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FOUR CHURCH RELATED LIBERAL ARTS COLLEGES

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1969

A STUDY OF THE DROPOUTS AMONG MUSIC MAJORS IN
FOUR CHURCH RELATED LIBERAL ARTS COLLEGES

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A STUDY OF THE DROPOUTS AMONG MUSIC MAJORS IN
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CHAPTER I

INTRODUCTION

In a day of continued concern about the high school dropout, there is much evidence of increasing concern about the college dropout. While new colleges, especially junior or two-year and branch colleges, are being started, freshman students are coming to college in increasing numbers and will continue to do so at least through 1978 according to available population data.¹ Contributing to this increase is the continued rise in the proportion of freshman women to men attending college, increased financial aid, economic pressure, increasing emphasis on programs for the disadvantaged and culturally handicapped, and continued status concept associated with college attendance.² In the midst of these conditions there is also deep concern for the retention of students in our colleges and for better placing of students

¹Projections of Educational Statistics to 1975-76 (U. S. Office of Education, Washington, D.C.: U. S. Government Printing Office, 1966), p. 102.

²Garland G. Parker, "Statistics of Attendance in American Universities and Colleges 1967-68," School and Society, (January 6, 1968), pp. 9-10.

in the colleges that will be able to help them most and meet their individual needs whether through transfer, terminal or graduate type work.

It is evident that college dropouts represent an alarming waste of our most competent manpower. Withdrawal may not be completely eliminated, but many educators believe it can and should be sharply reduced. If dropouts are reduced, the result will be a larger professional work force and a higher cultural and intellectual level of citizenry contributing to the advancement of society.³

Information published by the U. S. Department of Health, Education and Welfare indicates that no more than 60 percent of all students who enter degree granting institutions receive degrees.⁴ Medsker points out that "Clearly the factor of drop-outs exists in all types of collegiate institutions."⁵ A study by Coffelt and Hobbs made in the state of Oklahoma has this to say about the situation:

With instructional space and financial resources at a premium, neither individual institutions nor systems of a higher education can any longer afford the luxury of admitting students indiscriminately at the freshman level, only to lose up to one-half of such students by the beginning of the sophomore year. . . ways must be found to minimize such losses by more carefully matching

³Robert E. Iffert, Retention and Withdrawal of College Students (U. S. Department of Health, Education, and Welfare, Washington, D.C.: United States Government Printing Office, 1957), p. 99.

⁴Ibid.

⁵Leland G. Medsker, The Junior College: Progress and Prospect (New York: McGraw-Hill Book Company, 1960), p. 96.

institutions and students so that both can produce to the limit of their respective capacities.⁶

The Coffelt-Hobbs study reveals that a large share of dropouts in the first year of college are the result of wrong college choices rather than personal inadequacy for college work. About one-fifth of over 13,000 students in this study did not know what they wanted for a career. About one-half of the students in the lowest ACT quartile dropped out before the sophomore year whereas less than one-fourth of those in the highest quartile dropped out. Of these dropouts about one-half dropped out for academic reasons and the other half for personal or other reasons.⁷

Testing programs, research studies, and state and national programs of research give evidence of the concern about the college dropout in our nation today. These studies have presented much information about the youth in our colleges. This includes information about academic ability, vocational choice, selection of a college, retention and transfer, dropout and withdrawal, and, to a lesser extent, other types of characteristics of our college students.

Wideman sums up the situation very well:

We could ponder some of the statistics that have been gathered on "the dropout." But I find that much depends on which statistical report we read. For instance, some show an increase, others show a remarkably constant rate

⁶John J. Coffelt and Dan S. Hobbs, In and Out of College, Report I: The First Year (Oklahoma State Regents for Higher Education, Oklahoma City: State Capitol, 1964), p. 1.

⁷Ibid., pp. 67-98.

since 1900. It seems the only thing we can be sure of is the increasing concern "about the dropout."⁸

The Problem

This study is particularly concerned with the causes of dropout among music majors and those who think they want to major in music when they enter college. Music students, along with all others pursuing a college education are constantly in need of guidance, counseling, encouragement and help. As they prepare to take their place in a demanding and frustrating society that is constantly changing and becoming more complex, they deserve, from those who work with them during their college years, the best guidance services that can be rendered. Music students must be helped to understand their potentialities, opportunities, responsibilities, and liabilities as they face a future in the field of music.

Scope and Objectives of the Study

The primary purpose of this study has been to determine dropout rate, the causes of dropout, and to study and analyze this and other data concerning the music majors of four colleges. A questionnaire was sent to all four-year, accredited, coeducational, church related liberal arts colleges in the states of Kansas and Oklahoma by the author. The results showed different dropout rates in various colleges and four of them were selected for further contact. Each of

⁸John W. Wideman, "College Undergraduate Dropouts: Causes, Cures, and Implications for Secondary Schools," National Association of Secondary-School Principals, L (April, 1966), 224.

the four selected for further study had an enrollment of about one thousand or more students, represented a different denominational affiliation, had an active music program, and was able to provide ACT scores which were used in statistical analysis.

In addition to the ACT scores, a study of the grades earned in music theory courses of harmony and ear training for all entering music majors in the class of 1964 was made. The grades of those students who went on to graduate with a music degree in 1968 were compared with those who dropped out during or after the freshman year, or transferred to other areas of study and graduated in 1968. Students graduating during the summer of 1968 were included in the study as were seniors of 1968 who were remaining a fifth year before completing graduation requirements.

A secondary purpose of the study was to find the implications of this and other studies for the orientation, guidance and counseling of students in music departments. It is hoped that from this study the author as well as others will be able to find ways to help music students understand themselves better, and thus prepare more effectively for a life's work related to music, or, perhaps, to learn more quickly that the field of music does not present to them the needed opportunity, challenge, or security necessary for a life of adequate personal fulfillment.

A third purpose of the study was to secure data that could be used to set up a guidance and counseling program for

music majors. One such technique might be an orientation program for students selecting music as a major. The author will be in a position to put such information into immediate use. In our democratic society where the need for more schools at every level is apparent, and where new colleges of many types are being organized, those involved in teaching and guiding college young people will be constantly looking for helps, research studies, and suggestions. This particular project should prove most helpful to those involved in the administration or teaching of music in church related, liberal arts colleges.

Included in the study is an evaluation of guidance practices as revealed by the questionnaire sent to the colleges of Kansas and Oklahoma. A questionnaire given to a number of music majors and another completed by music minors and ex-music majors will also be discussed in detail in chapter three.

Procedures for Obtaining Data

The original questionnaire was designed in order to gather information on orientation, guidance, and counseling procedures being used by college music departments. It was sent to the chairman of the music department of each one of the eighteen different church related, liberal arts colleges in Kansas and Oklahoma. These were selected from the 1966 publication of Accredited Institutions of Higher Education.⁹

⁹Accredited Institutions of Higher Education (American Council of Education, Washington, D.C., 1966).

Fourteen of the eighteen questionnaires were returned. A copy of this questionnaire may be found in Appendix A.

A different type questionnaire was designed in order to gain information from college students. A sample questionnaire was given to music majors in classes taught by the author at Bethany Nazarene College, Bethany, Oklahoma. This sample questionnaire was presented on a trial basis after which some questions were clarified, deleted, or added as a result of information obtained through this procedure. The questionnaire in its final form was given to as many music majors as were available. The same process was used in compiling and administering a third questionnaire which was given to music minors and ex-music majors. Copies of these two questionnaires may be found in Appendix B.

Permission was granted by four different colleges to use ACT scores and theory grades of music majors in making this study. These colleges were Bethany Nazarene College, Bethany, Oklahoma; Oklahoma Baptist University, Shawnee, Oklahoma; Phillips University, Enid, Oklahoma; and Southwestern College, Winfield, Kansas. Information was gathered and data assembled as follows:

- (a) ACT scores were obtained for all entering music majors in each of the four colleges for the years 1964 through 1967. A sample was drawn from the general freshman enrollment for each of these years to be used in comparison.
- (b) ACT scores were obtained by sample of general freshmen in 1964 who continued to graduation in 1968 and of freshmen of 1964 who dropped out prior to graduation in 1968. These scores were used in conjunction with similar data for music majors.

- (c) Statistics were gathered on the general dropout rates in each of the four colleges for the entire student body and for the music area.
- (d) Theory grades (harmony and aural theory or ear training) were obtained as completely as possible for all music majors who entered as freshmen in 1964.
- (e) As much information as possible was obtained about the music majors who were freshmen in 1964 in each of the four colleges. This information included completion of degree, dropout, transfer, etc.

Using the ACT scores provided by each of the four institutions, the following hypotheses were tested using the T-test for statistical significance and the F-test for analysis of variance. Computer aid was utilized in working with these statistics and in testing the following null hypotheses.

- (a) There is no statistically significant difference between ACT scores of music majors and the general freshman enrollment in each of the four colleges.
- (b) There is no statistically significant difference between dropouts and those who continue and finish a four year music program.
- (c) There is no statistically significant difference between the ACT scores of music dropouts and dropouts from the general college population.
- (d) There is no statistically significant difference between those music majors who change majors but finish college and those who continue to graduate as music majors.

The results of these tests and other information obtained may be found in chapter four. Implications of these results are covered in chapter five, and the raw data is included in Appendix C.

Limitations of the Study

The study is limited in many respects, some intentionally and others unavoidably. Only church related, four-year, coeducational, accredited liberal arts colleges were studied. The author was involved in teaching in such a college. The four selected for final study were chosen because of their proximity, their willingness to cooperate, the availability of ACT scores and theory grades, and their difference of denominational affiliation.

The total number of music majors in the four colleges for whom ACT scores were available was 516. They were distributed as follows: Oklahoma Baptist University 226, Bethany Nazarene College 158, Phillips University 53 and Southwestern College 79. All of these were included in the study, but the 130 music majors who entered college as freshmen in 1964 were studied much more extensively. In each of the colleges there were a few music majors for whom standard ACT scores were not available; therefore they could not be included in the study.

The number of music majors who dropped out of music but graduated in 1968 in some other field of study were not large enough to enable a statistical analysis in each of the colleges. However, by lumping them together for use, a reasonably significant comparison was possible.

It was impossible to get complete follow-up information on all music majors who entered college in one of these four institutions in 1964. However, some information was available

about each of them. As much as could be obtained has been utilized. The statistical treatment of ACT scores for those who graduated in music, in other areas, or dropped out is accurate so far as the use of standard ACT scores is concerned. The results of the statistical analysis and of the questionnaires given to music majors, minors, and ex-music majors seem to be in keeping to a great extent with other research that deals with dropout and attrition, pursuance of college careers, choice of vocation and to research directly related to ACT scores and their use. Pertinent related literature is reviewed in the next chapter.

Many avenues of investigation had to be left unexplored in the design of this study. It deals primarily with ACT scores of music major graduates, and music major dropouts in comparison to general college graduates and dropouts. Theory grades of music graduates are compared with those of music dropouts, and the questionnaires reveal some of the reasons students give for their pursuance of a music major in college or for their withdrawal from a major in music. This study makes no attempt to deal with such matters as home background, success in high school, affluence or family income, marriage status, personality diagnosis, etc., that are found in many studies.

Definition of Terms

Music Major. A student who is pursuing a music curriculum in the college he is attending that will lead to an undergraduate degree in music or with a music major. This includes all areas of music; vocal, instrumental, performance, music education, etc.

Dropout. A dropout is a student who was originally enrolled in one of the four colleges included in this investigation, but who terminated his enrollment and, so far as could be determined, did not re-enroll in the given college or another college within the coming two semesters, following his first time entry as a freshman in 1964.

Transfer. One who started as a music major in one of the four colleges of this study in 1964, but who, subsequent to first enrollment, changed his major to some other field of interest.

ACT Score. The ACT scores as used in this study refer to the standard score yielded by the American College Testing Program battery. The standard scores range from a low of 1 to a high of 36 on four different tests in the battery (English, mathematics, social studies and natural science) which are averaged into a "composite standard score." The composite score is generally viewed as a good indicator of probable freshman success in college. The ACT program is designed to measure "the ability of a student to perform those intellectual tasks he is likely to face in his college studies."¹⁰

GPA. Numerical grade point averages computed on a four point basis: A equals four grade points, B equals three grade points, C equals two grade points, D equals one grade point and F receives no grade point.

¹⁰American College Testing Program, ACT-Using the ACT Scores on Your Campus, 1962-63 Edition, p. 8.

CHAPTER II

REVIEW OF SELECTED RELATED RESEARCH

Before the review of literature that particularly relates itself to dropouts in the music area, it would be well to present some facts, figures, and ideas on the subject of dropouts in general. In presenting conclusions reached after a longitudinal study involving large samples of students in colleges of Minnesota, Wisconsin, Ohio and Texas, Darley makes the following observation:

In no state did as many as 50 per cent of the students graduate within the time limits of the follow-up studies. In each state the percentages withdrawing before graduation closely paralleled the percentages graduating. In the three states for which evidence was available, the percentages officially recorded as academic failures were relatively small. The withdrawing group of students is not easily defined; it contains subgroups of differing scholastic ability. In Minnesota and Wisconsin, the withdrawing students were like the graduating student in general levels of scholastic ability, but inferior to the graduating students in high-school achievement and inferentially, therefore, in college preparation, study skills, and motivation for higher education. More women withdrew than men, even though women were comparable in basic ability to the men and generally had better high-school and college grade records.¹

After an extensive project regarding retention and withdrawal of college students, Iffert indicates that slightly less than 40 percent of the freshman class will remain at the

¹John G. Darley, Promise and Performance: A Study of Ability and Achievement in Higher Education (Center for the Study of Higher Education, Berkeley: University of California, 1962), p. 158.

institution of first enrollment to graduate four years later. Another 20 percent will graduate later at the original institution or transfer and graduate elsewhere. Iffert concludes that the first year of college is the most critical dropout period. His study found that 273 per 1,000 left school within the first year in comparison with 283 per 1,000 during the next three years, and that a student who has reached the rank of junior has about 685 chances per 1,000 of graduating.²

Through their research with the use of academic prediction scales, Bloom and Peters support the view that a large share of dropouts in the first year of college are the result of wrong college choices rather than personal inadequacy for college work.³ Pertaining to dropout in liberal arts colleges, Benezet found a variation of from 40 to 60 percent of entering students who continue to graduation. His observation was that in nineteen out of twenty cases the real cause of attrition was the failure of the boy and the college to get together on the purpose of his being in college. He found that the scholastic averages were almost the same for dropouts and the entire college.⁴

²Robert E. Iffert, Retention and Withdrawal of College Students (U. S. Department of Health, Education, and Welfare, Washington, D.C.: U. S. Government Printing Office, 1957), p. 100.

³Benjamin S. Bloom and Frank Peters, Academic Prediction Scales (New York: The Free Press of Glencoe, Inc., 1961), pp. 109-114.

⁴Louis T. Benezet, "The Liberal Arts College: Future Functions," in Vision and Purpose in Higher Education, ed. by Raymond F. Howes (Washington, D.C.: American Council on Education, 1962), p. 35.

Darley made several general observations bearing on the subject at hand.

Of those who enter colleges throughout the United States 25 to 30 percent are drawn from the bottom half of high-school graduating classes; conversely, 40 to 50 percent of those in the top quarter of their graduating class do not go on to college. Of all those who do enter college, approximately 45 percent complete a degree program, approximately 45 percent withdraw before completion, and the remaining 10 percent are formally failed for poor scholarship. These percentages hold true within states of widely divergent educational structures. One might argue therefore that the structure of higher education--the distribution of types and levels of institutions and forms of control--does not primarily determine the outcomes for students in higher education.⁵

Coffelt and Hobbs state findings that agree essentially with findings outlined above. They point out that the rationale behind much of the research is that there are factors of student personality, attitude, etc., which are just as important as student ability in determining whether or not students succeed in a given college environment. In their Oklahoma study they found that larger proportions of high ability boys go on to college than do high ability girls; that about one-fifth of the more than 13,000 students studied did not know what they wanted to do for a career; that only 581 of every 1,000 freshmen entered their sophomore year or third semester; that dropouts from universities in Oklahoma have a 1.1 GPA. Dropouts from four year colleges have a 1.4 GPA, but transfer students from the universities have a 2.4 GPA and transfers from four year colleges have a GPA of 1.7. They also found a retention rate including transfer within the

⁵Darley, op. cit., pp. 9-10.

state of 64.2 percent compared to a retention rate institutionally of 58.1 percent. Their reviews revealed a positive and consistent relationship between students' scores on college aptitude tests and their subsequent persistence in college.⁶

Medsker confirms the fact that the academic aptitude level of those entering junior colleges is below the average of those entering four-year colleges, but that so much diversity is found that the level in a given junior college might well be higher than many four-year colleges. The junior college is seen as fulfilling a dual purpose or role; it is both a transfer and a terminal-type institution. Students of higher ability are more likely to transfer, but again much diversity is noted. Public two-year colleges enroll approximately one-fifth of all students in public higher institutions, and their spectacular growth and acceptance are evidence of their vitality and of society's need for them.⁷

The junior or two-year college is now a very vital part of higher education in the United States. Any comprehensive study of dropouts would have to consider what is happening by way of transfer as well as dropout from these colleges. Private colleges and universities, many of them church related, also play a big part in American education. Conant sees them as national institutions, drawing their students from all sections of the nation, and in terms of college graduates,

⁶John J. Coffelt and Dan S. Hobbs, In and Out of College, Report I: The First Year (Oklahoma State Regents for Higher Education, Oklahoma City: State Capitol, 1964), pp. 67-94.

⁷Leland G. Medsker, The Junior College: Progress and Prospect (New York: McGraw-Hill Book Co., Inc., 1960), p. 297.

nearly as significant as the public institutions.⁸

Generally speaking, all colleges are important, all are growing and will continue to do so, and all are faced with the loss of potential through dropout. Darley asserts that the figures on withdrawal rates in the four states covered in his study suggest that many students could be saved among the dropouts.⁹

Another source of vital information related to the discussion comes from the ACT Research Reports published by the American College Testing Program. The ACT tests are described as follows:

The test battery, a college admissions test administered nationally, yields the following subtest scores: English, mathematics, social studies, and natural science. Each score is converted to a common scale with a mean of approximately 20 and a standard deviation of about 5 for college-bound high school seniors. The reliabilities of the ACT tests (American College Testing Program, 1965), the high correlations between the ACT battery and other similar measures (Eells, 1962), and the similar relationship of the ACT battery and of similar measures to college grades, (Munday, 1965) all indicate that the ACT battery is a typical measure of academic potential.¹⁰

Required by many colleges as part of freshman orientation and placement procedures, the ACT tests are being used widely and are now including valuable related information, in addition to the subtest scores and composite score, that will be referred to later on in this chapter.

⁸James Bryant Conant, Shaping Educational Policy, (New York: McGraw-Hill Book Co., Inc., 1964), p. 70.

⁹Darley, op. cit., p. 161.

¹⁰James M. Richards, John L. Holland, and Sandra W. Lutz, The Prediction of Student Accomplishment in College, ACT Research Report, No. 13 (Iowa City: Research and Development Division, American College Testing Program, June, 1966), p. 2.

The findings of an ACT research project on academic prediction reported in 1966 suggest implications for pre-college guidance, academic programming, and educational planning. The "open door" admissions policy of most junior colleges could be expected to result in a lower average level of academic ability than that of four-year colleges. In overall academic potential, the junior college students studied averaged about one-half a standard deviation below four-year college freshmen. The findings support the contention that junior colleges should not imitate four-year colleges as institutional objectives appropriate for students of four-year colleges are not necessarily suitable for students of junior colleges. The diversity of ACT composite means obtained ranged from 23.3 for a high to 8.3 for the lowest. Obviously the mean scores at some junior colleges exceed those at many four-year institutions. Because of wide differences, extreme caution must be used in generalizing from summary statistics presented when trying to make application to local situations.¹¹

Several other implications of the study are of interest. Support is given to the belief that junior colleges must deal with the entire range of academic talent from the most gifted to the student of borderline intelligence; especially important are the needs to provide effective guidance to junior college students and to college-bound students, to enable them to

¹¹Donald P. Hoyt and Leo Munday, Academic Description and Prediction, ACT Research Report No. 10 (Iowa City: Research and Development Division, American College Testing Program, February, 1966), pp. 13-16.

select appropriate institutions. The study supports the idea that students will make better grades in junior colleges than in four-year colleges, although differences are so great that there are many junior colleges in which grading standards are more strict than in typical four-year colleges.¹²

It could be concluded that ACT data might be of great help in predicting academic success and in giving guidance to junior college students.

Literature related to college attrition, retention, dropout, student characteristics, graduation, etc., is prevalent in the journals, bulletins, periodicals and similar publications. Although most of the reports from these studies do not differ a great deal from previous research, it would be well to mention a few of these studies as examples of more recent research.

Goetz and Leach give the following summary of their findings on the attitudes of college students:

In comparing the attitudes of withdrawees and continuers to various aspects of campus life, i.e. facilities, teachers, counselors, etc., almost no significant differences in attitude were found.¹³

Whereas studies such as Iffert's found that low grades, jobs, marriages, unhappiness, financial trouble, military and illness were all strong contributors to attrition, this study found that both continuers and withdrawees had these

¹²Hoyt and Munday, op. cit., pp. 17-19.

¹³Walter Goetz and Donald Leach, "The Disappearing Student," Personnel and Guidance Journal, XLV (May, 1967), 887.

problems to the same degree.¹⁴

After completing a study of 100 four-year colleges with very low dropout rates and a comparable group with regular dropout rates, Nelson arrived at some interesting conclusions. His findings suggest that the higher the proportion of men in a student body, the greater the probability that the institution will be in the higher attrition category. The more selective the college or university, the more likely it is to fall in the low freshman attrition category. He found that a relatively small size of institution and community is associated with a low freshman attrition rate. Institutions with low freshman attrition rates are more likely to be affluent than are colleges and universities with high freshman dropout rates. In dealing with freshman attrition, Nelson found both personal variables such as masculinity and selectivity, and nonpersonal factors such as size of institution and cost to be related and important.¹⁵

A research report on the work of Clinton I. Chase of Indiana University states that dropouts among first semester students scored significantly lower on aptitude and achievement tests than successful classmates, but the great amount of overlap noted suggests that test scores were not the most important determinant.

¹⁴Ibid.

¹⁵A. Gordon Nelson, "College Characteristics Associated With Freshman Attrition," Personnel and Guidance Journal, XLIV (June, 1967), 1046-1050.

In their personal and academic history, freshman dropouts were significantly different from nondropouts in several respects: They were generally older (average age 20). Their parents had less than 12 years of schooling. They often had no younger brothers or sisters. They were more often from the second or third quarters of their high-school classes and less often from the top ten per cent. They tended to avoid organizations, especially student government, or academic clubs. They had poorer study habits.¹⁶

Most of the dropouts claimed adjustment problems as their reason for dropping out. Lack of direct contact with college faculty and weak academic skills were partly to blame. In characterizing the dropout Chase says: "He was relatively weak in the achievement and aptitude that would facilitate success in college, and he came from a background of minimum involvement in academic affairs."¹⁷

Kauffman ranks among those who recommend research on environmental factors related to attrition and persistence.¹⁸ One such study completed by Conner used the C.U.E.S. (College and University Environment Scales by Pace) to measure the concept of campus press, but found their use did not significantly relate to the measuring of attrition or retention of freshmen in college.¹⁹

¹⁶Research Report, "Why Do College Freshmen Drop Out?" American Education (U. S. Department of Health, Education and Welfare, Office of Education, Washington, D.C.: June, 1967), back cover.

¹⁷Ibid.

¹⁸Joseph E. Kauffman, "Student Personnel Services in Higher Education," The Educational Record (Washington, D.C.: American Council on Education, Fall, 1964), pp. 361-365.

¹⁹J. Douglas Conner, "The Relationship Between College Environmental Press and Freshman Attrition at Southern Methodist University," College and University, XLIII (Spring, 1968), 265-273.

A study using the Personality Record conducted by Ivey and others found that the Personality Record did not correlate sufficiently with the criterion to aid in the prediction of which students will continue with their college education. This study reported the most effective predictor of attrition or continuation to be high school rank.²⁰ A study made by Gadzella and Bentall also found the high-school grade point average to be the best single source of data in discriminating between the group of college graduates and college dropouts.²¹

Wideman views dropouts from a slightly different vantage point. He observes that leaving college may be either good or bad. Many are severely disadvantaged by leaving college and abandoning their future education, while others may find leaving college one of the most important moves they could make. He proposes that typical feelings of dropouts are an oppressive sense of failure, anger at themselves, at others, or at their college, feeling of isolation and being unworthy, a yearning to get out and be productive and an abhorance of phoneyess and a seeking for authenticity. He sees one of the most powerful forces in education as a student's sense of responsibility for himself and his learning, provided he has

²⁰Allen E. Ivey, Floyd E. Peterson, and E. Stewart Trebbe, "The Personality Record as a Predictor of College Attrition: A Discriminant Analysis," College and University, XLII (Winter, 1966), 205.

²¹Bernadette M. Gadzella and Grace Bentall, "Differences in High School Academic Achievements and Mental Abilities of College Graduates and College Dropouts," College and University, XLII (Spring, 1967), 356.

courage and opportunity.²²

Ristow appears almost satirical in his description of what we might accept as the characteristics of the "average dropout"--failure in school, low reading ability, irregular attendance, lack of income, etc. He suggests:

To date this "profile of the average dropout" has been no more helpful than would this equally accurate profile: does not know how to play chess; does not play a musical instrument; does not wear a necktie regularly; does not have a horse; does not play golf regularly; does not have 500 hard-cover books in his home; does not recognize an aria from three operas; does not know the name of his maternal grandmother.²³

Probably the most effective thing to do to prevent dropouts, according to Ristow, is to treat every student as a unique individual and attempt to provide an education suitable to his needs.²⁴ This statement and others seem to clearly imply that there is a very important opportunity for guidance and counseling in effective improvement of the college dropout situation. Darley emphasizes "A systematic plan of exit interviews for withdrawing students would yield substantial benefits in carrying higher percentages of the abler students among them to the point of graduation."²⁵

²²John W. Wideman, "College Undergraduate Dropouts: Causes, Cures, and Implications for Secondary Schools," National Association of Secondary-School Principals, L (April, 1966), 224-234.

²³Lester W. Ristow, "Much Ado About Dropouts," Phi Delta Kappan, XLVI-XLVII (May, 1965), 463.

²⁴Ibid.

²⁵Darley, op. cit., p. 158.

Before moving on to a discussion of literature pertaining to dropouts from the music program, figures from two more research projects will serve to sum up the dropout situation. In a comprehensive review of thirty-five studies on college dropouts made from 1913 through 1957 Summerskill concluded that colleges lost, on the average, approximately half of their students in the four years after matriculation. About 40 percent graduated on schedule, and 20 percent more graduated at some college some time.²⁶

Irvine, studying 1037 students at the University of Georgia found that 34.7 percent graduated from the university in four years; 44.7 percent had graduated from the university at the end of eight years; 49.5 graduated from some institution by the end of eight years. He found that women graduated "on time" more frequently than men, but that more men obtained degrees than women in the "long run."²⁷

Although some variation is seen in the reports of these studies which are presented as typical of those discussed in the literature, it is noteworthy how many semblances are apparent. Studies of dropout, attrition and retention provide a wealth of background information for use in dealing with the problems that confront us in higher education and with planning for further significant research.

²⁶John Summerskill, "Dropouts from College," The American College, ed. by Nevitt Sanford (New York: Wiley and Sons, 1962), pp. 629-631.

²⁷Donald W. Irvine, "Graduation and Withdrawal: An Eight Year Follow-up," College and University, XLI (Fall, 1965), 32-40.

Studies Related to Music

In contrast to the wealth of material on dropouts, attrition, retention etc., as it applies to higher education in general, the research relating to dropout and retention among music majors in our colleges and universities is somewhat scarce.

A study at the University of Florida completed by Burgstahler is of significance relative to the subject presently considered. He found that the high school years, especially the senior year, were crucial in vocational decision for music majors. Musical performance, peer recognition, and personal satisfaction significantly influenced the choice. High school and private music teachers were the most influential persons affecting potential music majors. Vocational testing, counseling and guidance were either completely lacking or inadequately used.²⁸

A survey of music majors revealed that most subjects rated their grade school music experiences poor--lacking in rudiments, appreciation, and opportunities for group participation. Training in high school and college was rated much better because of more group and contest participation, which resulted in more interest and motivation. Most subjects rated their practice teaching poor and lacking in intensity and reality. Academic success showed no marked correlation with

²⁸Elton Earl Burgstahler, "Factors Influencing the Choice and Pursuance of a Career in Music Education A Survey and Case Study Approach," Dissertation Abstracts, XXVII, No. 7-9, Series A, (Spring, 1967), 2552.

subsequent success in teaching.²⁹

Implications that Burgstahler presented for his findings were (1) a need for better vocational testing and counseling and greater recognition of the influence of private and school music teachers in career selection; (2) a need for more in-service assistance from the colleges, such as clinics and seminars; (3) a need for more meaningful practice teaching, including more intensity and diversity of experience; (4) a need for more training in communication arts in college; (5) a need for more training in discipline and classroom procedures; and (6) a need for re-evaluation of the music contest on both students and teachers.³⁰

Aebischer reports the result of a study completed at the University of Oregon School of Music. A questionnaire completed by members of the classes of 1947, 1957, 1962 and 1967 yielded the following results: 58 percent of the music graduates were found to be presently working in music or music related positions. Aebischer made the following recommendations: (1) Practicality of core courses should be increased; (2) place more stress on vocational counseling; (3) since 75 percent of the graduates in music are in the field of music education, students and faculty should spend more time discovering and finding solutions to current problems through direct contact with public schools; (4) vocational disappointments among graduates (especially women) pointed out the need

²⁹Ibid.

³⁰Burgstahler, op. cit.

for more adequate dissemination of information and informed guidance.³¹

Some of the conclusions listed by Belford in his study relating to problems of the public junior college transfer music major appear to be worthy of mention. He found that administrators felt the most important objective of the music department in the junior college was general education, with professional training in music rated least important. Junior colleges were found to lack clearly established criteria to govern admission to the transfer music curriculum. Senior college chairmen were concerned about the counseling of students at the junior college. It was found that about one-half of the music majors who indicate they will transfer actually do, and that senior college music department chairmen repeatedly claimed that junior college transfers were not proficient in applied music.³²

Although not dealing with the matter of dropout or retention directly, there are certain implications in these findings that do relate themselves to the guidance and counseling of music majors. Thus, they may be considered quite relevant to the overall objectives of this study, and will be considered again in chapter three.

³¹Delmer Wayne Aebischer, "A Study of the Effectiveness of Curriculum and Counseling at the University of Oregon School of Music as Indicated by a Survey of its Graduates," Dissertation Abstracts, XXVIII, No. 6, Series A, (December, 1967), 2277.

³²Marvin Lavello Belford, "An Investigation and Analysis of the Public Junior College Music Curriculum With Emphasis on the Problems of the Transfer Music Major," Dissertation Abstracts, XXVIII, No. 8, (February, 1967), 3205.

Included in the material on the use of ACT scores and in the ACT Research Reports is some information relative to music students which will now be considered.

A Summary of Recent ACT Related Research

A study conducted by Richards, Holland, and Lutz on the prediction of student accomplishment in college has extended studies of a similar nature conducted previously by others. Completed in 1966, this study differs from the others, however, in that predictions were made for students with a broad range of academic potential. Using predictive variables of the ACT tests, high school grades, (as reported on the ACT battery), and the Extracurricular Achievement Record (obtained as part of the American College Survey), the study culminates research to establish that some non-academic accomplishments are independent of academic potential and accomplishment; that non-academic accomplishment can be assessed with moderate reliability; and that non-academic potential can be predicted with moderate success. The results support many of the findings of other investigators of creative and effective performance.³³

Another study conducted by Richards and Lutz is also reported through ACT Research Report. The findings are much the same: non-academic accomplishment can be assessed with moderate reliability; non-academic accomplishment is largely

³³James M. Richards, Jr., John L. Holland and Sandra W. Lutz, The Prediction of Student Accomplishment in College, ACT Research Report, No. 13 (Iowa City: Research and Development Division, American College Testing Program, June, 1966), pp. 24-29.

independent of academic potential and achievement; and both academic and non-academic accomplishment can be predicted to a useful degree.³⁴

Richards and Lutz make the following comments in the discussion of their study:

Traditional standards assume that only one decision is involved in evaluating a person's potential for success, whether or not he is likely to do well on a single criterion. On the other hand, the non-academic achievement scales are based on the assumption that there are many kinds of excellence, and therefore many criteria for us to predict. Consequently, evaluating a person's potential for success involves many decisions rather than a single one. Cronbach and Gleser (1957) have convincingly shown that, in such a situation, many short tests with moderate or even low validities against several criteria are more appropriate than a single long test with a high validity against one criterion. . . . It is sometimes objected that if such devices were used in selecting college students, high schools would become aware of this and would encourage their students to participate in the kind of activities leading to high scores. But this would amount to encouraging their students to become actively involved in such important endeavors as art, literature, drama, music, and science. Such an outcome hardly seems undesirable.³⁵

Although the information available from ACT tests, including high school grade reports and the non-academic achievement scale checklists cannot be accepted or promoted as a panacea, it would seem evident that they might be extremely useful in studying and dealing with students such as those who might wish to major in music when they come to college. Certainly in the matter of guidance for these prospective music majors this important source of information should not

³⁴James M. Richards, Jr., and Sandra W. Lutz, Predicting Student Accomplishment in College from the ACT Assessment, ACT Research Report No. 21 (August, 1967), Summary.

³⁵Ibid., pp. 29-30.

be overlooked.

Baird completed a study on the undecided college student. He found that the study demonstrated no differences between decided and undecided college-bound high school students on academic aptitude and high school grades. Undecided students were found to be less vocationally oriented but more intellectually oriented. The undecided student's self-concept is not particularly different from others; he has the same capacities as other students for achievement in both academic and non-academic areas. Considerable doubt is cast upon many stereotypes of the undecided student, but he may simply have not made up his mind. It is suggested that as with other developmental processes, individuals do not reach decisions about vocation at the same point and the same time.³⁶

Among high school seniors and freshman and sophomore college students there are plausible reasons to expect vocational indecision. This period of life is defined as one of exploration and tentative choice. Students entering college have their first chance to experience the content of fields they may be considering for entry, and they are not under great pressure to make a quick decision. Normal students may be expected to be undecided about a vocation. In fact, one might even hope that some students would remain undecided for some time.³⁷

³⁶Leonard L. Baird, The Undecided Student--How Different Is He? ACT Research Report, No. 22 (November, 1967), pp. 11-14.

³⁷Ibid., pp. 14.

Coffelt and Hobbs found, in their Oklahoma study, that of those first time college freshmen who are undecided about a field of study 18.2 percent come from the lowest quartile rank on ACT scores, 25.9 percent from the next lowest, 28.4 percent from the next highest and 27.5 percent from the highest quartile rank. The percentage of freshman fine arts majors who scored in the upper quartile on the ACT test was slightly above the average for all fields, but decidedly below students who were majoring in such fields as physical science, mathematics, engineering, medicine, and law.³⁸

Summary

A great deal of research has been done on the college dropout by way of various studies on retention and withdrawal, characteristics of dropouts and completers, personal and non-personal factors related to dropout, etc. The literature pertaining to dropouts among music majors is very scarce, but some of the more comprehensive studies in the overall dropout area have been reviewed in an attempt to shed some light on the matter.

Information presented in this chapter from studies on vocational choice, and from studies of music students in certain colleges and of characteristics of their music graduates, relates well to the study of dropouts among music majors. Also, the research reported by the American College Testing Program is quite significant and may be utilized in terms of better

³⁸Coffelt and Hobbs, op. cit., pp. 70-71.

guidance and counseling for music majors. This and other related guidance material will be covered more extensively in chapter three of the dissertation.

CHAPTER III

RELATED GUIDANCE MATERIAL, PROCEDURES EMPLOYED AND RESULTS OBTAINED

The studies cited in the review of research in chapter two point out the widespread problem of dropout and present ideas, facts and figures which give a general idea or picture of the situations that exist in the area of retention and withdrawal among college students. Abundant evidence supports the belief that much can and should be done by way of improved guidance, counseling and orientation of these students. It would be well at this point to try to find out some of the conditions, ideas, problems, and practices involved in guidance at the college level.

Related Guidance Material

Iffert's comprehensive study of college students throughout the nation revealed that students were almost unanimous in expressing a low opinion of the performance of the counseling, guidance, and orientation functions in higher education. Their appraisal suggests that colleges have been unable or unwilling to recognize and make adjustments for the changing character of their student populations. The students of his study registered a comparatively low opinion of the instructional and guidance facilities and services which they

considered to be important to their adjustment in an unfamiliar and demanding environment.¹

Iffert also found that significant numbers of students in large institutions were dissatisfied with services and facilities such as the quality of teaching and size of classes. Many of those who were financially able transferred to smaller institutions, and others who could not afford to change were found to discontinue attendance or remain under protest. Junior college students reported the most satisfaction with class size, followed by the students in teachers colleges and liberal arts colleges. The ratings of numerous facilities and services by students who remained to graduate indicated as much dissatisfaction as that expressed by students who withdrew, which was inferred to mean that students withdraw because of inability or unwillingness to endure dissatisfactions rather than because of dissatisfactions.²

Other findings from the same study showed that the fields or subjects of greatest interest to students at the time of entering college were different for men and women. With men engineering ranked first, business administration second, medicine third, chemistry fourth, and accounting fifth. With women, the order was found to be education first, home economics second, English third, music fourth, and business

¹Robert E. Iffert, Retention and Withdrawal of College Students (U. S. Department of Health, Education, and Welfare, Washington, D.C.: U. S. Government Printing Office, 1957), pp. 103-104.

²Ibid.

administration fifth.

More than half of the students involved in the study changed their subject-fields of interest. The retention of interest in the same subject-field was over 45 percent for women but only 42 percent for men. Women who started in the fields of education, nursing, and home economics were least likely to change while those with early plans for careers in social work, psychology, and medicine were most likely to shift to other fields. Men who were initially interested in engineering, physical education, business administration, and agriculture were found to be least likely to change, while those starting college with an interest in mathematics, biology, chemistry, and English were most likely to change to other subject-fields. More changes were found to be to related than to unrelated fields.³

Recent research by Holland and Whitney gives strong evidence for the idea that vocational choices of college students are both lawful and predictable.⁴ They suggest the use of "occupational maps" to show students who wish to change fields some of the common alternatives taken by other students. It is suggested that such maps might be especially helpful because they would reduce the ambiguity and difficulty of the search for suitable alternatives. Occupational materials for

³Iffert, op. cit., p. 104.

⁴John L. Holland and Douglas R. Whitney, Changes in the Vocational Plans of College Students: Orderly or Random?, ACT Research Report, No. 25 (April, 1968), 18-19.

counseling could be arranged in terms of their classification scheme and in terms of the popular student changes in occupational choice. These would then be used in freshman orientation programs and in career orientation courses.

Another 1968 study, this one completed by Lutz, presents this pertinent summary.

To summarize, the data suggest three generalizations. First, students do tend to do what they say they will do, or something closely related to it, during their first year of college. Second, lack of follow-through may reflect a change of mind by the student, the policies and opportunities presented by the college he attends, or a change in choice of college or goals. Third, when appropriately evaluated, SPS data can help colleges plan for and counsel with entering students.⁵

SPS refers to the Student Profile Section of the ACT assessment. The Lutz study gave encouraging results to support the underlying intent of the SPS and to reaffirm recent revisions of it that have been made.

Information from Iffert's study indicates that students enrolled in teachers colleges and technological institutions understood more clearly what they wanted than did those enrolled in universities and liberal arts colleges. The first two types lost 7.5 percent and 8.6 percent, respectively, by transfer, whereas universities lost 9.3 percent and liberal arts colleges 13.4 percent. The report indicated that transfers, as well as dropouts, occur with the greatest frequency during the first two years. Nearly 40 percent of all transfers occur during or at the end of the

⁵Sandra W. Lutz, Do They Do What They Say They Will Do? ACT Research Report No. 24 (March, 1968), p. 30.

first year, and more than 83 percent of the total by the end of the second year.

Iffert found the major cause of student transfers was dissatisfaction. Transfers from private church related colleges expressed less general dissatisfaction than transfers from publicly controlled institutions and far less than was reported by students who transferred from privately controlled institutions independent of church. Change in curricular interest was found to be the second most important reason for transfer. Transfer because of low grades was not of any great importance, especially in liberal arts, teachers or junior colleges.

Further information from Iffert's study deals with dropout information. The questionnaire used to gather this information purposely limited reasons for discontinuance to those reflecting on the student rather than the institution, but did give opportunity to write in other reasons. Results indicated that the most important reason for discontinuance by men was enlistment in the military service, followed by lack of interest in studies and personal financial difficulties in that order. For women marriage was the major reason for leaving college, followed by taking a full-time job and personal financial difficulties. The great majority of additional reasons had to do with personal problems and deficiencies, giving further indication of the importance of greater attention to the services which can assist in solving

these problems.⁶

One of the weaknesses of many advisory programs is the large number of students a faculty member is assigned to counsel according to one government publication. Another weakness is the tendency to neglect the average or above-average student while giving sufficient time to the marginal student through guidance systems in higher education. The situation is summed up:

The fact remains that attention to guidance in many institutions lags considerably behind attention to instructional programs, that many faculty members who are quite proficient in their subject areas have neither the training nor the inclination to undertake extensive guidance of students, and that the diversity of student characteristics demands more than perfunctory attention to the guidance function in programs purporting to offer flexibility in rate or depth of student learning.⁷

The same source by Cole and Lewis relates some very interesting ideas on flexibility, admissions, and attrition as they relate to the understanding and counseling of students.

Frequently, a college student who has been first or second in his high school class and who has received high grades without over extending himself comes to college expecting to continue his distinguished record without much more exertion than he had expended before. It comes as a shock to such a student that anyone else in the class is just as distinguished as he. What is more humiliating is that his classmates are not interested in what sort of record he maintained in secondary school, and his instructors are not impressed with his previous grades. The lofty high school senior becomes a lowly freshman.

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Another group in the high level ability category are those who in high school got high grades because the rest of the

⁶Iffert, op. cit., pp. 105-106.

⁷Charles C. Cole, Jr. and Lanora G. Lewis, Flexibility in the Undergraduate Curriculum (U. S. Department of Health, Education, and Welfare, Washington, D.C.: 1962), pp. 54-55.

class did less well than they. As a result, they may have been encouraged to reach beyond their level, and undertake an impossibly difficult course of study in college. Thinking they have the ability to learn anything, they are motivated more by pride in their own intelligence than by intellectual curiosity.⁸ When they make just average grades they are startled.

Cole and Lewis suggest that the marginal student in a selective institution also needs special attention. Frequently extra guidance is called for if such a person is to be salvaged before academic disaster occurs. They find that "in many institutions there is insufficient concern for students who have the ability and the high school record to do satisfactory work, but who drop out."⁹ They believe that once a student is admitted to a college, curricular flexibility, improved instruction, and better counseling may be important factors in salvaging a substantial proportion of those students who might be tempted to leave college for real or superficial reasons.

Certainly many of these ideas and suggestions which have been made in general observation and study relate equally well when applied to music majors. Very often music majors have been the center of much attention during their high school years. High music grades in some types of musical courses, especially participation groups, may ill prepare them to face the more difficult subjects of harmony and ear training, and other advanced courses. Many times a student who was an outstanding singer or instrumentalist in the

⁸Cole and Lewis, op. cit., pp. 5-6.

⁹Ibid., p. 6.

confines of his high school and community is shocked to find he has only mediocre ability compared to those surrounding him in college.

Counseling by Faculty Member

Information acquired through the questionnaire sent to the different colleges in laying the groundwork for this study revealed that in almost all of the colleges, the music faculty was involved in advising or counseling music students. A study by Hardee, much more comprehensive in nature, deals in part with the role of the faculty member in the program of college counseling. Her study of 218 institutions, with student enrollments varying from less than 750 to more than 5,000, found that faculty members were used in the area of academic counseling in every instance. Faculty members were used to do personal-social counseling in 171 of the colleges, and 153 institutions reported the use of faculty members in vocational counseling.¹⁰

Because of the wealth of information about counseling, guidance, vocational choice, etc., most of it cannot be touched on in this study. However, since the study deals with music majors in liberal arts colleges, it would be well to find out some of the accepted and reported duties and responsibilities of faculty advisors in liberal arts settings. Hardee reports the following material on guidance in the liberal arts college

¹⁰Melvane Draheim Hardee, The Faculty in College Counseling (New York: McGraw-Hill Book Co., 1959), pp. 42-43.

of the State University of Iowa.

Upon enrollment each student is assigned to an advisor by the advisory office. Students with well defined academic interests are assigned immediately to the departments of their choice and in turn, the departments assign the students to specific staff members. Non-majors and pre-professional students are assigned to special advisors who have indicated a special interest in student counseling.¹¹ Hardee cites a number of examples of guidance practices in current operation, but the following list is presented as representative of the departmental advisory programs that seek to help students select courses within and outside the department which will enable them to meet graduation requirements.

1. Assignment of majors to specific staff members who are interested in and have an aptitude for this sort of work.
2. Scheduling of departmental meetings for majors early in each semester for discussion of academic requirements, vocational opportunities, and other matters of special interest.
3. The working out with the student of a program of studies for the entire undergraduate career.
4. The scheduling of at least one individual interview with each student each semester.
5. The keeping of adequate records of the progress of all majors.¹²

The advisory program for non-majors as reported by Hardee, exists to help students become better oriented to the

¹¹Hardee, op. cit., pp. 70-71.

¹²Ibid., p. 71.

college; assist students in planning a program of studies that will afford the best educational experience for them; to discuss occupational fields and ways and means through which the college experience can be of maximum value; to follow the progress of the students; and to refer them, when necessary, to other agencies for assistance.

To accomplish these ends, the advisor or counselor needs to have an understanding of the counseling process; a familiarity with all resources, curricular and extracurricular, which will aid in the development of the student; a familiarity with the rules and regulations of the college; an understanding of the psychological test scores used in routine counseling; knowledge of the agencies to which students can be referred for help; and the authority to promote the best interests of students.¹³

One more list presented by Hardee will serve in giving a detailed view of advising procedures in a number of selected institutions, both public and private, from various geographical areas. The functions of faculty members serving as counselors vary among institutions, but their duties would probably be similar to these.

1. The faculty advisor explains to the student the program of general or basic education as it relates to the first two years of college, to the major of the student (if he has expressed interest in a major), and to preparation for life pursuits generally.

2. The faculty advisor plans with the student a schedule of courses with a consideration of the over-all year's work. This may be accomplished through a

¹³Ibid.

consideration of the offerings set forth in the various publications of the institutions, by considering the student's strengths and needs as revealed by a study of high school tests and grades and of college entrance tests, by personal interview, and by judgments as to his ability contributed by high school principals and teachers.

3. The faculty advisor assists the student in exploring his major field. To accomplish this, he will interpret the various departmental publications of the university; in addition, he may refer the student to a special consultant in the field or to the counselors in the vocational guidance office. Finally, he may recommend particular extraclass or part-time work activities for the consideration of the student.

4. Likewise, the faculty advisor assists the "undecided" student in exploring a major field. This is accomplished by referring him to experts in several fields of specialty, to counselors in the vocational guidance office, to the bureau of testing for supplementary testing, and to various extraclass activities wherein interests may be explored and experiences gained.

5. The faculty advisor serves as a "faculty friend" to the student by demonstrating a personal interest in him and in his adjustment to the college; by serving as a central contact person in obtaining suggestions, which can be used to help the student, from residence counselor, teacher, or department head; and by allowing the student freedom to make his own choices after the limitations, alternatives, and consequences involved in a decision are pointed out.

6. The faculty advisor serves as a link between the student and the administration by counseling the student on matters of failure, on the procedures for dropping or adding courses, on eligibility for the various exemption examinations in general education, and on admittance to special remedial classes or clinics.¹⁴

This list was selected because it encompassed ideas and practices found in a study of broad coverage, and because it seems to cover so well the entire range of responsibilities the author found necessary in counseling with music majors in a liberal arts college. More studies or lists could be presented,

¹⁴ibid., pp. 52-53.

but the foregoing material should be sufficient to sum up the duties of faculty members involved in college counseling.

Counseling of college students by faculty members is seen to be a very important part of the guidance program. Although these counselors will undoubtedly help their counselees a great deal in their orientation to college life, the matter of student orientation deserves further consideration as it applies to the overall guidance program.

Student Orientation

"Orientation is generally considered necessary whenever an individual finds himself in an unfamiliar situation, and college provides, for many freshmen, an unfamiliar situation that leaves them confused and frustrated."¹⁵ Arbuckle's statement is further emphasized as he points out that once a student is admitted to a college and his money is accepted, it is only reasonable to expect the college to assume the responsibility for orienting the student to his new surroundings. Unfortunately, this is not always done in a satisfactory manner.

Arbuckle lists three distinct parts of the total orientation program. These are precollege orientation, which includes such things as "career days" or "college days" and the visitation of college campuses by high school students; orientation week, or freshman week, an increasingly common practice, varying in length from one or two to seven days; and orientation courses, which are conducted for one or two

¹⁵Dugald S. Arbuckle, Student Personnel Services in Higher Education (New York: McGraw-Hill Book Co., 1953), p. 65.

semesters and are sometimes given with credit, sometimes without.

The activities of the typical orientation week include registration, testing, meetings with faculty members and advisors, meeting with student leaders, social events, faculty lectures, the giving out of information and materials, and free time which should be carefully interspersed between the various activities.¹⁶

Typical orientation courses may carry no credit or from one to three hours credit. Titles for these courses are often something like "adjustment to college" or "adjustment to the social and intellectual world of today." The way they are administered and their content varies a great deal. No attempt will be given to point out a typical course with its requirements and contents, although descriptions are readily available in the literature.

A study of over 1,800 students in fifteen different colleges in Illinois by Arbuckle revealed that the orientation services which seemed most effective to students included faculty advising, faculty lectures and talks, and the dissemination of pertinent information about such things as college requirements for graduation, campus activities, and the philosophy of the college. Those services that seemed to be of least value were various social events (field days, picnics, faculty teas, tours of campus, etc.) and advising by senior students.¹⁷

¹⁶Ibid., pp. 66-67.

¹⁷Ibid., p. 80.

The necessity of orientation programs is evident. It appears equally evident that the best type of program for a college must be worked out according to the unique setting, atmosphere, and constituency of the college and in terms of the needs of the students who are in attendance.

Although the coverage of this particular topic has been quite brief, material presented is sufficient to emphasize the need of an organized and well thought-out orientation program. The orientation program should consider a student before he gets to college until he has finished his college career.

Vocational Counseling

The support for the idea that colleges must be concerned about the occupational planning of students while they are in college and occupational success after they leave college is widely accepted. Some information already presented about the most recent ACT research deals with vocational choice, patterns, and prediction. It would be well to briefly outline what all vocational services and counseling might include.

Among the major tasks involved in any vocational-guidance program would be the gathering of information about students and about occupations and the dissemination of that information to students. If students are to make an intelligent choice about jobs, there must be a continual flow of up-to-date information about occupations available to them. To be intelligent in his occupational planning and choice, a student must have some knowledge of his abilities, his aptitudes,

and his interests. He should have some understanding of his attitudes and how they affect his goals, and should be aware of the part that his past and present experiences play in his occupational future. Although the college is not a vocational-training school, a college education should help a student in his future occupation, not necessarily in improving his technical training, but in helping him live a happier and more effective life.¹⁸

Personal records from high school provide valuable information for vocational guidance as does information gathered about a student throughout his college years. Types of information that should be available for use in vocational guidance would include the following as listed by Arbuckle.

1. Information forwarded by the public school and information gathered by the admissions office.
2. Information from a battery of guidance tests administered after the student has been admitted.
3. The registrar's records of scholastic standing.
4. A record of the student's co-curricular activities and his outside work experience.
5. Information supplied by the health service.
6. A great deal of extraneous material from various sources.¹⁹

Many pages could be added concerning the use of this information, but enough has been presented to emphasize the need of making vocational information a vital part of vocational counseling which must be provided for the individual student. Types of programs and approaches to the matter of vocational

¹⁸Ibid., pp. 87-88.

¹⁹Ibid., pp. 90-93.

counseling are easily accessible in the literature so no attempt will be made to give a variety of coverage at this point. The important thing is to realize the significance of this part of the orientation, guidance, and counseling process, and to realize that it will be just as significant to those who major in music as to any other type of student.

Placement and follow-up is the final phase of the total vocational-guidance program. There exists a vital relationship between the gathering and dissemination of vocational information, vocational guidance, vocational counseling, placement, and follow-up. While some personnel workers feel that all these phases should be handled by one person, others see this as an impossible task. The best plan would have to be worked out in each individual situation. The importance of vocational guidance and counseling, however, must not be overlooked or slighted.

Perhaps a statement by a committee of the American Council on Education would still prove significant in summing up this part of the chapter.

Arts college students face three decisions which relate both to educational and occupational orientation: first, the choice of a curriculum upon admission; second, the choice of a major at the end of the sophomore year; and third, the choice of a job at graduation. . . . The first decision lies in the area of educational orientation if a tentative vocational choice has already been made on the basis of individual diagnosis. The second decision embraces the provisions of both. The student needs educational counseling in planning his major, but his major will often lead to his ultimate career. Therefore, at this time especially he needs both kinds of orientation. The third decision, the choice of a job at graduation, lies more in the area of occupational orientation. But

when a student's diagnosis points to graduate or further professional training, then the decision relates to educational orientation.²⁰

Procedures Employed and Results Obtained

In addition to the guidance material just discussed, an attempt was made to gain specific information concerning guidance and counseling procedures being used in church related, liberal arts colleges. Information regarding the needs and problems of music majors and the causes of dropout among music majors was gathered. The procedures and results of this effort are set forth in the following pages.

At the beginning of this study a type of questionnaire in the form of an information sheet was sent to each of the church related, four year, coeducational, liberal arts, accredited colleges in the states of Kansas and Oklahoma. (See Appendix A for copy) A total of eighteen colleges received the questionnaire, and fourteen or 78 percent were returned. The questionnaires were sent to the chairman of the music department in each of the colleges and were filled out by that person or his representative. The results present some interesting information.

Five of the colleges reported guidance and counseling programs for music majors; nine did not report such programs. However, further details presented on the questionnaire revealed that some of the colleges not reporting a guidance and orientation program did essentially the same things in dealing with

²⁰Occupational Orientation of College Students, (Washington, D.C.: American Council on Education Studies, 1939), Series VI, Vol. III, No. 2, pp. 13-14.

their music majors as did those colleges reporting a program. Also, the five who reported guidance and orientation programs did not reveal any program of a very extensive nature.

Activities listed as part of guidance and orientation procedures by the fourteen reporting colleges were as follows:

<u>Activity</u>	<u>Times Listed</u>
1. Freshman music theory courses used as a contact for personal counseling	4
2. Music faculty member assigned as advisor; extensive advisor-advisee relationship suggested	4
3. Meeting with music majors as part of the regular freshman orientation procedures	4
4. Personal conferences with head of the music department	4
5. Letter and possible visit to prospective music student prior to orientation week	1
6. "Student counseling" by an upper class music major as part of orientation activity	1
7. Weekly meetings with freshman music majors during first semester	1
8. Two or three general meetings with freshman music majors during their first semester	1
9. Interview with each music major during or at end of sophomore year	2

The most common activities are readily seen to be some combination of one or more of the first four activities as listed above.

A great deal of variation was shown in the dropout rate for music majors in each of the colleges over the two year period of the freshman and sophomore years. The following figures were reported.

- | | |
|--------------------------|--------------------------|
| 1. Under 10% - 1 college | 4. 30%-40% - 3 colleges |
| 2. 10-20% - 1 college | 5. 40-50% - 3 colleges |
| 3. 20-30% - 1 college | 6. Over 50% - 3 colleges |

Two colleges reported too few music majors to be significant and gave no indication of a dropout rate. The more extensive study made in four of the colleges in gathering ACT scores, theory grades, and dropout information revealed some discrepancies in the way these percentages were reported.

After listing their dropout rate, each college was asked to list or check items relative to the implications this dropout rate might hold for the guidance and counseling of music majors. The combined report received from the fourteen colleges showed the following:

<u>Implication</u>	<u>Times Listed</u>
1. A normal and healthy situation allowing flexibility of planning and change during a student's first two years of college	7
2. A need for better orientation of our music students to the requirements and expectations of the music program	6
3. A need for a better screening program prior to and during registration	4

Other comments revealed that three colleges did not expect an indication of a student's major until the sophomore year. One music department chairman felt that a large percentage of dropout was a very effective way of weeding out students not suited for or interested in studying music. Another indicated a need to attract students who really want to major in music, and felt that liberal arts colleges draw

too many who do not know what they desire for a major.

Another implication of a reported dropout rate was the need to help prospective music majors evaluate their own potential, background and interest in a more realistic manner.

Seven of the colleges indicated they used ACT scores, and seven indicated they did not. In explaining their use, however, none of the colleges had ever used them in making an analysis of their dropouts. One college did give the following figures in diagnosing their dropouts. Low ACT scores contributed 20 percent, transfer to other areas 40 percent, marriage 16 percent, lack of funds 6 percent, transfer to other schools 6 percent and personal reasons 12 percent.

Four of the colleges indicated the use of ACT scores by individual counselors and another information sheet reported that a close check of ACT scores revealed that the poorest usually drop out. ACT scores were either not available in some of the colleges or were not easily accessible and thus not used in any manner in the guidance situation.

In response to the question "What do you consider to be the basic responsibilities of your department in the guidance and counseling of freshman music majors?", the following responsibilities were given:

1. Inform students as to the opportunities in the field of music.
2. Insure proper background, training, and fulfillment of academic requirements necessary to complete music degree.
3. Realistically present the demands of the music curriculum: music is not an "easy course."

4. Proper orientation of students to the objectives, procedures, activities, and curricula of music programs.
5. Build morale and professionalism--pride in the field.
6. Help students with academic, social, and personal choices and adjustments.
7. Screen through theory courses, achievement in classes, examination and proficiency tests during and at end of two year period.
8. Provide opportunity for proper enrollment and progress in appropriate type of program for individual student.
9. Provide personal counseling when needed in an effort to help students understand and "guide" themselves.
10. Help music majors develop basic musicianship and proficiency in some area of basic performance.
11. Help students evaluate themselves: capacity, interest, and achievement at time of entry.
12. Encourage and inspire those who should continue; guide those who should not continue into more appropriate areas in keeping with their abilities, capacities, interests, and achievements.

Questionnaire for Junior and Senior Music Majors

The author was able to acquire about 100 responses from upper class music majors on this particular questionnaire. Most of these responses were from students at the college where the author was teaching. A few others were obtained from students in one of the other three colleges included in this study. The form for this questionnaire was discussed previously and is included in Appendix B. The following summary of the results of this questionnaire is presented.

Each participant was asked to list the three most

important factors in his decision to become a music major in college. These are summarized as follows:

<u>Factor</u>	<u>Frequency</u>
1. Love for or enjoyment of music; interest in music	70
2. Personal accomplishment or proficiency in music	38
3. Desire to use music in church related work	37
4. Desire to teach music	35
5. Teacher's influence; both public and private indicated	30
6. Enjoyment of high school music classes	18
7. Desire to become a competent musician	16
8. Parental influence and interest	16
9. Sufficient background in music	16
10. Desire for a vocation of enjoyment and service	16
11. Self-satisfaction through music	8
12. Influence of friends	7
13. Influence of college faculty	4
14. Through career workshop in high school	1

In response to the question "When did you make the decision to become a music major?" 65 percent of the upper-class music majors said it was during high school, 20 percent said after entering college, 11 percent indicated it was before high school, and 4 percent could not remember a specific time when they actually made a decision to become a music major in college.

The response to the question "How certain are you

that a career in music or music education is what you desire?" yielded the following percentages. Sixty-two percent of the music majors reported they were very certain, 20 percent indicated they were fairly certain, 15 percent said they vacillated from certain to uncertain, and 3 percent were uncertain to very uncertain.

Another part of the questionnaire for junior and senior music majors asked them to list the most important factors in their continued pursuit of a major in music. Their response follows:

<u>Factor</u>	<u>Frequency</u>
1. Continued enjoyment of music (love of music, challenge, interest, etc.)	82
2. Desire to teach music; the challenge of music teaching	45
3. Encouragement of college teachers	39
4. Adequacy to perform and success as a music major	38
5. Feeling a "calling" to music in one manner or another	38
6. Have learned a great deal; satisfying thirst for knowledge	27
7. Challenge received in college	24
8. Desire for achievement, degree or further degree after the undergraduate degree	15
9. Desire to succeed (don't want to be a quitter), goal for the future	14
10. Opportunities in the field	2

The responses to the question "What are the three most outstanding things you can think of that would have been most helpful to you during your freshman and sophomore years as a

music major?" were:

<u>Helps</u>	<u>Frequency</u>
1. Better background in music before entering college	68
2. Help in learning to study more effectively	60
3. More help with scheduling my classes and activities	51
4. Better indication of my ability (aptitude and achievement tests)	47
5. Encouragement from counselor and teachers	36
6. Indications of my real interests (interest tests)	33
7. More help from counselor with scholastic problems	20
8. Remedial work such as refresher course before starting harmony and aural theory	14
9. More help from counselor with personal-social problems	11
10. More music related activities	7
11. Proficiency tests in harmony and ear training	5
12. Better unity and coordination of entire group of music majors within music department	3

Questionnaire for Music Minors And Ex-Music Majors

This questionnaire was presented in the same manner as the one given to upper-class music majors. The responses to each of the parts of the questionnaire are summarized. About seventy responses were received.

Forty percent of the responses were yes and 60 percent were no, to the question "Did you start out in college

as a music major?". Responses to the other two parts of the same question "When did you change majors?" and "From music you changed to _____?" varied. The largest number for any category changed during or after the second semester, freshman year to areas such as elementary education, business, religion, speech, and a few others. About the same number changed at the beginning of the sophomore and junior years and included changes to English, home economics, education, psychology, and religion. A number of other individual responses were given, but the ones just summarized were much more common.

The results of the section with directions "List the three major factors in your decision not to major in music, or in your decision to change from music to some other major were:

<u>Factor</u>	<u>Frequency</u>
1. Definite interest in another field	52
2. Not enough talent or potential to major in music	35
3. More opportunities for jobs found in other areas	32
4. Not major interest; lack of sufficient interest	27
5. Finances (music costs too much)	21
6. Use of music for a vocation (hobby, relaxation)	17
7. Lack of adequate background in music	14
8. No desire to teach music	12
9. Trouble with music courses in college	11
10. Other reasons bordering on insecurity, uncertainty, and interest	7

The question, "What are the three most outstanding things you can think of that would have helped you most during your freshman year in knowing what course to pursue and in doing effective work?" was answered as follows:

<u>Factor</u>	<u>Frequency</u>
1. Better indication of my ability	49
2. Help in learning to study effectively	44
3. Better indication of my real interests (interest tests)	40
4. More encouragement and understanding from counselor and teachers	35
5. More help from counselor with scholastic problems	16
6. More help from counselor with personal- social problems	16
7. Better orientation or counseling as to music courses, expectations and requirements	15
8. More maturity, interest, desire, etc.	7
9. More help in scheduling classes and activities	4

Summary

This chapter reviews research related to the orientation, guidance, and counseling of college students. It also presents a summary of three different questionnaires used in the design of this study in an effort to gain pertinent information as to problems and needs of music students and guidance and counseling practices now being used in dealing with music majors. The results certainly emphasize the needs that music majors have for guidance and counseling services, and the fact that these

needs are often not met adequately.

The fact that the majority of music majors decide to major in music during their high school years should be recognized, especially by colleges who serve a large number of home or community students. It also seems significant that career days, etc., do not appear to be strong factors in influencing students to major in music, nor, according to literature reviewed, to major in other areas as well.

Responses to the questionnaire for music minors and ex-music majors seem to coincide with the literature which suggests that changes in majors occur most frequently during the freshman year of college or before the sophomore year. The advisability of postponing the declaration of a major for uncertain students is indicated.

It is interesting to note how the factors listed by students in their decision not to major in music reflect the absence of several of the very qualities that were significant in the decision of music majors to major in music. It is also notable that the need for "help in learning to study effectively" was equally important to music majors, ex-majors and music minors, and that the music minors and ex-majors strongly indicated a need for better indications of their ability and interests. The results again strongly suggest the value of and the need for guidance and counseling services.

CHAPTER IV

STATISTICAL ANALYSES OF DATA

This study was concerned with determining if significant differences existed between ACT scores of entering music majors and the general freshman enrollment in each of four colleges where the study was completed. Each of the four parts of the standard ACT measurement was tested out to see if there was a difference in English, mathematics, social studies, and natural science scores, as well as a difference in the composite score. The study was also concerned with determining if significant differences existed between ACT scores of music majors and music major dropouts, between music major completers and general completers, and between music major completers and music major transfers who completed a degree in some other area.

Theory grades for the music majors who enrolled in 1964 were compared for those who completed their work in 1968 and those who dropped out along the way or transferred to some other area of study.

To accomplish the investigation task, four null hypotheses were selected to be tested, (see page 8) and the GPA's of music major completers and of music major dropouts were established and compared. In testing the hypotheses

both the .05 and the .01 level of statistical significance was determined through data processing by electronic computer.

Music Majors and General Freshman Enrollment

To determine if significant differences existed in terms of the ACT scores of music majors and general freshman enrollment in each of the four colleges included in the study, the ACT scores were gathered for each of the music majors who entered in the classes of 1964, 1965, 1966, and 1967. A sample of comparable size to each of these groups was selected by taking ACT scores from the listing of general freshman enrollment for each of these years in each of the four colleges.

The colleges are referred to as College number one, two, three or four throughout the discussion of these statistics. The average ACT composite score for each of the four colleges varies among the colleges and is reflected in each of the four parts of the standard ACT scores as well as in the composite. The first null hypothesis was:

There is no statistically significant difference between ACT scores of music majors and the general freshman enrollment in each of the four colleges.

In the area of English, the first test of the ACT battery, no statistical difference was found at either the .01 or the .05 level of significance. The F value at the .05 level of significance was 5.12 and at the .01 level was 10.56. The computed F value was 0.000. On the basis of these values, it was concluded that no statistically significant difference exists between the music majors and the general freshman enrollment on the English section of the standard ACT scores.

The null hypothesis could not be rejected. Table 1 on this page provides the data regarding the analysis of variance test for significant differences using the ACT English scores.

TABLE I
ANALYSIS OF VARIANCE SUMMARY FOR ACT ENGLISH SCORES

Source	Degrees of Freedom	Sum of Squares	Mean Square
R College	3	78.05552	26.01851
A Years	3	7.55976	2.01851
B Areas	1	0.00000	0.00091
RA College & Year	9	4.74020	0.52669
RB College & Area	3	2.52742	0.84247
AB Year & Area	3	2.17106	0.72369
RAB College, Year & Area	9	9.23822	1.02647
Total	31	104.29127	
Grand Mean = 20.55776811			
College	Year	Mean Scores	
1	1	17.67361	
1	2	18.49301	
1	3	18.42931	
1	4	18.37681	
2	1	19.43826	
2	2	21.20920	
2	3	21.40360	
2	4	21.29935	
3	1	21.42081	
3	2	23.56250	
3	3	23.28611	
3	4	22.27500	
4	1	20.37818	
4	2	20.47000	
4	3	20.32500	
4	4	20.88353	

$$F_{.05} = 5.12$$

$$F_{.01} = 10.56$$

$$F = \frac{.00000}{1.02647} = 0.000$$

For the second test of the ACT battery, mathematics, the computed F value was 9.13. The F value at the .05 level was 5.12, so a significant difference was found at the .05 level of significance on the mathematics test of the battery. (See Table 2, page 63) It was concluded that non-music majors have higher mathematics ACT scores than do music majors at the .05 level of significance. However, this difference was not great enough to be significant at the .01 level of significance. The null hypothesis was rejected at the .05 level of significance but could not be rejected at the .01 level.

Table 3, page 64, shows about the same situation to be true for social studies scores as was found for mathematics scores. The computed F value was found to be 7.26 which was more than the .05 value of 5.12, but less than the .01 value of 10.56. Again it was concluded that a significant difference exists between the music majors and the general freshman enrollment on ACT scores in social science at the .05 level of significance, but that no significant difference exists at the .01 level of significance.

In the area of natural sciences, Table 4, page 65, shows that an F value of 19.98 was found. Thus it was concluded that non-music majors have higher ACT scores in the area of natural science than do music majors, and this difference is significant at both the .01 and .05 level of significance. The null hypothesis was rejected as it applied to the area of natural science.

Table 5, page 66, shows that the composite scores of

TABLE 2

ANALYSIS OF VARIANCE SUMMARY FOR
ACT MATHEMATICS SCORES

Source	Degrees of Freedom	Sum of Squares	Mean Square
R College	3	85.95638	28.65213
A Years	3	18.65328	6.21776
B Areas	1	18.89932	18.89932
RA College & Year	9	9.44179	1.04909
RB College & Area	3	6.55471	2.18490
AB Year & Area	3	3.29873	1.09958
RAB College, Year & Area	9	18.63600	2.07067
Total	31	161.44021	
Grand Mean = 19.53315735			

College	Year	Mean Scores
1	1	16.48978
1	2	17.36075
1	3	17.28032
1	4	17.84808
2	1	18.57869
2	2	20.02170
2	3	18.98066
2	4	19.55584
3	1	20.75113
3	2	22.80000
3	3	20.34444
3	4	23.53235
4	1	19.88909
4	2	20.39000
4	3	17.95000
4	4	20.75764

F.05 = 5.12

F.01 = 10.56

$$F = \frac{18.89932}{2.07067} = 9.13$$

TABLE 3

ANALYSIS OF VARIANCE SUMMARY FOR
ACT SOCIAL STUDIES SCORES

Source	Degrees of Freedom	Sum of Squares	Mean Square
R College	3	115.10975	38.36992
A Years	3	13.26711	4.42237
B Areas	1	9.87640	9.87640
RA College & Year	9	16.31991	1.81332
RB College & Area	3	6.99287	2.33096
AB Year & Area	3	0.89814	0.29938
RAB College, Year & Area	9	12.24053	1.36006
Total	31	174.70471	
Grand Mean = 20.82685900			

College	Year	Mean Scores
1	1	18.45127
1	2	18.76182
1	3	17.97124
1	4	17.88766
2	1	19.17913
2	2	22.51881
2	3	20.98159
2	4	20.66299
3	1	21.33371
3	2	25.28750
3	3	24.12222
3	4	23.72353
4	1	20.50091
4	2	20.12500
4	3	20.78000
4	4	20.94235

F.05 = 5.12

F.01 = 10.56

$$F = \frac{9.87640}{1.36006} = 7.26$$

TABLE 4
ANALYSIS OF VARIANCE SUMMARY FOR
ACT NATURAL SCIENCE SCORES

Source		Degrees of Freedom	Sum of Squares	Mean Square
R	College	3	106.56716	35.52239
A	Years	3	6.46712	2.15571
B	Areas	1	20.06555	20.06555
RA	College & Year	9	16.54370	1.83819
RB	College & Area	3	2.20455	0.73485
AB	Year & Area	3	0.73122	0.24374
RAB	College, Year & Area	9	9.03641	1.00405
Total		31	161.61571	

Grand Mean = 20.85256171

College	Year	Mean Scores
1	1	18.47383
1	2	18.78495
1	3	17.15107
1	4	19.39191
2	1	19.67217
2	2	22.08680
2	3	20.72855
2	4	20.25454
3	1	22.22963
3	2	24.07500
3	3	23.37222
3	4	24.68382
4	1	21.60000
4	2	19.80500
4	3	20.07500
4	4	21.25647

F.05 = 5.12

F.01 = 10.56

$$F = \frac{20.06555}{1.00405} = 19.98$$

TABLE 5
ANALYSIS OF VARIANCE SUMMARY FOR
ACT COMPOSITE SCORES

Source		Degrees of Freedom	Sum of Squares	Mean Square
R	College	3	96.41124	32.13708
A	Years	3	8.45656	2.81885
B	Areas	1	9.02344	9.02344
RA	College & Year	9	7.06621	0.78513
RB	College & Area	3	3.65597	1.21866
AB	Year & Area	3	1.27462	0.42487
RAB	College, Year & Area	9	8.86196	0.98466
Total		31	134.75000	
Grand Mean = 20.58008933				
College		Year	Mean Scores	
1		1	17.87957	
1		2	18.50107	
1		3	17.83471	
1		4	18.42787	
2		1	19.41565	
2		2	21.66406	
2		3	20.66022	
2		4	20.60065	
3		1	21.48755	
3		2	24.17500	
3		3	22.96944	
3		4	23.64264	
4		1	20.70091	
4		2	20.40000	
4		3	19.85500	
4		4	21.06706	

F.05 = 5.12

F.01 = 10.56

$$F = \frac{9.02344}{.98466} = 9.16$$

the ACT battery for the four colleges in the study yielded an F value of 9.16. It was concluded that there is a significant difference in the composite ACT scores of the general freshman enrollment, and of the music majors at the .05 level of significance. Non-music majors, or general freshman enrollees have higher composite ACT scores than do music majors. However, the null hypothesis, rejected at the .05 level of significance, cannot be rejected at the .01 level of significance.

Tables 1, 2, 3, 4, and 5 show that college number three has the highest average ACT scores on each of the four tests in the battery as well as on the composite. College number one is seen to be consistently lowest of the four colleges, and colleges number two and four show some variation. Table 1 shows that college number two has higher average English scores than college number four, while Table 2 reveals that college number four has higher average mathematics scores than does college number two. College number two has higher average social studies, natural science, and composite scores than does college number four as revealed by Tables 3, 4, and 5.

The variation shown among the four colleges reflects the uniqueness of each institution. It is known that the students who attend college number one come mainly from the southwest region of the United States. The students attending college number three come from a less regionally restricted area. No doubt a study of admissions policies, family income, denominational affluency, etc., could be made in order to

reach conclusions concerning these results. These would seem to be beyond the scope of this particular project at this time.

Music Graduates and Music Major Dropouts

The second null hypothesis was the basis for comparing music majors who continued in the field of music through graduation with music majors who dropped out of music after one or more semesters of work. The second null hypothesis states:

There is no statistically significant difference between dropouts and those who continue and finish a four year music program.

Tables 6, 7, 8, 9, and 10 contain data which deals with this hypothesis.

TABLE 6

T TEST FOR SIGNIFICANT DIFFERENCES BETWEEN MUSIC GRADUATES AND MUSIC DROPOUTS: COLLEGE ONE

Area	$N_1 = 16$	$N_2 = 31$	\bar{x}_1	\bar{x}_2	$\bar{x}_1 - \bar{x}_2$
1 English	127.75	864.71	19.21	17.09	2.03
2 Mathematics	713.94	606.77	17.56	14.67	2.89
3 Social Studies	466.94	948.00	20.06	17.00	3.06
4 Natural Science	531.75	947.10	18.62	16.35	2.27
5 Composite	264.00	543.68	19.00	16.45	2.55

	s^2	$s^2_{\bar{x}_1 - \bar{x}_2}$	$s_{\bar{x}_1 - \bar{x}_2}$	t
1 English	22.054	2.073	1.44	1.409
2 Mathematics	29.349	2.759	1.66	1.740
3 Social Studies	31.443	2.956	1.72	1.779
4 Natural Science	32.863	3.809	1.76	1.289
5 Composite	17.948	1.687	1.30	1.961

Degrees of Freedom = 45 $t_{.05} = 2.015$ $t_{.01} = 2.693$

TABLE 7

T TEST FOR SIGNIFICANT DIFFERENCES BETWEEN MUSIC
GRADUATES AND MUSIC DROPOUTS: COLLEGE TWO

Area	$N_1 = 24$	$N_2 = 22$	\bar{x}_1	\bar{x}_2	$\bar{x}_1 - \bar{x}_2$
1 English	541.96	515.82	19.79	19.09	.70
2 Mathematics	825.83	745.32	18.91	16.40	2.51
3 Social Studies	1009.33	1344.96	19.83	18.04	1.79
4 Natural Science	775.96	992.36	19.79	17.72	2.07
5 Composite	544.96	654.00	19.70	18.00	1.70

	s^2	$s^2 \bar{x}_1 - \bar{x}_2$	$s \bar{x}_1 - \bar{x}_2$	t
1 English	24.040	2.091	1.45	.482
2 Mathematics	35.707	3.107	1.76	1.426
3 Social Studies	53.506	4.655	2.16	.828
4 Natural Science	40.189	3.496	1.87	1.106
5 Composite	27.249	2.371	1.54	1.103

Degrees of Freedom = 44	$t_{.05} = 2.016$	$t_{.01} = 2.695$
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TABLE 8

T TEST FOR SIGNIFICANT DIFFERENCES BETWEEN MUSIC
GRADUATES AND MUSIC DROPOUTS: COLLEGE THREE

Area	$N_1 = 8$	$N_2 = 9$	\bar{x}_1	\bar{x}_2	$\bar{x}_1 - \bar{x}_2$
1 English	52.00	46.22	21.00	20.55	.45
2 Mathematics	404.88	98.89	17.87	22.11	-4.24
3 Social Studies	93.88	313.56	19.62	19.77	-.15
4 Natural Science	203.88	166.00	20.62	23.00	-2.38
5 Composite	100.00	90.00	20.00	21.33	-1.33
	s^2	$s^2 \bar{x}_1 - \bar{x}_2$	$s \bar{x}_1 - \bar{x}_2$	t	
1 English	7.55	1.782	1.33	.338	
2 Mathematics	33.58	7.925	2.82	-1.503	
3 Social Studies	27.16	6.410	2.53	-.059	
4 Natural Science	24.66	5.820	2.41	-.987	
5 Composite	12.66	2.990	1.73	-.768	
Degrees of Freedom = 15 $t_{.05} = 2.131$ $t_{.01} = 2.947$					

TABLE 9

T TEST FOR SIGNIFICANT DIFFERENCES BETWEEN MUSIC
GRADUATES AND MUSIC DROPOUTS: COLLEGE FOUR

Area	$N_1 = 6$	$N_2 = 16$	\bar{x}_1	\bar{x}_2	$\bar{x}_1 - \bar{x}_2$
1 English	50.83	247.44	24.83	17.68	7.15
2 Mathematics	206.83	163.94	24.83	16.56	8.27
3 Social Studies	37.33	569.44	23.33	18.31	5.02
4 Natural Science	50.00	478.00	24.00	18.50	5.50
5 Composite	49.50	243.75	24.50	17.87	6.63

	s^2	$s^2 \bar{x}_1 - \bar{x}_2$	$s \bar{x}_1 - \bar{x}_2$	t
1 English	14.91	3.414	1.85	3.864
2 Mathematics	18.54	4.246	2.06	4.014
3 Social Studies	30.34	6.948	2.64	1.901
4 Natural Science	26.40	6.046	2.46	2.235
5 Composite	14.66	3.357	1.83	3.622

Degrees of Freedom = 20	$t_{.05} = 2.086$	$t_{.01} = 2.845$
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TABLE 10

T TEST FOR SIGNIFICANT DIFFERENCES BETWEEN MUSIC
GRADUATES AND MUSIC DROPOUTS: COMBINED STATISTICS

Area	$N_1 = 54$	$N_2 = 78$	\bar{x}_1	\bar{x}_2	$\bar{x}_1 - \bar{x}_2$
1 English	928.00	1783.49	20.33	18.17	2.16
2 Mathematics	2398.99	2000.88	19.01	16.41	2.60
3 Social Studies	1672.38	3235.97	20.25	17.88	2.37
4 Natural Science	1691.93	2897.80	20.03	17.94	2.09
5 Composite	1097.71	1700.88	20.07	17.74	2.33
	s^2	$s^2 \bar{x}_1 - \bar{x}_2$	$s \bar{x}_1 - \bar{x}_2$	t	
1 English	20.857	.653	.81	2.66	
2 Mathematics	33.845	1.059	1.03	2.52	
3 Social Studies	37.756	1.182	1.09	2.17	
4 Natural Science	35.305	1.105	1.05	1.99	
5 Composite	21.527	.674	.82	2.84	
Degrees of Freedom = 130 $t_{.05} = 1.98$ $t_{.01} = 2.617$					

Table 6, page 68, shows that the differences between music majors and dropouts are not significant at college one. The numbers of music majors and dropouts are probably too small to pick up the differences that seem apparent when one looks at the figures in Table 6. Table 7 reveals that the same situation exists for college number two and Table 8 shows that this is also true for college number three. However, Table 9 shows a significant difference on ACT scores in English and mathematics at the .01 level and a significant difference on natural science at the .05 level at college number four. The music major dropouts at college number four had significantly lower scores than did the music major graduates on three of the four tests on the ACT battery as well as on the composite.

The information for all four colleges is combined in Table 10. Therefore, the numbers are sufficient to test out differences to a greater extent. It can be concluded from the information presented in Table 10 that music graduates have higher average scores on all parts of the ACT battery as well as on the composite scores. Significant differences are revealed for each of these at the .05 level of significance. A significant difference at the .01 level of significance appears in the area of English and on the composite. On the basis of this information hypothesis two was rejected. It was concluded that music majors who continue in music and graduate with a music degree have significantly higher ACT scores than do music majors who drop out before they complete a music degree.

Music Major Dropouts and General Dropouts

The students who started as freshman music majors in 1964 but dropped out along the way sometime before their senior year or graduation were compared with a group from the general student population who started as freshmen in 1964 but also dropped out prior to graduation or reaching their senior year. The comparison of these groups was made to test hypothesis number three which states:

There is no statistically significant difference between the ACT scores of music dropouts and dropouts from the general college population.

A study of Table 11 found on page 73 shows that the only significant difference in music major dropouts and general college dropouts at college number one was in the area of mathematics. The null hypothesis could not be rejected in comparing English, social studies, natural science, and composite scores, but was rejected at the .01 level of significance using the mathematics scores. The non-music major or general dropouts were higher in the area of ACT mathematics scores.

Table 12, page 73, indicates that the only significant difference between music dropouts and general dropouts in college number two was in the area of natural science. General dropouts were significantly higher in the natural science scores at the .05 level of significance.

No significant differences were found in any area for colleges three and four. Table 13 on page 74 presents the statistics for the comparison of music major dropouts with

TABLE 11

T TEST FOR SIGNIFICANT DIFFERENCES BETWEEN MUSIC
DROPOUTS AND GENERAL DROPOUTS: COLLEGE ONE

Area	$N_1 = 20$	$N_2 = 30$	\bar{x}_1	\bar{x}_2	$\bar{x}_1 - \bar{x}_2$
1 English	579.00	749.47	15.50	15.87	- .37
2 Mathematics	332.20	753.47	13.30	17.53	-4.23
3 Social Studies	531.75	1236.97	15.75	16.96	-1.21
4 Natural Science	644.55	842.80	15.15	18.20	-3.05
5 Composite	287.80	692.67	15.10	17.33	-2.23
	s^2	$s^2 \bar{x}_1 \bar{x}_2$	$s \bar{x}_1 - \bar{x}_2$	t	
1 English	27.676	2.297	1.52	- .243	
2 Mathematics	22.618	1.877	1.37	- 3.087	
3 Social Studies	36.848	3.058	1.75	- .691	
4 Natural Science	30.986	2.572	1.60	- 1.906	
5 Composite	20.426	1.695	1.30	- 1.715	
Degrees of Freedom = 48 $t_{.05} = 2.013$ $t_{.01} = 2.686$					

TABLE 12

T TEST FOR SIGNIFICANT DIFFERENCES BETWEEN MUSIC
DROPOUTS AND GENERAL DROPOUTS: COLLEGE TWO

Area	$N_1 = 14$	$N_2 = 32$	\bar{x}_1	\bar{x}_2	$\bar{x}_1 - \bar{x}_2$
1 English	286.93	65.80	17.07	18.00	- .93
2 Mathematics	492.93	954.88	14.92	17.43	- 2.51
3 Social Studies	825.43	1209.50	15.42	18.87	- 3.45
4 Natural Science	560.93	1131.72	15.07	19.40	- 4.33
5 Composite	336.36	575.72	15.78	18.59	- 2.81
	s^2	$s^2 \bar{x}_1 - \bar{x}_2$	$s \bar{x}_1 \bar{x}_2$	t	
1 English	21.066	2.149	1.49	- .632	
2 Mathematics	32.700	3.335	1.83	- 1.371	
3 Social Studies	46.248	4.717	2.17	- 1.589	
4 Natural Science	38.649	3.924	1.98	- 2.186	
5 Composite	20.729	2.114	1.45	- 1.937	
Degrees of Freedom = 44 $t_{.05} = 2.016$ $t_{.01} = 2.695$					

TABLE 13

T TEST FOR SIGNIFICANT DIFFERENCES BETWEEN MUSIC
DROPOUTS AND GENERAL DROPOUTS: COLLEGE THREE

Area	$N_1 = 7$	$N_2 = 15$	\bar{x}_1	\bar{x}_2	$\bar{x}_1 - \bar{x}_2$
1 English	9.72	213.34	21.42	20.66	.76
2 Mathematics	55.43	639.34	23.28	19.33	3.95
3 Social Studies	172.86	424.00	21.85	21.00	.85
4 Natural Science	83.72	482.00	24.42	21.00	3.42
5 Composite	29.43	246.94	22.71	20.73	.98
	s^2	$s^2 \bar{x}_1 - \bar{x}_2$	$s \bar{x}_1 - \bar{x}_2$	t	
1 English	11.150	2.330	1.53	.496	
2 Mathematics	34.738	7.260	2.69	1.468	
3 Social Studies	29.843	6.237	2.50	.340	
4 Natural Science	28.286	5.912	2.43	1.407	
5 Composite	13.818	2.888	1.70	.576	
Degrees of Freedom = 20		$t_{.05} = 2.086$	$t_{.01} = 2.845$		

TABLE 14

T TEST FOR SIGNIFICANT DIFFERENCES BETWEEN MUSIC
DROPOUTS AND GENERAL DROPOUTS: COLLEGE FOUR

Area	$N_1 = 14$	$N_2 = 25$	\bar{x}_1	\bar{x}_2	$\bar{x}_1 - \bar{x}_2$
1 English	220.36	612.00	17.21	19.20	-1.99
2 Mathematics	100.93	1196.00	15.92	19.40	-3.48
3 Social Studies	336.00	1118.00	17.00	19.20	-2.20
4 Natural Science	194.00	1034.00	17.00	20.80	-3.80
5 Composite	138.93	730.00	16.92	19.80	-2.88
	s^2	$s^2 \bar{x}_1 - \bar{x}_2$	$s \bar{x}_1 - \bar{x}_2$	t	
1 English	22.490	2.496	1.58	-1.259	
2 Mathematics	35.052	3.891	1.97	-1.766	
3 Social Studies	39.297	4.362	2.09	-1.052	
4 Natural Science	33.189	3.684	1.92	-1.979	
5 Composite	23.484	2.607	1.61	-1.788	
Degrees of Freedom = 37		$t_{.05} = 2.028$	$t_{.01} = 2.718$		

dropouts from the general college enrollment at college number three. Table 14 on page 74 presents the statistics for the comparison of music major dropouts with dropouts from the general college enrollment at college number four.

When the scores for all four colleges are combined, some differences show up. Table 15 shows that in the four colleges of this study the non-music major dropouts had higher ACT scores than the music dropouts in the mathematics, natural science, and composite areas. The differences were significant at the .01 level of significance. Therefore, hypothesis number three was rejected on the basis of these differences.

TABLE 15

T TEST FOR SIGNIFICANT DIFFERENCES BETWEEN
MUSIC DROPOUTS AND GENERAL DROPOUTS:
COMBINED STATISTICS

Area	$N_1 = 55$	$N_2 = 102$	\bar{x}_1	\bar{x}_2	$\bar{x}_1 - \bar{x}_2$
1 English	1260.55	2511.62	17.09	18.05	-.96
2 Mathematics	1508.44	3621.82	15.65	18.22	-2.57
3 Social Studies	2093.93	4267.18	16.76	18.70	-1.94
4 Natural Science	1987.39	3615.85	16.78	19.62	-2.84
5 Composite	1109.35	2392.17	16.70	18.83	-2.13

	s^2	$s^2_{x_1 - x_2}$	$s_{x_1 - x_2}$	t
1 English	24.33	.657	.81	-1.185
2 Mathematics	33.09	.893	.94	-2.734
3 Social Studies	41.03	1.108	1.05	-1.847
4 Natural Science	36.14	.976	.99	-2.868
5 Composite	22.59	.610	.78	-2.730

Degrees of Freedom = 155	$t_{.05} = 1.98$	$t_{.01} = 2.617$
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Music Graduates and Ex-music Major Graduates

Hypothesis number four states:

There is no statistically significant difference between those music majors who change majors but finish college and those who continue to graduate as music majors.

The small number of students in each college who started as music majors in 1964 but changed majors and graduated in 1968 from some other major field made it necessary to use only the statistics for all four colleges combined in testing hypothesis number four. Table 16 reveals that there were no significant differences on this test and the hypothesis could not be rejected. It was concluded that there was no significant

TABLE 16

T TEST FOR SIGNIFICANT DIFFERENCES BETWEEN MUSIC
GRADUATES AND EX-MUSIC MAJORS GRADUATING IN
ANOTHER AREA: COMBINED STATISTICS

Area	$N_1 = 54$	$N_2 = 23$	\bar{x}_1	\bar{x}_2	$\bar{x}_1 - \bar{x}_2$
1 English	928.00	301.92	20.33	20.78	- .45
2 Mathematics	2398.99	385.92	19.01	18.21	.80
3 Social Studies	1672.38	907.66	20.25	20.56	-.31
4 Natural Science	1691.93	656.44	20.03	20.74	-.71
5 Composite	1097.71	391.92	20.07	20.21	-.14
	s^2	$s^2_{\bar{x}_1 - \bar{x}_2}$	$s_{\bar{x}_1 - \bar{x}_2}$	t	
1 English	15.972	.974	.99	-	.454
2 Mathematics	36.167	2.206	1.49		.536
3 Social Studies	33.507	2.044	1.43	-	.216
4 Natural Science	30.498	1.860	1.36	-	.522
5 Composite	19.345	1.180	1.09	-	.128
Degrees of Freedom = 75		$t_{.05} = 2.000$	$t_{.01} = 2.694$		

difference between the ACT scores of music graduates and ex-music majors who graduated in some other major field of study.

Analyses of Theory Grades

Music theory is a very basic part of the curriculum for all music majors. Although names and numbers of hours vary, theory for undergraduate music majors includes elementary harmony and ear training and advanced harmony and ear training. Aural theory is another name commonly used for ear training. In some schools the two subjects are combined into a course in music theory. In others they are taught as separate courses, often by different teachers. The four colleges in the study employ both approaches to the teaching of music theory.

Using grade points of A equals 4 grade points, B equals 3 grade points, C equals 2 grade points and D equals 1 grade point, all of the theory grades for the music majors in each of the four colleges who started in 1964 have been found. For those who graduated in 1968 or who were seniors and were finishing their work during the summer or the coming year, a complete set of theory grades was available. For the dropouts from the music program theory grades varied from a complete report covering two years of theory to as little as one semester's grade report, depending upon the time of their withdrawal from the music program.

For college number one, the average GPA for 16 graduating music majors in music theory was 2.68. The average

for 22 dropouts was 1.96. In college number two the 26 graduating music majors had an average grade point of 2.76 in their theory courses while the dropouts averaged 2.18. College number three showed a GPA of 2.83 for graduating music majors in their theory courses and a 2.75 for the dropouts. Sixteen music graduates were compared with 14 dropouts in college number three, which showed the least difference between the theory grades of music graduates and dropouts. The figures for college number four were 3.10 GPA for 8 music majors compared with a 1.83 GPA for 16 dropouts.

Combining the graduates of the four colleges and the dropouts, and getting the combined GPA, the averages came out 2.84 for music majors and 2.18 for dropouts. In each college the graduates attained higher theory grades than did the dropouts, although the difference for college number three was least and for college number four was greatest. Table 17 summarizes the information on the theory grades of music graduates and dropouts in each of the four colleges represented in this study. The discrepancy between the number of music

TABLE 17

A COMPARISON OF MUSIC THEORY GRADES OF MUSIC
GRADUATES AND MUSIC DROPOUTS USING
GRADE POINT AVERAGES

College	Number of Graduates	GPA	Number of Dropouts	GPA
1	16	2.68	22	1.96
2	26	2.76	21	2.18
3	16	2.83	14	2.75
4	8	3.10	16	1.83

graduates for whom theory grades are reported and the number for whom ACT scores are presented is due to the fact that standard ACT scores were not available for a few of the music majors who were freshmen in 1964.

Rates of General Dropout and Music Dropout

Over a five-year period the average percentage of dropout was figured each year for each of the four colleges. The figures used were for first semester freshman enrollment for the years 1960 through 1964. These figures were compared with the total number of graduates four years later, including graduates of the following summer. No attempt was made to check the number of transfer students, the number who dropped out for a while, then re-entered, etc., but with one exception, information obtained in the registrar's office of each college indicated nothing that would bias these figures on general dropout to any significant extent.

Table 18 on page 80 shows the one exception to be the low dropout rate in college number four which can be explained by the fact that this particular college draws sizeable numbers of students from surrounding junior and community colleges. This was not the case with any one of the other three colleges. This influx of students into college number four comes during the junior year, for the most part, and the dropout rate does not really reflect the percentage of the original freshman enrollment that continued through graduation four years later. Although a good deal of variation is found,

TABLE 18

GENERAL DROPOUT RATES FOR EACH OF THE FOUR
COLLEGES INVOLVED IN THIS STUDY

College	Number Entering	Number Graduating	Percent Dropout	Percent Graduation
(1960-1964)				
1	386	135	65	35
2	516	177	66	34
3	422	130	69	31
4	207	124	40	60
(1961-1965)				
1	431	167	61	39
2	454	168	63	37
3	499	160	68	32
4	250	116	54	46
(1962-1966)				
1	487	164	66	34
2	470	180	63	37
3	480	167	65	35
4	222	114	49	51
(1963-1967)				
1	540	211	61	39
2	490	176	64	36
3	425	157	63	37
4	217	114	48	52
(1964-1968)				
1	563	254	55	45
2	506	170	66	34
3	557	183	67	33
4	215	140	35	65

the general dropout rates all fit within generalizations concerning dropout rate already presented in the review of related literature.

A few points of explanation would be in order regarding the dropout rates as reported by the facts and figures gathered

in the individual institutions.

Percentages of students in the total enrollment who dropped out over the five-year period were: 63.6 percent in college number one; 64.4 percent in college number two; 66.4 percent in college number three; and 45.2 percent in college number four (explained on page 79). These figures or percentages are about what could be expected in the light of the research on the subject. A follow-up study if conducted in each of these colleges would probably reveal that those who graduate behind schedule coupled with those who transfer and graduate from other institutions would lower the final dropout rate by as much as 20 percent, a figure previously suggested in the review of related research.

Table 19 on page 82 provides information concerning the dropout among music majors in each of the four colleges of this study. The rate of dropout among music majors was as follows: college number one, 67.8 percent; college number two 57.5 percent; college number three 31.6 percent; and college number four 61 percent. Further information gathered during the course of the study will help clarify and reflect the possible implications of these percentages. The figures quoted are an average of the dropout rate figured for each year, 1960 through 1964 in each of the colleges with the exception of college number two where information was only adequate to find the dropout rate for two four year periods--1960 to 1964, and 1964 to 1968.

In college number one it was possible to ascertain the

TABLE 19

MUSIC MAJOR DROPOUT RATES FOR EACH OF THE
FOUR COLLEGES INVOLVED IN THIS STUDY

College	Number Entering	Number Graduating	Percent Dropout	Percent Graduation
(1960-1964)				
1	27	7	73	27
2	78	31	60	40
3	14	10	30	70
4	15	5	66	33
(1961-1965)				
1	31	11	65	35
2	not available	--	--	--
3	16	11	31	69
4	20	8	60	40
(1962-1966)				
1	30	11	63	37
2	not available	--	--	--
3	14	11	21	79
4	25	7	72	28
(1963-1967)				
1	35	9	74	26
2	not available	--	--	--
3	17	10	41	59
4	18	9	50	50
(1964-1968)				
1	44	16	64	36
2	56	25	55	45
3	17	11	35	65
4	23	10	57	43

numbers of students who started out as music majors each year, but transferred to some other area of study and completed graduation with their class. Adding these students to the total number who graduated each year in music would change the outcome as follows: dropout rate 1960-1964, 59 percent;

1961-1965, 52 percent; 1962-1966, 50 percent; 1963-1967, 57 percent; and 1964-1968, 45 percent. The average dropout rate over the five year period for music majors in college number one then becomes 52.6 percent. As was pointed out earlier, those music majors who were known to be completing their requirements for graduation during the next semester or next year were included in the numbers of graduates for each institution. This same adjustment was not possible, however, in figuring the dropout rate for the student body in general. Another point to remember would be that in the general dropout percentages, no indication is given of students who changed majors but continued to graduate "on time." This difference is reflected, however, by the information used in figuring dropout rates for music majors.

After weighing all the factors and considering all the information available from the four different colleges, it can be concluded that the dropout rate among music majors is not a great deal different than the rate of dropout for the student body as a whole. Also, the dropout rates, both for music students and for the student body as a whole, are well within the limits suggested by a number of comprehensive studies involving large numbers of students from large numbers of colleges.

Discrepancies were found between reports given on the questionnaire sent to the colleges and the information gathered by the author. For instance, the dropout rate among music majors in college number two was reported to be between

10 and 20 percent. Information for the two periods of time, 1960-1964 and 1964-1968 showed the dropout rate to be 60 percent and 55 percent respectively, for a dropout rate average of 57.5 percent. However, information was received that twelve students graduated as music majors in 1968 who were not included in the list of music majors who entered as freshmen in 1964. In other words, they transferred into college number two sometime after the school year 1964-1965, or did not decide to major in music upon their entry into college in 1964. Adding these twelve to the number of music majors who entered in 1964 and graduated in 1968, the percentage of dropout becomes 34 percent.

Since further information was not available, no further diagnosis of dropout among music majors was possible for college number two. However, this college did have a higher percentage of music majors in its student body than any of the other three colleges. Information collected seemed to indicate a very high morale among the music students in this institution.

College number three had the lowest percentage of music majors in its student body. Information already cited shows that this college had a higher average ACT score than any of the other three colleges. The dropout among music majors is decidedly the lowest of the four colleges of this study according to data gathered. The reported dropout rate on the questionnaire was 30 to 40 percent. The dropout rate for the five-year period for which data was gathered averaged

31.6 percent. Relating these facts to the implications of the literature already reviewed, it might be concluded that the high average ACT scores found in college number three have a bearing on the lower percentage of students in the college electing to major in music. It might also indicate that the students of this college were more certain of vocational choice upon entering college.

Information regarding the students of college four indicates that although a number of transfer students from junior and community colleges affected the percentages reported for general dropout rate, few of these transfer students were music majors. The percentage of dropout rate for college number four over the five-year period was 61 percent compared to 30-40 percent that was reported on the questionnaire.

College number one had the largest student body of the four colleges included in the study. This college had the second highest number of music majors among its student body, the highest percentage of dropout reported on the questionnaire (over 50 percent) and the highest percentage of dropout among music majors, figured from information covering the five-year period (67.8 percent).

It may be concluded that each of the four colleges in the study has the problem of dropout from its student body in general and from its group of music majors in particular that is commensurate with normal expectations. The four colleges seem alike in many ways, but also different in other

ways. This appears quite normal since they are all four-year, coeducational, church related, liberal arts colleges. Also, each has its own characteristics which might reflect how each college is trying to deal effectively with the needs and problems of the students in attendance.

It should also be pointed out that while information on dropout among music majors was figured for freshman and sophomore years only for the questionnaire, it was figured for the entire four year period as reported in Table 19, page 82.

CHAPTER V

SUMMARY, CONCLUSIONS, AND IMPLICATIONS FOR GUIDANCE PROGRAMS FOR MUSIC MAJORS

Summary

This study originated because of the concern the author and some others involved in teaching music majors in the college setting shared regarding the guidance and counseling of music majors. Of special concern was the uncertainty of some students regarding their major in music, the lack of successful completion by some, and the numbers who eventually dropped out of college altogether or changed majors after a year or more of study in the music area.

A questionnaire sent to the chairman of each music department of the four-year, church related, liberal arts colleges of Kansas and Oklahoma supplied information on guidance, counseling, and orientation procedures in current use. Information from college students was gained by the use of two questionnaires, one for music majors and the other for music minors and ex-music majors.

This study culminated in an analytical investigation of music majors and music major dropouts in four selected, church related, liberal arts colleges which were: Bethany Nazarene College, Bethany, Oklahoma; Oklahoma Baptist University, Shawnee, Oklahoma; Phillips University, Enid,

Oklahoma; and Southwestern College, Winfield, Kansas.

Conclusions

From the literature reviewed, the statistical analyses of data gathered in the course of this study, and from information reported on three different questionnaires used in the study, it is concluded that music majors are not particularly different from other college students in any unusual way. There are, however, a number of findings that indicate slight differences regarding music majors, students in liberal arts colleges, academic and non-academic potential and accomplishment, and differences between general college completers and dropouts and music graduates and dropouts that would be helpful in any attempt to set up a guidance and counseling program for music majors in church related, liberal arts colleges.

Literature in the field supports the conclusion that music majors, as a part of those involved in the fine arts, are at least average or slightly above average in overall academic potential as revealed by such studies as the one completed by Coffelt and Hobbs in the state of Oklahoma. The statistical analyses of standard ACT scores comparing music majors and general freshman enrollees in the four colleges of this study suggest the following:

1. There is no significant difference between ACT scores of music majors and general college enrollees in English.
2. Music majors may be found to have slightly lower ACT scores in mathematics than college students in general.

3. Music majors may be found to have slightly lower ACT scores in social studies than college students in general.
4. Non-music majors are very likely to have higher ACT scores in natural science than music majors.
5. Non-music majors may be found to have slightly higher ACT composite scores than music majors.

The present study found music major dropouts to have significantly lower ACT scores than those students who start and complete a degree in the field of music. This was true for each of the four sections of the ACT battery as well as for the composite. In comparing music major dropouts with dropouts among college enrollees in general, it was found that non-music major dropouts had higher average ACT scores in mathematics, natural science and on composite scores than music major dropouts. This study revealed no significant difference of ACT scores between music major graduates and ex-music majors who graduated in some other area.

Differences in the grade point averages in theory courses of harmony and ear training between music major graduates and dropouts suggest that difficulty or lack of interest in theory courses is a good indication of trouble of some nature for the music major. Serious difficulty in this area seems definitely to contribute to probability of dropout.

Implications for Guidance Programs for Music Majors

The questionnaire completed by the music majors and the one filled out by music minors and ex-music majors

yielded some interesting results. These are summarized in an attempt to show the implications they present for the guidance and counseling of music majors.

1. A love for music, the enjoyment of music and musical activities, and interest and involvement in music are basic to a musical career.
2. Personal accomplishment or proficiency on an instrument or in voice, usually developed over a period of years prior to college entry, is an important factor in the selection and continued pursuit of a major in music.
3. A desire to teach music is a fairly strong factor for those students who decide to major in music, and an even stronger factor in their continuance in the field.
4. The desire to use music in church work is a factor in electing and continuing a music major in church related institutions.
5. The influence of public and private music teachers should be recognized in influencing students toward a major in music. Equally important in the continued pursuit of this major is the encouragement, understanding, counseling and help of the college music teacher.
6. Proficiency in performance and success in music courses and music related activities is vital to continuance in the field.
7. The challenge provided by the music program and the opportunity the program presents for satisfying the thirst for knowledge are basic to keeping students interested and successfully pursuing a music major.

Although the returns of the questionnaire sent to the colleges of Kansas and Oklahoma as outlined in chapter one revealed no extensively organized orientation, guidance, and counseling programs, it was evident that there was some effort being made by each of the music departments to meet the needs of students. These results, along with information gained by

the use of the questionnaires and the review of literature suggest several implications for better organized guidance services. These may be summarized in the following manner:

1. Programs for the orientation, guidance, and counseling of music majors need to be planned just as much as those in any other area.
2. The program must be planned to meet the needs of each individual institution in conjunction with the total guidance program of that institution and in terms of the availability of various types of information and methods of disseminating the same.
3. Because they are almost certain to be involved, members of the music faculty must develop a "guidance viewpoint" in working with their counselees. The head of the department or some other designated person should give direction to the guidance program of the department.
4. Pre-college information such as ACT scores, high school grades, material from high school records that are forwarded, etc., should be reviewed before the student arrives on campus. Visitation, contact by mail, etc., may prove helpful according to the situation.
5. Orientation and guidance should be a continuous service. The orientation and guidance of music majors should be planned for continuously, starting before the student arrives on campus and continuing through the college years and graduation. Activities for music majors or prospective music majors should be planned during the crucial week of freshman orientation. Further activities should be arranged in keeping with the length and type of general orientation given during this orientation week.
6. Freshman theory courses, especially harmony and ear training or aural theory, may provide a very useful avenue for the identification of students who need special attention. The teacher or teachers of these courses should be made aware of the possibilities of this area for guidance and counseling.
7. Planned orientation, either as a part of general orientation courses given in the college, as a part of music courses already in operation, or as a special course within the department should be provided.

8. Interviews or conferences should be arranged with each music major or prospective major periodically throughout the first year and whenever a felt need is indicated by the student. Some means of checking or identifying progress should be arranged at the end of the freshman year or certainly no later than the end of the sophomore year. This check-up should include all areas of the student's work, and should be quite comprehensive in nature.
9. Information about careers in music, vocational and avocational opportunities and other vocational information should be provided and kept up to date. If this is not a part of a general or special orientation course, then ways must be found for this provision.
10. Help must be given to students for self-evaluation in terms of capacity, interest, and achievement at the time of entry and periodically through their college careers. Personal counseling should be provided to help students understand and guide themselves.
11. Encouragement should be given to those who should continue in the music program. Those who should not continue should be recognized at the earliest possible time and be provided guidance in finding areas of study more in keeping with their capacities, interests, and achievements.
12. Referral opportunities should be provided for any students with severe emotional or social problems. Academic problems of individual students should be diagnosed as accurately as possible.
13. Testing should be provided for students who have not taken specific tests but express a need or show a need for them. For instance, the Strong Vocational Interest Blank or some other interest inventory should be given to a student who is unsure that he wants to major in music, yet has no idea what else to undertake.
14. An atmosphere must be provided and maintained in which students will feel free to seek needed help of any nature.

In implementing a guidance program that would encompass all of these fourteen points, information such as that presented in the ACT research reports should not be overlooked. Undecided students should be helped to see themselves as

entirely normal individuals. In fact, since liberal arts colleges have the goals of a liberal education as part of their basic philosophy, students in every department should be allowed time and help in becoming sure of their major interests if they are uncertain. In case of uncertainty, counselors can be of great help in aiding students to make good use of their time while trying to find themselves. It is probably a great help to many students if they have no pressure to declare a major until at least their sophomore year.

For music students, the SPS (Student Profile Section) addition to the ACT battery, made in 1965, may be used effectively along with ACT scores, record of high school grades, extracurricular achievement record and other information. The fact that ACT scores are so widely used and that the assessment provided through the ACT program is so readily available should not be overlooked by those providing guidance and counseling services for music students.

It has been said that each of us has need of some form of guidance throughout our lives. Students in college are no different and they, too, need guidance. Music majors in church related, liberal arts colleges need guidance. Orientation, including pre-college orientation, orientation activities for freshmen at the beginning of the college year, and orientation courses, plus all forms of guidance and counseling are all essential ingredients of a guidance program. Guidance for music majors, or for anyone else, does not just happen.

Recommendations

The following suggestions are offered for the consideration of any who work with music students in the college setting, especially those who work with freshman students in the music departments of liberal arts colleges.

1. A planned sequence of orientation, guidance, and counseling activities for music majors in liberal arts colleges should be provided in each college after careful planning in terms of the philosophy, aims, goals, and needs of the students of that particular college.
2. Some type of orientation course or guidance service is needed during the first semester or first year in order to provide music majors and those who think they want to major in music with enough information and insight to allow them to make a realistic and intelligent choice about a major in music.
3. Since the ACT services are available, music departments in liberal arts colleges should be made aware of the possibilities for their use and the use of similar materials from many sources, in the areas of orientation, guidance, and counseling.
4. Neither dropout from the music program nor indecision about a major in music should be considered abnormal. General dropout rates reflected in comprehensive studies and information on indecision or change of major indicates that these are normal processes for all college students and may be expected in the music area as well as in other areas.

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APPENDIX A
INFORMATION SHEET

1. Do you have a guidance and orientation program for freshman music majors, or those who specify an interest in the study of music?

Yes _____ No _____

If yes, would you give details concerning when, how often, and what is included?

2. As nearly as can be determined, how many students who initially declared music as a major, change or drop out during or at the end of their first two years?

_____ A. 10-20%

_____ D. 40-50%

_____ B. 20-30%

_____ E. Over 50%

_____ C. 30-40%

_____ F. _____

3. What significance do you attach to this dropout rate?

_____ A. A need for better orientation of our music students to the requirements and expectations of the music program.

_____ B. A need for a better screening program prior to and during registration.

_____ C. A normal and healthy situation allowing flexibility of planning and change during a student's first two years of college.

_____ D. _____

4. Do you have knowledge concerning these dropouts such as a study of ACT scores, information concerning reasons for dropping out, where they drop out to, or a record of individual motivation?

_____ Yes _____ No

If yes, please explain.

5. What do you consider to be the basic responsibilities of your department in the guidance and counseling of freshman music majors?

Comments: (any you might wish to make)

APPENDIX B

QUESTIONNAIRE FOR JUNIOR AND SENIOR MUSIC MAJORS

1. List the three most important factors in your decision to become a music major in college.
 - A.
 - B.
 - C.
2. When did you make the decision to become a music major?
 - _____ A. Before high school
 - _____ B. During high school
 - _____ C. After entering college
 - _____ D. _____
3. List the three most important factors in your continued pursuit of a major in music.
 - A. _____
 - B. _____
 - C. _____
4. How certain are you that a career in music or music education is what you desire?
 - _____ A. Very certain
 - _____ B. Fairly certain
 - _____ C. Vascillating from certain to uncertain
 - _____ D. Uncertain
 - _____ E. Very uncertain

5. What are the three most outstanding things you can think of that would have been most helpful to you during your freshman and sophomore years as a music major? (Number 1-2-3 beginning with the most outstanding).

- _____ A. More help from counselor with scholastic problems
- _____ B. More help from counselor with personal-social problems
- _____ C. More help with scheduling my classes and activities
- _____ D. Better indication of my ability (aptitude and achievement tests)
- _____ E. Indications of my real interests (interest tests)
- _____ F. Encouragement from counselor and teachers
- _____ G. Help in learning to study more effectively
- _____ H. Better background in music before entering college
- _____ I. Remedial work such as a refresher course before starting harmony and aural theory
- _____ J. _____
- _____ K. _____
- _____ L. _____

QUESTIONNAIRE FOR MUSIC MINORS
AND EX-MUSIC MAJORS

1. Did you start out in college as a music major? ____ Yes ____ No
(If yes, complete a and b below)
 - a. When did you change majors? _____
 - b. From music you changed to _____
2. List the three major factors in your decision not to major in music, or in your decision to change from music to some other major.
 - A. _____
 - B. _____
 - C. _____
3. What are the three most outstanding things you can think of that would have helped you most during your freshman year in knowing what course to pursue and in doing effective work. Number them 1-2-3, and use the empty spaces for anything not covered by the list.
 - ____ A. More help from counselor with scholastic problems
 - ____ B. More help from counselor with personal-social problems
 - ____ C. More help in scheduling classes and activities
 - ____ D. Better indication of my ability
(aptitude and achievement tests)
 - ____ E. Better indication of my real interests
(interest tests)
 - ____ F. More encouragement and understanding from counselor and teachers
 - ____ G. Help in learning to study effectively
 - ____ H. _____
 - ____ I. _____
 - ____ J. _____

APPENDIX C

STATISTICS USED IN TESTING HYPOTHESES

Variable 1--English

Adv. for factorial experiments

Number of reps. = 4

Number of factors = 2

Factor Names and Levels

R	College	4
A	Years	4
B	Areas	2

Grand Means = 20.55776811

Source	DF	SS	MS
R	3	78.05552	26.01851
A	3	7.55976	2.51992
B	1	0.00000	0.00091
RA	9	4.74020	0.52669
RB	3	2.52742	0.84247
AB	3	2.17106	0.72369
RAB	9	9.23822	1.02647
Total	31	104.29127	

	Table R . .	
1 . .	18.24319	
2 . .	20.83760	
3 . .	22.63611	
4 . .	20.51418	

	Table . A .	
. 1 .	19.72772	
. 2 .	20.93368	
. 3 .	20.86100	
. 4 .	20.70867	

	Table . . B	
. . 1	20.55597	
. . 2	20.55957	

	Table R A .	
1 1 .	17.67361	
1 2 .	18.49301	

	Table R A . (cont.)	
1 3 .	18.42931	
1 4 .	18.37681	
2 1 .	19.43826	
2 2 .	21.20920	
2 3 .	21.40360	
2 4 .	21.29935	
3 1 .	21.42081	
3 2 .	23.56250	
3 3 .	23.28611	
3 4 .	22.27500	
4 1 .	20.37818	
4 2 .	20.47000	
4 3 .	20.32500	
4 4 .	20.88353	

Table R . B		
1 . 1		18.37269
1 . 2		18.11368
2 . 1		20.77734
2 . 2		20.89787
3 . 1		22.21548
3 . 2		23.05673
4 . 1		20.85835
4 . 2		20.17000

Table . A B		
. 1 1		19.41120
. 1 2		20.04423
. 2 1		21.15486
. 2 2		20.71249
. 3 1		20.66191
. 3 2		21.06009
. 4 1		20.99588
. 4 2		20.42146

Variable 2--Mathematics

Adv. for factorial experiments

Number of reps. = 4

Number of factors = 2

Factor Names and Levels

R	College	4
A	Years	4
B	Areas	2

Grand Mean = 19.53315735

Source	DF	SS	MS
R	3	85.95638	28.65213
A	3	18.65328	6.21776
B	1	18.89932	18.89932
RA	9	9.44179	1.04909
RB	3	6.55471	2.18490
AB	3	3.29873	1.09958
RAB	9	18.63600	2.07067
Total	31	161.44021	

Table R		
1 . .		17.24474
2 . .		19.28423
3 . .		21.85698
4 . .		19.74668

Table . A		
. 1 .		18.92718
. 2 .		20.14311
. 3 .		18.63886
. 4 .		20.42348

Table . . B		
. . 1		18.76463
. . 2		20.42348

Table R A		
1 1 .		16.48978
1 2 .		17.36075
1 3 .		17.28032
1 4 .		17.84808
2 1 .		18.57869
2 2 .		20.02170
2 3 .		18.98066
2 4 .		19.55584
3 1 .		20.75113
3 2 .		22.80000
3 3 .		20.34444
3 4 .		23.53235
4 1 .		19.88909
4 2 .		20.39000
4 3 .		17.95000
4 4 .		20.75764

Table R . B		
1 . 1		16.59871
1 . 2		17.89076
2 . 1		18.82863
2 . 2		19.73982
3 . 1		20.31781
3 . 2		23.39615
4 . 1		19.31337
4 . 2		20.18000

Table . A B		
. 1 1		18.07820
. 1 2		19.77615
. 2 1		19.43611
. 2 2		20.85012
. 3 1		17.43160
. 3 2		19.84611
. 4 1		20.11261
. 4 2		20.73435

Variable 3--Social Studies

Adv. for factorial experiments

Number of reps. = 4

Number of factors = 2

Factor Names and Levels

R	College	4
A	Years	4
B	Areas	2

Grand Mean = 20.82685900

Source	DF	SS	MS
R	3	115.10975	38.36992
A	3	13.26711	4.42237
B	1	9.87640	9.87640
RA	9	16.31991	1.81332
RB	3	6.99287	2.33096
AB	3	0.89814	0.29938
RAB	9	12.24053	1.36006
Total	31	174.70471	

Table R . .		
1 . .		18.26800
2 . .		20.83563
3 . .		23.61674
4 . .		20.58707

Table . A .		
. 1 .		19.86626
. 2 .		21.67328
. 3 .		20.96376
. 4 .		20.80413

Table . . B		
. . 1		20.27129
. . 2		21.38243

Table R A .		
1 1 .		18.45127
1 2 .		18.76182
1 3 .		17.97124
1 4 .		17.88766
2 1 .		19.17913
2 2 .		22.51881
2 3 .		20.98159
2 4 .		20.66299
3 1 .		21.33371
3 2 .		25.28750
3 3 .		24.12222
3 4 .		23.72353
4 1 .		20.50091
4 2 .		20.12500
4 3 .		20.78000
4 4 .		20.94235

Table R . B		
1 . 1		17.97739
1 . 2		18.55860
2 . 1		20.74052
2 . 2		20.93074
3 . 1		22.29309
3 . 2		24.94038
4 . 1		20.07413
4 . 2		21.10000

Table . A B		
. 1 1		19.10213
. 1 2		20.63038
. 2 1		21.27477
. 2 2		22.07180
. 3 1		20.28791
. 3 2		21.63962
. 4 1		20.42034
. 4 2		21.18792

Variable 4--Natural Science

Adv. for factorial experiments

Number of reps. = 4

Number of factors = 2

Factor Names and Levels

R	College	4
A	Years	4
B	Areas	2

Grand Mean = 20.85256171

Source	DF	SS	MS
R	3	106.56716	35.52239
A	3	6.46712	2.15571
B	1	20.06555	20.06555
RA	9	16.54370	1.83819
RB	3	2.20455	0.73485
AB	3	0.73122	0.24374
RAB	9	9.03641	1.00405
Total	31	161.61571	

Table R . .		
1 . .		18.45044
2 . .		20.68552
3 . .		23.59017
4 . .		20.68412

Table . A .		
. 1 .		20.49301
. 2 .		21.18794
. 3 .		20.33171
. 4 .		21.39669

Table . . B		
. . 1		20.06068
. . 2		21.64444

Table R A .		
1 1 .		18.47383
1 2 .		18.78495
1 3 .		17.15107
1 4 .		19.39191
2 1 .		19.67217
2 2 .		22.08680
2 3 .		20.72855
2 4 .		20.25454
3 1 .		22.22963
3 2 .		24.07500
3 3 .		23.37222
3 4 .		24.68382
4 1 .		21.60000
4 2 .		19.80500
4 3 .		20.07500
4 4 .		21.25647

Table R . B		
1 . 1		17.68751
1 . 2		19.21337
2 . 1		20.10586
2 . 2		21.26517
3 . 1		22.36111
3 . 2		24.81923
4 . 1		20.08823
4 . 2		21.28000

Table . A B		
. 1 1		19.45359
. 1 2		21.53423
. 2 1		20.40694
. 2 2		21.96893
. 3 1		19.63429
. 3 2		21.02913
. 4 1		20.74789
. 4 2		22.04549

Variable 5--Composite

Adv. for factorial experiments

Number of reps. = 4

Number of factors = 2

Factor Names and Levels

R	College	4
A	Years	4
B	Areas	2

Grand Mean = 20.58008933

Source	DF	SS	MS
R	3	96.41124	32.13708
A	3	8.45656	2.81885
B	1	9.02344	9.02344
RA	9	7.06621	0.78513
RB	3	3.65597	1.21866
AB	3	1.27462	0.42487
RAB	9	8.86196	0.98466
Total	31	134.75000	

Table R . .		
1 . .		18.16081
2 . .		20.58515
3 . .		23.06866
4 . .		20.50574

Table . A .		
. 1 .		19.87092
. 2 .		21.18503
. 3 .		20.32984
. 4 .		20.93456

Table . . B		
. . 1		20.04904
. . 2		21.11114

Table R A .		
1 1 .		17.87957
1 2 .		18.50107
1 3 .		17.83471
1 4 .		18.42787
2 1 .		19.41565
2 2 .		21.66406
2 3 .		20.66022
2 4 .		20.60065
3 1 .		21.48755
3 2 .		24.17500
3 3 .		22.96944
3 4 .		23.64264
4 1 .		20.70091
4 2 .		20.40000
4 3 .		19.85500
4 4 .		21.06706

Table R . B		
1 . 1		17.75890
1 . 2		18.56271
2 . 1		20.24825
2 . 2		20.92204
3 . 1		31.95751
3 . 2		24.17981
4 . 1		20.23148
4 . 2		20.78000

Table . A B		
. 1 1		19.14954
. 1 2		20.59231
. 2 1		20.79167
. 2 2		21.57840
. 3 1		19.59866
. 3 2		21.06103
. 4 1		20.65629
. 4 2		21.21282

COMPARISON OF MEANS OF ACT SCORES FOR BEGINNING
MUSIC MAJORS IN EACH COLLEGE WITH A SAMPLE
OF ALL ENTERING STUDENTS FOR THE
YEARS 1964, 1965, 1966, AND 1967

Variable 1--English

College	Year	Area			Means	
1	64	1	46	47	17.78723	1035.87256
1	64	3	49	50	17.65000	1456.32007
1	65	1	29	30	17.56667	697.36682
1	65	3	30	31	19.41935	727.54858
1	66	1	36	37	19.24324	960.81091
1	66	3	38	39	17.61538	1279.23083
1	67	1	46	47	18.89362	1106.46826
1	67	3	49	50	17.86000	1006.02014
2	64	1	45	46	19.45652	1063.41333
2	64	3	49	50	19.42000	1298.18018
2	65	1	53	54	21.27778	730.83350
2	65	3	63	64	21.14063	1661.73438
2	66	1	58	59	20.93220	1069.72900
2	66	3	63	64	21.87500	1101.00000
2	67	1	69	70	21.44286	843.27173
2	67	3	76	77	21.15584	1472.13037
3	64	1	16	17	20.76471	99.05896
3	64	3	25	26	22.07692	379.84631
3	65	1	7	8	23.87500	36.87500
3	65	3	19	20	23.25000	245.75000
3	66	1	8	9	22.22222	79.55560
3	66	3	19	20	24.35000	168.55005
3	67	1	16	17	22.00000	442.00000
3	67	3	19	20	22.55000	274.95007
4	64	1	21	22	19.63636	521.09106
4	64	3	24	25	21.12000	356.64014
4	65	1	19	20	21.90000	323.80017
4	65	3	24	25	19.04000	628.96008
4	66	1	19	20	20.25000	319.75000
4	66	3	24	25	20.40000	386.00012
4	67	1	16	17	21.64706	227.88245
4	67	3	24	25	20.12000	666.64014

Variable 2--Mathematics

College	Year	Area			Means	
1	64	1	46	47	15.65957	1408.55334
1	64	3	49	50	17.32000	1908.88013
1	65	1	29	30	15.36667	1240.96674
1	65	3	30	31	19.35484	1543.09692
1	66	1	36	37	17.43243	1107.08118
1	66	3	38	39	17.12821	1582.35913
1	67	1	46	47	17.93617	2740.80872
1	67	3	49	50	17.76000	1933.12012
2	64	1	45	46	17.71739	1643.32617
2	64	3	49	50	19.44000	2364.32031
2	65	1	53	54	19.77778	2143.33350
2	65	3	63	64	20.26563	2390.48438
2	66	1	58	59	18.30508	1954.50854
2	66	3	63	64	19.65625	2586.43750
2	67	1	69	70	19.51429	2095.48608
2	67	3	76	77	19.59740	3300.51953
3	64	1	16	17	20.11765	579.76477
3	64	3	25	26	21.38462	1144.15405
3	65	1	7	8	22.50000	176.00000
3	65	3	19	20	23.10000	859.80005
3	66	1	8	9	16.88889	472.88892
3	65	3	19	20	23.80000	401.20007
3	67	1	16	17	21.76471	515.05896
3	67	3	19	20	25.30000	458.20007
4	64	1	21	22	18.81818	669.27277
4	64	3	24	25	20.96000	1128.96021
4	65	1	19	20	20.10000	571.80005
4	65	3	24	25	20.68000	1263.44019
4	66	1	19	20	17.10000	1057.80005
4	66	3	24	25	18.80000	948.00012
4	67	1	16	17	21.23529	885.05884
4	67	3	24	25	20.28000	987.04004

Variable 3--Social Studies

College	Year	Area			Means	
1	64	1	46	47	18.04255	1513.91492
1	64	3	49	50	18.86000	1562.02026
1	65	1	29	30	17.23333	1129.36682
1	65	3	30	31	20.29032	1864.38721
1	66	1	36	37	18.37838	1474.70288

College	Year	Area			Means	
1	66	3	38	39	17.56410	2633.58997
1	67	1	46	47	18.25532	2244.93628
1	67	3	49	50	17.52000	2038.48010
2	64	1	45	46	18.97826	2390.97852
2	64	3	49	50	19.38000	2213.78027
2	65	1	53	54	22.24074	1555.87085
2	65	3	63	64	22.79688	1680.35938
2	66	1	58	59	20.72881	1681.66138
2	66	3	63	64	21.23438	2507.48438
2	67	1	69	70	21.01429	1844.98608
2	67	3	76	77	20.31169	2916.51978
3	64	1	16	17	19.70588	407.52948
3	64	3	25	26	22.96154	758.96167
3	65	1	7	8	25.37500	109.87500
3	65	3	19	20	25.20000	385.20020
3	66	1	8	9	22.44444	248.22223
3	66	3	19	20	25.80000	165.20007
3	67	1	16	17	21.64706	433.88245
3	67	3	19	20	25.80000	225.20007
4	64	1	21	22	19.68182	716.77283
4	64	3	24	25	21.32000	779.44006
4	65	1	19	20	20.25000	801.75000
4	65	3	24	25	20.00000	1496.00000
4	66	1	19	20	19.60000	966.80005
4	66	3	24	25	21.96000	546.96021
4	67	1	16	17	20.76471	615.05896
4	67	3	24	25	21.12000	1280.64014

Variable 4--Natural Science

College	Year	Area			Means	
1	64	1	46	47	17.12766	1533.23413
1	64	3	49	50	19.82000	1771.38013
1	65	1	29	30	17.66667	1312.66687
1	65	3	30	31	19.90323	1270.70984
1	66	1	36	37	16.89189	1319.56775
1	66	3	38	39	17.41026	2059.43604
1	67	1	46	47	19.06383	2488.80884
1	67	3	49	50	19.72000	1816.08032
2	64	1	45	46	18.80435	1817.23926
2	64	3	49	50	20.54000	1644.42017
2	65	1	53	54	22.11111	1389.33374
2	65	3	63	64	22.06250	1819.75000
2	66	1	58	59	20.05085	1814.84766
2	66	3	63	64	21.40625	2333.43750
2	67	1	69	70	19.45714	2177.37158
2	67	3	76	77	21.05195	2317.79297
3	64	1	16	17	21.88235	393.76477
3	64	3	25	26	22.57692	930.34631
3	65	1	7	8	23.00000	36.00000
3	65	3	19	20	25.15000	364.55017

College	Year	Area			Means	
3	66	1	8	9	21.44444	206.22223
3	66	3	19	20	25.30000	304.20007
3	67	1	16	17	23.11765	303.76477
3	67	3	19	20	26.25000	163.75000
4	64	1	21	22	20.00000	660.00000
4	64	3	24	25	23.20000	448.00012
4	65	1	19	20	18.85000	628.55005
4	65	3	24	25	20.76000	1238.56006
4	66	1	19	20	20.15000	748.55011
4	66	3	24	25	20.00000	938.00000
4	67	1	16	17	21.35294	355.88245
4	67	3	24	25	21.16000	975.36011

Variable 5--Composite

College	Year	Area			Means	
1	64	1	46	47	17.31915	876.21301
1	64	3	49	50	18.44000	1176.32031
1	65	1	29	30	17.06667	691.86670
1	65	3	30	31	19.93548	1051.87109
1	66	1	36	37	18.05405	843.89197
1	66	3	38	39	17.61538	1347.23083
1	67	1	46	47	18.59574	1635.31921
1	67	3	49	50	18.26000	1083.62012
2	64	1	45	46	18.89130	1232.45679
2	64	3	49	50	19.94000	1300.82031
2	65	1	53	54	21.50000	1013.50000
2	65	3	63	64	21.83813	1355.10938
2	66	1	58	59	20.10169	1035.39014
2	66	3	63	64	21.21875	1630.93750
2	67	1	69	70	20.50000	1041.50000
2	67	3	76	77	20.70130	1666.13037
3	64	1	16	17	20.70588	197.52948
3	64	3	25	26	22.26923	497.11560
3	65	1	7	8	24.00000	18.00000
3	65	3	19	20	24.35000	278.55005
3	66	1	8	9	20.88889	178.88892
3	66	3	19	20	25.05000	172.95007
3	67	1	16	17	22.23529	231.05884
3	67	3	19	20	25.05000	138.95007
4	64	1	21	22	19.68182	484.77283

College	Year	Area			Means	
4	64	3	24	25	21.72000	483.04016
4	65	1	19	20	20.60000	406.80005
4	65	3	24	25	20.20000	934.00012
4	66	1	19	20	19.35000	540.55005
4	66	3	24	25	20.36000	453.76013
4	67	1	16	17	21.29412	305.52954
4	67	3	24	25	20.84000	777.36011