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UMI

AN APPRAISAL OF THE PUBLIC JUNIOR COLLEGES OF IOWA

by

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A Dissertation Submitted to the
Graduate Faculty in Partial Fulfillment of
The Requirements for the Degree of
DOCTOR OF PHILOSOPHY

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I. INTRODUCTION

The junior college movement has made rapid strides since the first public junior college was established at Joliet, Illinois, in 1902.

This movement is likely to be accelerated for three reasons: (1) the increased number of youth of college age, (2) the increasing percentage of youth of college age who actually attend college, and (3) the broadened scope of the offerings in terminal and in adult education.

During 1954-1955 Iowa ranked 15th among the states in the total number of students who were enrolled in the public junior colleges. At present Iowa ranks 4th among the states in the total number of public junior colleges. However, the role of the junior college in Iowa is not entirely clear as yet.

This study was designed to provide a basis for a better understanding of the status of the junior college movement nationally and in Iowa. Specifically the purposes of this study were:

1. To analyze the historical background and philosophy of the junior college movement.
2. To trace the development of junior colleges in Iowa.
3. To appraise certain aspects of the present 16 public junior colleges in Iowa.
4. To predict the scholastic achievement of two-year graduates of Iowa public junior colleges who matriculated at the Iowa State College, the Iowa State Teachers College, and the University of Iowa.

Two assumptions were made in this study:

1. That the attrition of a student is assumed if he has not been

graduated or if he is not enrolled at the end of a two-year period following transfer.

2. That the three-year period (1950, 51, 52) is a sufficient length of time in which to evaluate the success of junior college transfer students.

There were four delimitations imposed in this study, all of which were in relation to the junior college students studied. These students were limited to those who:

1. Transferred from the public junior colleges in Iowa to Iowa State College, Iowa State Teachers College, and the University of Iowa in the fall term of the years 1950, 1951, and 1952.

2. Had graduated from one of the public junior colleges.

3. Had graduated from junior college in the year immediately preceding the transfer.

4. Had transferred directly to one of the three colleges and remained enrolled at that particular college. No subsequent transfer to any of the three State institutions was considered.

The academic records of the 257 students who were graduated from the public junior colleges in Iowa during the years 1950, 1951, and 1952 provided the raw data for this investigation. These students transferred from 15 public junior colleges to the three state institutions of higher learning - the State University of Iowa, the Iowa State College, and the Iowa State Teachers College.

The data for this investigation were collected from the office of the registrar at each state institution and from each of the 15 public junior colleges which had graduated students in the three-year period

studied. The statistical techniques used in the treatment of data were the analysis of regression, biserial correlation, and discriminant analysis.

II. REVIEW OF RELATED LITERATURE

A. General Appraisals or Surveys of Public Junior Colleges

No general appraisal or survey of the Iowa Public Junior College has been done since Love's work at the University of Iowa in 1937.¹ In this general study Love investigated the origin of the Intercollegiate Standing Committee in Iowa and analyzed the development of its standards for junior colleges. He attempted further to determine the extent to which Iowa public junior colleges were meeting the standards of this committee.

In analyzing the programs offered in the public junior colleges, Love attempted to define and describe the type and extent of the junior college curriculum as he observed it in Iowa. In studying the students who transferred from the public junior colleges to senior colleges in Iowa, Love made a study of the academic success of these students who transferred into the senior college of their choice. He made further comparisons of differences between the nontransfer graduates and the transfer graduates. Lastly, Love sought to determine the extent to which junior colleges gave nontransfer students the training for the occupation in which they ultimately found themselves.

In implementing the objectives of the study, Love obtained a general informational analysis of the junior college situation in Iowa from an interpretation of the reports of the junior colleges to the Intercollegiate

¹Love, Malcolm A. The Iowa Public Junior College: Its Academic, Social and Vocational Effectiveness. University of Iowa Studies in Education Vol. 10, No. 3, May 1938.

Standing Committee and to the State Department of Public Instruction. In addition a questionnaire was sent to the Deans of the various junior colleges requesting certain pertinent information. Tests were given to all students who were classed as sophomores in the year 1936-37. The tests were of two types: a psychological examination or test of mental ability, achievements in English and social studies.

Love found that approximately 50 percent of the junior college graduates continued their formal education in senior colleges. It was significantly noted that this 50 percent did not come from those earning the highest grades in junior college. It was noted that the mean grade point average of transfer students was .17 grade points higher than the average of the students who had not transferred. It was further noted that 29 percent of the transfers had junior college grade point averages above 3.00, and 24 percent of those who had not transferred were above this same point.

Love concluded on the basis of his analysis that, among other things, expansion of the area of the districts which supported junior colleges was essential to future development. He supported the belief that separate junior college districts should be created. According to Love, the junior college in Iowa in 1937 was concerned basically with the success of its graduates in senior college.

It was Love's conclusion that the quality of work done at the junior college level had little correlation to the probability that the junior college student would or would not attend a senior college. Love further concluded that the correlation between grades received in junior college and grades received in senior college was only .60, so

that grades received at the junior college level were considered only a fair means of predicting the grades that the student would earn at the senior college level.

It is important to note that Love found that there was only a slight relationship between the grades earned in senior college and the length of time the junior college transfers had been enrolled in the senior college. A comparison of the graduates from senior college and those who dropped out before completing the first semester revealed that the graduates had a grade point only .45 points higher than those who had dropped out at the end of the first semester.

The detailed and comprehensive study of the junior college was made by McDowell.¹ This was originally a doctoral dissertation written at the University of Iowa in 1918; it was subsequently published by United States Bureau of Education in 1919, as Bulletin No. 35. McDowell in this study analyzed the history, influences, status, and the accrediting practices and procedures of 100 junior colleges during the year 1917-18 in the United States.

In 1927 Blezek² studied the junior colleges of Iowa in an effort to determine their status, their growth and development, their teaching staffs, courses of study, legality, and relationship with accrediting agencies. He gathered his data from the annual reports of the Iowa junior colleges to the Intercollegiate Standing Committee, from the

¹McDowell, M. M. The Junior College: A Study of the Origin, Development and Status in the United States. University of Iowa. Ph.D. Thesis. Iowa City, University of Iowa Library. 1918.

²Blezek, L. A. Public Junior Colleges in Iowa. Unpublished M.S. Thesis. Iowa City, University of Iowa Library. 1927.

publications of the colleges, and from questionnaires.

The educational council of the Iowa State Teachers Association in the same year (1927) completed a study concerned with the organization, equipment, curriculum and instruction of the public junior colleges in Iowa.¹

Clark² in 1930 at the University of Minnesota made a study of the Iowa public junior colleges, the purpose of which was to ascertain the status and trends of the public junior college movement in Iowa with reference to the following aspects: growth and development in terms of institutions established and in enrollments; relationships between the junior college movement and secondary school trends; instructors and instruction; the offering; size and distribution; the effect upon the established four year colleges of the state; and conditions under which the work of the junior college had been carried on. Clark was also concerned with the establishment of some helpful criteria to determine when and where public junior colleges could be wisely founded.

In 1932 Van Gordon³ made a similar study at the University of Minnesota. As a basis for his data he used the annual reports of the

¹Weaver, E. L., Bracewell, R. H., Bagley, Willis. A Study of the Junior College in Iowa. Bulletin no. 2 Educational Council, Iowa State Teachers Association. Des Moines, Iowa. 1927.

²Clark, Leonard A. An Analysis of Certain Fundamental Characteristics of Public Junior Colleges in Iowa. Unpublished M.A. Thesis. Minneapolis, Minnesota, University of Minnesota Library. 1930.

³Van Gordon, Cole R., Jr. The Public Junior College in Iowa. Unpublished M.A. Thesis. Minneapolis, Minnesota, University of Minnesota Library. 1932.

junior colleges for the year 1930-31. The purpose of this study was concerned primarily with three objectives: (1) to determine what kind of an institution Iowa was developing, (2) to determine the place of this new educational unit in the educational system of the State of Iowa, (3) to establish any possible contributions which the public junior college could make in a local system of democratic education. In addition Clark implemented his evaluation by a personal inspection of each junior college in the state.

In analyzing his findings concerning stated objectives and the kind of an institution Iowa was developing, Van Gordon concluded that the Iowa Public Junior Colleges as they had operated in connection with public high schools indicated an extension upward of the high school into the college field. He concluded also, that the place of this new educational unit in Iowa's educational system, would eventually operate as an exploratory agency. Concerning his third objective, the contributions which the junior college may make in a local system of democratic education, Van Gordon concluded that the Iowa institutions apparently showed the demands of a social democracy for more accessible higher education facilities responsive to the changing needs of youth.

He found that the Iowa public junior colleges at the time of his study were functioning primarily as a preparatory institution. That is to say they were offering courses that would transfer to a senior college. He noted particularly a lack of terminal education in the public junior colleges of Iowa.

B. General Appraisals or Surveys in Other States

In 1952 Crawford¹ studied the public junior colleges of Kansas. His chief purposes were (1) to ascertain the current practices of organization and administration, the types of curricula and course offerings, the types of student services, the availability of library services, and the programs of adult education and community service; and (2) to ascertain the opinions of junior college deans, presently-enrolled students, former students, and the opinions of a panel of authorities in junior college education that related to types and qualities of the services rendered by the public junior colleges of Kansas.

He collected the data through the use of questionnaires. These questionnaires were directed to the deans of each public junior college in Kansas, to each of the presently-enrolled junior college students, to graduates and former students who had attended Kansas public junior colleges during the years 1946-1951, and a fourth questionnaire was sent to a panel on junior college authorities. This study was the first of its kind in Kansas.

Crawford noted that the Kansas public junior college offered both transfer and terminal curricula, although this distinction was not sharply defined. Although evening programs were offered by 11 of the 14 Kansas public junior colleges, the deans indicated that they did not believe they were meeting the adult needs of their communities. It was found that no active effort on the part of the junior college officials

¹Crawford, William Harrington. A Survey of Kansas Junior Colleges. Unpublished Ed. D Thesis. Boulder, Colorado, University of Colorado Library. 1952.

was made to ascertain the needs of adults. Courses were often given when the request for such courses was received, but surveys of the community or checklists to ascertain the needs of the adults were rarely used.

In 1945, Griffith and Blackstone¹ studied the development of the junior college in Illinois. This study was instituted at the request of the Executive Committee of the Board of Trustees of the University of Illinois to ascertain what steps the University should take to promote the proper development and guidance of the junior colleges. This work concluded with a statement of principles concerning the junior college in Illinois.

C. Success of the Transfer Student

Hale,² in studying the junior college transfer in institutions of higher learning, noted that by using the length of attendance of junior college graduates in higher institutions as a criterion, it appeared that the junior college does a satisfactory job of preparation, since nearly three-fourths (74.36 percent) of those who begin work in higher institutions after having been graduated from a junior college continued in residence until they earned their degrees. However, a direct comparison of the scholarship average of junior college graduates with all

¹Griffith, Coleman R. and Blackstone, Hortense. Junior College in Illinois. University of Illinois Press, Urbana, Illinois. 1945.

²Hale, Wyatt Walker. Assimilation, Success and Attitude of Junior College Graduates in Higher Institutions. Phi Delta Kappan. 15: 65-74. 1932.

upper-division students in higher institutions showed that only 37.66 percent of the junior college graduates equalled or exceeded the general upper-division average in the 71 higher institutions in which direct comparison was made.

An analysis of the junior college graduates who had continued in higher institutions until they had earned degrees showed that a higher percentage of these graduates (12.11 percent) had been graduated with honors than that of those students who had attended senior college for four years. Only 9.61 percent of the latter were honor students.

In 1935 Jones¹ studied the achievement of junior college transfers at the State University of Iowa. Specifically he proposed the following: (1) to show in terms of grade point averages and honors received at graduation the scholastic attainment of the junior college transfers; (2) to show the fields of study in which their work was done; (3) to compare the achievement of the junior college transfers with an approximately equal number of men and women selected at random from among those who had been graduated from the Liberal Arts or Commerce curriculum in the same period, but who had spent the entire four years at the University of Iowa.

Jones concluded the following: (1) junior college men transfers were likely to maintain a higher grade point average than that of junior college women; (2) students who transferred from a junior college

¹Jones, Dennis T., The Academic Status of the Junior College Transfer in the Colleges of Liberal Arts and Commerce of the State University of Iowa. Unpublished Ph.D. Thesis. Iowa City, Iowa, State University of Iowa Library. 1935.

after one year tended to show a higher grade point average for the final three semesters in the State University of Iowa than those who had transferred after two years of junior college work. (However, since Jones studied only a small number of one-year transfers, he stated that these findings could not be considered reliable and suggested further study.) (3) Both the four-year university men and women and the junior college transfers had maintained sufficiently high scholarship to receive approximately equal percentages of honors at graduation.

Eells,¹ writing in the book The Junior College, Its Organization and Administration, stated:

A comparison study of the records of various groups of students at Stanford University over a three year period shows that students entering the university after completing a junior college course elsewhere are superior in ability to other groups when measured by standard intelligence test scores, or when measured by their previous academic record; that they have made slightly lower average records during their first year of adjustment to university conditions; but that at the conclusion of their course they have carried off much greater than their share of graduation honors. Judged by results to date, the junior college seems to be successfully performing at least one of its important functions -- that of preparation of students for advanced work in the university.

Eells² reported the academic success of 2,080 graduates of terminal curricula who had entered 319 institutions of higher education. The

¹Eells, Walter Crosby. The Junior College Transfer in the University. In Proctor, William M., Editor. The Junior College: Its Organization and Administration. p. 186. Palo Alto, California, the Stanford University Press. c1927.

²Eells, Walter Crosby. Success of Transferring Graduates of Junior College Terminal Curricula. Journal of the American Association of Collegiate Registrars. 18: 372-398. July 1943.

majority of the students studied had been graduated from junior college during the years between 1934 and 1940. As reported by the registrars from 319 senior colleges and universities to which these students had transferred, 42 percent had been graduated and 14 percent were still in residence; it was expected most of them would graduate -- making a total of 1,177, or 56 percent, who had not withdrawn when the reports on their status had been completed. Five percent withdrew because of poor scholarship and 39 percent, for reasons other than poor scholarship -- health, finances, illness, change of residence, marriage, entrance into the services, transfer and other factors. About 8 percent of the entire group, or approximately 20 percent of those reported as withdrawing for other reasons, were teachers or prospective teachers, who had enrolled only for the summer sessions and were not candidates for graduation.

Bells noted that the best record of the junior college transfers had been made by the graduates in the general cultural field, with 67 percent graduated or still in residence. Of the students who had enrolled in the engineering curricula 65 percent had graduated or were still in residence, 4 percent had withdrawn because of poor scholarship, and 31 percent had withdrawn primarily for reasons other than poor scholarship.

In analyzing the 1,177 students who had been graduated or were still in residence, Eels noted that almost one-half of the entire group of students (46 percent) had made grades which were reported as distinctly above the average of grades of all students in the higher institutions studied. He stated:

Almost half of the entire group of students (46 percent) made grades which were reported as distinctly above the average of grades of all students in the reporting higher institutions, whereas, only one-sixth (16 percent) were reported as distinctly below average. If the 38 percent reported as about average were equally divided between the other two classifications it would show very close to two-thirds (65 percent) above average and one-third (35 percent) below average, certainly a very creditable record.¹

Bells further reported that of some 144 junior college graduates who had an "A" average in their junior college work, 76 percent were reported by the college registrars as having achieved above average standing in the first year after transfer.

Bells concluded that on the basis of this nationwide evidence it appeared that many senior colleges and universities could safely extend and liberalize their policies concerning provisional acceptance of junior college graduates.

Sammartino and Burke² studied the success of junior college transfers to senior colleges and universities located along the Atlantic Seaboard. Questionnaires were sent to the registrars of 150 senior colleges and universities concerning (1) the extent of transfer credit allowed students of the 1946 senior class who had transferred from junior colleges, (2) the student's major field in the junior college, and (3) the scholastic standing of the junior college graduates in the 1946 senior class.

It was noted by Sammartino and Burke that 53 percent of the students

¹Ibid., p. 398.

²Sammartino, Peter, and Burke, Armand F. Success of Junior College Transfers in Eastern States. Junior College Journal. 17: 307-310. April 1947.

had received two full years of credit upon transfer. Ninety-nine percent had received at least one full year of credit. They noted that 37 percent of the junior college transfer students had done above-average work, whereas 47 percent had done average work and 16 percent, below-average work.

Martorana and Williams¹ reported a study which included 155 students who previously had attended a junior college for two years and who had transferred to the State College of Washington between September, 1947, and September, 1949. Also included were 85 students who had previously attended junior college for one year and who had entered the State College between 1947 and up to, but not including, September, 1949. The studies included a total of 251 cases -- 160 two-year transfers, and 91 one-year transfers. These students were matched with equal numbers of non-transfer students on several bases. These bases were sex, major-subject area of study, veteran status, size of high school attendance. Test of the matching process with respect to ACE Total Test Scores, age upon entrance into college, and high school grade point average was accomplished on a group basis.

Martorana and Williams concluded that their study based on the relationship of high school and college grade point averages of junior college transfer and non-transfer students justified their conclusion that when students were considered in groups there was no significant difference between the academic success of students who come from the

¹Martorana, S. B. and Williams, L. L. Academic Success of Junior College Transfers at the State College of Washington. Junior College Journal. 24: 32-33. March 1948.

junior colleges and that achieved by students who begin as freshmen at Washington State College. It was noted that students who had spent two years in junior college appeared to be slightly less successful academically than the two-year college non-transfers, though not to a degree higher than was expected in the light of the initial differences in academic grade point averages achieved in high school.

It was noted in this study that in the subject area of engineering and physical sciences the transfer students as a group outdid their non-transfer counterparts. An analysis of the entire group of 251 transfers, as matched with 251 natives, showed that the transfers had done at least as well academically as the non-transfers. Martorana and Williams pointed out that this conclusion was consistent with the almost unanimous decision of those who had made studies of this sort elsewhere.

The authors concluded further that the junior colleges in general were adequately preparing their students for transfer to advanced college study. This evidence was bulwarked by that shown concerning the satisfactory manner in which the grade point averages of students at the State College of Washington compared with the averages of the College's native students.

Maguire¹ studied the junior college transfers who entered Syracuse University during the period from 1937 to 1946. During this time some 430 students (326 women and 104 men) were chosen for the study. The criteria governing their choice were as follow: (1) the student had to

¹Maguire, Ruth E. Syracuse University Looks at its Junior College Transfers. Junior College Journal. 20: 16-18. October 1949.

be enrolled in junior college for a period of one year or more, (2) the student had to be enrolled as a regular student in both the junior college and Syracuse University, and (3) the student had to transfer from junior college to the university with no intervening scholastic work at some other institution.

A total of some 32 junior colleges were represented, but only ten of these had sent ten or more transfers to Syracuse University, so the analysis of the academic performance of transfer students was narrowed down to the ten schools who had sent ten or more transfer students to Syracuse. The final total of students for the study was 236. Of these 236 transfers 62 percent had maintained a grade point average of 1.50 (C plus) or better, whereas 25 percent had averages of less than 1.50 on their junior college work. The average scholastic average made at Syracuse by these 236 transfer students was 1.27. The average decrease between junior college and Syracuse University grade averages ranged between .45 and .50.

It was noted that some 20 percent of the transfers had made better grade averages in the University than they had in the junior colleges, and that 77 percent dropped in grade point averages when they entered the senior college. Some 17 percent of the transfers had been dropped from the university by reason of scholastic failure. It was noteworthy in this regard that 71 percent of those who had failed had entered Syracuse with an average below 1.50, whereas only 3 percent of those who had maintained an average of 1.50 or above in junior college had been dropped for scholastic failure.

On the basis of these data, the author concluded that junior

colleges and four-year institutions alike should recognize the significance of the 1.50 grade point average. This study pointed up the likelihood of failure of the students who enter the university with an average of less than 1.50.

In this study it was found that the grade point average was lower for those students who had attended only one year of junior college and then transferred than for those who had transferred after two years of junior college work. From the study it appeared that the two-year junior college student had a somewhat better opportunity to make a successful academic adjustment than the one-year transfer.

Siemens¹ predicted the scholastic achievement of junior college transfer students in engineering. He used as prediction variables physics, college mathematics and chemistry grades, junior college grade point averages and high school science and mathematics grades. Using a multiple coefficient of correlation between the first semester grade point average after transfer and all prediction variables, Siemens found that the coefficient of correlation was in excess of .62. Using all the engineering grade point averages and a combination of all prediction variables and the first semester grade point, Siemens found the "R" value to be .87. He concluded that the most significant single factors for predicting success after transfer were the junior college grade point average and the grade point average of the first semester of engineering work done after the student had transferred.

¹Siemens, C. H. Predicting Success of Transfer Students. Junior College Journal. 14: 24-28. September 1943.

DeRidder¹ stated that the results of many studies concerning the relative merits of the native student vs. the transfer student have generally afforded evidence that the transfer students are at least as good as, if not better, than the native students scholastically. DeRidder pointed out that after comparing the academic achievement of junior college transfers with that of native students, a number of researchers, such as Grossman,² Siemens,³ and Watt and Touton⁴ ascertained that the junior college graduates at the senior college level were able to perform with a degree of proficiency at least equal or superior to that of the native students in the standard colleges and universities.

Cogdon,⁵ Eells,⁶ Sammartino and Burke,⁷ Williams,⁸ and

¹DeRidder, Lawrence M. Comparative Scholastic Achievement of Native and Transfer Students. Junior College Journal. 21: 83-84. October 1951.

²Grossman, D. A. Junior College Transfers at Illinois. Junior College Journal. 4: 303. March 1934.

³Siemens, Cornelius H. Predicting Success to Transfer Students. Junior College Journal. 14: 26. September 1943.

⁴Watt, R. R. C., and Touton, Frank C. Relative Scholastic Achievement of Native Students and Junior College Transfers at the University of Southern California. California Quarterly of Secondary Education. 5, No. 2: 248. 1930.

⁵Cogdon, Wray H. Do Junior College Transfers Succeed? Junior College Journal. 2: 215. January 1932.

⁶Eells, Walter Crosby. Records of Junior College Transfers in the University. School Review. 37: 197. March 1929.

⁷Sammartino, Peter and Burke, Armand F. Success of Junior College Transfers in Eastern States. Junior College Journal. 17: 309. April 1947.

⁸Williams, Robert L. A Partial Analysis of the Academic Records of June, 1938. Graduates of the University of Michigan, School and Society. 48: 731-732. December 1938.

Pendorf¹ were even more emphatic in their support of the transfer student. They reported that the transfers showed distinct superiority over the group with which they were compared, or the so-called native students at the university. Further, DeRidder pointed out that the researchers mentioned above noted two additional items of interest: (1) that the superiority of the transfer student tended to increase successively in each semester of study at the senior college level, and (2) a lesser percentage of transfer students than natives were subject to disciplinary measures. DeRidder held that the authors indicated that these results were entirely logical, since the transfer group as a whole was undoubtedly a more select group.

DeRidder² noted that only two investigators, Fichtenbaum and Jordan, contradicted the general findings. According to DeRidder, Fichtenbaum³ held that the university juniors whom he studied had achieved a better quality performance than had the junior college graduates; however, these differences tended to lessen in the senior years after the junior college graduates had adjusted themselves to university life.

¹Pendorf, William M. A Partial Analysis of the Academic Record of June, 1947, Graduates of the College of Literature, Science and the Arts. Unpublished M.A. Thesis. Ann Arbor, Michigan, University of Michigan Library. 1939.

²DeRidder, op. cit., p. 85.

³Fichtenbaum, Max. Junior College Graduates vs. Senior College Juniors. Journal of American Association of Collegiate Registrars. 16: 154-157. January 1941.

Deidder, in another study¹ analyzed native sophomores as compared with sophomore transfers on the basis of academic achievement and ability tests, and found that neither the natives nor the transfers appeared to have an over-all superiority. Deidder further quoted Jordan² as having stated that native students were found to be superior to transfer students. After studying junior college transfer students and a comparable sample of native junior students, Jordan found that native students were superior in honor-point ratios and in nearly every division of the general culture test that was given.

Deidder, in the study here quoted,³ attempted to determine whether or not a significant difference existed between the scholastic success of native and transfer students who had been graduated in 1948 from the College of Literature, Science, and the Arts of the University of Michigan. It was found that a much larger proportion of the students who had entered the college as freshmen were subjected to probation as compared to the students who had transferred from some other college. One out of every four native students as compared to one out of every six transfer students incurred probation.

Dean⁴ studied 117 transfer students who had entered Iowa State

¹Deidder, Lawrence M. A Study of Transfer Students in the College of Literature, Science and the Arts, Bureau of Psychological Services, Ann Arbor, Michigan, University of Michigan. 1948. Mimeo. rept.

²Jordan, A. M. A Study of Transfer Students, High School Journal. 24, no. 2: 86. February 1941.

³Jordan, op. cit., p. 86.

⁴Dean, Rose McKinnon. Prediction of Attrition Among Students who Transferred to Iowa State College from Iowa Junior Colleges. Unpublished M.S. Thesis. Ames, Iowa, Iowa State College Library. 1954.

College in the fall of 1949. Her purpose was to predict the attrition among the students who transferred from the public junior colleges to Iowa State College in the year mentioned. She compiled the total score on the ACE Psychological examination, the English Placement Score, and the College grade point average at the time of transfer for each of the 117 students under study. Statistical measures used in the treatment of the data were multiple biserial "R" and the Discriminant Function.

Dean found that the use of English Placement Scores and the grade point averages were unnecessary for predicting the probability of graduation for transfer students from Iowa junior colleges whenever the ACE scores were available. A substitution of the values of the ACE score for any given student in the formula $V - \bar{V} = A_1(X_1 - \bar{X}_1)$, and a consulting of a table of the normal curve, show the chances out of a hundred of graduation from Iowa State College.

Osgood¹ in 1948 compared and evaluated the academic achievement of two groups of students in the upper division at Stanford University, junior college graduates and natives. The aim of the study was to ascertain whether any significant differences existed between the performances of the two groups in which upper-division grade point averages as the major criterion of success were used. Junior college vs. lower-division training was regarded as the "experimental variable".

The two groups of students were matched as carefully as possible on all of the following experimentally controllable factors: (1) academic

¹Osgood, Stanley Ward. A Matched Sample Study of the Achievement of Junior College Transfers and Natives in the Upper Division of Stanford University. Unpublished Ed.d. Thesis. Palo Alto, California, Stanford University Library. 1948.

status or number of academic credits granted upon admission to the upper division; (2) major or study pursued in upper division; (3) sex; (4) academic aptitude. Only junior college graduates who had transferred into the upper division in 1938 were studied.

It was found that when dropouts as well as survivors were included in a comparison, natives surpassed transfers in total upper-division scholarship. The difference in group grade point averages earned, while not large, was found to be statistically significant. It was further found that natives significantly surpassed junior college graduates in scholarship at the end of the first quarter's work and also surpassed transfer survivors at the end of the first year of work in the upper division. Further, it was noted that natives had not significantly excelled transfers who had succeeded in earning their degrees.

Osgood found that both transfers and natives adjusted to their senior college environment, as indicated by the upward trend of the graduates' grades from the junior to senior years; the transfers gained proportionately more.

Still further, it was noted by Osgood that transfer survivors as a group required more quarters of instruction in order to graduate than did natives.

Aumak¹ in 1952 published a study that represented an attempt of a junior college to check its grading standards on the basis of later

¹Aumak, Gordon B. Twenty Year Study of the Success After Transfer of Compton Junior College Students. Unpublished Ed.d. Thesis. Los Angeles, California, University of California Library. 1953.

scholastic performance of its students. The study also represented, by inference, an attempt to check the quality of teaching done by junior college instructors who had taught the college transfer courses. The data used covered a continuous period of twenty years, from 1929-30 to 1948-49, and included the records of 3,212 transfers. The academic records of Compton students were compared with their achievement following the first semester in higher institutions of learning.

Two methods were used in the investigation: (1) an opinion questionnaire sent out to all transfer students and (2) a comparison of the academic work of the student at Compton with that at the transfer institution for the first semester. It was found that the junior college transfers did about as well in the institutions to which they transferred as they had done at Compton. The students who transferred to the universities from Compton suffered a grade point decline of .25 to .30. Aumak concluded, therefore, that Compton adequately prepared its students academically for transfer.

Love¹ in 1937 studied the persistence of junior college transfers in senior college. He found:

Of the 1,542 Iowa public junior college graduates who transferred to senior colleges and for whom records were received, 794 have remained in the full two years. An additional 297 junior college graduates are still enrolled in junior colleges. Thus 1,091 of the 1,542 transfers, or 71 percent, have either finished four years of work or are still in school. Of this number 692 or 55.5 percent of 1,245 classified as not in school have received a degree. Twenty-five individuals withdrew from senior college before competing work, while 31.2 percent finished one years' work or less, and 4.8 percent finished more than one year of senior college work, but less than two years.

¹Love, op. cit., p. 98.

D. A Plan for Junior College Education
in Iowa by Starrak and Hughes

In 1954 Starrak and Hughes¹ revised a former work² and analyzed the community college in the United States. This study was divided into three areas or parts. The authors described in part one the educational needs which exist for post high school education and the attempts which have been made by existing institutions to meet these needs. In part two they presented the basic standards which should be incorporated into any plan for the organization and development of the community college. In the third division the authors offered a concrete plan for the development of a system of community colleges in the State of Iowa. A model legislative bill for the establishment and maintenance of community colleges was also proposed.

In validating the need for post high school education, Starrak and Hughes listed a number of factors that substantiate the need for the establishment of the community college. These included (1) perspective increases in college enrollments; (2) increase in age of entry into industrial employment; (3) decrease in employment opportunities for youth; (4) heavy student mortality in high school and college; (5) inadequacy of present or current curricula; (6) the demands of modern society for trained workers; (7) changes in rural social organization; (8) increasing complexity of modern society; (9) increase in leisure

¹Starrak, James A., and Hughes, Raymond M. The Community College in The United States. Ames, Iowa, Iowa State College Press. 1954.

²Starrak, James A., and Hughes, Raymond M. The New Junior College. Ames, Iowa, Iowa State College Press. 1948.

time.

In part two of their work, which was concerned with proposed standards for the development of community colleges, Starrak and Hughes indicated that it was not their purpose to describe a model institution which should be duplicated in all its details over the whole country. Rather they confined the discussion to the presentation of certain basic characteristics and principles which should be incorporated into any plan for the organization and development of community colleges, no matter how much the individual colleges actually differed in detail. In developing their theme they determined the number of community colleges per population total, and made four assumptions upon which to base their estimates of enrollment¹: (1) maximum college enrollment, at least for some years to come, will probably not exceed 40 percent of youth 18 to 21 years of age, (only one state, Utah, has approached this). (2) 36 percent of total college enrollment will be in the freshman year, (3) 60 percent of freshmen will continue in the sophomore year, (4) approximately 33 percent of total college enrollment will be in the first and second years of community colleges, and 67 percent will be in four-year colleges.

In part three of their study Starrak and Hughes developed a proposed system of community colleges for a state. Since the State of Iowa was used for a model, it was felt that some analysis should be given to the plan in this review of literature. After an analysis of the general conditions and needs of the state, and a brief look at the public school

¹Starrak, James A., and Hughes, Raymond M. The New Junior College. Ames, Iowa, Iowa State College Press. 1948.

system, and the junior colleges in particular, the authors developed a specific plan to (1) focus attention upon the problem to be solved, (2) stimulate and crystallize ideas about its solution on the part of those educators and laymen who feel a responsibility for the development of public education within the state, and (3) call forth constructive criticisms as well as active support.¹

This plan as proposed by Starrak and Hughes called for the establishment of 35 institutions to be known as "community colleges". The areas which they were to serve were to be organized as legally-established governmental units and called community college districts. The size of the area to be served by each of these new institutions was to be determined by the following: (1) a sufficient number of young people to provide a full-time student body of such a size that the cost of operation per student would be reasonably economical (a minimum of 300), and (2) sufficient to provide its share of the financial support necessary for the institution in question without undue financial burden. The area should also be small enough to enable the students attending the institution to live at home. Because Iowa is quite thickly settled, has a fairly equitable distribution of taxable wealth and a rather high birth rate, it should be possible to satisfy these requirements.²

Starrak and Hughes maintained that the financial support for these community colleges should come from state and local sources. They proposed that the state would contribute \$2,500.00 per year to each

¹Ibid., p. 92.

²Ibid., p. 95.

community college and \$150.00 per year per student in average daily attendance. They proposed further that the remainder of the cost to support the public junior college in each community college district be borne by general property taxes in the community college district.

Starrak and Hughes further suggested that the curricular offering should serve the needs of three major groups: (1) those who intended to go on later to senior college, (2) those who wish instruction of a terminal nature in vocational-technical subjects, as a preparation for or advancement in specific occupations, (3) those who wish to increase their general culture and social civic competence.¹

The proposed bill for the establishment of community colleges in Iowa provided that the boundaries of the community college district should be determined by two kinds of surveys to be conducted by the State Department of Public Instruction: (1) a preliminary general survey of the whole state to establish approximate boundaries of the districts and sites for the colleges, and (2) detailed surveys of the proposed individual college districts made prior to or concurrently with the organization and establishment of the respective community colleges.

The following standards were proposed for the establishment of community college districts: (1) the largest population center in the proposed district shall be that of the college; (2) no resident of the district shall have to travel more than thirty miles one way to attend the community college; (3) there shall be a total high school enrollment of at least 1,500, or at least 400 graduates each year from the high

¹Ibid., p. 102.

schools within the district; (4) the assessed property valuation in the district should be at least \$30,000,000.00.

E. A Survey of Educational Needs of Post High School Youth in Iowa

Minnis¹ made a study of the educational needs of post high school youth in a selected twelve-county area. The study was designed to determine areas of need to be used as a guide in developing more effective educational programs for post high school youth.

The graduates of 1946 and 1949 from the high schools in twelve selected counties were studied. In determining the specific counties --- "The state was divided into three-county quadrants, northwest, northeast, southwest, and southeast; for each quadrant was to be selected a county without a collegiate institution, a county with only a junior college, and a county having only a four year liberal arts college."²

The twelve-county area was analyzed by the Bureau of Business and Economic Research at the State University of Iowa to ascertain the extent to which this area represented the general business and industrial characteristics of the state. By applying the nine types of business and industrial classifications, the Bureau found that these counties deviated less than one percent from the state average when Polk County was excluded.

This study attempted to answer the following questions:

¹Minnis, Roy Barker. The Educational Needs of 1946 and 1949 High School Graduates in Twelve Selected Iowa Counties. Unpublished Ph.D. Thesis. Iowa City, Iowa, University of Iowa Library. 1954.

²Ibid., p. 4

1. What type of post high school education do the young adults seek after graduation from high school? Where do they intend to secure post high school education?

2. Would the young adults participate in day or evening programs of education if the satisfaction of their desires could be obtained locally?

3. What type of educational plan would the young adults see as ideal for their home community?

4. What effect does living in a given geographical area have on the participation in post high school education?

The data for this study were collected by (1) a questionnaire mailed from the Office of the State Department of Public Instruction, (2) by personal interviews. The validity of the original data was established by submitting the original questionnaire in the spring of 1954 to the graduates studied.

In this study Minnis found, in part, that:

1. Most high school graduates could attain their desired status only through training at a college or university. Of those who planned to take additional training, well over twenty-five percent would secure this training at an adult evening school and nearly twenty-five percent at a college or university.

2. A rather small percentage of the post high school youth would attempt to satisfy their needs by attending classes that met in the daytime.

3. Approximately one-fourth of the young adults studied desired a junior college. One half of the group who responded felt that adult

classes in their home communities would be desirable.

4. The young adults from each of the four quadrants showed only slight differences in their reasons for not having attended college. A larger percentage of post high school youth in the northwest quadrant, an area of rich farming communities, felt college would be of no help to them. Graduates from the southwestern quadrant gave more emphasis to their desire of earning money immediately.

Those who attended college from the different quadrants of the state expressed relatively slight differences in their reasons for having attended.

The reasons for the choice of a particular college showed relatively great deviations. Those from the northwestern quadrant of the state felt "little influence" from the closeness of a college in their choices, but all those from other quadrants gave this reason as having relatively strong influence. Those from the southwest checked "much greater influence" for these reasons: received a scholarship; was interviewed by a college representative; and received literature from the college. Those from the southeast indicated "relatively less influence" for the most important reason for all students, the reputation of the college.

III. THE JUNIOR COLLEGE AS AN EDUCATIONAL UNIT

A. Historical Background

The junior college movement in the United States is one of the significant developments in the American system of public education. Historically there have been several important developments in American educational history. Among these have been the establishment, at public expense, for a common school education for all children, and the universal expansion of free education to youth of high school age. Since the turn of the century the public junior college has become an established institution, now frequently referred to as the community college.

Historically the concept of the junior college as a separate type of educational institution originated among certain educators and administrators of colleges and universities. Perhaps the first definite suggestion for this change was contained in the inaugural address of Henry P. Tappan, President of the University of Michigan, in 1852. He suggested separation of the first two years of college from the junior, senior, and graduate year, and recommended transferring the work of the university, which he felt was distinctly secondary in character, to the high schools.¹

In 1869 President Folwell of the University of Minnesota concurred

¹Bells, Walter Crosby. American Junior Colleges. Washington, D.C. American Council on Education. p. 45. 1940.

in the idea.¹ In the early eighties President James of the University of Illinois attempted to interest the authorities at the University of Pennsylvania in a similar plan.²

In 1891 President Adams of Cornell University concurred in the idea.³ Wells⁴ stated

The distinction of being the first American University to reach the decision to eliminate freshmen and sophomore work apparently belongs to the University of Georgia where the plan was formerly adopted by the trustees in 1859. This decision was made because the Chairman of the Prudential Committee, a layman, became convinced that the entering freshmen of "tender years" were entirely too young for university responsibilities and "the foundation of failure, if not of ruin, is made in the freshman and sophomore years of college life". The freshman work in the university was actually eliminated in 1862; then the institution was virtually closed because of war conditions. When it was re-opened in 1866 the plan for eliminating the lower division was not included in the new organization.

It was not until 1892 when William Rainey Harper, sometimes called "The Father of the Junior College", put into effect at his university a plan which separated the upper and lower divisions. He made, according to Wells,⁵ the freshmen and sophomore work a distinct division which he called the "academic college" while the upper two years were called the "university college".

¹Seashore, Carl E. The Junior College Movement. New York, Henry Holt and Company. p. 43. 1940.

²Wells, op. cit., p. 45.

³Oran, Claude B. Why a Junior College? Junior College Journal. 24: 345-347.

⁴Wells, op. cit., p. 11.

⁵Ibid., p. 47.

The term "junior college" was first used in the literature in 1896 when the lower division of the four year program at the University of Chicago was so named. The upper division then was renamed and called "senior college". It wasn't until sometime later that President Harper used the term "junior college" to mean an institution entirely distinct from the university.

Lewis Institute, founded in Chicago in 1896, and later joined to Armour Institute of Technology to establish the present Illinois Institute of Technology, is known as the first junior college.¹

The distinction of being the first junior college established in the United States still in existence, belongs to the Decatur Baptist College, Decatur, Texas. This college was founded in 1891, and gave the first junior college instruction in 1897.²

The first public junior college was organized at Joliet, Illinois, in 1902, and is still in existence. Its development was due to the influence of President Harper who encouraged the establishment of two years of college in connection with high school.

Hells³ reported that Harper, President of the University of Chicago, in his first decennial report, which closed the period July 1, 1902, discussed the experience of the university and the junior college. He pointed out the advantages as he saw them. In the words of Seashore⁴

¹Dogue, Jessie P. and Hill, Shirley S. Analysis of Junior College Growth. Junior College Journal. 20: 317-319. January 1950.

²Ibid., p. 318.

³Hells, Walter Crosby. American Junior Colleges. Washington, D.C. American Council on Education. 1940.

⁴Seashore, op. cit., p. 45.

these have come to be a sort of charter. They are five-fold and are as follow:

(1) Many students will find it convenient to give up college work at the end of the sophomore year; (2) many students who would not otherwise do so, will undertake at least two years of college work; (3) the professional schools will be able to raise their standards for admission, and in many cases, many who desire a professional education will take the first two years of college work; (4) many academies and high schools will be encouraged to develop higher work; (5) many colleges which have not the means to do the work of the junior and senior years will be satisfied under this arrangement to do the lower work.

B. Classification of the Junior Colleges

It is possible to classify junior colleges in many ways. Wells¹ suggested eight possible bases for classification of junior colleges. They include (1) by sex admitted: coeducational, men, women; (2) by length of course: 1, 2, 3, 4, 5, or 6 years in length; (3) by function: terminal, preparatory, or both; (4) by size of enrollment; (5) by age: date of foundation; (6) by accreditation; (7) by method of origin; (8) by method of control.

Probably the latter basis of classification -- by method of control -- is the most fundamental and useful method. It is a system used by the United States Office of Education, the American Association of Junior Colleges, the state and regional associations of colleges and secondary schools, and other agencies concerned with collection and presentation of statistical information concerning junior colleges. The basic division by method of control classifies them as either publicly

¹Wells, op. cit., p. 4.

controlled or privately controlled junior colleges.

Eells¹ listed five types of publicly controlled junior colleges. He did not include in his list the publicly controlled junior college that existed as a part of a single institution -- for example, the junior college that was a part of Iowa State College. The five types that Eells delineated were (1) Federal Junior Colleges; (2) State Branch Junior Colleges; (3) State Independent Junior Colleges; (4) District Junior Colleges; (5) Local or Municipal Junior Colleges. Only one junior college could be classified as a federal junior college, according to Eells. This was the Canal Zone Junior College at Balboa Heights, which is operated in Panama by the Federal Government under the War Department.

There were a number of junior colleges that were branches of state universities or colleges that were located on campuses distant from the parent institution.

Eells contended that theoretically there is no essential difference between a branch junior college located at a distance from the parent institution and one located on the same campus. It can be assumed that the reason he did not delineate six types of public junior colleges was that he considered in theory that the branch junior college and the junior college located on the campus were essentially one and the same type.

Some states have established state independent junior colleges by act of the legislature. These are supported in whole or in part by state funds that are controlled by state appointed or elected boards.

¹Ibid., p. 5.

Fells¹ stated that:

They are often prevailingly terminal institutions in which the essentials of preparation for technical and agricultural occupations are the semi-professional level adequately given.

It has been in the district junior colleges that the greatest development of the junior college movement has been noted in America. It is this type of unit -- the district junior college -- that constituted California's unique contribution to the junior college movement. At the time of this study, throughout the nation the local or municipal junior colleges constituted the greater number of the publicly controlled junior colleges. These junior colleges were locally organized, administered, and were supported as a part of a city school system. In many instances these institutions shared with the high school, the building equipment, and in some cases the staff both administrative and teaching.

This study is concerned primarily with public junior colleges and specifically with public junior colleges in Iowa; however, it has been noted that the junior college system in the United States can be dichotomized into publicly controlled junior colleges and privately controlled junior colleges. The bases for control of public junior colleges have been discussed. It is possible to classify privately controlled junior colleges into five types: (1) branch junior colleges; (2) denominationally controlled junior colleges; (3) denominationally affiliated junior colleges; (4) undenominational nonprofit junior colleges; (5) proprietary junior colleges.

¹Ibid., p. 6.

C. Function of the Junior College

The generally accepted terminology concerning the function of the junior college was first evolved by F. W. Thomas¹ (1926) in his Doctor's dissertation:

One of the most vital of the issues involved in the junior college movement is that concerning the legitimate function of this type of educational institution. It seems obvious that the form of organization, the range and character of courses offered, the regulations and requirements, and similar matters must ultimately be determined in light of their relation of the appropriate functions to the junior college.

He concluded that there were four basic functions that could be ascribed to the junior college: (1) the popularizing function; i.e., making available the benefits of higher education to those who would not otherwise have them; (2) the preparatory function; i.e., to give two years of college level work at the local level for students who will ultimately transfer to institutions of higher learning; (3) the terminal function; i.e., providing specific semiprofessional, semitechnical vocational training for immediate placement in employment; (4) the guidance function; i.e., providing for individual participation in college activities, instructional and extracurricular on the basis of interests, abilities, and needs.

Though this basic classification has lived in the literature for approximately 30 years, it does not admit of complete clarity. Considered from the standpoint of curricular offerings, only two of the four functions could logically be included in this classification:

¹Thomas, F. W. The Functions of the Junior College. In Proctor, W. M., Ed. The Junior College: Its Organization and Administration. p. 11. Palo Alto, California, the Stanford University Press. c1927.

viz. the preparatory function and the terminal function. The popularizing function does not adequately describe the specific curricular offerings. The same may be said of the guidance function. It does not conform either to the implications of curriculum that are involved in the preparatory function and the terminal function. In this regard Eells, while having recognized the fourfold classification, stated that:

"The guidance function is not separate and distinct from the others; rather it is a foundation upon which all the others rest."¹

From the standpoint of function as related to curricula of the junior college it appears that a threefold classification is more understandable. This classification may be stated as (1) the preparatory function, or the university parallel function; (2) the terminal function, and (3) the adult education function. This latter addition refers to those courses usually offered in the evening for adults who are employed full time, and embraces a wide variety of curricular instruction. The course offerings in this area can be general education in nature, can be courses of college level, or can be the very popular hobby-interest type of course. A distinguishing characteristic is primarily that the students are not in full-time residence, and usually attend classes in the evening.

An investigation in the objectives of the junior college necessitates a study of the reasons given in the literature of the development

¹Eells, Walter Crosby. The Junior College. Boston Houghton-Mifflin Co. p. 315. 1931.

of this institution. Eby and Arrowood¹ stated:

The chief underlying cause of the junior college movement was the realization that the first two years of college work were secondary in character but the rapid and extensive establishments of junior colleges during and after the world war has been due to a number of contributory causes. Among these the following have been the most prudent: (1) the movement for standardizing higher institutions of learning brought about the Carnegie foundation was directly responsible for changing the status of many institutions struggling to be standard colleges. Numerous private colleges found that they could not maintain the high standard of scholarship adopted by the degree-granting institutions. The small institutions did not have funds adequate for efficient instruction in the upper years; and when they did offer such work, it was not accredited by the higher institutions. (2) Many professional schools require just two years of college training. This practice stimulated the colleges to restrict the level of their offerings to these two years. (3) The lowering of the age of high school graduation caused many people to favor local junior colleges in order to keep their children at home until they were more mature. (4) The long distance to the universities in many western states favored the growth of the local junior colleges. (5) The popular demand for a higher finishing point than that afforded by the high schools was supplied by the junior college. (6) The increase in postgraduate work in the high schools favored the development of this new institution. (7) The increased expense of university attendance since the world war has caused many students to go to the junior colleges. (8) The tremendous increase in freshman and sophomore enrollment induced many large universities to favor the establishment of junior colleges. (9) The desire to keep its wealth within a local community aroused powerful interest in the local junior college. (10) The failure of the universities to adjust their methods in discipline to the needs of freshmen tended to encourage the establishment of junior colleges. (11) The desire for more personal attention to the needs of the individual student, the overcrowding of the university classes, and the lack of university dormitories have had far-reaching influence. (12) The demand of vocational preparation for the minor professions and for vocations above the high school level has also stimulated junior college development.

¹Eby, Frederick, and Arrowood, C. F. The Development of Modern Education in Theory, Organization and Practice. New York, Prentice-Hall. p. 890-891. 1934.

D. The Concept of the Community College

In recent years "community college" has become the more popular term to describe what has traditionally been called the junior college. The popularization of this term received impetus from the report of the President's Commission of Higher Education, published under the title, "Higher Education for American Democracy".¹ Further impetus was given to the term in 1950 by Bogue's publication, The Community College.² Also a publication by Starrak and Hughes³ in 1954, The Community College in the United States, added to the growing wealth of materials which supported the concept and the name of community college.

One of the first statements concerning the philosophy and meaning of the term "community college" was reported by Seashore.⁴ He quoted Byron Hollingshead of Scranton Keystone College in Pennsylvania, who stated in an article entitled "The Community College" in the New York Herald Tribune Education Section, December, 1935, the following:

The junior college should be a community college, meeting community needs; it should serve to promote a greater social and civic intelligence in the community; it should provide opportunities for increased adult education; it should provide educational, recreational and vocational opportunities for young people; the cultural facilities of the institution should be placed at the disposal of the community; and the work of the community college should be

¹Higher Education for American Democracy. A Report of the President's Commission on Higher Education. Harper and Brothers. 1947.

²Bogue, Jessie Parker, The Community College. New York, McGraw-Hill Book Co. Inc., 1950.

³Starrak and Hughes, op. cit.

⁴Seashore, op. cit., p. 47.

closely integrated with the work of the high school and the work of other community institutions.

In calling for the creation of new community colleges, the Commission agreed on a group of essential characteristics which Commission members felt the new institutions should have. The following is a list:

(1) The community college must make frequent surveys of its community so that it can adapt its program to the educational needs of the full-time students.

(2) Since the program is expected to serve a cross section of the youth population, it is essential that consideration be given not only to apprentice training but also so cooperative procedures which provide for the older students alternate periods of attendance at college and remunerative work.

(3) The community college must prepare its students to live a rich, satisfying life, part of which involves earning a living. To this end the total educational effort, general and vocational of any student must be a well integrated single program, not two programs.

(4) The community college must meet the needs also of those of the students who will go on to a more extended general education or to specialize in professional study in some other college or university.

(5) The community college must be the center for the administration of a comprehensive adult education program.¹

The Commission held that it was the responsibility of each community to guarantee that financial barriers did not eliminate any able or qualified young person from the opportunity of receiving a higher education. The Commission urged all states which have not already done so to enact permissive legislation under which communities "will be authorized

¹Higher Education for American Democracy. A Report of the President's Commission on Higher Education. N.Y., Harper and Brothers. 1947.

to extend their public school systems through the fourteenth year".¹

In analyzing the expanding role of the community college Bogue² listed three important considerations. The first qualification of a community college, according to Bogue, is one of service, service that is primarily to the people of the community. He pointed out,

The community institution goes to the people who live and work where it is located, makes a careful study of the needs of these people for education not being offered by any other institution of learning, analyzes these needs, and builds its educational program in response to the analyses.³

A second characteristic of the community college as stated by Bogue, refers to the manner of its control. He stressed the fact that in the American system of doing things, local control has always been fundamental. The President's Commission on Higher Education appears to be rather strongly committed to a system of local community control of the community college. Bogue⁴ held that the basis of control should be determined by the citizens of the community. If they prefer a state or university control, that is their prerogative. Local citizens' committees serving in an advisory capacity and representing business, industry, agriculture and the professions are a necessary adjunct to the community college and local control.

Bogue pointed out that a third consideration to be noted in the expanding role of the community college is concerned with financial support. Bogue noted that a satisfactory plan includes state aid with

¹Ibid., p. 10.

²Bogue, op. cit.

³Ibid., p. 21.

⁴Ibid., p. 23.

the equalization factor added for those communities that are unable to support adequately a junior college and also, of course, local tax revenues.

In summary it can be stated that the community college should combine general and vocational education, provide for terminal students on the basis of community needs, make provision for special and adult students, and educate those who desire to transfer at the four year colleges. It should be a service institution to the people of the community, designed and operated to meet their needs. It should be controlled locally with the assistance of local advisory committees. It should be supported both from local tax revenues, and from state funds with full recognition of the equalization principle.

E. Analysis of Growth of the Junior Colleges

The growth of junior colleges and junior college enrollments since 1900 shows that since the turn of the century there have been established some 598 public and private junior colleges in which the total enrollment in 1953-1954 was 622,364 students. In the school year of 1900-1901 there were only eight institutions recognized as junior colleges, with a total enrollment of approximately 100. In the following table are shown the number of colleges and the enrollments from 1900 to 1954. The percentage increase in enrollments is also shown.

Table 1 is reproduced from the American Junior College Directory, 1955, as compiled by Colvert, Baker and Bogue. The figures from 1900 to 1948 were obtained from Bogue's American Junior Colleges. The data for 1949-1953 are from the 1954 Junior College Directory by C. C. Colvert and

Table 1

Number of Colleges and Enrollments 1900-1953^a

School Year	Number of Colleges	Enrollment	Percentage Increase in Enrollment
1900-01	8	100	-
1915-16	74	2,363	-
1921-22	207	16,031	-
1925-26	325	35,630	-
1926-27	408	50,529	-
1927-28	405	54,438	7.7
1928-29	429	67,627	24.2
1929-30	436	74,088	9.6
1930-31	469	97,631	31.8
1931-32	493	96,555	-1.1
1932-33	514	103,530	7.2
1933-34	521	107,807	4.1
1934-35	518	122,311	13.5
1935-36	523	129,106	5.6
1936-37	553	136,623	5.8
1937-38	556	155,588	13.9
1938-39	575	196,710	26.4
1939-40	610	236,162	20.1
1940-41	627	267,406	13.2
1941-42	624	314,349	17.6
1942-43	586	325,151	3.4
1943-44	584	249,788	-23.2
1944-45	591	251,290	0.6
1945-46	648	294,475	17.2
1946-47	663	455,048	54.5
1947-48	651	500,536	10.1
1948-49	648	465,815	-6.9
1949-50	634	562,786	17.2
1950-51	597	579,475	2.8
1951-52	593	572,193	-1.3
1952-53	594	560,732	-2.0
1953-54	598	622,864	11.1

^aTable reproduced from Junior College Directory. 1955. p. 42.
American Association of Junior Colleges. Washington.

M. L. Baker. This table gives the enrollments in public and private junior colleges from the turn of the century to 1953. Since 1917 the public junior colleges have grown, until at the present time the enrollment in them is almost eight times the enrollment in the private junior colleges.

Table 2 shows the distribution by size of enrollment of junior colleges in America.¹ It is well to note that nine of the colleges that reported an enrollment of 9,000 are located in California, the largest being Long Beach City College in California with an enrollment of 32,168. The latter total includes students enrolled in non-credit courses.

It is further reported by Colvert and Baker² that of the 539 colleges reported, the largest number (487) were coeducational. These colleges enrolled 27 percent of the total junior college student body. Publicly controlled coeducational colleges enrolled 552,392 students, and the private colleges enrolled 52,066 students. Furthermore there were eight one-year junior colleges, 560 two-year junior colleges and 3 three-year junior colleges and 27 four-year junior colleges. It is apparent that the most popular type is, of course, the two-year junior college. The four-year organization reached its zenith in 1948-1949 when it totalled 41 institutions.

In the following table, Table 3, are shown the number of the existing junior colleges that have been established since 1900; these are

¹Ibid., p. 47.

²Ibid., p. 48.

Table 2
Distribution by Size of Enrollment of Junior
Colleges in America^a

Enrollment	Total	Number of Colleges Public	Private
1-49	30	5	25
50-99	59	17	42
100-199	116	31	85
200-299	91	39	52
300-399	53	36	17
400-499	47	38	9
500-599	31	21	10
600-699	16	13	3
700-799	11	8	3
800-899	14	14	0
900-999	7	6	1
1000-1999	54	44	10
2000-2999	21	19	2
3000-3999	15	15	1
4000-4999	5	5	0
5000-5999	7	7	0
6000-6999	3	3	0
7000-7999	5	5	0
8000-8999	2	2	0
Over 9000	10	10	0
Total	598	338	260

^aTable reproduced from Junior College Directory, 1955. p. 44.
American Association of Junior Colleges. Washington.

dichotomized into public and private and show the number of colleges and the percent that each is of the total. As of 1954 there were 338 public junior colleges, or 57 percent of the total, and 260 private junior colleges, which represented 43 percent of the total of 598 junior

colleges. The greatest percentage growth for the establishment of public junior colleges over private junior colleges was during the period between 1946 and 1950, when 73 percent of the junior colleges established were public junior colleges. The greatest number of junior colleges established in any four-year period since 1900 was 133 in the period between 1926 and 1930. Public junior colleges accounted for 61 percent of these, and private institutions founded 39 percent, or 52 junior colleges in this period.

Table 3
Present Junior Colleges Established Since 1900^a

Year Established	Public		Private		All
	number	percent	number	percent	
1901-05	2	34	4	66	6
1906-10	2	28	5	72	7
1911-15	9	35	17	65	26
1916-20	22	46	26	54	48
1921-25	50	58	36	42	86
1926-30	81	61	52	39	133
1931-35	43	52	39	48	82
1936-40	34	58	25	42	59
1941-45	20	47	23	53	43
1946-50	64	73	23	27	87
1950-54	11	52	10	48	21
Total	338	57	260	43	598

^aFretwell, Elbert C. *Founding Public Junior Colleges*. p. 148.
New York, Bureau of Publications, Columbia University. 1954.

F. Accreditation of Junior Colleges

With the growth and development of junior colleges in the United States has come a need for accreditation. There are three types of agencies which evaluate and accredit junior colleges in this country. They are as follow: (1) regional accrediting associations; (2) state accrediting institutions or agencies; (3) agencies which accredit denominational institutions only.

Junior college accrediting agencies that are regional in nature include: (1) New England Association of Colleges and Secondary Schools. (2) Middle States Association of Colleges and Secondary Schools. (3) Southern Association of Colleges and Secondary Schools. (4) North Central Association of Colleges and Secondary Schools. (5) Northwest Association of Secondary and Higher Schools.

The regional accrediting associations accredit the junior colleges by use of committees and commissions. These committees and commissions require reports from the junior colleges which make application for membership. In addition, representatives of the regional accrediting association visit and evaluate the junior colleges which make application for membership.

The following criteria constitute the basic standards upon which institutions apply for membership in the regional associations are evaluated: (1) The type of organization and control. The administrative staff, board of control, and other phases of the organization. (2) The curricular offerings, including a statement of the objectives of the institution and the curricular programs designed to meet them.

(3) Admission procedures and entrance requirements. (4) Faculty qualifications and conditions of instructional service. (5) Instructional methods, conditions and results. (6) Student personnel service, including guidance. (7) Students' activity program. (8) Physical facilities, including laboratories, library, and college plant in general. (9) The financial operation of the institution. (10) The system of records. (11) General tone, standing, and stability of the institution.¹

Within the individual states there are three basic types of agencies that evaluate and accredit a junior college: (1) state departments of education, or state departments of public instruction; (2) state universities, or a committee from major state institutions; (3) associations of colleges which are organized for the purposes of accreditation.

The state departments of education in the nation, as a result of statute, exert varying degrees of control over, and perform different services for, the junior colleges in their respective states. "In some states the work of accreditation is done for the state departments of education by, or under the direction of, a state examiner or a junior college specialist. In others the work is a cooperative activity of a committee or commission appointed for that purpose."²

While the state university in most states has had historically a great deal of influence upon the development and standards in the junior colleges of the states, it has tended in recent years to withdraw from the field of accrediting.

¹Jenkins, Harry E. American Junior Colleges. p. 29. Washington, D.C. American Council on Education. 1952.

²Ibid., p. 30.

The third type of agency that is responsible for accreditation -- the state associations of colleges -- is diminishing in importance. Accreditation by the state department of education¹ or by a regional association, or both, has become the more universal procedure in the United States.

¹The approval standard for the public junior colleges in Iowa are outlined in Certification and Approval of School Personnel, Bulletin No. 31, Department of Public Instruction, State of Iowa, June, 1954. pp. 22-24.

Also, Iowa Public Junior Colleges, Circular JC-1-52, Department of Public Instruction, State of Iowa, 1952.

IV. HISTORY OF THE PUBLIC JUNIOR COLLEGE MOVEMENT IN IOWA

A. Legal Background and Chronology of the Statutes

Although the first public junior college was established in Iowa at Mason City in 1918, it was not until 1923 that the Iowa Legislature in the 40th General Assembly officially recognized the existence of the public junior college in the state. The purpose of this law was not to legalize the junior colleges which were already in existence (five), but was rather to provide for the payment of tuition. The law provided "Every person, however, who shall attend any school after graduation from a four-year course in an approved high school or its equivalent, shall be charged a sufficient tuition fee to cover the cost of the instruction received by such person".¹

The first specific reference in the statutes of Iowa pertaining to junior colleges was an act passed on April 6, 1927, by the 42nd General Assembly. The act became law on April 28, 1927, by publication, and legalized the public junior college in Iowa, as a part of the public school system some nine years after the first junior college had been established in the state. In 1927 there were five junior colleges in Iowa which offered the two-year curriculum.

The specific statute as passed by the 42nd General Assembly is as follows:

¹Iowa Code, 1931: 554. 1931.

Junior Colleges. The board upon approval of the State Superintendent of Public Instruction, and when duly authorized by the voters, shall have power to establish and maintain in each district one or more schools of higher order than an approved four-year high school course. Said schools of higher order shall be known as public junior colleges and may include courses of study covering one or two years work in advance of that offered by an accredited four-year high school. The State Superintendent of Public Instruction shall prepare and publish from time to time standards for junior colleges, provide adequate inspection for junior colleges, and recommend for accrediting such courses of study offered by junior colleges as may meet the standards determined.¹

Section 278.18 of the Iowa Code provided for the authorization of the establishment of a junior college at the regular election. Section 4197, which authorized a board of directors to call a special election, did not list the proposition of establishing and maintaining schools of higher order than the four-year approved institution. The only time, therefore, that a vote could be taken relative to the establishment of a junior college would be at a general election. The law in the matter read as follows:

The voters at the regular election shall have power to authorize the establishment and maintenance of one or more schools of a higher order than a four-year high school course.²

The 43rd General Assembly passed no bills relative to the junior colleges, but the 44th General Assembly, on May 14, 1931, passed an amendment to Section 280.18. This amendment served to restrict establishment of junior colleges to city districts of 20,000 or more population.³

In 1933 (April 13) the original statutory provision was amended to

¹Iowa Code, 1946, Chapter 281. 1946.

²Iowa General Assembly, Acts 42, Chapter 86. 1927.

³Iowa General Assembly, Acts. 44, Chapter 58. 1931.

permit junior colleges to resume operation after temporary discontinuance.

This amendment was stated as follows:

Nothing in this section shall prohibit any school district that now has a junior college from temporarily discontinuing the same and starting it again at some future time.¹

The original section was again amended by the 49th General Assembly in 1941 to change the population restriction from 20,000 population to 5,000 population. The law stated:

No public junior college shall be established in any school district having a population of less than 5,000.²

Statutory provision for the voting procedure became law on May 1, 1941. It read as follows:

. . . . provided, however, that when a proposition to authorize the establishment of a junior college is submitted to the electors, such proposition shall not be deemed carried or adopted, anything in the statutes notwithstanding, unless the vote in favor of such authorization is equal to at least 60 percent of the total vote cast for and against said proposition at said election.³

This law has been construed in a number of Attorney General opinions. It was held in 1928 by the Attorney General that the junior colleges may be established only by election.⁴ In 1930 the Attorney General held that the tax-levy limit for the general fund includes junior college expenses. It was further held that the board may spend tax money for

¹Iowa General Assembly, Acts. 45, Chapter 58. 1933.

²Iowa General Assembly, Acts. 49, Chapter 160. 1941.

³Iowa Code, 1954: 280. 1954.

⁴Iowa. Report of Attorney General, p. 138. 1928.

the junior college.¹

In 1942 the Attorney General held that the question of establishing a junior college may be submitted only at the regular election.² In 1946 the Attorney General held that the State Superintendent cannot impose enrollment prerequisites on junior colleges that want to resume operations after having closed temporarily because all the students had been drafted.³

No further legislation concerning the junior colleges was passed until the action of the 53rd General Assembly in 1949. The 1946 Report of the Attorney General provided for the first state financial aid to junior colleges. The law provides that general aid equal to the number of junior college students carrying 12 semester hours in average daily attendance times 25 cents, times the actual number of days school was in session, not to exceed 180 days. The statutes read as follow:

286A.3 - 25 cents per day for each junior college student carrying 12 or more semester hours of college work.

286A.4 - Multiply 25 cents by the average daily enrollment of junior college students carrying 12 or more semester hours of college work. Multiply this product by the actual number of days school was officially in session, not to exceed 180 days.⁴

The Legislatures, since the 53rd General Assembly and including the 53rd General Assembly, have never appropriated enough money to pay out

¹Iowa Report of Attorney General, p. 67-68. 1930.

²Iowa Report of Attorney General, p. 69. 1942.

³Iowa Report of Attorney General, p. 75. 1946.

⁴Iowa General Assembly. Acts. 53, Chapter 117. 1949.

the general aid formula in full. Consequently, the amount of money available by appropriation has been prorated. Payments for general aid to public junior colleges for the fiscal year 1953-1954 were prorated at the rate of 30 cents per \$1.00.

In 1955, the newly created State Department of Public Instruction proposed to the Legislature a new State Aid program that would include financial aid to junior colleges. This proposal was subsequently drafted into a bill, House File 373, but never reached the floor of either house.

B. The Growth and Development of Accrediting Procedures and Standards

Accreditation as it relates to Iowa is defined as the process of "designating an educational institution as meeting required standards of accepted criteria of quality established by a competent agency".¹ In Iowa the Department of Public Instruction is empowered by statute as the agency which accredits public junior colleges.

The law as enacted by the 55th General Assembly chapter 257 is as follows:

Sec. 17. The superintendent (of public instruction) shall have the following powers -- Exercise general supervision over the state system of public education, including the public elementary and secondary schools, the junior colleges²

The statutes specifically charge the Department of Public Instruction to formulate approval standards for the public junior colleges of

¹Iowa Committee on Secondary School and College Relations. Iowa State Board of Education, Bulletin No. 1. Des Moines, Iowa. State of Iowa. 1947.

²Iowa. General Assembly, Acts. 55, Chapter 257. 1953.

the state.

In Section 18 chapter 250 the law in establishing the responsibilities of the state superintendent states:

It shall be the responsibility of the state superintendent of public instruction to exercise all powers and perform all duties hereinafter listed

No. 13 Formulate standards, regulations, and rules subject to the approval of the state board, for the approval of all schools and public junior colleges under his supervision . .¹

The responsibility for establishing standards for the Iowa public junior colleges and the authorization to inspect them was vested by law in the State Department of Public Instruction in 1927. Prior to 1927, and more specifically from July, 1918 until 1927, the junior colleges in Iowa were accredited by the Iowa Intercollegiate Standing Committee. During the period from 1927 to 1941, the Intercollegiate Standing Committee worked with the State Department of Public Instruction in approving the public junior colleges of Iowa.

Since 1941 the Department of Public Instruction in Iowa has exercised full responsibility for the standards and for the approval of the public junior colleges in the state. In 1943 the Intercollegiate Standing Committee and the Board of Secondary School Relations, which had been in existence since 1910, and was concerned with the approval of nonpublic schools in Iowa, were combined into a single committee designated as the Iowa Committee on Secondary School and College relations.

The membership of this committee is comprised of the registrar and a member of the faculty from each of the three state institutions of

¹Iowa Code, 1954: 250. 1954.

higher education in the state. The chairman is a faculty representative of one of the three institutions and serves for a period of three years. The chairmanship is alternated between the faculty representatives from Iowa State College and Iowa State Teachers College. The Executive Secretary of the Committee is the registrar of the State University of Iowa.

In its relation to the junior colleges of the state, this committee is responsible for administering and developing policies and procedures that pertain to the acceptance of credits from the junior colleges both public and private. The Department of Public Instruction and the Iowa Committee on Secondary School and College Relations cooperate in the development of the standards for public junior colleges. Annual reports of the public junior colleges that are approved by the Department of Public Instruction are made to the Iowa Committee on Secondary School and College Relations.

The accrediting procedure of junior colleges in Iowa may be summarized as follows: By statutory provision, the State Department of Public Instruction acts as the State Accrediting Agency for the public junior colleges in Iowa; The Iowa Committee on Secondary School and College Relations serves as the accrediting agency for private junior colleges of the state; a close working relationship exists between the two agencies that serve to accredit public junior colleges in Iowa. The Iowa Committee on Secondary School and College Relations is the sole agency for determining policies and procedures relative to the acceptance of credits from both the public junior colleges and the private junior colleges in the state.

In Iowa junior colleges may be accredited also by the North Central Association, which is a regional accrediting association. As of April 1, 1955, only 2 of the 16 public junior colleges in Iowa have been accredited by the North Central Association.

C. The Establishment of Public Junior Colleges in Iowa

In the period from the establishment of the first approved public junior college in Iowa (Pason City, 1916) to the establishment of the latest public junior college in Iowa (Keokuk, 1953), there has been a total of 35 public junior colleges established in the state. Of this number, 19 have been discontinued, leaving a total as of April 1, 1955, of 16 public junior colleges currently in operation.

Following in Table 4, are shown the number of public junior colleges in Iowa that have been discontinued. The dates of establishment and dissolution have also been recorded. Attention must be called to the college at Sioux City. Originally established in 1913 as Sioux City Normal, a teacher training school, this college was reorganized on the basis of a public junior college in 1927. So, although the institution actually preceded in point of time the establishment of a junior college at Pason City, the school at Sioux City did not become a junior college until 1927, some nine years after the establishment of the former. The Sioux City junior college was discontinued in September, 1928.

In April 1954, there were 16 public junior colleges operating in Iowa. These institutions are listed in Table 5, together with the dates of establishment, the counties in which they are located, and the agencies under which they are accredited. It is important to note that

Table 4

Discontinued Public Junior Colleges in Iowa

Name	Location	Year Established	Date Discontinued
Albia Jr. College	Albia	1927	June, 1943
Bloomfield Jr. College	Bloomfield	1928	June, 1949
Britt Jr. College ^a	Britt	1927	June, 1950
Chariton Jr. College	Chariton	1927	June, 1943
Clarion Jr. College	Clarion	1929	June, 1930
Earlham Jr. College	Earlham	1928	June, 1931
Elkader Jr. College	Elkader	1929	June, 1948
Grundy Jr. College ^b	Grundy Center	1916	June, 1933
Independence Jr. College	Independence	1928	June, 1943
Manchester Jr. College	Manchester	1928	June, 1929
Maquoketa Jr. College	Maquoketa	1927	June, 1943
Osceola Jr. College	Osceola	1927	June, 1943
Perry Jr. College	Perry	1947	June, 1948
Red Oak Jr. College ^c	Red Oak	1922	June, 1951
Sheldon Jr. College ^d	Sheldon	1926	June, 1951
Sioux City Jr. College ^e	Sioux City	1927	June, 1928
Tipton Jr. College	Tipton	1927	June, 1943
Washington Jr. College ^f	Washington	1926	June, 1951
Waukon Jr. College	Waukon	1925	June, 1943

^aDiscontinued June, 1943; reopened September, 1947.

^bApproved for junior college work September, 1921 to June, 1929; continued as unapproved junior college until 1933.

^cDiscontinued June, 1943; reopened September, 1945.

^dDiscontinued 1943; reopened 1946.

^eOrganized 1913 as a teacher-training school.

^fDiscontinued June, 1943; reopened September, 1946.

Table 5

Present (1955) Public Junior Colleges in Iowa

Name	Location	County	Date Established
Boone Jr. College	Boone	Boone	Sept. 1927
Burlington Jr. College	Burlington	Des Moines	Sept. 1920
Centerville Jr. College	Centerville	Appanoose	Sept. 1930 ^a
Clarinda Jr. College	Clarinda	Page	Sept. 1923 ^b
Clinton Jr. College	Clinton	Clinton	Sept. 1946
Creston Jr. College	Creston	Union	Sept. 1926
Eagle Grove Jr. College	Eagle Grove	Wright	Sept. 1928 ^c
Ellsworth Jr. College	Iowa Falls	Hardin	Sept. 1929
Emmetsburg Jr. College	Emmetsburg	Palo Alto	Sept. 1930 ^d
Estherville Jr. College	Estherville	Emmet	Sept. 1924
Fort Dodge Jr. College	Fort Dodge	Webster	Sept. 1923
Keokuk Community College	Keokuk	Lee	Sept. 1955
Marshalltown Jr. College	Marshalltown	Marshall	Sept. 1927
Mason City Jr. College	Mason City	Cerro Gordo	Sept. 1913
Muscatine Jr. College	Muscatine	Muscatine	Sept. 1929
Webster City Jr. College	Webster City	Hamilton	Sept. 1926 ^e

^aDiscontinued June, 1944; reopened September, 1945; discontinued June 1954; reopened September, 1955.

^bDiscontinued June, 1943; reopened September, 1946.

^cSophomore year discontinued June, 1943 to September 1945.

^dSophomore year discontinued June, 1943 to September 1945.

^eDiscontinued June, 1943; reopened September, 1946.

not all of them have been in continuous operation. Five of the sixteen have been closed at various times during their history. Four of them were discontinued temporarily in 1943, and one was discontinued temporarily in 1944. These years were war years and enrollments were low in all colleges over the nation.

Ellsworth Junior College at Iowa Falls was established in September, 1929. However, it was a four-year college from 1911 until September, 1929.

D. Enrollment Trends

In Table 6 are shown the enrollments, the number of junior colleges in operation, and the average annual enrollment in the public junior colleges of Iowa since 1927.

The total enrollment was greatest in the public junior colleges of Iowa in the school year 1940-1941. There were 2,433 students enrolled full time in 27 colleges that year, or an average enrollment of 90.11 students.

Three years later the junior college enrollments in the state had dropped to 440 students enrolled in 13 junior colleges, with an average enrollment in each of 33.85. The following school year, 1944-1945, total enrollments dropped to 431 full-time students, with but 12 colleges in operation. This 1944-1945 total of 431 students was the lowest enrollment in the public junior colleges of Iowa since the 1927-1928 school year, which was the first school year that the public junior colleges were legally a part of the public school system. In that year, 1927-1928, there were 648 students enrolled in 9 junior colleges, or an

Table 6

Iowa Public Junior Colleges^a
Total Enrollment of Full Time Students

Year	Total Enrollment	Number of Junior Colleges in Operation	Average Enrollment
1927-28	648	9	72.00
1928-29	946	17	55.65
1929-30	1,301	23	56.57
1930-31	1,621	26	62.34
1931-32	1,827	27	67.67
1932-33	1,887	27	69.93
1933-34	1,851	27	68.56
1934-35	1,939	27	71.81
1935-36	1,991	27	73.74
1936-37	1,958	27	72.52
1937-38	1,217	27	44.37
1938-39	1,374	27	50.89
1939-40	2,318	27	85.86
1940-41	2,433	27	90.11
1941-42	1,827	27	67.67
1942-43	1,402	27	51.93
1943-44 ^b	440	13	33.85
1944-45 ^b	431	12	35.98
1945-46	607	15	40.48
1946-47 ^c	2,120	21	100.99
1947-48	2,180	23	94.78
1948-49	1,798	20	89.90
1949-50	1,688	19	88.8
1950-51	1,584	19	83.4
1951-52	1,312	16	82.0
1952-53	1,325	16	82.8
1953-54	1,457	16	91.1
1954-55	1,777	16	110.6

^aThe data for the years between 1927 and 1937 are adapted from Love and include only junior colleges offering two years work.

^bEagle Grove and Emmetsburg discontinued sophomore work for these two school years.

^cClinton added sophomore work in September, 1947.

average enrollment of 72 students per junior college.

The greatest single increase for one year took place in 1946-1947, when the number enrolled was 2,120, an increase of 1,513 students over the 607 students registered in the 1945-1946 school year. In 1946-1947, there were 21 junior colleges in operation, an increase of 6 over the previous year, with an average enrollment of 100.99 students. The average enrollment in the 1946-1947 school year was an all-time high; the lowest average enrollment occurred in the 1943-1944 school year, with an average of 33.85 students enrolled in each public junior college.

In 1931-1932, three years after the public junior college was legally constituted by statute as a part of the public school system, the number of public junior colleges in Iowa rose to 27. There were 27 junior colleges in operation continuously until the 1943-1944 school year, when the number dropped to 13. In 1944-1945 the number dropped to 12, the lowest since 1928-1929.

E. The Graduates of the Iowa Public Junior Colleges

The number of graduates by year of graduation in the 16 public junior colleges currently in operation is shown in Table 7. The cumulative total of graduates from these 16 junior colleges since 1920 does not represent the total number of public junior college students who have graduated in Iowa, since the graduates of the defunct public junior colleges were not included.

The data for the years 1920-1936 were not available in the office of the Department of Public Instruction, nor were they readily available in several of the public junior colleges. The data for these years were

Table 7

Number of Graduates by Years
(Graduation from Present Junior College)

	1920	1921	1922	1923	1924	1925	1926	1927	1928	1929	1930	1931
Boone												
Burlington			12	15	16	20	25	28	30	24	43	29
Centerville												
Clarinda						17	10	15	12	13	10	22
Clinton												
Creston									37	31	24	33
Eagle Grove											16	6
Ellsworth											5	21
Emmetsburg												
Esterville					1				10	16	12	13
Fort Dodge					1	2	27	13	15	7	17	17
Keokuk												
Marshalltown										9	8	5
Mason City	5	6	2	11	8	22	13	11	25	19	30	23
Muscatine												22
Webster City									14	13	10	7
Totals	5	6	14	26	26	61	75	67	143	132	175	198

Table 7 (continued)

	1932	1933	1934	1935	1936	1937	1938	1939	1940	1941	1942	1943
Boone							10	25	20	19	16	6
Burlington	45	45	43	49	59		45	66	80	48	45	34
Centerville	10	12	11	22	14	20	20	13	18	9	29	20
Clarinda	13	15	15	16	13		17	13	10	24	18	10
Clinton												
Creston	29	25	30	29	18	26	24	40	29	21	24	20
Eagle Grove	3	13	13	8	11		8	9	18	12	8	1
Ellsworth	26	23	18	21	20		21	21	31	42	46	20
Emmetsburg	11	13	5	11	11	10	6	8	20	8	8	0
Esterville	10	17	10	16	10		14	22	17	21	15	2
Fort Dodge	15	35	21	27	24	26	12	27	35	34	31	12
Keokuk												
Marshalltown	17	20	21	10	22	17	16	29	38	32	21	7
Mason City	40	46	36	32	29	16	30	44	53	82	62	23
Muscatine	10	17	21	24	20		29	24	27	27	19	15
Webster City	13	9	12	10	18		10	14	25	28	20	20
Totals	242	290	256	275	269	115	262	355	421	407	362	190

Table 7 (continued)

	1944	1945	1946	1947	1948	1949	1950	1951	1952	1953	1954	1955	
Boone	5	4	6	26	29	21	20	11	14	13	9	29	283
Burlington	15	13	42	53	107	78	80	62	44	32	49	56	1437
Centerville	13	3 (closed)		1	14	28	29	21	11	11	12	11	352
Clarinda		(closed)		0	19	11	25	18	27	21	21	20	425
Clinton					16	17	19	9	18	20	17	19	135
Creston	9	11	16	13	23	32	22	19	30	32	22	20	639
Eagle Grove		(closed)	0	8	20	19	26	27	14	24	25	25	314
Ellsworth	14	13	9	18	40	47	42	25	29	31	34	29	646
Emmetsburg	0	0	1	2	3	7	4	8	4	8	6	11	165
Esterville	5	3	7	10	20	20	25	13	15	26	22	26	398
Fort Dodge	2	0	0	29	79	44	29	29	21	24	19	16	690
Keokuk												14	14
Marshalltown	2	8	3	19	38	20	19	16	21	13	20	26	477
Mason City	7	7	15	44	54	49	66	67	67	64	73	77	1258
Muscatine	7	0	9	11	37	23	26	25	27	20	32	38	510
Webster City	0	0	0	0	9	12	18	14	12	15	20	12	335
Totals	79	62	108	239	508	428	450	364	354	354	381	429	8128

therefore adopted from Love.¹ The data for the years 1937-1954 were collected from the Dean of each public junior college.

It can be seen from the data in Table 7 that a total of 8,128 students have graduated from the 16 public junior colleges currently in operation. Burlington Junior College graduated the largest number of students (1,437). The 1,258 students who were graduated from Mason City totalled the second largest group. Keokuk Community College, which was established in 1953, graduated its first class of 14 in 1955. This class represented the smallest total of graduates among the 16 junior colleges studied. Together Burlington and Mason City graduated a total of 2,695 students. This represented 33.15 percent, approximately 1/3 of the combined total of all graduates from the 16 public junior colleges studied.

The largest number of students graduated in any one year was 508 in 1948. Of this total Burlington, Fort Dodge and Mason City graduated 240 students, or 47.2 percent of all students graduated that year. One reason for the larger number of graduates in 1948 was the influx of veteran enrollees in 1946 following World War II. The number of graduates dropped during World War II in 1945 to 62. This represented the smallest number since 1925.

Omitting Keokuk, which was established in 1953 and graduated its first class in 1955, there have been 7 schools which have graduated students each year since their founding. These schools were (1) Boone, which has graduated students since 1938; (2) Burlington, since 1922; (3) Clinton, since 1948; (4) Creston, since 1928; (5) Ellsworth, since

¹Love, op. cit., p. 92.

Table 8

Freshmen and Sophomore Enrollments 1949-50 to 1953-54

Junior College	Freshmen 1949-50	Sophomore 1950-51	Freshmen 1950-51	Sophomore 1951-52	Freshmen 1951-52	Sophomore 1952-53	Freshmen 1952-53	Sophomore 1953-54
Boone	43	12	42	14	37	16	29	9
Burlington	134	81	156	52	125	46	162	65
Centerville	37	25	35	23	65	12	25	12
Clarinda	45	28	51	28	51	9	49	22
Clinton	38	16	32	18	38	23	55	22
Creston	111	60	131	34	52	33	47	30
Eagle Grove	65	33	50	17	57	20	55	31
Ellsworth	59	61	74	41	56	41	56	42
Emmetsburg	39	22	21	10	30	15	30	13
Estherville	76	20	54	16	64	17	63	28
Fort Dodge	133	45	104	30	87	30	90	29
Keokuk	-	-	-	-	-	-	-	-
Marshalltown	60	29	58	26	41	26	41	26
Mason City	156	84	110	59	120	56	137	76
Muscatine	57	34	52	30	42	24	63	35
Webster City	66	30	34	16	33	17	38	22
Totals	1119	580	1004	414	698	385	940	462

1930; (6) Marshalltown, since 1929; and (7) Mason City, since 1920. Mason City had the largest span of successive years in which students were graduated - viz. 36 years.

Shown in Table 8 are freshmen enrollments in 15 of the 16 public junior colleges (Keokuk was not in operation) for the years 1949-50, 1950-51, 1951-52, and 1952-53; and the sophomore enrollments for the years 1950-51, 1951-52, 1952-53, and 1953-54. The total number of freshmen who were enrolled in the years studied was 3,961. Sophomore enrollments for the years studied totalled 1,841. If those students who transferred to the junior colleges for the sophomore year were excluded, the sophomore enrollments represented a loss of 2,120 students.

Only 46.5 percent of those who enrolled as freshmen continued into the sophomore year. (This calculation excludes those students who transferred into the junior colleges at the sophomore level.) The junior college, as seen from these data, retains less than one-half of its students beyond the freshmen year of training.

V. STATUS AND APPRAISAL OF THE PUBLIC JUNIOR COLLEGES OF IOWA

A. Location of Public Junior Colleges in Iowa

The location of the 16 public junior colleges in Iowa is shown in Figure 1. Nine of these institutions are located in north central Iowa. Four junior colleges are located in cities along the Mississippi River in eastern and southeastern Iowa. Two are located in the southwest section of the state, and one is in the north central area. Six junior colleges are clustered together in a six-county area in central Iowa.

B. A Report of the Public Junior Colleges

Each of the 16 public junior colleges was visited during the 1954-1955 school year. Following is the report made on each of these institutions as a result of these visits.

1. Boone Junior College

a. Enrollment. The total enrollment of full-time students at Boone Junior College for 1954-1955 was 79 students. Of this number, 50 were freshmen and 29 were sophomores. There were 66 resident students and 13 non-resident students.

b. Curriculum and class size. Boone Junior College offered a total of 155 semester hours of instruction, and a total of 33 different courses. The average class size was 14.6 students. The range in class size was from 5 to 49.

c. Staff. Seventeen (17) teachers taught in the college during 1954-55, 16 of whom were part-time junior college and part-time high

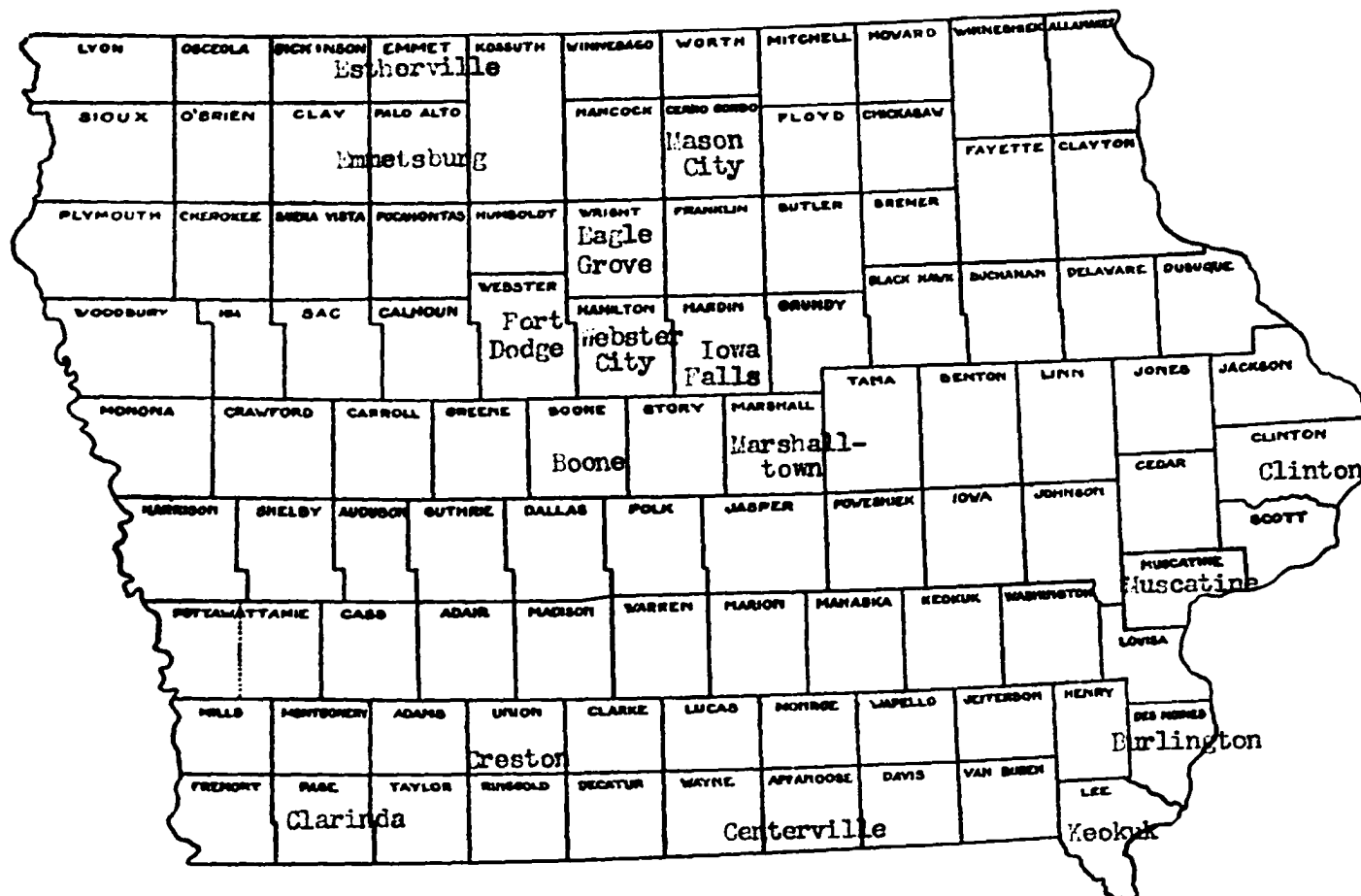


Figure 1. Location of Public Junior Colleges of Iowa 1954-55.

school instructors.

d. Library. The junior college library and the high school library were housed together and operated jointly. There were 2,000 volumes in the library, and the annual expenditure for library materials was \$2.00 per student. Books were added to the library by recommendation of the teachers and librarian.

e. Plant facilities. The junior college was housed in the high school building. Plans had been instituted to provide separate facilities for junior college classrooms in a former grade building located approximately four blocks from the main building. The laboratories and shops in the high school building were to remain available to junior college students.

The chemistry, physics, and biology laboratories, and the industrial arts shop of the high school were used by junior college students. There was no student lounge.

f. Faculty study and in-service education. There was no organized program of faculty study and in-service education in the college. There had been no statement of purpose and philosophy developed by the college faculty.

g. Testing program. There was no testing program in the Boone Junior College.

h. Student personnel services. There was no formal program of guidance and counseling. Placement services existed for teacher education personnel. There had been no follow-up studies made of former junior college students. The student permanent records did not exist in duplicate form.

A program of faculty study and in-service education was needed.

i. Teacher personnel. All teachers met approval standards.

j. Areas in which improvement should be made. A statement of purpose and philosophy needed to be developed. There needed to be a testing program instituted. Guidance and counseling services were needed. Follow-up studies were needed. Duplicate student permanent records were needed.

2. Burlington Junior College

a. Enrollment. The total enrollment of full-time students at Burlington Junior College for 1954-1955 was 204 students. Of this number, 130 were freshmen and 74 were sophomores. There were 151 resident students and 53 non-resident students.

b. Curriculum and class size. Burlington Junior College offered a total of 230 semester hours of instruction and a total of 51 different courses. The average class size was 20 students. The range in class size was from 3 to 50.

c. Staff. Thirty-three (33) teachers taught in the college during 1954-1955, six of whom were full-time teachers. There were 27 part-time junior college and high school teachers.

d. Library. The junior college library had a separate reading room within the high school library. There were 6,500 volumes in the library, and the annual expenditure was \$350.00. Books were added by teacher recommendation.

e. Plant facilities. The junior college was housed in the high school building. Classroom facilities were shared with the high school. A total of 20 classrooms was used.

The chemistry, physics and biology laboratories, and the metal shop

were shared with the high school.

No student lounge was available.

f. Faculty study and in-service education. An organized program of self-study was carried on by the faculty of the college. This was done to fulfill the requirements for approval by the North Central Association. The petition for approval was acted upon favorably, and Burlington Junior College became a member of the North Central Association in March, 1954.

g. Testing program. There was a testing program in operation at the Burlington Junior College which included the ACE, the National Sophomore Testing Program, the Otis, and selected tests of personality.

h. Student personnel services. There was a formal program of guidance and counseling headed by the Dean. Placement services existed for teacher education personnel, and on an informal basis for the rest of the students. Excellent follow-up studies of junior college graduates had been made. Student permanent records did not exist in duplicate form, but were in the process of revision.

i. Teacher personnel. One teacher was temporarily approved.

j. Areas in which improvement should be made. Duplicate permanent records were needed.

3. Centerville Junior College

a. Enrollment. The total enrollment of full-time students at Centerville Junior College for 1954-1955 was 67 students. Of this number, 55 were freshmen and 12 were sophomores. There were 33 resident students and 34 non-resident students.

b. Curriculum and class size. Centerville Junior College offered a total of 106 hours of instruction, and a total of 24 different courses.

The average class size was 20.8 students. The range in class size was from 3 to 44.

c. Staff. Eleven (11) teachers taught in the college during 1954-1955, 2 of whom were full-time teachers, and 9 part-time teachers.

d. Library. The junior college library was separate from that of the high school. Three hundred (300) dollars was allotted in the budget for the purchase of library materials. Books were added to the library by teacher recommendation.

This library was not catalogued, and the reference section was weak.

e. Plant facilities. The junior college was housed in the high school building and shared facilities with the high school. The junior college operated in a total of 7 classrooms.

The chemistry, physics, and biology laboratories were shared with the high school.

There was no student lounge.

f. Faculty study and in-service education. There was no organized program of faculty study and in-service education in the college. No statement of purpose and philosophy had been developed by the college faculty.

g. Testing program. The testing program included the Otis and the Iowa High School Content Test.

h. Student personnel services. There was no formal program of guidance and counseling.

Placement services existed for teacher education personnel.

There had been some follow-up studies made of former college graduates, and duplicate permanent records existed.

i. Teacher personnel. All teachers met approval standards.

j. Areas in which improvement should be made. The library needed to be catalogued and additional reference materials were needed.

Faculty study and in-service education was needed.

A statement of purpose and philosophy was needed.

A testing program needed to be broadened.

The guidance and counseling program needed to be developed.

4. Clarinda Junior College

a. Enrollment. The total enrollment of full-time students at Clarinda Junior College for 1954-1955 was 97 students. Of this number, 75 were freshmen and 23 were sophomores. Saturday classes were held throughout the year, and enrollment the first semester was 85. The enrollment for the second semester was 47 students. There were 42 resident students and 55 non-resident students.

b. Curriculum and class size. Clarinda Junior College offered a total of 155 semester hours of instruction and a total of 24 different courses. The average class size was 14.8 students, and the range in class size was from 2 to 60.

c. Staff. Twelve (12) teachers taught in the college during 1954-1955, 4 of whom were full-time teachers and 8 part-time junior college and high school teachers.

d. Library. The junior college library and the high school library, were housed together and were operated jointly. There were 5,000 volumes in the combined library. The annual expenditure was budgeted at \$500. Books were added to the library by teacher recommendation.

e. Plant facilities. The junior college was housed in the high

school building, and a total of 15 classrooms were shared with the high school.

The chemistry and biology laboratories were shared with the high school, as was the agricultural shop.

There was a student lounge.

f. Faculty study and in-service education. A program of faculty study was begun in 1954. The Clarinda Junior College was in the process of a self-evaluation project prior to petitioning for admittance to the North Central Association.

The faculty was developing a statement of purpose and philosophy.

g. Testing program. The testing program at Clarinda Junior College comprised the ACE, an English Placement, a mathematics placement test, and a diagnostic reading test.

h. Student personnel. There was a guidance program in operation headed by the Dean. Placement services existed for teacher education personnel. There were no duplicate permanent records.

No follow-up studies had been made of former junior college students.

i. Teacher personnel. All the teachers in the Clarinda Junior College met approval standards.

j. Areas in which improvement should be made. The program of faculty study, already in progress, needed to be broadened.

Follow-up studies of former junior college students were needed.

5. Clinton Junior College

a. Enrollment. The total enrollment of full-time students at Clinton Junior College for 1954-1955 was 79 students. Of this number, 48 freshmen and 27 were sophomores. There were 71 resident and 8

non-resident students.

b. Curriculum and class size. Clinton Junior College offered a total of 165 semester hours of instruction, and a total of 30 different courses. The average class size was 12.4 students. The range in class size was from 1 to 35.

c. Staff. Twenty-six (26) teachers taught in the college during 1954-1955, 25 of whom also taught in the high school.

d. Library. The junior college library was shared with the high school. There were 6,000 volumes in the combined library and the annual expenditure for the library was \$410. Books were added by teacher recommendation.

No reading room was available for college students.

e. Plant facilities. The junior college was housed in the high school building and shared 22 classrooms with the high school.

The chemistry, physics, and biology laboratories, as well as the wood and metal shops, were shared with the high school.

There was a student lounge.

f. Faculty study and in-service education. There was a program of organized faculty study. However, a statement of purpose and philosophy had not been developed by the college faculty as yet.

g. Testing program. There was an extensive and comprehensive testing program including the ACE, English Placement, Iowa High School Content, Iowa High School Reading test, Michigan Vocabulary test, College Inventory of Academic Adjustment, general interest inventory and aptitude tests.

h. Student personnel services. There was a formal program of

guidance and counseling headed by the Dean, who was also responsible for guidance in the high school.

There was an informal placement service for students. Follow-up studies had been done in the past. Duplicate permanent records existed for each student.

- i. Teacher personnel. All teachers met full approval standards.
- j. Areas in which improvement should be made. A reading room for the junior college students was needed.

A statement of purpose and philosophy needed to be developed.

6. Creston Junior College

a. Enrollment. The total enrollment of full-time students at Creston Junior College for 1954-1955 was 85 students. Of this number, 62 were freshmen, 23 were sophomores and there were 4 special students in addition. There were 51 resident students and 34 non-resident students.

b. Curriculum and class size. Creston Junior College offered a total of 168 semester hours of instruction and a total of 36 different courses. The average class size was 12 students. The range in class size was from 2 to 21.

c. Staff. Twenty-one (21) teachers taught in the college during 1954-1955, 5 of whom were full-time teachers, and 16 were part-time college and high school teachers.

d. Library. The junior college library was separate from the high school library, but was used by the high school. The combined annual expenditure of the junior college and the high school was \$500. Books were added by teacher recommendation.

e. Plant facilities. The junior college plant facilities were

shared with the high school.

The chemistry, physics and biology laboratories were shared with the high school.

There was a student lounge.

f. Faculty study and in-service education. There was an organized program of faculty study and in-service education in the college. It was developed in preparation for anticipated application for membership in the North Central Association. A statement of purpose and philosophy also had been developed.

g. Testing program. There was a testing program in the Creston Junior College. It consisted of the ACE, an English placement, the Iowa Silent Reading test, the Kuder, and a chemistry aptitude test.

h. Student personnel services. There was a formal program of guidance and counseling. Students were assigned to counsel with the Dean, and the Dean of Women. Placement services existed for teacher education personnel.

There were student permanent records in duplicate for each student. No follow-up studies had been made of former college graduates.

i. Teacher personnel. Two faculty members were temporarily approved.

j. Areas in which improvement should be made. The library needed to be better organized. Too many text books were housed in the library stocks.

Follow-up studies of former students needed to be instituted.

7. Eagle Grove Junior College

a. Enrollment. The total enrollment of full-time students at Eagle Grove Junior College for 1954-1955 was 118 students. Of this number, 72 were freshmen and 46 were sophomores. There were 51 resident students and 67 non-resident students.

Curriculum and class size. Eagle Grove Junior College offered a total of 188 semester hours of instruction, and a total of 49 different courses. The average class size was 12.2 students and the range in class size was from 2 to 47.

c. Staff. Seventeen (17) teachers taught in the college during 1954-1955. Sixteen (16) also taught part-time in the high school and 1 was a full-time junior college teacher.

d. Library. The junior college library and the high school library were housed together. There were 5,000 volumes in the library, and \$1,250 was spent in 1954 on the library. Books were added to the library by teacher recommendation.

e. Plant facilities. The junior college was housed in the high school building, and shared a total of 23 classrooms with the high school.

The chemistry, physics, and biology laboratories, as well as the industrial arts and metal shops, were shared with the high school.

f. Faculty study and in-service education. No organized program of faculty study and in-service education was carried on in the college during 1954-1955. A statement of purpose and philosophy had been developed prior to the 1954-55 school year.

g. Testing program. There was a comprehensive testing program in the college as recommended by Iowa State College; the ACE, an English

placement, aptitude tests and reading tests were included.

h. Student personnel services. There was a program of guidance and counseling, which in large measure, was done by the Dean. Placement services existed for teacher education personnel. Only limited studies had been made of former junior college graduates. Duplicate student permanent records were on file.

i. Teacher personnel. One teacher was temporarily approved.

j. Areas in which improvement should be made. Faculty study and a program of in-service education were needed.

The scope of follow-up studies needed to be broadened.

8. Ellsworth Junior College

a. Enrollment. The total enrollment of full-time students at Ellsworth Junior College for 1954-1955 was 101 students. Of this number, 61 were freshmen and 40 were sophomores. There were 26 resident students and 75 non-resident students.

b. Curriculum and class size. Ellsworth Junior College offered a total of 160 hours of instruction and a total of 39 different courses. The average class size was 15 students. The range in class size was from 1 to 53.

c. Staff. Sixteen (16) teachers taught in the college during 1954-1955. Four full-time teachers taught in the junior college and 12 junior college teachers also taught part-time in the high school.

d. Library. The junior college library, which was located in a separate building on the college campus, had a total of 3,500 volumes. Five hundred dollars were spent annually on the library. Books were

added to the library by the recommendation of the faculty.

e. Plant facilities. The buildings at Ellsworth Junior College were separate from the high school. There were two buildings used by the junior college, one a library in which were several classrooms, and the other in which were housed the administrative offices, the laboratories and several classrooms.

The chemistry and physics laboratories were in the junior college buildings and were used by the high school students. The biology laboratory was housed in the basement of the college library.

f. Faculty study and in-service education. A series of monthly meetings were held during the current year (1954-55), in which the faculty studied the curriculum of the college. The findings were published in the college catalog.

g. Testing program. The testing program at the Ellsworth Junior College included the ACE, the National Sophomore test, and an English placement test.

h. Student personnel services. There was a formal guidance program in operation. Placement services existed for teacher education personnel.

A study of former graduates was instituted in 1954-55.

Permanent records of students were maintained.

i. Teacher personnel. Three teachers were temporarily approved. One teacher did not receive approval.

j. Areas in which improvement should be made. The testing program needed to be broadened.

The biology laboratory needed to be improved materially.

9. Emmetsburg Junior College

a. Enrollment. The total enrollment of full-time students at Emmetsburg Junior College for 1954-1955 was 58 students. Of this number, 39 were freshmen and 19 were sophomores. There were 43 resident students and 15 non-resident students.

b. Curriculum and class size. Emmetsburg Junior College offered a total of 132 semester hours of instruction, and a total of 27 different courses. The average class size was 15.4 students. The range in class size was from 2 to 41.

c. Staff. Seventeen (17) teachers taught in the college during 1954-1955, all of whom were part-time junior college and high school teachers.

d. Library. The junior college library was part of the high school library. The annual expenditure was not computed for junior college additions. Books were added to the library by teacher recommendation.

e. Plant facilities. The junior college facilities were shared with the high school, with a total of 12 classrooms used.

The chemistry and physics laboratories were shared with the high school.

The college had no student lounge.

f. Faculty study and in-service education. No organized program of faculty study and in-service education operated in the college. No statement of purpose and philosophy was developed by the college faculty.

g. Testing program. No testing program operated in the Emmetsburg Junior College.

h. Student personnel. The guidance and counseling services were

handled by the Dean, who met with each student twice a year. There were no follow-up studies made of former junior college students. There were duplicate student permanent records.

i. Teacher personnel. One teacher was temporarily approved.

j. Areas in which improvement should be made. A definite library budget was needed.

Faculty study and in-service education was needed.

A statement of purpose and philosophy was needed.

A comprehensive testing program needed to be instituted.

The guidance and counseling services needed to be broadened.

10. Estherville Junior College

a. Enrollment. The total enrollment of full-time students at Estherville Junior College for 1954-1955 was 93 students. Of this number, 61 were freshmen and 32 were sophomores. There were 49 resident students and 44 non-resident students.

b. Curriculum and class size. Estherville Junior College offered a total of 174 semester hours of instruction and a total of 40 different courses. The average class size was 14.4 students. The range in class size was from 3 to 55.

c. Staff. Thirteen (13) teachers taught in the college during 1954-1955, 4 of whom were full-time teachers and 9 were part-time junior college and high school teachers.

d. Library. The junior college library was shared with the high school library. There were 9,337 volumes in the library, and the annual expenditure for library materials was \$300. Books were added to the

library by committee recommendation.

e. Plant facilities. The junior college was housed in the same building with the high school. Two classrooms were used exclusively for the junior college and six classrooms were shared with the high school.

The chemistry, physics, and biology laboratories were shared with the high school.

No student lounge was available.

f. Faculty study and in-service education. There was no organized program of faculty study and in-service education in the college. In the college, however, there were monthly staff meetings for college and high school teachers with numerous committee meetings. The group was preparing to work on the North Central study.

g. Testing program. There was a testing program in the Esterville Junior College. It consisted of the ACE, an English placement, and the American Council Education tests in mathematics and chemistry.

h. Student personnel services. The Dean directed the guidance program and served as counselor to the junior college students.

Duplicate permanent records were on file. A placement service for teachers was in operation. Follow-up studies on former junior college students had been made.

i. Teacher personnel. Two teachers were temporarily approved.

j. Areas in which improvement should be made. An organized program of faculty study and in-service education was needed.

The testing program needed to be broadened.

The guidance program needed to be developed.

11. Fort Dodge Junior College

a. Enrollment. The total enrollment of full-time students at Fort Dodge Junior College for 1954-1955 was 191 students. Of this number, 134 were freshmen and 33 were sophomores. There were 24 special students, 126 resident students and 65 non-resident students.

b. Curriculum and class size. Fort Dodge Junior College offered 139 hours of instruction and a total of 30 different courses. The average class size was 22. The range in class size was from 4 to 46.

c. Staff. Twenty-four (24) teachers taught in the college during 1954-1955, 2 of whom were full-time teachers and 22 were part-time teachers in the junior college and high school.

d. Library. The junior college library was housed in the high school building and shared the facilities with the high school. There were approximately 6,000 volumes in the library. Books were added by teacher recommendation. No space was reserved in the library for junior college students.

e. Plant facilities. The junior college classrooms were located in the high school building, with a total of 18 classrooms shared with the high school.

The chemistry, physics, and biology laboratories, as well as the wood and metal shops, were shared with the high school.

f. Faculty study and in-service education. There was no organized program of faculty study and in-service education in the college. A statement of purpose and philosophy had been developed cooperatively by the faculty.

g. Testing program. The testing program consisted only of the ACE test.

h. Student personnel services. There was no formal organized program of guidance and counseling. Placement services existed for teacher education personnel. No duplicate permanent records of students were maintained. No study of follow-up had been made of former junior college students.

i. Teacher personnel. One teacher was temporarily approved.

j. Areas in which improvement should be made. A reading room was needed for junior college students, or at least some reserved space in the library.

An organized program of faculty study and in-service education was needed.

The testing program needed to be broadened.

An organized program of guidance and counseling needed to be instituted.

Follow-up studies of former students was needed.

12. Keokuk Community College

a. Enrollment. The total enrollment of full-time students at Keokuk Community College for 1954-1955 was 61 students. Of this number, 41 were freshmen, and 20 were sophomores. There were 52 resident students and 9 non-resident students.

b. Curriculum and class size. Keokuk Community College offered a total of 187 semester hours of instruction and a total of 33 different courses. The average class size was 10.7 students. The range in class size was from 3 to 25.

c. Staff. Twenty-one (21) teachers taught in the college during 1954-1955. Twenty (20) were part-time teachers in the junior colleges and

high school and one was a full-time teacher.

d. Library. The library was located in a multi-purpose room and was shared with the high school. Next year (1955-56) the junior college library will be housed in a separate addition now under construction.

Approximately 5,000 volumes were in the combined junior college and high school. One thousand (1,000) dollars had been spent annually in the junior college library. Books were added by departmental recommendation.

e. Plant facilities. The junior college was housed in the high school building and shared facilities with the high school. A total of 13 classrooms were shared with the high school.

The chemistry, physics, and biology laboratories, and the metal shop were shared with the high school.

A student lounge was available.

f. Faculty study and in-service education. No organized program of faculty study and in-service education was in progress in the college. No statement of purpose and philosophy had been developed by the college faculty.

g. Testing program. A testing program was in operation at Keokuk Community College and consisted of the ACE, an English placement, the California Personality, the Wrenn Study Habits, and a differential aptitude battery.

h. Student personnel service. A formal program of guidance and counseling was in operation, with the Dean acting as coordinator. Placement services were available for all students.

An informal system of follow-up had been instituted. The student permanent records existed in duplicate form.

i. Teacher personnel. Two teachers were temporarily approved.

j. Area in which improvement should be made. The library, as operated in 1954-1955 was inadequate; improvements were planned for 1955-56.

A program of faculty study and in-service education was needed.

A statement of purpose and philosophy was needed.

13. Marshalltown Junior College

a. Enrollment. The total enrollment of full-time students at Marshalltown Junior College for 1954-1955 was 100. Of this number, 74 were freshmen, and 26 were sophomores. There were 50 resident students and 50 non-resident students.

b. Curriculum and class size. Marshalltown Junior College offered a total of 137 semester hours of instruction and a total of 23 different courses. The average class size was 13.5 students. The range of class size was from 3 to 56.

c. Staff. Fourteen (14) teachers taught in the college during 1954-1955, one of whom was a full-time junior college, and 13 taught part-time in junior college and high school.

d. Library. The junior college library was combined with the high school library. There were 6,000 volumes in the library, and a total of \$800 was spent on the high school and junior college library in 1954-1955. Books were added by teacher recommendation and by the librarian.

e. Plant facilities. The junior college shared a total of 12 classrooms with the high school.

The chemistry, physics, and biology laboratories were shared with the high school.

A student lounge was available.

f. Faculty study and in-service education. No organized program of faculty study and in-service education had been developed. No statement of purpose and philosophy had been developed by the college faculty.

g. Testing program. The testing program in the Marshalltown Junior College included the ACE, an English placement, the Kuder, and the Cooperative English test.

h. Student personnel services. A program of guidance and counseling was in operation with one of the teachers as coordinator. Placement services were available for all students. A complete follow-up of all students since 1949 had been made. The student permanent records did not exist in duplicate form. Little personal counseling was done. An orientation program had been developed in the English classes.

i. Teacher personnel. One teacher was temporarily approved.

j. Areas in which improvement should be made. A program of faculty study and in-service education needed to be instituted.

The testing program needed to be broadened.

The guidance and counseling needed to be expanded.

14. Mason City Junior College

a. Enrollment. The total enrollment of full-time students at Mason City Junior College for 1954-1955 was 276 students. Of this number, 175 were freshmen and 101 were sophomores. There were 240 resident students and 36 non-resident students.

b. Curriculum and class size. The Mason City Junior College offered a total of 218 semester hours of instruction and a total of 44 different courses. The average class size was 30.7 students. The range

in class size was from 2 to 32.

c. Staff. Twenty-one (21) teachers taught in the college during 1954-1955, 12 of whom were full-time teachers and 9 were part-time teachers in junior college and high school.

d. Library. The library facilities were shared with the high school. There was approximately 4,200 volumes in the joint library. In the past \$2.00 per pupil had been spent for books. Books were added by the recommendation of the teacher and librarian. Next year (1955-56) the library will be housed separately.

e. Plant facilities. The junior college was housed in the high school building, and 21 classrooms were shared with the high school.

The chemistry and physics laboratories were shared with the high school.

A student lounge was available.

The Mason City Junior College moved into a separate building during the summer of 1954.

The following year (1955-56) the junior college was to be housed in a separate building, which had been used in the past as an elementary school. The building was built originally to house the Roosevelt Memorial University.

f. Faculty study and in-service education. There was no organized program of faculty study and in-service education in the college. No statement of purpose and philosophy had been developed by the junior college faculty.

g. Testing program. The testing program included the ACE, Iowa Silent Reading, an English placement, Kuder Interest Inventory, and a

test of mathematics skills.

h. Student personnel services. There was a guidance and counseling program, but it did not encompass personal guidance. Vocational guidance was well developed. Placement services were available for teacher education personnel. The student permanent records existed in duplicate form. Follow-up studies had been made of former college graduates.

i. Teacher personnel. Two teachers were temporarily approved.

j. Areas in which improvement should be made. A program of faculty study and in-service education needed to be instituted.

A statement of purpose and philosophy was needed.

The guidance and counseling program needed to be broadened.

Student permanent records needed to be kept in duplicate form.

15. Muscatine Junior College

a. Enrollment. The total enrollment of full-time students at Muscatine Junior College for 1954-1955 was 110 students. Of this number, 73 were freshmen students, and 37 were sophomores. There were 79 resident students and 31 non-resident students.

b. Curriculum and class size. Muscatine Junior College offered a total of 188 semester hours of instruction and a total of 41 different courses. The average class size was 18.5 students. The range in class size was from 1 to 42.

c. Staff. Sixteen (16) teachers taught in the college during 1954-1955, 5 of whom were full-time teachers and 11 were part-time teachers in the junior college and the high school.

d. Library. The junior college library was separate from the high school library. There were 3,700 volumes in the library. Books were

added by teacher recommendation, with approximately 50 books added each year. There was no library budget.

e. Plant facilities. The junior college was located on the ground floor of the junior high school building. Most of the classrooms were located here, but some classes met in the high school. The junior college had 4 classrooms for its exclusive use, and shared 8 others. The physics laboratory was shared with the high school. The junior college chemistry and biology laboratories were housed together.

There was a student lounge.

f. Faculty study and in-service education. There was no organized program of faculty study in the college. No statement of purpose and philosophy had been developed by the college faculty.

g. Testing program. A comprehensive testing program included the ACE, an English placement, the Iowa High School Content, the Iowa Silent Reading, the California test of Personal Interest, and an inventory and test of social usage.

h. Student personnel services. There was a program of guidance and counseling with the Dean as coordinator. Placement services were available for teacher education personnel primarily and for others on an informal basis. There were duplicate permanent records of all students. No attempt had been made at follow-up.

i. Teacher personnel. Three teachers were temporarily approved.

j. Areas in which improvement should be made. A definite library budget needed to be established.

Faculty study and in-service education needed to be developed.

A statement of purpose and philosophy was needed.

16. Webster City Junior College

a. Enrollment. The total enrollment of full-time students at Webster City Junior College for 1954-1955 was 53 students. Of this number, 44 were freshmen, 14 were sophomores, and 14 were special students. There were 44 resident students and 14 non-resident students.

b. Curriculum and class size. Webster City Junior College offered a total of 127 semester hours of instruction and a total of 30 different courses. The average class size was 12 students. The range in class size was from 3 to 46.

c. Staff. Eighteen (18) teachers taught in the college during 1954-1955, 3 of whom were full-time teachers and 15 were part-time teachers in the junior college and high school.

d. Library. The junior college library was separate from the high school library. There were approximately 1,000 volumes in the library. The annual expenditure for library materials was budgeted at \$200. Books were added by teacher recommendation.

e. Plant facilities. The junior college facilities were shared with the high school, with a total of 12 classrooms used.

The chemistry and physics laboratories were shared with the high school. The biology laboratory was separate from the high school facilities.

No student lounge was available.

f. Faculty study and in-service education. There was no organized program of faculty study and in-service education in the college. No statement of purpose and philosophy had been developed by the college faculty.

g. Testing program. The testing program at Webster City Junior College consisted of the Otis, the ACE, the Iowa High School Content, and an English placement test.

h. Student personnel services. There was no formal program of guidance and counseling. Placement services were available for teacher education personnel.

There were student permanent records in duplicate form for each student. Some follow-up studies had been made of former junior college students.

i. Teacher personnel. Three teachers were temporarily approved.

j. Areas in which improvement should be made. The library reference section needed to be expanded.

Faculty study and in-service education were needed.

A statement of purpose and philosophy was needed.

A program of guidance and counseling was needed.

C. An Analysis of the Curricula

The curricula of the 16 public junior colleges were classified for analysis in this study into the course offerings in twelve areas. These areas were art, commerce, education, English and speech, engineering drawing and industrial arts, foreign language, mathematics, music, physical education, psychology, science, and social studies.

These twelve areas of instruction represented the course offerings in the public junior colleges and could be classified as university parallel or transfer courses. Courses not carrying college credit for transfer were 6 hours of machine shop and 3 hours of metal casting at

Keokuk, 6 hours of machine shop at Clinton, and 6 hours of machine shop and 2 hours of metal casting at Eagle Grove. These were terminal courses of a semitechnical nature and were not designed as college transfer courses.

Following in Table 9 are shown the curricular offerings in semester hours by subject-matter areas. The semester hours were totalled on the basis of the hours of credit in each subject. The number of sections were not computed in the total to ascertain the total number of hours offered.

It can be noted in Table 9 that the science offerings in the public junior colleges constituted the area in which the greatest number of semester hours were offered. A total of 551 semester hours of science were offered in the 16 junior colleges.

In the social science area 399 semester hours of instruction were given. This total was the second greatest in the twelve areas studied.

Approximately the same number of academic hours of instruction were offered in mathematics as in English and speech. The totals respectively were 304 semester hours and 297 semester hours.

Art, music and physical education represented the areas in which the fewest number of hours were offered. The totals were 63 hours in art, 87 hours in music, and 90 hours in physical education.

All 16 public junior colleges offered instruction in art, English and speech, mathematics, psychology, science and social studies. Instruction in physical education was offered in 15 of the 16 junior colleges. Courses in commercial subjects, education, foreign languages, and music were offered in 14 junior colleges. Twelve of the 16 public

.

Table 9
Curricula Offerings by Semester Hours in Subject Areas

School	Art	Commerce	Education	English and Speech	Engineering Drawing Industrial Arts	Foreign Language
Boone	3	8	12	20	6	10
Burlington	9	19	23	18	8	22
Centerville	2	-	11	16	2	-
Glarinda	4	25	17	10	12	3
Clinton	4	26	-	18	20	16
Creston	3	23	30	22	-	8
Eagle Grove	6	22	18	18	21	-
Emmetsburg	2	-	12	18	-	8
Estherville	3	20	21	18	-	8
Fort Dodge	4	28	6	15	3	8
Ellsworth	3	22	12	20	-	8
Keokuk	7	34	13	26	21	-
Marshalltown	4	8	-	18	6	8
Mason City	2	6	12	28	4	16
Muscatine	3	6	17	18	8	15
Webster City	4	18	13	14	6	8
Total	63	265	217	297	117	138

Table 9 (continued)

School	Mathematics	Music	Physical Education	Psychology	Science	Social Science	Totals
Boone	22	-	6	12	36	20	115
Burlington	20	15	6	12	46	32	230
Centerville	8	3	12	6	31	15	106
Clarinda	12	3	4	6	24	35	155
Clinton	20	8	4	3	29	17	165
Greston	9	5	4	9	24	31	168
Eagle Grove	22	8	12	6	34	21	188
Emmetsburg	29	4	6	2	30	21	132
Estherville	18	3	4	6	32	41	174
Fort Dodge	18	6	8	6	20	17	139
Ellsworth	16	-	5	6	46	22	160
Keokuk	21	-	8	3	36	18	187
Marshalltown	22	8	-	3	30	30	137
Mason City	28	15	3	9	66	29	218
Muscatine	29	4	4	9	42	33	188
Webster City	10	5	4	3	25	17	127
Total	304	87	90	101	551	399	2,629

junior colleges studied gave instruction in engineering drawing and industrial arts.

The total number of semester hours of academic instruction offered in the 12 areas studied in the 16 public junior colleges was 2,629. The mean number of semester hours offered was 164.3. The median was between 160 and 165 semester hours.

Burlington offered the greatest total of semester hours of instruction in the 12 areas studied (230 hours). Only Burlington and Mason City, with a total of 218 hours, offered more than 200 semester hours of instruction. Centerville, with a total of 106 semester hours in the 12 areas studied, had the smallest total semester hours of instruction.

Shown in the following Tables, 10 through 21, are the specific course offerings in each subject-matter area in each of the 16 public junior colleges.

It can be noted that there were a number of courses that were common to all schools. As shown in Table 13, a course in communication skills was found in each junior college.

Beginning algebra was also taught in all of the junior colleges, as shown in Table 16. As shown in Table 20, there were two courses in the area of science, biology and chemistry, that were taught in each of the 16 junior colleges.

All the schools but one offered instruction in literature, (Table 13) and in American Government (Table 21).

There were a total of 576 different courses taught in 12 areas of instruction studied. The institution which offered the broadest program in terms of the number of different courses offered was Burlington, with

Table 10

Art Curricula:
Subject Areas and Number of Semester Hours

Junior College	Fundamentals	Elementary Grade	Other	Totals
Boone	2	1	-	3
Burlington	6	3	-	9
Centerville	-	2	-	2
Clarinda	-	4	-	4
Clinton	4	-	-	4
Greston	-	3	-	3
Eagle Grove	2	2	2	6
Emmetsburg	2	-	-	2
Estherville	1	2	-	3
Fort Dodge	4	-	-	4
Ellsworth	-	3	2	5
Keokuk	3	4	-	7
Marshalltown	4	-	-	4
Mason City	-	2	-	2
Muscatine	-	3	-	3
Webster City	-	2	-	2
Totals	28	31	4	63

Table 11

Commercial Curricula:
Subject Areas and Number of Semester Hours

Junior College	Acctg.	Market.	Typg.	Shtd.	Bus. Mach.	Bus. Law	Bus. Org. Sec'y Sci.	Other	Totals
Boone	8	-	-	-	-	-	-	-	8
Burlington	6	6	4	-	-	3	-	-	19
Centerville	-	-	-	-	-	-	-	-	-
Clarinda	6	-	6	6	3	2	-	2	25
Clinton	6	-	4	6	4	-	6	-	26
Creston	6	-	4	10	-	-	3	-	23
Eagle Grove	6	-	-	-	-	3	10	3	22
Emmetsburg	-	-	-	-	-	-	-	-	-
Estherville	16	-	-	-	1	-	3	-	20
Fort Dodge	6	-	8	8	3	-	3	-	28
Ellsworth	6	-	4	-	4	3	-	5	22
Keokuk	12	3	6	6	3	-	4	-	34
Marshalltown	8	-	-	-	-	-	-	-	8
Mason City	6	-	-	-	-	-	-	-	6
Muscatine	6	-	-	-	-	-	-	-	6
Webster City	10	-	-	-	4	-	4	-	18
Totals	108	9	36	36	22	11	33	10	265

Table 12

Education Curricula:
Subject Areas and Number of Semester Hours

Junior College	Introd. to Ed.	Schl. Mgt.	Elem. Meth.	Observ. & Student Tchg.	Lang. Arts	Arith.	Other	Totals
Boone	3	3	6	-	-	-	-	12
Burlington	3	-	10	7	-	-	3	23
Centerville	3	3	-	5	-	-	-	11
Clarinda	3	-	-	8	3	2	1	17
Clinton	-	-	-	-	-	-	-	-
Creston	3	-	6	5	9	3	4	30
Eagle Grove	2	-	2	6	4	2	2	18
Emmetsburg	3	3	6	-	-	-	-	12
Estherville	3	3	-	5	3	3	4	21
Fort Dodge	?	?	?	?	?	?	?	?
Ellsworth	2	5	-	5	-	-	-	12
Keokuk	-	-	-	5	4	-	4	13
Marshalltown	-	-	-	-	-	-	-	-
Mason City	3	-	-	-	3	3	3	12
Muscatine	3	-	3	5	3	3	-	17
Webster City	3	-	3	5	-	2	-	13
Totals	34	17	36	61	29	18	21	217

Table 13

English and Speech Curricula:
Subject Areas and Number of Semester Hours

Junior College	Communication Skills	Literature	Speech	Other	Totals
Boone	6	8	6	-	20
Burlington	6	8	4	-	18
Centerville	6	8	2	-	16
Clarinda	3	5	2	-	10
Clinton	6	6	4	2	18
Creston	6	9	7	-	22
Eagle Grove	6	8	4	-	18
Emmetsburg	6	6	6	-	18
Estherville	10	8	-	-	18
Fort Dodge	4	8	3	-	15
Ellsworth	8	6	4	2	20
Keokuk	16	6	4	-	26
Marshalltown	10	-	4	4	18
Mason City	10	8	6	4	28
Muscatine	6	8	4	-	18
Webster City	8	6	-	-	14
Totals	117	108	60	12	297

Table 14

Engineering Drawing Industrial Arts Curricula:
Subject Areas and Number of Semester Hours

Junior College	Eng. Dr.	Eng. Prob.	Other	Eng. Dr. Totals	Mach. Shop	Other	Totals Ind. Arts	Total
Boone	6	-	-	6	-	-	-	6
Burlington	6	2	-	8	-	-	-	8
Centerville	-	2	-	2	-	-	-	2
Clarinda	8	2	2	12	-	-	-	12
Clinton	6	2	-	8	6	6	12	20
Creston	-	-	-	-	-	-	-	-
Eagle Grove	6	2	4	12	6	3	9	21
Emmetsburg	-	-	-	-	-	-	-	-
Estherville	-	-	-	-	-	-	-	-
Fort Dodge	3	-	-	3	-	-	-	3
Ellsworth	-	-	-	-	-	-	-	-
Keokuk	6	2	-	8	6	7	13	21
Marshalltown	6	-	-	6	-	-	-	21
Mason City	2	2	-	4	-	-	-	4
Muscatine	6	2	-	8	-	-	-	8
Webster City	6	-	-	-	-	-	-	6
Totals								117

Table 15

Foreign Language Curricula:
Subject Areas and Number of Semester Hours

Junior College	French	German	Spanish	Totals
Boone	10	-	-	10
Burlington	14	8	-	22
Centerville	-	-	-	-
Clarinda	3	-	-	3
Clinton	-	-	16	16
Creston	-	8	-	8
Eagle Grove	-	-	-	-
Emmetsburg	8	-	-	8
Estherville	-	-	8	8
Fort Dodge	8	-	-	8
Ellsworth	8	-	-	8
Keokuk	-	-	-	-
Marshalltown	-	-	8	8
Mason City	8	-	8	16
Muscatine	-	-	15	15
Webster City	8	-	-	8
Totals	67	16	55	138

Table 16

Mathematics Curricula:
Subject Areas and Number of Semester Hours

Junior College	Alg.	Trig.	Calculus	Geom.	Other	Totals
Boone	5	4	8	5	-	22
Burlington	3	3	10	4	-	20
Centerville	8	-	-	-	-	8
Clarinda	5	-	-	5	2	12
Clinton	8	-	8	-	4	20
Creston	9	-	-	-	-	9
Eagle Grove	10	-	8	-	4	22
Emmetsburg	5	5	8	5	6	29
Estherville	3	-	10	3	2	18
Fort Dodge	8	-	8	-	2	18
Ellsworth	6	-	8	-	2	16
Keokuk	10	-	8	-	3	21
Marshalltown	8	-	8	-	6	22
Mason City	6	3	10	3	6	28
Muscatine	4	8	10	4	3	29
Webster City	10	-	-	-	-	10
Totals	108	23	104	29	40	304

Table 17

Music Curricula:
Subject Areas and Number of Semester Hours

	Elementary Grade Music	Fundamentals	Vocal Choir - Chorus	Inst. Music Band & Orch.	Other	Totals
Boone	-	-	-	-	-	-
Burlington	3	6	2	4	-	15
Centerville	3	-	-	-	-	3
Clarinda	3	-	-	-	-	3
Clinton	-	-	4	4	-	8
Creston	3	-	-	2	-	5
Eagle Grove	2	2	-	2	2	8
Emetsburg	-	4	-	-	-	4
Estherville	3	-	-	-	-	3
Fort Dodge	-	-	2	4	-	6
Ellsworth	-	-	-	-	-	-
Keokuk	-	-	-	-	-	-
Marshalltown	-	6	2	-	-	8
Mason City	3	2	2	-	8	15
Muscatine	2	2	-	-	-	4
Webster City	2	2	1	-	-	5
Totals	24	24	13	16	10	87

Table 18

Physical Education Curricula:
Subject Areas and Number of Semester Hours

	Mens	Womens	Teaching of Physical Education	Other	Total
Boone	3	3	-	-	6
Burlington	2	2	2	-	6
Centerville	4	4	4	-	12
Clarinda	-	2	-	2	4
Clinton	2	2	-	-	4
Creston	2	2	-	-	4
Eagle Grove	2	2	2	6	12
Emmetsburg	2	2	2	-	6
Estherville	2	2	-	-	4
Fort Dodge	4	4	-	-	8
Ellsworth	2	2	1	-	5
Keokuk	4	4	-	-	8
Marshalltown	-	-	-	-	-
Mason City	-	-	3	-	3
Muscatine	2	2	-	-	4
Webster City	2	2	-	-	4
Totals	33	35	14	8	90

Table 19

Psychology:
Subject Areas and Number of Semester Hours

Junior College	General	Ed. Psy.	Applied	Other	Totals
Boone	6	3	-	3	12
Burlington	6	3	-	3	12
Centerville	3	3	-	-	6
Clarinda	3	3	-	-	6
Clinton	3	-	-	-	3
Creston	6	3	-	-	9
Eagle Grove	3	-	3	-	6
Emmetsburg	2	-	-	-	2
Estherville	3	3	-	-	6
Fort Dodge	3	-	3	-	6
Ellsworth	3	3	-	-	6
Keokuk	-	3	-	-	3
Marshalltown	3	-	-	-	3
Mason City	3	3	3	-	9
Muscatine	3	3	3	-	9
Webster City	-	3	-	-	3
Totals	50	33	12	6	101

Table 20

Science:
Subject Areas and Number of Semester Hours

Junior College	Biology	Chem.	Physics	Survey of Phy. Sci.	Nature Study	Other	Totals
Boone	8	8	10	8	-	2	36
Burlington	8	13	10	-	3	12	46
Centerville	8	8	10	3	-	2	31
Clarinda	8	8	-	3	3	2	24
Clinton	8	13	8	-	-	-	29
Creston	8	10	-	3	3	-	24
Eagle Grove	10	8	10	3	3	-	34
Emetsburg	8	8	8	6	-	-	30
Estherville	8	8	8	3	3	2	32
Fort Dodge	8	4	5	3	-	-	20
Ellsworth	8	16	8	3	3	8	46
Keokuk	8	16	10	-	-	2	36
Marshalltown	8	8	8	-	-	6	30
Mason City	8	18	10	11	3	16	66
Muscatine	8	16	8	4	4	2	42
Webster City	12	8	-	3	-	2	25
Totals	134	170	113	53	25	56	551

Table 21

Social Science:
Subject Areas and Number of Semester Hours

Junior College	Am. Gov.	Econ.	Geog.	Eur. His.	U.S. His.	Soc.	Cont'y. Prob.	West. Civil.	Other	Totals
Boone	3	3	3	4	-	3	-	-	4	20
Burlington	6	6	-	-	3	4	3	8	2	32
Centerville	6	-	3	-	6	-	-	-	-	15
Clarinda	6	6	3	6	3	6	3	-	2	35
Clinton	3	6	-	-	-	-	8	-	-	17
Creston	4	6	3	-	6	6	-	6	-	31
Eagle Grove	4	6	3	-	4	-	4	-	-	21
Emetsburg	4	6	-	8	-	3	-	-	-	21
Estherville	6	6	3	-	8	8	2	8	-	41
Fort Dodge	3	3	3	-	-	-	-	8	-	17
Ellsworth	2	6	-	-	-	2	6	6	-	22
Keokuk	-	6	3	-	3	3	3	-	-	18
Marshalltown	6	-	-	-	8	8	-	8	-	30
Mason City	6	6	3	-	6	-	-	8	-	29
Muscatine	8	8	3	8	6	-	-	-	-	33
Webster City	3	-	3	-	6	3	2	-	-	17
Totals	70	74	33	26	59	46	31	52	8	399

a total of 51 different courses. The fewest courses were offered in the Marshalltown Junior College (23) and in the junior college at Centerville (24).

Following in Table 22 are shown the number of different courses offered in each junior college.

Table 22

Number of Different Courses Offered

Junior College	Number of Courses	Junior College	Number of Courses
Boone	33	Estherville	40
Burlington	51	Fort Dodge	30
Centerville	24	Ellsworth	39
Clarinda	41	Keokuk	38
Clinton	30	Marshalltown	23
Creston	36	Mason City	44
Eagle Grove	49	Muscatine	41
Emmetsburg	27	Webster City	30
Total			576

The data in the foregoing table show that Burlington offered the largest number of courses (51), while Marshalltown with 23 different courses and Centerville with 24 offered the smallest number of courses. The total number of courses offered in all 16 public junior colleges was 576.

D. Class Enrollments

Shown in Table 23 are the class enrollments in units of five in each of the 16 public junior colleges studied.

The range in class size of all classes in all colleges was from 1 to 81. This range was found in the Mason City Junior College. The median class size of all colleges was 15. Mason City Junior College had the largest average class size - 30.7.

Eagle Grove offered the largest number of classes with enrollments of 5 or fewer. The total in this category at Eagle Grove was 19, out of a combined total of 100 classes offered for 5 or fewer students in the 16 public junior colleges studied.

Fifty-five percent, or more than one-half, of the classes offered for 5 or fewer students were found in the combined totals of five junior colleges. These colleges and the number of classes of 5 or fewer were

Eagle Grove	19
Clinton	11
Ellsworth	9
Estherville	8
Keokuk	8

Clinton with 11 classes out of a total of 38, or 29 percent, had the greatest percentage of classes of 5 or fewer among the 16 junior colleges studied. All 16 junior colleges had at least one class in which 5 or fewer students were enrolled. Mason City Junior College with but one class of 5 or fewer had the smallest total in this category, or 1.2 percent.

Table 23

Size of Classes in Public Junior Colleges for the School Year 1954-1955

School	5 or fewer	6-10	11-15	16-20	21-25	26-30	31-35	36-40	41-45
Boone	2	7	14	7	1	1	2	2	-
Burlington	3	11	4	14	10	12	1	4	2
Centerville	3	5	3	7	6	3	1	2	1
Clarinda	7	12	12	11	-	3	1	4	1
Clinton	11	6	4	8	5	2	2	-	-
Creston	6	11	10	14	1	4	1	-	-
Eagle Grove	19	20	22	11	7	1	-	-	1
Emmetsburg	4	11	12	8	4	2	-	2	1
Estherville	8	6	12	14	4	6	2	-	1
Fort Dodge	4	10	10	12	14	18	23	6	4
Ellsworth	9	11	24	15	8	3	-	1	2
Keokuk	8	13	12	5	2	-	-	-	-
Marshalltown	6	5	3	6	-	-	4	-	-
Mason City	1	11	6	5	10	10	13	7	2
Muscatine	6	4	10	7	4	2	5	1	1
Webster City	3	13	10	4	5	-	-	-	-
Total	100	156	168	148	81	67	60	29	16

Table 23 (continued)

School	46-50	51-55	56-60	61-65	66-70	71-75	76-81	Total
Boone	1	-	-	-	-	-	-	37
Burlington	1	-	-	-	-	-	-	62
Centerville	-	-	-	-	-	-	-	36
Clarinda	-	-	2	-	-	-	-	53
Clinton	-	-	-	-	-	-	-	38
Creston	-	-	-	-	-	-	-	47
Eagle Grove	1	-	-	-	-	-	-	82
Emmetsburg	-	-	-	-	-	-	-	44
Estherville	-	1	-	-	-	-	-	54
Fort Dodge	1	-	-	-	-	-	-	102
Ellsworth	1	3	-	-	-	-	-	77
Keokuk	-	-	-	-	-	-	-	40
Marshalltown	1	1	-	-	-	-	-	26
Mason City	4	1	7	-	1	1	2	81
Muscatine	-	-	-	-	-	-	-	40
Webster City	1	-	-	-	-	-	-	36
Total	11	6	9	-	1	1	2	355

There were 100 classes out of a total of 855 that enrolled five or fewer students. This represented 11.7 percent of the total number of classes. Out of the total of 855 classes, 256 classes, or 29.9 percent, enrolled 10 or fewer students. Approximately one-half (424 classes or 49.5 percent) had a membership of 15 or fewer.

The greatest number of classes was offered at Fort Dodge -- 102. The smallest total was found at Marshalltown, where there were but 26 different classes. The median number of classes offered at the 16 public junior colleges was between 44 and 47.

E. Analysis of Junior College Staffs

There were 297 faculty members teaching in the 16 public junior colleges during the 1954-55 academic school year. Following, in Table 24, are shown the number of men and the number of women teaching in the public junior colleges of the state. Also shown are the number and type of academic degrees held by the various instructors in these colleges. The number in each institution who were teaching in their graduate majors, the number of teachers whose full time assignment was in the college, and the number who taught part-time in the high school are also shown.

It can be noted from Table 24 that of the total number of 297 teachers 63.6 percent (139) were men and 36.4 percent (108) were women. Only at Creston did the number of women faculty (15) exceed the number of men (6).

In columns 2, 3, and 4 are shown the number and types of degrees held by the faculty of each junior college. There was but one Ph.D. among the 297 teachers who taught in the public junior colleges in 1954-55.

Table 2h

Number, Preparation, and Assignments of the Faculties of
the Public Junior Colleges

Junior College	No. Men	No. Women	No. Ph.D	No. Masters	No. B.A.	No. Teachers	No. Teaching Graduate Major	No. Full Time Teachers	No. Who Teach Also in H.S.
Boone	11	6	-	15	2	17	12	1	16
Burlington	20	13	1	28	4	33	28	6	27
Centerville	7	4	-	8	3	11	10	2	9
Clarinda	6	6	-	8	4	12	9	4	8
Clinton	17	9	-	20	6	26	17	1	25
Creston	6	15	-	16	5	21	17	5 ^a	15
Eagle Grove	13	4	-	14	3	17	14	1	16
Emmetsburg	12	5	-	12	5	17	12	- ^b	16
Estherville	8	5	-	10	3	13	10	4	9
Fort Dodge	13	11	-	23	1	24	24	2	22
Ellsworth	12	4	-	9	7	16	12	4	10 ^c
Keokuk	15	6	-	16	5	21	14	1	20
Marshalltown	11	3	-	11	3	14	11	1	13
Mason City	15	6	-	18	3	21	15	12	9
Muscatine	11	5	-	13	3	16	14	5	11
Webster City	12	6	-	11	7	18	11	3	15
Totals	189	108	1	232	64	297	230	52	241

^aSuperintendent teaches one class in Economics.

^bSuperintendent is administrator of junior college.

^cTwo teachers each teach one class in junior college for last semester only.

A total of 232 teachers, or 78.1 percent of the total, held the Master's degree and 64 held the Bachelor's degree.

Out of a total of 33 teachers at Burlington there were 28 instructors who held the Master's degree and one who held the Ph.D. Of the 23 teachers at Fort Dodge all but one held the Master's degree.

In column 7 of Table 24 are shown the number of teachers who were teaching in the area of their graduate major. These data show that all 24 teachers in the junior college at Fort Dodge taught in the area of their graduate major. In all, 230, or 77.4 percent of the junior college instructors were teaching in their major field. Clinton, where 17 teachers out of a total of 25, 65.4 percent, were teaching in their major field, was the junior college with the lowest ratio of instructors teaching in the graduate major.

There were, as shown in Table 24, 52 teachers who had full-time assignments in the 16 public junior colleges. Only in the junior college at Emmetsburg were no teachers assigned to full-time junior college instruction. There were 5 junior colleges which had but one full-time instructor, who was in each case the Dean of the junior college. These colleges were Boone, Clinton, Eagle Grove, Keokuk, and Marshalltown. Mason City Junior College was the only institution with a majority of the total number of instructors teaching solely in the junior college. At Mason City Junior College 12 teachers out of a total of 21 (57.1 percent) taught full time in the junior college.

Shown in column 9 of Table 24 are the number of junior college instructors who also taught in the high schools in the 16 communities which maintained junior colleges. There was a total of 241 teachers,

or 81.1 percent, who in addition to teaching in the junior college taught also in the high schools. All 16 public junior colleges shared faculty members with the high schools in their respective communities. In Clinton 25 teachers out of a total of 26 (96.2 percent) who taught in the junior college, served also as high school instructors.

Shown in Table 25 are the number of teachers categorized by the number of years of teaching experience. These data reveal that there were 49 teachers out of a total of 297 (16.5 percent) who were beginning junior college teachers in 1954. There were 160 instructors, or 53.9 percent who had had 5 years or less experience as junior college teachers. The greatest number of teachers (111) in any five-year span occurred in the group which had between 1 to 5 years of experience in teaching at the junior college level.

F. Transfers to Senior Colleges

Shown in Table 26 are the number of college graduates who had transferred to four-year colleges since the 1949-50 school year. The data were collected from 14 of the 16 public junior colleges. No data were available from the Fort Dodge Junior College. The Keokuk Community College which was established in 1953, could not have graduated anyone before 1955, and this analysis covered a five-year span from the 1949-50 school year to and including the 1953-54 school year.

There was a total of 799 junior college graduates who had transferred from the 14 junior colleges to four-year colleges in the five-year period studied. The largest number of such students transferred in the 1949-50 school year. A total of 240 students transferred from 13 junior colleges

Table 25

Years of Experience of Junior College Teachers

Junior College	Beginning Teachers	1-5 years	6-10 years	11-15 years	16-20 years	21-25 years	26-30 years	31 years	Total
Boone	5	7	2	-	-	1	2	-	17
Burlington	5	10	6	5	1	2	4	-	33
Centerville	2	5	-	2	1	-	1	-	11
Clarinda	2	6	1	2	-	1	-	-	12
Clinton	4	8	14	-	-	-	-	-	26
Creston	2	4	12	2	-	1	-	-	21
Eagle Grove	1	7	5	2	1	1	-	-	17
Emetsburg	4	6	3	2	-	2	-	-	17
Estherville	4	2	5	1	-	1	-	-	13
Fort Dodge	5	6	3	4	-	1	4	1	24
Ellsworth	4	9	3	-	-	1	-	-	16
Keokuk	2	19	-	-	-	-	-	-	21
Marshalltown	1	4	6	3	-	-	1	-	14
Mason City	5	4	4	4	-	-	3	1	21
Muscatine	-	7	6	1	-	2	-	-	16
Webster City	3	8	6	-	-	1	-	-	18
Totals	49	111	75	26	3	14	15	2	297

Table 26

Number of Junior College Students Who Transfer to Four Year Colleges

	1949-1950	1950-1951	1951-1952	1952-1953	1953-1954	Totals
Boone	11	5	6	4	3	29
Burlington	60	44	31	22	31	188
Centerville	8	9	3	3	3	26
Clarinda	-	-	6	4	3	13
Clinton	12	7	10	14	5	48
Creston	19	15	8	13	7	62
Eagle Grove	17	17	8	11	7	60
Emetsburg	2	10	3	3	8	31
Estherville	14	6	5	6	8	39
Fort Dodge	-	-	-	No data available	-	-
Ellsworth	21	13	11	10	12	67
Keokuk	-	-	-	-	-	-
Marshalltown	15	9	8	12	3	47
Mason City	35	35	16	16	3	105
Muscataine	16	11	10	9	9	55
Webster City	10	6	4	4	5	29
Totals	240	137	129	136	107	799

that year to other institutions which offered four years of training.

The largest number of students (138) matriculating in the four-year colleges and universities during the five-year period studied transferred from the junior college at Burlington. The graduates who transferred from Burlington (138) and the graduates who transferred from Mason City (105) during this five-year period totalled 293 students. This combined total represented 36.6 percent of the total number of graduates who transferred to four-year institutions between 1949-50, and 1953-54. Of the 14 institutions from which data were available, as shown in the foregoing table, Clarinda had the fewest number of graduates who transferred to the four-year colleges and universities (13).

G. Assessed Valuation in Districts Maintaining Junior Colleges

Shown in Table 27 are the assessed valuations, the census enumeration of school age persons (between 5 - 21), and the assessed valuation per junior college student.

In table 27 it is shown that the assessed valuation among the 16 school districts which maintained public junior colleges ranged from a low of \$1,071,445.00 at Creston to a high of \$43,105,298.00 at Mason City. This assessed valuation, while important, is not as significant as is the assessed valuation per student which is computed by dividing the assessed valuation in each school district by the number of persons between the ages of 5 - 21 who reside within the school corporation.

The range in the assessed valuation per student in each of the 16 districts which maintained junior colleges was from a low of \$3,702.22 at Burlington to a high of \$6,091.10 at Eagle Grove.

Table 27

Valuation of Districts Maintaining Junior
Colleges for 1953-1954

Junior College	Type of District	Assessed Valuation	Census Enumeration	Valuation per J. C. Student
Boone	Independent	11,450,577	2,873	3,985.58
Burlington	Independent	25,352,615	6,983	3,702.22
Centerville	Independent	5,914,502	1,446	4,090.25
Clarinda	Independent	5,350,982	1,016	5,266.71
Clinton	Independent	33,746,882	7,543	4,473.93
Creston	Independent	1,071,445	1,789	5,959.09
Eagle Grove	Independent	6,273,835	1,030	6,091.10
Wattsburg	Consolidated	5,321,258	1,505	5,529.10
Estherville	Independent	8,977,916	2,138	4,199.21
Fort Dodge	Independent	29,302,234	6,943	4,232.07
Ellsworth	Independent	5,630,963	1,136	4,956.83
Keokuk	Community	21,461,542	1,136	4,956.83
Marshalltown	Independent	21,652,515	4,830	4,482.92
Mason City	Independent	43,105,298	8,058	5,349.37
Muscatine	Independent	17,246,295	5,012	3,441.00
Webster City	Community	3,208,749	2,142	3,032.28

VI. ACHIEVEMENT OF STUDENTS TRANSFERRING TO SENIOR COLLEGES

The future development of the junior college in Iowa is not yet certain. One of the questions still unanswered is concerned with the role of the junior college as it relates to university parallel courses in an era of expanding college enrollments. One of the subsidiary, though fundamental, questions is "How well do junior college students do in senior college in terms of achievement as measured by academic average?" Among other important concerns are, "What are the chances of junior college transfers to graduate from a senior college?" "What are the chances of the transfer student to graduate in the upper half of the class?"

One of the criteria by which the junior college may be appraised is the success of the junior college student who transfers to a senior college. One measure of this success in a senior college relates to whether or not the transfer student graduates. Still another way to measure the success of the student who transfers is to ascertain his scholastic rank in relation to the median grade point of those who graduated.

To appraise, in part, the quality of instruction and the measure to which the junior college succeeds in that phase of its program which is centered in university parallel courses, an analysis could be made of comparative academic averages of the transfer student in the junior college and in the senior college.

The predicted grade point, the analysis of the probability of graduating from senior college, and the probability of graduating in the upper half of the class would be valuable adjuncts to the junior college

guidance program. The data reported and interpreted in this chapter could well be utilized by the junior college counselor in discussing with the student his future plans as they relate to further formal education.

The purpose of this chapter, then, was three fold. The first purpose was to establish a means to predict the grade point of a two-year public junior college transfer student who matriculated at one of the three state institutions of higher learning. In Iowa these institutions referred to are the State University of Iowa, Iowa State College and Iowa State Teachers College. Hereafter these will be referred to as "the three state institutions" or SUI, ISC, and ISTC. The prediction variables used in this first analysis were the student's high school academic average, and the academic average earned in the junior college.

The second purpose of this statistical analysis was to ascertain the chances out of 100 that a two-year transfer of a public junior college would have of graduating when he enrolled at SUI, ISC, or ISTC. Again the predictions variables used were high school and junior college averages.

Thirdly, the probability of a two-year transfer from a public junior college of graduating in the upper half of his class at each of the three state institutions was ascertained. The high school average and the junior college average of the transfer student constituted the prediction variables.

The predicted grade point, the probability of graduation, and the probability of graduating in the upper half of the class were predicted for students who matriculated in each of the three state institutions.

This chapter, then, can be divided into three sections. The first

section used the null hypothesis that senior college grades cannot be predicted from high school and junior college averages.

The second section used the null hypothesis that there is no relationship between the tendency to graduate and the high school average and junior college average.

The third section used the null hypothesis that there is no relationship between the tendency to graduate in the upper half of the class and the averages earned in high school and junior college.

In this chapter the academic records of 257 students served as the basis for the investigation. These students were two-year transfers from 15 public junior colleges in Iowa to the three state institutions, SUI, ISC, and ISTC in the years 1950, 1951, and 1952.

A two-year transfer was defined as one who had completed two years of academic work, a total of not less than 90 quarter hours or 60 semester hours in university parallel courses. This analysis was limited to two-year transfers because only these could be deemed to have completed the offerings available in a junior college.

There were 16 public junior colleges in Iowa at the time of this writing, but one, Keokuk, was founded subsequent to 1952 and could not be included in the area of the study.

All of the students studied were transfers from public junior colleges in existence at the time the study was made. There were several students enrolled at each state institution who transferred from defunct colleges. These students were dropped from the study since this investigation sought to appraise only those public junior colleges operating at the time the study was made.

The study was limited further, to an analysis of academic records of the transfer students to the three state institutions. This limitation was imposed for several reasons: (1) representatives of these three institutions comprise the membership of the Committee on Secondary School and College Relations which serves to accept or reject the approval status of each institution and works with the Department of Public Instruction to establish standards for approval of the junior colleges; (2) the majority of the students who attend college in Iowa, attend these institutions; (3) the majority of those who transfer from a public junior college transfer to one of these three institutions; and (4) the records were readily available at each of the three state institutions.

Students who transferred in the years 1950, 1951, and 1952, were chosen as the basis for this analysis because: (1) a three year span was necessary to yield a sample of sufficient size; (2) the latter year (1952) was the last year a student could transfer and conceivably graduate in relation to the time this analysis was initiated; (3) the period covered in this three year span was the least abnormal in relation to G. I. enrollments -- the Korean veterans had not yet returned to school and the number of World War II veterans was decreasing rapidly.

The high school average and the junior college average were used as prediction variables because they were the only data available for all 257 students. It was originally intended to use the ACE as a prediction variable but SUI did not give this test, nor did SUI give the same placement tests to students in engineering, dentistry, and commerce as they gave to the students in liberal arts.

The data for this investigation were collected from the Office of the Registrar at each state institution and from each of the 15 public junior colleges. Statistical techniques used in the treatment of the data were analysis of regression, biserial correlation, and discriminant analysis.

It was found that out of a total of 257 transfer students to SUI, ISC, and ISTC, a total of 175 survived. Of this 175 who survived, 160 had graduated and 15 were still enrolled. Ten of these 15 students who were still enrolled were attending ISC. Current enrollees were classified as survivors because: (1) they had not discontinued their studies and, (2) not all non-transfer students originally enrolling in the three senior colleges graduate in a four year period.

The percentage of attrition was highest at ISC (39.4 percent) where there were 26 students in the attrition group out of a total of 71 transfers in the three year period under study. The percentage of attrition was somewhat less at SUI (31.3 percent), where 87 survived out of a total of 127 students who transferred. The percentage of attrition was smallest at ISTC (23.7 percent) where 14 students out of a total transfer group of 59 failed to survive.

In Table 28 are shown the number of students in the attrition and survival groups in each institution.

Table 28

Number of Students in Survival and Attrition Groups
and Percentage of Attrition by Institution

Institution	Survival	Attrition	Total	Percent Attrition
SUI	87	40	127	31.3
ISC	43	28	71	39.4
ISTC	45	14	59	23.7
All Institutions	175	82	257	28.01

A. The Grade Point Prediction for Transfers
in Each State Institution

As it has been stated, the purpose in the first section of this statistical investigation was to predict the grade point of the two-year junior college transfer student, using as prediction variables the high school and junior college averages.

In Table 29 are shown the means of the high school averages, the junior college averages, and the cumulative college grade point for the students who transferred to each institution.

Table 29

Means of Students Who Transferred

Institution	High School	Junior College	Cumulative College
SUI	2.74	2.74	2.13
ISC	2.68	2.65	1.91
ISTC	2.70	2.63	2.44

It can readily be seen from the foregoing that the high school averages of the students transferring to each institution are almost identical. The junior college averages those students who transferred are also nearly the same at each institution. Further, there is little variance between the high school average and the junior college average of the students at each institution. However, the cumulative college average varies greatly between institutions. It can be seen also that the cumulative college average in two institutions, SUI, and ISC, is somewhat lower than either the high school grade point or the junior college grade point.

In Table 30 are shown the means of the students who are in the survival groups at each institution.

Table 30
Means of Students in Survival Groups

Institution	High School	Junior College	Cumulative College
SUI	2.80	2.80	2.22
ISC	2.81	2.80	2.14
ISTC	2.76	2.70	2.52

It can be seen in Table 30 that the high school averages of all students who survived in each institution are relatively alike. The junior college averages earned by the students who transferred to each of the three institutions vary slightly. The cumulative college averages earned by the transfers at each institution vary to a greater degree than the averages earned by these same students in high school and in junior college. The survival students who graduated from ISC earned the lowest grade point (2.14) while the highest grade point (2.52) earned by those students graduating from ISTC. It can be noted further that the students who graduated from ISTC had the lowest high school mean and the lowest junior college mean but earned the highest cumulative college grade point.

Shown in Table 31 are the means of the students in each institution who are in the attrition group.

Table 31

Means of Students in Attrition Group

Institution	High School	Junior College	Cumulative College
SUI	2.61	2.63	1.94
ISC	2.48	2.41	1.56
ISTC	2.50	2.40	2.20

It can be seen from the data in Table 31 that there are some differences among the high school averages of the students who transferred to the three state institutions. A greater disparity can be noted at the various state institutions among the averages earned at the junior college level by the transfer students. The cumulative college averages earned by the transfers have two characteristics: (1) in each institution the cumulative college average is considerably below either the high school or junior college mean, (2) there is a considerable span between the averages earned at ISC (1.56) and that earned at ISTC (2.20), which has the highest grade point for attrition students among the three institutions.

It can be noted further, by reference to Tables 30 and 31, that the mean of the attrition group for students transferring to ISTC (2.20) is higher than the mean of the survival group at ISC (2.14). It is also apparent that the mean of the SUI survival is but .02 of a grade point higher than the attrition group mean at ISTC.

Table 32

Means of Students in Survival and Attrition Groups

	High School	Junior College	Cumulative College
Survival Group	2.79	2.77	2.28
Attrition Group	2.55	2.52	1.86

It can be seen from the data contained in Table 32 that the mean of the survival group was higher at each level of learning than the means for the attrition group. There was a greater differential in the means between the two groups at the senior college level. Within each group it can be noted that the grade point decreased from high school to junior college to the cumulative college average.

When an investigation was made of the cumulative college grade point the analysis of regression was used to determine the prediction equation. It was found in developing this equation that the high school average could be dropped as a prediction variable.

The usual form of the regression equation used was as follows:

$$Y = ax_1 + bx_2 + C$$

where

$$x_1 = \text{high school average}$$

and

$$x_2 = \text{junior college average}$$

The normal equations in deviation form used to solve for the consonants were:

$$\sum x_1 y = a \sum x_1^2 + b \sum x_1 x_2$$

$$\sum x_2 y = a \sum x_1 x_2 + b \sum x_2^2$$

Substituting the appropriate values, the normal equations became:

$$36.0611 = 79.7625a + 56.8129b$$

$$54.4968 = 56.8129a + 73.7463b$$

Within values were used in order to utilize all the cases, yet it was realized that the three state institutions were different in terms of the predicted variable. Therefore, it would be necessary to determine a prediction for each institution.

Solving these normal equations, the values of the constants were as follows:

$$a = -.1645$$

$$b = .8657$$

or, a prediction equation of:

$$y = -.1645x_1 + .8657x_2$$

The F test was used to determine whether the high school average could be dropped from the prediction equation.

Table 33

Regression Analysis to Determine F Value

	d.f.	S.S.	M.S.	F
Regression $X_1 - X_2$	2	41.2463		
Regression X_2	1	40.2719		
Loss	1	.9744	.9744	3.05
Residuals	251	80.1202	.3192	
Total	253	121.3665		

Since the F value was not significant the high school average could be dropped as a prediction variable.

This resulted in a different prediction equation using only junior college grades as a prediction variable.

$$y = bx_2$$

or

$$y = .8657x_2$$

The means of the criterion and the prediction variable for each state institution were used to determine a prediction equation for each of the three state schools.

For SUI the equation was:

$$y - \bar{Y}_{SUI} = b (X_2 - \bar{X}_{2SUI})$$

$$Y - 2.1327 = .7390 (X_2 - 2.7442)$$

$$Y = .7390X_2 + .1049$$

For ISC the equation was:

$$Y - \bar{Y}_{ISC} = b (X_2 - \bar{X}_{2ISC})$$

$$Y - 1.9139 = .7390 (X_2 - 2.6463)$$

$$Y = .7390X_2 - .0416$$

For ISTC the equation was:

$$Y - \bar{Y}_{ISTC} = b (X_2 - \bar{X}_{2ISTC})$$

$$Y - 2.4331 = .7390 (X_2 - 2.6266)$$

$$Y = .7390X_2 + .5020$$

Using the foregoing prediction equations for the respective institutions a table was constructed showing the predicted college cumulative average at each institution. Entries in Table 34 are the most probable predictions. Fifty percent of the students can be expected to make grade averages between .363 above and below the appropriate entries.

In the table (Table 34) is shown what average a two-year junior college transfer can expect in any of the three state institutions based on the average earned in junior college. For example a student with a junior college average of 2.0 could expect to receive a grade point of 1.583 at SUI, 1.436 at ISC, and 1.528 at ISTC. A 4.0 junior college average would yield a predicted grade point of 3.061 at SUI, 2.914 at ISC, and 3.006 at ISTC.

Table 34

Predictions of Grade Point Averages at
the State University of Iowa, the Iowa State
College, and the Iowa State Teachers College

Junior College Average	SUI	ISC	ISITC
1.0	.844	.697	.789
1.2	.992	.844	.936
1.4	1.139	.992	1.084
1.6	1.287	1.140	1.232
1.8	1.435	1.238	1.380
2.0	1.583	1.436	1.528
2.2	1.731	1.583	1.575
2.4	1.878	1.731	1.823
2.6	2.026	1.879	1.971
2.8	2.174	2.027	2.119
3.0	2.322	2.175	2.267
3.2	2.469	2.322	2.414
3.4	2.617	2.470	2.562
3.6	2.765	2.618	2.710
3.8	2.913	2.766	2.858
4.0	3.061	2.914	3.006

B. The Prediction of Graduation from the Three State Institutions

In developing the guidance program in the junior college it would seem valuable to know what chances students would have of graduating from any one of the three state institutions after attending a public junior college for two years.

Further, as was indicated previously, one measure of the quality of the junior college is found in the success, as measured by academic

achievement, of the transfer student. The data reported and interpreted in this section can predict, for guidance purposes, the probability of graduation from any of the state institutions. Further, these data can serve to appraise, in part, the work of the junior college in relation to the probability of the junior college transfer to graduate from one of the state institutions.

Using the discriminant analysis a probability table was developed showing the chances out of 100 that a transfer student has of graduating at each institution.

The basic normal equations in deviation form using within values were:

$$NZd_1 = ax_2 + bx_1x_2$$

$$NZd_2 = ax_1x_2 + bx_2$$

where:

N = the number of cases

Z = the height of the ordinate

d_1 = the difference in the means of the high school averages between the attrition and the survival groups

d_2 = the difference in the means of the junior college averages between the attrition and the survival groups

x_1 = the high school average

x_2 = the junior college average

Substituting

$$22.2918 = 79.7625a + 56.8129b$$

$$23.5195 = 56.8129a + 73.7463b$$

$$a = .1159$$

$$b = .2296$$

The deviation form of the discriminant function became:

$$v = .1159x_1 + .2296x_2$$

The F test was then used to determine the loss of x_1 from the discriminant function. The F value was found to be less than one and the high school average was dropped as a prediction variable.

The following analysis was made to determine biserial correlation:

$$R_{bis} = \frac{pq}{s^2} \sqrt{\frac{\Delta}{N}}$$

where

$$p = .6809$$

$$q = .3191$$

resulting in

$$R_{bis} = \frac{.2173}{(.3572)^2} \sqrt{\frac{7.9847}{257}}$$

$$R = .3002$$

Using grades as a criterion the correlation was found to be .58. However, when the criterion of the tendency to graduate was used, a coefficient of correlation of .29 resulted.

The discriminant function equation in deviation form using only junior college averages became:

$$v = .3190x_2$$

The biserial r when junior college grades only were used to predict graduation tendency was

$$r_{bis} = \frac{.2173}{(.3572)^2} \sqrt{\frac{7.5010}{257}}$$

$$r_{bis} = 1.7030 \sqrt{.0292}$$

$$r_{bis} = .2910$$

In raw score form the equation was:

$$V - \bar{V} = b (X_2 - \bar{X}_2)$$

Then substituting:

$$V - \bar{V} = .3189 (X_2 - \bar{X}_2)$$

The values of groups for each respective institution were used to develop three discriminant function equations.

The discriminant function for SUI became:

$$V - (+.4817) = .3189 (X_2 - 2.7442)$$

$$V - .4817 = .3189X_2 - .8752$$

$$V = .3189X_2 - .3935$$

For ISC the equation was:

$$V - (+.2679) = .3189 (X_2 - 2.6463)$$

$$V - .2679 = .3189X_2 - .8440$$

$$V = .3189X_2 - .5761$$

For ISTC the equation became:

$$V - (+.7150) = .3189 (X_2 - 2.6266)$$

$$V - .7150 = .3189X_2 - .8377$$

$$V = .3189X_2 - .1227$$

Through the use of the foregoing equations the following table (Table 35) was developed in which are shown the chances out of 100 that a two-year transfer from a public junior college has in graduating from

each of the three state institutions.

Table 35

Probability of Graduation for Students Transferring to
the State University of Iowa, the Iowa State
College, and the Iowa State Teachers College

Junior College Average	Chances Out of 100 of Graduating		
	SUI	ISC	ISTC
1.0	47	40	58
1.2	50	42	60
1.4	52	45	63
1.6	55	47	65
1.8	57	50	67
2.0	60	53	70
2.2	62	55	72
2.4	65	58	74
2.6	67	60	76
2.8	69	62	78
3.0	71	65	80
3.2	74	67	82
3.4	76	70	83
3.6	78	72	85
3.8	79	74	86
4.0	81	76	88

It is shown in the foregoing table that a junior college transfer student who has completed two years of college work with a 2.0 average has 60 chances out of 100 to graduate from SUI, 53 chances in 100 of graduating from ISC, and 70 chances in 100 of graduating from ISTC. The student with a 4.0 average in junior college has 81 chances out of 100 to graduate from SUI, 76 chances in 100 at ISC, and 88 chances at ISTC.

C. The Prediction of the Tendency to Graduate in the
Upper Half of the Class at Each State Institution

The purpose of this section was to ascertain the probability of a two-year junior college transfer student to graduate in the upper half of the graduating class in each state institution. Since the median grade point for all students of the graduating classes during the three years under study at each institution varied only slightly, the span being .06 of one point, the median for the middle year, 1953, was chosen in each school. For the year 1953 the median for each institution was:

SUI = 2.53

ISC = 2.57

ISTC = 2.61

In Table 36 are shown the number of transfer students from the junior colleges in each of the three state institutions who had grade points above the median for that school and those who were below the median. In some respects the entries in this table may be misleading since the median grade point in each of the three institutions has been based upon those students who actually graduated, whereas the number of transfer students had been counted regardless of whether they graduated or not.

It can be seen from the table (Table 36) that the institution with the greatest proportion of transfer students with grade points that are above the median for the school is ISTC with 22 (37.3 percent) students out of a total of 59 above the median. At the other end of the scale the junior college students who attended SUI yielded a percentage of 25.9, or 33 out of 127 as related to graduation above the median. The

percentage of the transfer students who were in the survival group ISC was 29.5, or a total of 21 students out of 71 above the median.

Table 36

Number of Students above and below the Median at the State University of Iowa, the Iowa State College, and the Iowa State Teachers College

Institution	No. of Students above the Median	No. of Students below the Median	Totals
SUI	33	94	127
ISC	21	50	71
ISTC	22	37	59
Total	76	181	257

In Table 37 are shown the means of the students in the group above the median and the means of the group below the median at each of the three institutions.

Using the discriminant analysis a probability table was developed showing the chances out of 100 that a transfer student from a public junior college has of graduating above the median at each institution.

The basic normal equations in deviation form using within values were:

$$Nzd_1 = ax_1^2 + bx_1x_2$$

$$Nzd_2 = ax_1x_2 + bx_2^2$$

Table 37

Means of the Students above and below the Median at
the State University of Iowa, the Iowa State
College, and the Iowa State Teachers College

Institution	High School Mean		Junior College Mean		Cumulative College Mean	
	above median	below median	above median	below median	above median	below median
SUI	2.99	2.64	3.16	2.59	2.93	1.85
ISC	2.95	2.49	3.01	2.49	2.92	1.49
ISTC	3.04	2.49	2.98	2.42	2.93	2.15

Substituting the equation became:

$$36.0083 = 79.7625a + 56.8129b$$

$$48.5891 = 56.8129a + 73.7463b$$

then:

$$a = -.0396$$

$$b = .6893$$

A discriminant analysis was then made using junior college grade point averages yielding a b_2 value of .6589 which produced a Δ_1 of 32.0138 as contrasted to a Δ_2 of 32.0702 when two variables were utilized.

$$v = .0395x_1 + .6893x_2$$

The F test was then applied as follows:

$$F_{loss} = \frac{(\Delta_2 - \Delta_1) (N - m - 1)}{\frac{(Nz^2 - \Delta_2)}{(\frac{pq}{m})}} = \frac{(.0563) (254)}{257 (.5729) - 32.0702}$$

where

$$N = 257$$

$$z = .3454$$

$$\frac{z^2}{pq} = .5729$$

$$F_{1,254} = .124$$

This value was not found to be significant and the high school average was dropped as a prediction variable.

When a correlation was computed with the correction factor for course grouping the correlation was found to be .5578.

The following discriminant equation was:

$$v = .6589z_2$$

In raw score form the equation became:

$$v - \bar{v} = .6539 (x_2 - \bar{x}_2)$$

The means of the junior college averages were substituted for each institution.

For SUI this became:

$$v - (-.6439) = .6539 (x_2 - 2.7442)$$

$$v - .6439 = .6589x_2 - 1.8081$$

$$v = .6589x - 2.4520$$

For ISC the equation became:

$$V - (-.5365) = .6589 (X_2 - 2.6463)$$

$$V - (-.5365) = .6589X_2 - 1.7436$$

$$V = .6589X_2 - 2.2801$$

The equation for ISTC was:

$$V - (-.3242) = .6589 (X_2 - 2.6266)$$

$$V - (-.3242) = .6589X_2 - 1.7306$$

$$V = .6589X_2 - 2.0548$$

In Table 38 are shown the chances out of 100 that a two-year junior college transfer has to graduate from each of the three institutions:

In this table it becomes apparent that a student with a 2.0 average in the college has 13 chances out of 100 of graduating in the upper half of his class at SUI, 17 chances out of 100 at ISC, and 27 chances out of 100 at ISTC. A 4.0 student can expect to be above the median 57 times out of 100 at SUI, 64 times at ISC, and 72 at ISTC.

A study of the academic achievement of 257 junior college students is reported in this chapter. These students were the two year graduates of 15 public junior colleges in Iowa who matriculated at the State University of Iowa, the Iowa State College, and the Iowa State Teachers College in the years 1950, 1951, and 1952.

The high school academic averages and the junior college academic averages were used as prediction variables to ascertain: (1) the grade point average at the State University of Iowa, Iowa State College, and Iowa State Teachers College, (2) the probability of graduating from each

Table 38

Probability of Graduation Above the Median at
the State University of Iowa, the Iowa State
College, and the Iowa State Teachers College

Junior College Average	Chances out of 100 to graduate in the upper half of the class		
	SUI	ISC	ISTC
1.0	4	5	8
1.2	5	7	10
1.4	6	9	13
1.6	8	11	16
1.8	10	14	19
2.0	13	17	23
2.2	16	20	27
2.4	19	24	32
2.6	23	29	37
2.8	27	33	42
3.0	32	38	47
3.2	37	43	52
3.4	42	48	57
3.6	47	54	63
3.8	52	59	67
4.0	57	64	72

of the three state institutions, and (3) the probability of graduating above the median at each institution.

The statistical techniques used in the treatment of these data were analysis of regression, biserial correlation, and discriminant function analysis. The standard error of estimate was computed for the table (Table 7) in which were shown the most probable predictions of the grade point averages to be earned at each of the three state institutions.

VII. DISCUSSION

The first public junior college was established in Iowa in 1918. Since that time 35 public junior colleges have been established. Less than one-half of this number was in operation in 1954-1955. The vast majority of the defunct junior colleges had been in cities or towns of less than 5,000 population. Among the 16 public junior colleges in operation in 1954-1955 only 2 were located in cities or towns of less than 5,000 population. It would seem, therefore, that the present law which provides that no junior college can be established in a school district of less than 5,000 population is in practice, as well as in fact, minimal.

The public junior colleges in the state have been established by local initiative. The major purpose of these institutions has been to provide university parallel courses for those students who desired to remain at home and complete one or two years of a degree curriculum.

The public junior college in Iowa has operated as a part of the public school system. It is extremely doubtful if the movement would have gained much impetus had it not developed in this manner. Every public junior college in Iowa but one -- Ellsworth -- was operated in conjunction with, and shared the facilities of, the high school in the town.

Ellsworth, at Iowa Falls, is unique. Originally, it was a private institution, but since 1928 when the buildings and equipment were leased by the Iowa Falls Board of Education, the college has been operated as a part of the public school system.

The enrollments in the public junior colleges of Iowa for the 1952-53, 1953-54, and 1954-55 school years constituted about 5 percent of the total college enrollments in the state.¹ The problem of enrollments has been of real concern to those responsible for the administration of the public junior colleges of the state. Traditionally these institutions have been small. In an era of expanding college enrollments, the junior college may logically be expected to increase in size, if not in number.

The projected junior college enrollment in the state, based on 30 percent of the college-age population attending college, and based further on 5 percent of the total attending public junior colleges, could total 2,800 students by 1965. The total in 1970, using these same percentages, could total 3,600 students, which would be an increase of more than 100 percent from the 1,777 students enrolled in 1954-55.

This projected increase would represent those students who would be enrolled in university parallel courses. If the junior college realizes its full potential and becomes in reality a community college, the total enrollments could conceivably be appreciably larger.

The future potential of increased enrollments in the junior colleges presents at least one important problem. The high school enrollments will also increase during the next 10 to 15 years. Conceivably some districts will need enlarged high school facilities. This condition, in some instances, could result in a tendency to limit the space available to the junior college, since the majority of junior colleges

¹Iowa State Board of Education, Coordinating Committee of Registrars, Iowa Colleges: Enrollment Trends, 1955-1970, January, 1955.

are housed in high school buildings. If a school district should bond itself to the legal limit, and if additional facilities should be needed for the high school, it might be difficult in some communities for the junior colleges, as presently financed, to continue.

The weaknesses of the junior college curricula in Iowa are readily apparent. The public junior college in Iowa is today what it was originally intended to be -- a college preparatory institution. The junior college in Iowa is not yet a full fledged community college, in that it does not provide for the needs of the community. For example, since Iowa is primarily an agricultural state, it would be logical to assume that the public junior colleges would provide some instruction in that field. However, only one junior college, Fort Dodge, offered any work in agriculture, and that only a 4-hour course in Farm Management in 1954-55.

Little instruction of a terminal nature was offered in the commercial fields. In 1954-55 a total of only 23 semester hours of vocational-technical subjects were offered in the 16 public junior colleges. Obviously, the public junior colleges of Iowa during the period of this study did not offer a program much beyond that of college preparatory work.

One of the chief weaknesses of the public junior colleges was found to be a lack of in-service training of the staff. Few junior college faculties were engaged in self study and still fewer had developed cooperatively statements of purpose or philosophy. This deficiency was due in part to the fact that in all the junior colleges except one, the majority of the junior college teachers taught part time in the high

school. When a staff is composed in great part of teachers whose responsibilities are divided between the junior college and the high school, it is sometimes difficult to develop a cohesive philosophy for the senior college. Too many junior college instructors do not comprehend fully the function and purpose of the junior college.

Class size in the public junior colleges was small. A total of 100 classes operated for five or fewer students. Two hundred and fifty-six classes (256) enrolled 10 or fewer students. This situation is both uneconomical and inefficient.

The junior college in each community shared the available facilities with the high school, and each junior college except one occupied quarters in the high school building. In most instances the classrooms available to the junior college were not located together as a unit, but were located throughout the high school building. This fact alone served to prevent the junior college from operating as a discrete unit. Many times classroom space was assigned to the junior college after the allocations had been made to the high school.

One of the encouraging aspects of the junior colleges was the fact that the great majority of teachers were teaching their major fields. The approval standards established by the Iowa Department of Public Instruction require that teachers in academic subjects have a master's degree and 10 graduate hours in the subject which they teach. Temporary approval to teach on less than these standards may be granted upon the discretion of the Director of Junior Colleges in the Department of Public Instruction. A total of 22 teachers (7.4 percent) taught in 1954-55 on temporary approvals.

At present the approval standards for teacher personnel are the only specific standards for junior colleges. Approval standards is an area that needs to be developed much more fully by the Department of Public Instruction. A number of recommendations have been established, however, as a basis for approval by the Department: (1) laboratory equipment, (2) catalog and announcements, (3) extra-curricular activities, (4) personnel services, (5) library, (6) instructor load. These, however, do not constitute a definite basis for approving or disapproving a public junior college.

The public junior colleges in Iowa have been developed under permissive legislation. No state plan for junior college districts had been developed in Iowa as of 1955. Since education is a power reserved to each of the several states, the state has the Constitutional authority to enact legislation enabling the creation of junior college districts.

The first step in any further junior college legislation should be a detailed analysis of the educational structure of public education in Iowa. An analysis of the financial structure of the public junior college seems imperative. Public junior colleges have been financed from three sources of revenue: (1) fees and tuition charged the student, (2) local property taxes, and (3) state aid. The latter source of revenue if paid in full would amount at the present time to a maximum of \$45.00 annually per student.

Certain guide lines for future legislation in Iowa based on legislative trends in other states could well include the following:

- (1) the creation of a state study commission to district areas in

which junior colleges could be established by a vote of the people; (2) the assumption of more financial responsibility for junior college education by the state; (3) the requirement that no junior college district be created until after a survey had been made and then only if it conformed to the survey recommendations; (4) the provision for transportation of college students when a public junior college served an area composed of several contiguous school districts.

If the major function of the public junior college in Iowa is to continue to offer the first two years of university parallel courses, it would seem that any appraisal of the junior colleges would need to include an analysis of how well they prepare their graduates for senior college work. In 1954 an analysis of the 257 students who had transferred to the State University of Iowa, the Iowa State College, and the Iowa State Teachers College, showed that 175 (68.1 percent) had either graduated from or were enrolled in one of these institutions.

The junior college transfer students in each of the three state institutions had earned a lower academic grade point than they had achieved in junior college. The cumulative college grade point average of those in the total survival group, the number of transfer students who had graduated or were enrolled in the three state institutions was .49 of a point lower than the junior college average. Greater disparity was apparent in the academic grade point achieved by those in the total attrition group. A difference of .66 of a point separated the junior college average from the cumulative college average, which was the lower.

The difference in the grade point average between high school and

junior college was a difference of .02 for the survival group, and .03 for the attrition group. In each instance the high school average was the higher.

Using the prediction table (Table 34) developed in Chapter 6, it can be seen that a student with a 3.0 grade point in junior college, if the standard error of estimate is eliminated, will achieve a probable academic grade point of 2.322 at the State University of Iowa, 2.175 at the Iowa State College, and 2.267 at the Iowa State Teachers College. The junior college student, therefore, did about as well academically in junior college as he did in high school. However, the junior college students as a group received lower grade point averages in senior college than in junior college. Different standards in marking student achievement could well account for the difference in grade point averages.

One of the important questions asked in relation to the junior college transfers is, "What are the chances of a junior college student to graduate from senior college?" The answer to this question can be fundamental in developing the guidance program of the junior college and has some value also in appraising the junior college itself.

From Table 35 in Chapter 6 it can be seen that the students who achieve only a 2.0 grade point in junior college have a 60 percent chance of being graduated at the State University of Iowa, 53 percent at the Iowa State College, and 70 percent at the Iowa State Teachers College.

The likelihood of the junior college transfers to be graduated above the median were also computed in Chapter 6. Students with the same junior college grade point had a better chance to be graduated above the median at the Iowa State Teachers College than at either the State

University of Iowa or the Iowa State College. To have more than a 50 percent chance of being graduated above the median at the State University of Iowa (2.53) the transfer would have had to have a junior college grade point of 3.6. At Iowa State College a transfer to have a 50 percent chance of being graduated above the median (2.57) would have had to have a junior college grade point of approximately 3.5. The junior college student who transfers to the Iowa State Teachers College would have had to have a junior college grade average of 3.2 to have a 50 percent chance of being graduated above the median, (2.61).

VIII. SUMMARY

This study was designed to provide a basis for a better understanding of the status of the junior college movement in the nation in general, and in Iowa in particular.

Specifically, the purposes of this study were

1. To analyze the historical background and philosophy of the junior college movement.
2. To trace the development of the public junior colleges in Iowa.
3. To appraise certain aspects of the present 16 public junior colleges in Iowa.
4. To predict the scholastic achievement of the two-year graduates of Iowa public junior colleges who matriculated at the State University of Iowa, the Iowa State College, and the Iowa State Teachers College in the fall terms of 1951-1952.

Although the first public junior college was founded in Iowa at Mason City in 1918, it was not until 1923 that the Iowa Legislative Assembly officially reorganized the public junior college in the state. The purpose of this legislation was not to legalize the five junior colleges then in existence, but rather to legalize the payment of tuition. The first specific reference in the statutes of Iowa pertaining to public junior colleges was an act in 1927 which legalized the public junior college as a part of the public school system.

Public junior colleges in Iowa were accredited prior to 1927 by the Iowa Intercollegiate Standing Committee. During the period from 1927 to 1941, the Intercollegiate Standing Committee worked with the State Department of Public Instruction in approving the public junior colleges

of Iowa. Since 1941 the State Department of Public Instruction has exercised full responsibility for the standards and for the approval of the public junior colleges.

In the period from the establishment of the first public junior college in Iowa (Mason City, 1918) to the establishment of the latest public junior college (Keokuk, 1953), a total of 35 such institutions have been formed. Of this number, 19 have been discontinued, leaving a total as of April 1, 1955, of 16 public junior colleges in operation.

A total of 8,128 students have been graduated from the 16 public junior colleges which were in operation in 1954-1955. The enrollments have ranged from a low of 431 in 1944-1945, when only 12 public junior colleges were open, to a high of 2,433, when 27 institutions were in operation. Only 46.5 percent of the total number of freshmen who enrolled in the years between 1944-1950 and 1952-1953, continued into the sophomore year.

The public junior college in Iowa has been essentially a college preparatory institution. In 1954-1955 the 16 public junior colleges offered a total of 2,629 semester hours of academic instruction. The greatest number of semester hours were offered in the science curricula (551) and in the social sciences (399). A total of 576 different courses were offered in the 16 schools.

A total of 855 different classes operated in the public junior colleges of the state in the 1954-1955 school year. One hundred classes (100) enrolled 5 or fewer students (11.7 percent). Approximately one-half of the classes (424 or 49.5 percent) had a membership of 15 or fewer students.

A total of 297 instructors taught in the public junior colleges in 1954-1955. Of this number 63.6 percent were men and 36.4 percent were women. A total of 232 teachers (78.1 percent) held the Master's degree and 64 held the Bachelor's degree. In all, 230, or 77.4 percent of the junior college instructors, taught in their major fields. Only 52 instructors were assigned full-time teaching loads in the junior college. In 1954-1955 a total of 22 teachers (7.4 percent) were temporarily approved by the Director of Junior Colleges, to teach on less than the basic standards.

Involved in the prediction of academic success of the two-year junior college transfer were three objectives: (1) to predict the grade point of a two-year public junior college student who matriculated at one of the three state institutions of higher learning, (2) to predict the chances out of 100 that a two-year transfer from a public junior college would have of being graduated when he enrolled at one of the three state institutions, (3) to predict the probability of his being graduated in the upper half of his class at each of the three state institutions.

The prediction variables used in these analyses were the student's high school academic average and the academic average earned in the junior college. These were used as prediction variables because they were the only data available for all 257 students.

The data for this investigation were collected from the Office of the Registrar at each of the three state institutions of higher learning and from the Deans of each of the 15 junior colleges which had graduated students during the period studied.

It was assumed for purposes of this study that a student was classified in the attrition group if he were neither graduated nor enrolled in one of the three institutions at the end of a two-year period following his transfer. It was further assumed that the period from 1950 through 1952 was a sufficient length of time in which to evaluate the success of junior college transfer students.

Four delimitations were imposed in this study. These were in relation to students who

1. transferred from the public junior colleges in Iowa to the State University of Iowa, the Iowa State College, and the Iowa State Teachers College in the fall term of the years 1950, 1951, and 1952.
2. had graduated from one of the 16 public junior colleges.
3. had graduated from junior college in the year immediately preceding the transfer.
4. had transferred directly to one of the three state institutions of higher learning and had continued to be enrolled there. No subsequent transfer to any of the three state institutions was considered.

A total of 257 junior college graduates who matriculated in the three state institutions in the period were studied. The academic averages of these students in high school, junior college, and in senior college constituted the raw data for analysis. The statistical techniques used in the treatment of these data were analysis of regression, biserial correlation, and discriminant analysis.

Each of the students studied was a transfer from a public junior college in existence at the time the study was made. Several students who had transferred from defunct junior colleges were enrolled at each

state institution. These students were dropped from this study, since this investigation sought to appraise only those public junior colleges which were in operation at the time the study was made.

It was found that out of a total of 257 students who had transferred to the State University of Iowa, the Iowa State College, and the Iowa State Teachers College, a total of 175 had survived. Of these, 160 had been graduated and 16 were still enrolled. Ten of the latter were in attendance at the Iowa State College. Current enrollees were classified as survivors because (1) they had not discontinued their studies, and (2) not all non-transfers originally enrolling in these three senior colleges graduate in a four-year period.

The attrition of junior college transfers was greatest at the Iowa State College, in which there were 28 students (39.4 percent) who failed to survive out of a total of 71 who matriculated. The percentage of attrition was somewhat less at the State University of Iowa (31.1 percent) in which 37 survived of the 127 who had transferred. The percentage of attrition was smallest at the Iowa State Teachers College (23.7 percent) in which 14 students out of a total transfer group of 59 failed to survive.

When an investigation was made of the tendency to be graduated the analysis of regression was used to determine the prediction equation. It was found in the development of this equation that the high school average could be dropped as a prediction variable.

The following were found to be the most probable predictions.

When the junior college average was 2.00, the predicted grade point

at SUI was 1.583;

at ISC it was 1.436;

at ISTC it was 1.528.

When the junior college average was 3.00, the predicted grade point

at SUI was 2.322;

at ISC it was 2.175;

at ISTC it was 2.267.

When the junior college average was 4.00, the predicted grade point

at SUI was 3.061;

at ISC it was 2.914;

at ISTC it was 3.006.

From a computation of the standard error of estimate it was found that 50 percent of the students could be expected to make grade point averages between .383 above and .383 below these predictions.

With the use of the discriminant analysis the probability of graduation from each of the three state institutions was computed. The high school average was not found to be significant as a prediction variable and was dropped. The biserial correlation when junior college grades only were used to predict graduation tendency was .3002.

When the probability of graduation was predicted for transfer students it was found that a student who had a 2.0 average in junior college had 60 chances in 100 to be graduated from the State University of Iowa, 53 chances in 100 to be graduated from the Iowa State College, and 70 chances in 100 to be graduated from the Iowa State Teachers College. The student with a 3.0 average had 71 chances in 100 to be graduated at SUI, 65 chances in 100 at ISC, and 80 chances in 100 at ISTC.

Lastly, when the prediction was made of the tendency to be graduated above the median at each institution, it was found that a junior college transfer with a 2.0 grade point had 13 chances in 100 at SUI, 17 chances in 100 at ISC, and 23 chances in 100 at ISTC. If a student had a 3.0 average in junior college his chances at SUI were 32; at ISC, 38; and at ISTC, 47.

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X. APPENDIX

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PUBLIC JUNIOR COLLEGE REPORT

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