AAS graduates listed the community college placement service as the source most helpful in getting the initial full-time job. Two of the most emphasized functions of the community colleges, counseling and placement, received very low ratings by the graduates. Approximately nine-tenths of the AAS graduates reported they would recommend the community college to someone seeking a similar program of study. The vast majority of AAS graduates rated their education at the community colleges as superior or good. Four-fifths of the AAS graduates are working in jobs which they consider related to their college training.

The findings indicate that the AAS graduates were generally pleased with their educational training at the community colleges. Several areas of inquiry for more in-depth study were suggested.

VITA

James Christopher Phillips was born in Richmond, Virginia, March 20, 1942. He graduated from the University of Richmond in June of 1964 with a Bachelor of Science degree in Business Administration. From 1964 to 1966 while completing his Master of Commerce degree at the University of Richmond, he taught Economics and Personnel Management at Smithdeal-Massey Business College. He was elected to Phi Delta Kappa and Kappa Delta Pi in 1972.

In 1966, Mr. Phillips accepted a position with the State Council of Higher Education for Virginia, as a Coordinator, Physical Facilities. In 1968 he accepted a new position with the State Council as Assistant to the Director. In 1972 he was appointed Continuing Education Administrator of the State Council, a position which he holds at the present time. He is a member of the Association of Institutional Research, National University Extension Association, and American Association of Higher Education.

Mr. Phillips and his wife, the former Lela Louise Belz, have one daughter, Jennifer Lee.