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# Articulation Practices of Two- and Four-year Public Colleges in Tennessee

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ARTICULATION PRACTICES OF  
TWO- AND FOUR-YEAR PUBLIC COLLEGES  
IN TENNESSEE

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A Dissertation

Presented to

the Faculty of the Department of Educational Leadership

and Policy Analysis

East Tennessee State University

---

In Partial Fulfillment of

the Requirements for the Degree

Doctor of Education

---

by

Lydia Thornton Freeman

December 1996

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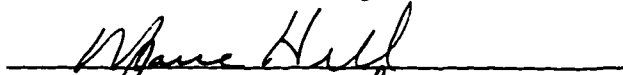

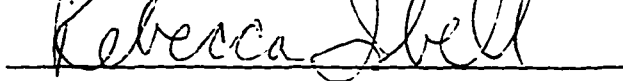
Lydia Thornton Freeman

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The committee read and examined her dissertation, supervised her defense of it in an oral examination, and decided to recommend that her study be submitted to the Graduate Council and the Dean of the School of Graduate Studies, in partial fulfillment of the requirements for the degree of Doctor of Education in Educational Leadership and Policy Analysis.

  
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Signed on behalf of  
the Graduate Council

  
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Interim Dean, School of Graduate Studies

ABSTRACT

ARTICULATION PRACTICES OF

TWO- AND FOUR-YEAR PUBLIC COLLEGES IN TENNESSEE

by

Lydia Thornton Freeman

This study had two purposes. The first was to identify present articulation practices within Tennessee public colleges. The second was to select recommendations for ideal articulation practice that might lead to improved transfer/articulation among two- and four-year public colleges in Tennessee. A survey instrument was sent to persons identified as chief articulation officers within Tennessee public colleges. They were asked to evaluate identified articulation practices according to present practice and according to ideal practice. Results were used to determine which transfer and articulation practices were currently used in Tennessee public colleges, which transfer and articulation practices ideally should be used in Tennessee public colleges, and whether there were significant differences between present practices and ideal practices in articulation among Tennessee public colleges.

Research has found that there may be differences in two- and four-year colleges in articulation practice; therefore, survey results were evaluated to determine if differences in perception existed between Tennessee community college chief articulation officers and university chief articulation officers with regard to the actual usage of identified articulation practices, as well as differences in perception concerning the ideal usage of articulation practices. Significant differences were identified, especially within the areas of leadership, faculty, interinstitutional relationships, record keeping, and evaluation. Results were used to develop recommendations that may facilitate smoother student matriculation between Tennessee public colleges.

## INSTITUTIONAL REVIEW BOARD

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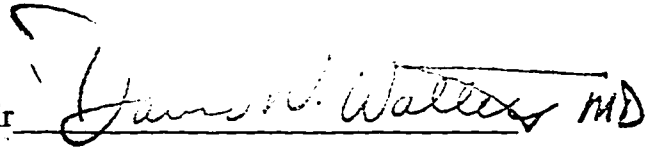
Title of Grant or Project: Articulation Practices of Two- and Four-Year Public Colleges in Tennessee

Principal Investigator: Lydia Thornton Freeman

Department: Educational Leadership and Policy Analysis

Date Submitted: April 29, 1996

Institutional Review Board, Chair

 James W. Waller MD



## DEDICATION

To my parents who instilled in me the value of education and hard work  
and to my children who have validated those values.

## ACKNOWLEDGMENTS

I would like to thank the many people who, in addition to being friends, were kind and caring enough to expend time and energy to support the researcher in this effort.

The nimble fingers of Whitney Robertson, Jean Northern, Tonia Reid, and others have helped produce this manuscript. Jerry Hurst was thorough in his editorial review and comments. Dr. Patrick Kariuki and Al Hamelin contributed to the evaluation of the statistical data. Jeanie Livingston and Sharon Barnett helped smooth the paper trail to keep this degree-seeker on track. Appreciation is also extended to doctoral committee members, Dr. Rebecca Isbell, Dr. Marie Hill, and Dr. Russ West, who provided timely input that added depth to the project. Dr. Hal Knight, committee chair, spent many hours reading text and offering invaluable guidance and insight as well as the technical support necessary for the production of this manuscript.

Special thanks are reserved for four people who have served as mentors in my professional and personal lives: Kaye Davis, Ruth Hannah, Rebecca Isbell, and the late Jack Schrader.

I would like to recognize my children, Alecia, Kristine, and Stephen, for their support, encouragement, and help. I am convinced that our working as a unit has been greatly responsible for our individual successes.

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# CHAPTER 1

## INTRODUCTION

The American job market has changed dramatically in the past 20 to 30 years. Society has gone from a production-driven economy to a service oriented economy competing globally for business. These dramatic changes have required a more highly educated work force. Heavy reliance has fallen to the higher education system to unlock the doors of opportunity, to foster equity, to promote success, and to encourage advancement by the full range of citizens. Quality of public life requires a highly educated citizenry (King, 1994). One result of this is that more young people in the United States attend college than in any other nation in the world (Carnegie Foundation for the Advancement of Teaching, 1990).

A large percentage of these students attend community colleges (Salzman, 1992). In the 1790s, Thomas Jefferson wrote that there should be a college in each county (Wattenbarger, 1990). By the 1960s, community colleges were being established at the national rate of one each week (Salzman, 1992). Community colleges, once the second choice for many individuals, have become the educational choice for many Americans who wish to improve knowledge and update specific skills, especially in technical areas (Barkley, 1993).

During the fall of 1995 there were 5,337,328 students enrolled at 1,021 public two-year colleges (Chronicle of Higher Education, 1995). Most of these were part-time

students and many were involved in on-site training programs (Barkley, 1993).

Projections of public two-year college enrollment show reductions in 1995 and 1996, but substantial increases thereafter through 2005 (Chronicle of Higher Education, 1995).

Earned associate degrees conferred in 1992-1993 were 514,756, up 18% in 5 years (Chronicle of Higher Education, 1995).

Despite budget cuts of the early 1990s which caused some public colleges to have enrollment reduced by as much as 25%, community colleges in the Southeast have continued to experience increases in growth (Gose, 1995). In a study reported by Campus Trends in the Chronicle of Higher Education (1995), during the winter of 1995, 39% of the two-year public colleges reporting had experienced increases in enrollment. Many community colleges have experienced a 13% to 17% increase in the traditional student population over a two-year period (Barkley, 1993). High school students have been enrolling in community colleges in record numbers because of higher costs of four-year colleges and the growing recognition that a quality education can be obtained within their own community (Barkley, 1993).

For millions of students community colleges serve as the entrance to higher education and the avenue to intellectual and economic growth (King, 1994). Community colleges appeal to a variety of population groups. As compared to four-year college students, community college students are increasingly older, more likely to be female, take longer to complete degrees, and are more likely to be employed (Barkley, 1993). In

1993, almost half the minority students in higher education were enrolled in community colleges (Chronicle of Higher Education, 1995).

Community colleges offer associate degrees to students who complete courses of study that correspond to the freshman and sophomore years of college. Credits earned from community colleges may transfer to four-year schools so that a student may enter the higher level institution as a junior. Community colleges also offer vocational degrees for students entering the work force, in addition to non-credit courses taken for personal interest and that do not transfer to four-year schools (Salzman, 1992).

Although the Associate of Science (AS) and Associate of Applied Science (AAS) degrees were originally designed as terminal degrees leading to immediate employment, recipients today are discovering that baccalaureate degrees are required for many entry-level positions as well as for career advancement (Cox & Harden, 1989). Available evidence suggests that as many as 75% of vocational-technical students hope to pursue four-year degrees and at least 50% of all transferees now hold the Associate of Applied Science degree (Prager, 1992).

Although large percentages of community college students plan to transfer to four-year colleges, a relatively small percentage successfully transfer. Determining the actual number of students transferring poses problems, with areas of debate concerning the composition of the students, the point in time used to define the students, and an acceptable length of time to allow students to transfer (McMillan & Parke, 1994). Cohen (1990) stated that formulas used to calculate transfer rates produce findings that range

from 5% to 82%. Hilrose (1994), defined transfer students as “all students entering the community college in a given year who have no prior college experience and who complete at least 12 college credit units, divided into the number of that group who take one or more classes at the university within four years” (p. 64). Using this formula, Hilrose found a consistent 22-23 % national transfer rate between community and four-year colleges over the five-year period 1989-94. Other well-documented studies have found a consistent national transfer rate of 15-25% (American Council on Education 1991; Watkins, 1990).

Entrance to four-year colleges or universities by community college students is central to the realization of access and equal opportunity in education (King, 1994). Many community college graduates find that four-year colleges either will not accept some of their credits, or will accept them as electives rather than as required courses. Consequently, many students drop out or are required to take additional courses to complete their baccalaureate degrees (King, 1994).

The transfer function from a junior or community college to a four-year college or university has always been considered fundamental to the community college mission (Barry & Barry, 1992). In many cases this transfer or articulation has been a frustrating and disillusioning process since many institutions of higher learning have made little or no effort to address the needs of transferring students, preferring instead to “grow their own.” Most four-year institutions have little incentive to work with their two-year counterparts to reduce barriers (Prager, 1992).

Transfer has proven difficult for some students due to the belief that transfer students do not perform as well as students who began their college careers at four-year institutions. However, students who transfer do as well as, or better than students who began their college careers at four-year institutions (Barry & Barry, 1992; Mellander & Robertson, 1992).

Founders of the community college movement wrote that students ease of transfer to four year institutions was critical for credibility. Many states created their community college systems to serve as feeder institutions to their college and university systems. Four year colleges and universities used the locally-based institutions in order to expand access and sort students by their academic potential (Barry & Barry, 1992). Present leaders still regard transfer as critical to their mission. However, other responsibilities such as technical education, work force training and retraining, and community and continuing education are also considered extremely important (Barry & Barry, 1992).

Effective transfer requires that community colleges articulate with four-year colleges and universities. The diversity of four-year colleges and universities makes articulation a challenge because colleges require their own selected courses for graduation and may refuse to grant transfer credit for essentially the same courses offered at other institutions. Four-year colleges have historically opposed consistency and centralized direction, seeing these efforts as threats to their autonomy and diversity (Barry & Barry, 1992).

Tennessee currently operates 14 public two-year colleges and 10 public four-year colleges (Chronicle of Higher Education, 1995). A 1988 state directive encouraged public colleges to establish articulation agreements (See Appendix A). In 1995 the General Assembly approved a Senate Joint Resolution requiring that the Tennessee Higher Education Commission (THEC), in consultation with the Tennessee Board of Regents (TBR) and the University of Tennessee (UT), conduct a study of program articulation and credit transfer between two- and four-year public institutions in Tennessee. Summaries of transfer and articulation agreements presently in force were requested, as well as input concerning how transfer is working at state institutions and problems which transferring students are encountering. THEC has named a committee with a report due to be presented during the next session of the Select Oversight Committee on Education (Mays, 1995).

The need to articulate community college vocational/technical programs to university programs will become increasingly important as society's technological needs evolve (Barkley, 1993). The sheer growth in demand for students to matriculate from one institution to another has generated a necessity for institutions to develop internal plans for transfer and to cooperate with institutions at other levels to develop agreements that facilitate a smooth transition from one level to another.

### Statement of the Problem

Demand has grown for students to begin their higher education career in community college and complete it in four-year colleges. The transfer function is critical



to this movement. According to King (1994), education should be a seamless web, an interconnecting system where qualified students can move systematically from one educational level to another or from one institution to another without unnecessary roadblocks being put in their way. In a recent study reported in the Chronicle of Higher Education (1995), 65.7% of entering college freshmen expect to get their bachelor's degrees. Nationally, as well as in Tennessee, it is presently very difficult for transferring students to reach that goal.

The pressing need for smooth transfer of students between Tennessee public institutions of higher learning, and concern for the success of those students necessitate a study to define current articulation practices, to identify specific ideal articulation practices, and to suggest a model that would facilitate ease of transfer of students among and between Tennessee public institutions of higher learning.

#### Purpose of the Study

The purpose of this study is two-fold: 1) to solicit input from individuals identified as chief articulation officers at Tennessee public colleges to determine components and characteristics of validated transfer/articulation models that are currently practiced among Tennessee public colleges to ease transfer of students among and between public institutions of higher learning in the state of Tennessee, and 2) to seek input from those college transfer officers concerning ideal articulation practices that, if implemented, could improve Tennessee college student matriculation. This study is designed to explore, through a literature review, models of articulation and transfer in

order to identify those characteristics that have improved the process elsewhere, and to identify present practices, and practices perceived as ideal by Tennessee articulation officers to design recommendations that are specific to the needs of public colleges in Tennessee.

### Research Questions

The questions to be addressed in the study are:

1. Which transfer and articulation practices are currently used in Tennessee public colleges?
2. Which transfer and articulation practices ideally should be used in Tennessee public colleges?
3. Is there a significant difference between present practices and ideal practices in articulation among Tennessee public colleges?
4. Do differences in perception exist between Tennessee community college chief articulation officers and four-year college chief articulation officers with regard to the actual usage of identified articulation practices?
5. Do differences in perception exist between Tennessee community college chief articulation officers and four-year college chief articulation officers with regard to the degree of ideal usage of articulation practices?

### Significance of the Study

The significance of this study lies in the provision of baseline data concerning present Tennessee public college articulation practices and perceived ideal practices as identified by Tennessee public college chief articulation officers that could support the development of an improved articulation/transfer system for Tennessee. The existence of updated recommendations for articulation would assist Tennessee institutions of higher learning in maintaining and improving a state-wide system for articulation of students between those institutions.

In today's mobile society students drop in and out of academic programs, quite often without finishing a course of study (Cohen, 1989). If Tennessee is to have the educated, technically aware workforce it needs to meet the twenty-first century, a cooperative network to support students in their educational efforts must be built. Transfer and articulation agreements are a critical step in this process. According to Eaton (1990, p.20), "Setting goals that reflect ambitiousness about student achievement is a form of opportunity. Commitment to transfer education is a responsible approach to educational responsibility and reflects a realistic appraisal of the skills and credentials needed for achievement in society."

### Limitations

The following limitations are considered relevant to the study:

1. Information was limited to survey results from chief articulation officers in public colleges in Tennessee and a search of recent literature.

2. Generalization can not be made beyond the time period during which the survey was administered and observations made.
3. Other articulation models may exist that were not included in the study.

### Definitions

Articulation: The process for aligning courses and programs that are offered by two or more institutions (Knoell, 1990). Articulation is the “systematic coordination between an educational institution and other educational institutions and agencies designed to ensure the efficient and effective movement of students among those institutions and agencies”(Barry & Barry, 1992, p. 36).

Chief Articulation Officer: The person designated at each institution or identified by the academic dean as having greatest responsibility for transfer/articulation decisions.

Success in transfer and articulation: Smooth student flow from level to level and from institution to institution with a minimum loss of time for those who opt for this kind of attendance pattern, but with opportunities provided for others who start late, drop out, and change direction in route to the baccalaureate degree (Knoell, 1990).

Transfer: The process of reviewing and admitting applicants of advanced standing (Knoell, 1990).

Transfer/Articulation Agreement: A formalized acceptance of general education and specific courses that allows students to transfer successfully from one institution to another (Barry & Barry, 1992).

**Transfer Rate:** The percentage of students moving from one collegiate institution to another.

### **Overview of the Study**

For a variety of reasons, ever-increasing numbers of students are entering and completing degrees in community colleges. Many of those students wish to pursue degrees of higher learning without being forced to repeat training experiences aimed at competencies they already possess.

Chapter 1 contains the introduction, the statement of the problem, the purpose of the study, the research questions, the significance of the study, the limitations, the definitions, and an overview of the study. Chapter 2 contains a review of relevant literature and research. Chapter 3 contains a description of the methods and procedures used in the study. Chapter 4 contains the presentation and analysis of data, and a summary. Chapter 5 presents findings, conclusions, recommendations for improving articulation practices in Tennessee, and recommendations for further research.

## CHAPTER 2

### REVIEW OF LITERATURE

A review of literature was conducted to identify relevant research essential to an investigation of the state of articulation/transfer agreements between institutions of higher learning in the nation and in the state of Tennessee. A portion of the literature review deals with the examination of the junior/community college history and function, examining the institution's relationship to four-year institutions as well as high schools. Other portions of the review of literature examine research related to challenges to the transfer function, types of cooperative arrangements between two-and four-year institutions, and articulation practices within several specific states. Data base accessibility is also explored. Additional research is cited that examines factors related to success of the transfer/articulation function, including bias and academic performance of transfer students, as well as personal attributes leading to student transfer success. A final section explores articulation in Tennessee.

#### History and Function

The junior college, conceptualized as providing the first two years of university education, was the major antecedent of the modern community college. Many states created their community college systems to serve as preparatory institutions to their college and university system. The four-year colleges and universities benefited from

having local institutions expand educational access and sort students in terms of their academic potential (Barry & Barry, 1992).

The first junior colleges, established in the late 1800s, were privately supported and operated. By 1900, there were about eight junior colleges--all private--with an enrollment of about 100 (American Association of Junior Colleges, 1967). According to historians of the two-year college movement, the oldest publicly supported junior college still in existence was established in 1901 at Joliet, Illinois. Within 30 years, 400 junior colleges were established and by 1952 there were 597 (American Association of Junior Colleges, 1967).

According to Salzman (1992), the community college has evolved from the junior college, a creation usually credited to former president of the University of Chicago, William Rainey Harper. In 1900 Harper envisioned the junior college as preparation for the last two years of university study. Harper's idea was to expand the public high schools to include small liberal arts and denominational colleges in the Midwest. Harper admired the high schools of his day for their success in training students to take their place in an increasingly mechanized industrial work force and technologized agrarian society. Harper recommended that the high schools operate for six years, bringing students up to the junior year of college. His idea was to keep the university as free as possible for original scholarship by temporarily confining to subordinate institutions those who needed instruction in the more rudimentary areas of higher education. He wrote that the university should be preserved for the highest intellectual activities, that

the first two years should be preparatory, and that the teaching of basic preparatory courses was best left to a separate institution. As the century progressed, other forces combined with the movement inspired by Harper's ideas to create a hybrid institution that gradually separated from the universities. Evening high school, the YMCA, and other religiously affiliated reading or study groups that were of interest primarily to adults who were not necessarily going to transfer to a university created a demand for a special type of institution. Another influence was from employers who demanded a literate and numerate work force that would be easier to train. This goal was aided by the federal government's encouragement of locally available post-secondary practical educational training at low cost (Salzman, 1992).

By the 1940s the community college had evolved into an institution with two purposes: it offered academic courses as preparation for the young people in a particular locality who planned to attend a university and vocational training for those who did not (Salzman, 1992). The community colleges, and their faculty, grew increasingly responsive to the needs and interests of adult learners, who required different teaching techniques and more flexible scheduling. In addition, community colleges rapidly added remedial and non-collegiate courses and became the second-chance institution for students either denied access to, or unable to succeed at the four-year institutions. In the process, the community college faculty experimented with, and adopted, innovative teaching techniques (Mellander & Robertson, 1992).



Community colleges have been forced to distinguish between transfer activities, which are part of the collegiate world, and non-transfer activities, which were post-secondary by design and developmental or career-oriented in intent. To accomplish this task, new teaching methods and organizational patterns were developed that facilitated coping with diversity of programs and levels, yet interfaced effectively with colleges and universities, high schools, the local employment market, and community interests (Mellander & Robertson, 1992).

Enrollments of students in transfer programs dominated community colleges until the early 1970s. Liberal arts and general education enrollments shifted downward through the 1980s (57% in 1970-1971 to 28% in 1984-1985). The decline of transfer students is attributed to the rapid increase of enrollments in technical programs, a decline in high school enrollments, and increased competition from four-year colleges. A recent upsurge in transfer students is due, in part, to increased admission selectivity at universities, significant increases in tuition at universities, and an increase in the number of high school graduates and adults who are not prepared for university admission (Barry & Barry, 1992).

The decade of the 1980s produced federal and state mandates for public colleges and universities to be more accountable by demonstrating measurable increases in student skills and knowledge attainment between college entry and exit. External bodies have increasingly set the agenda for defining institutional accountability criteria (Henry & Smith, 1994).

Throughout the history of the junior/community college movement, the transfer function has been considered a critical issue. According to Barry and Barry (1992), the founders of the community college movement believed that the credibility of their institutions depended on the ability of students to transfer to four-year colleges with a minimum of problems.

### Challenges to the Transfer Function

According to Knoell (1990), success in transfer and articulation is smooth student flow from level to level and between institutions with a minimal loss of time and credit. In addition, there should be opportunities for others who start late, drop out, or change direction in route to the baccalaureate degree. There are situational, governmental, collegiate, and personal challenges to this process.

The proportion of community college students transferring to a four-year institution dropped considerably during the 1970s and early 1980s, a situation leading to accusations that the colleges did not prepare their students sufficiently well for transfer. However, according to Cohen (1989), several other factors have an influence on transfer rates. The fact that most community college students attend on a part-time basis accounts for some of the difference in rates of bachelor degree attainment between community college and four-year college matriculants. The mere fact that community college students must transfer from one institution to another may also account for some of the shortfall. The transfer function is further weakened by institutional policies that support the idea of the college as a passive resource available to all who would drop in at any

time during their lifetimes. These policies result in 85% of the matriculants not obtaining a degree, a lateral curriculum in which prerequisites to courses are not enforced, and a system in which student progress towards completion is not monitored (Cohen, 1989).

According to Barkley (1993), seven concepts challenge the transfer function. They are:

- (1) a continuing decline in the number of students each year who earn associate of arts degrees and then transfer to four-year institutions;
- (2) an increased demand for a highly skilled, literate work force that may or may not require advanced education, and a growing number of community college students with diverse patterns of enrollment, educational, and career goals who desire both employment and transfer opportunities;
- (3) an increase in the public's demand that higher education be held accountable, creating a greater need to measure the transfer success of the community college student;
- (4) an increasing realization that it is virtually impossible to compare the transfer success of the community college student from college to college or state to state, due to lack of a consistent definition of the transfer student and lack of a consistently used formula to arrive at transfer rates;
- (5) a growing recognition that community college students are very mobile and may attend more than one college or university at a time;
- (6) a persistent, nationwide trend to raise the academic standards required of students at four-year institutions (the increased standards are not always communicated to the community colleges), creating transfer difficulties for students; and
- (7) an increasing number of state systems facing serious education budget cuts that reduce the number of seats available at four-year and two-year public institutions. Thirty states experienced budget declines averaging 3.9% in fiscal year 1990-91 (pp. 38-39).

Five external factors that have the greatest impact on a college's articulation and transfer efforts, and that are generally beyond the control of the college, are economics, student demographics (which impact allocations of outside funds), community involvement, the proximity of primary transfer institutions, and the financing structure and state policy. Internal factors that affect articulation and transfer efforts include

college mission and goals, organizational structure, administrative environment, and district funding. Achieving and maintaining financial and administrative support constitute the greatest challenges facing a college's transfer and articulation efforts (Cipres & Parish, 1993).

Prager (1992) found that decisions concerning transfer programs, curriculum parallelism and program terminality led to transfer-inhibiting practices and were inconsistent with the career aspirations of career track students. According to Prager, three factors have proven prominent sources of trouble in transfer. The first has been the absence of a strong mandate to senior institutions to articulate baccalaureate and associate degree curricula in ways that facilitate the transfer of students from two-year colleges in similar programs without the loss of considerable credit. The second factor is the absence of a strong mandate to employ occupationally specific faculty who hold more than B.A. or Associate degrees in career programs at the two- and four- year colleges. The third factor is the absence of a strong general education mandate. The general education component may be the most critical in enhancing students' educational mobility (Barry & Barry, 1992).

### Types of Cooperative Arrangements

According to Prather and Carlson (1993, 1994), there are five general types of cooperative arrangements between two and four-year institutions. In Type 1 (Articulation and Coordination) agreements, academic programs and services are coordinated between institutions and course contents are roughly comparable, but institutions retain separate

administrative processes. The second type of arrangement (on-site upper division course offerings) occurs when four-year colleges offer upper-division courses on the community college campus. This type of arrangement often represents a testing ground for closer, more permanent cooperation. In Type 3 (on-site degree programs) cooperative arrangements, two-year colleges construct buildings on their campuses expressly to house degree programs offered by four-year institutions. Type 4 cooperative arrangements (satellite campuses) occur when a satellite campus of a four-year institution is established on the campus of a four-year college. Type 5 arrangements (satellite university/University college) occur when a satellite campus of the four-year institution and one or more two-year colleges participate in a consortium agreement, necessitating uniform application and financial aid processes. In developing a cooperative arrangement, institutional research can play a crucial role by providing support for administrative decisions, data collection/assessment services, and general information (Prather & Carlson, 1993, 1994).

Features common to many of the articulation agreements described in a 1992 technical report are: transfer and articulation agreements as an institutional priority; delineation of admission, program, and other requirements; maintenance of agreements and obligations to inform students; diversity in program options and student services; and support for agreements through educational guarantees of transfer credit (Articulation Agreements between High Schools, Community Colleges, and Universities, 1992).

Ignash (1993) found that in California, 61.7% of non-liberal arts courses were transferable to the California State University, while 28.9% were transferable to the

research-oriented University of California, with similar transfer disparities found between comprehensive colleges and research universities in Illinois. Trade and industry courses do not transfer at high percentages, but personal skills and avocational (especially physical education) courses do.

In December 1991, a survey was conducted of transfer coordinators at all public and private two-and four-year colleges and universities in Illinois to determine the current status of transfer articulation services and activities. Study findings included the following: (a) nine public universities and 16 private colleges and universities provided community colleges with detailed course-to-course equivalency guides; (b) 35 community colleges had developed articulation handbooks, and 41 had developed program articulation guides for transfer students; (c) all 12 public universities and five private colleges and universities regularly sent feedback reports on the progress of transfer students to each community college; (d) 26 community colleges and two private two-year colleges reported conducting their own follow-up studies of transfer students; (e) public universities reported that an average of 1.6 full-time equivalent (FTE) staff were assigned to coordinate articulation, while community colleges averaged .77 FTE assigned to coordinate articulation; (f) 11 public universities and nine private colleges and universities hosted or sponsored annual articulation conferences or other related articulation activities; and (g) 30 community colleges reported articulation agreements with public universities, while 14 reported agreements with private colleges and universities (Current issues in transfer articulation between community colleges and four-year colleges and universities in Illinois, 1989).

Two-year and four-year colleges tend to use different practices in articulation efforts. In general, four-year institutions relied on fewer academic and student service practices to support the transfer process than their two-year counterparts did. The two main practices employed by four-year institutions were transfer counselors/advisors and written articulation agreements. To obtain information about their former students, two-year colleges employed a variety of direct and indirect approaches including surveys of graduates, feedback from receiving institutions, and reports from in-state four-year institutions. Four-year institutions typically used data from the registrar and other offices and the number of transcripts received to obtain information about transfer students (Terzian, 1991).

A variety of transfer practices is prevalent in the 1990s. They include written articulation agreements, transfer counselors, and course equivalency guides. Other strategies often cited to help students transfer include an articulated core curriculum, guaranteed admissions to four-year institutions, transfer centers, and computerized course transfer information services (Terzian, 1991).

#### State Articulation Agreements as Models

Banks (1992, 1994), in a national study designed to identify conditions that have a significant effect upon student transfer activity, found that formalized statewide articulation mandates had a positive effect on transfer rates. Prather & Carlson (1994, p. 131) list "leadership and commitment from the top" as number one in a list of principles for successful articulation. Several states are cited in the literature as having been models

for implementing practices that support students in their efforts to improve their level of education through transfer.

A California Senate bill, (SB) 121, required that all segments of higher education be responsible for improving a smooth transfer of students through the development of transfer agreement programs, discipline-based articulation agreements, transfer centers, and a transfer plan (Cepeda & Nelson, 1991). The master plan developed for transfer developed in California includes these provisions: (a) community college certification of fulfillment of California State University (CSU) requirements; (b) students' ability to choose to fulfill the CSU graduation requirements in effect when they began at a community college, when they entered at CSU, or those in effect at graduation; (c) academic performance reports on transfers provided by the CSU to community colleges; (d) CSU fee waivers for Extended Opportunity Programs and Services participants; (e) a booklet and video for prospective community college transfers; (f) discipline-based matriculation efforts; (g) the formation of transfer centers on 14 CSU campuses; (h) Project ASSIST, a computerized articulation system; and (i) the California Articulation Number system, providing standardized numbers for courses (Kershner & Lindahl, 1989). A California study found that the University System had been moving toward expected articulation implementation goals, while community colleges, in part due to funding problems, were making slow progress (California Postsecondary Education Commission, 1988). A 1991 update found that the 20 colleges with transfer centers transferred substantially more students during each year of the pilot study (Trends in Transfer from California Community Colleges, 1991).



In Florida, the first articulation agreement guaranteeing the transfer ability of a specific set of general education courses was made in 1959. In 1971 a new agreement, which defined the Associate in Arts (A.A.) as a two-year transfer degree, established an Articulation Coordination Committee, common course numbering, and a common academic calendar (Harden, 1991). Other statewide efforts to improve articulation included the employment of articulation officers, improved communication between those officers, the publishing of articulation manuals, the development of computerized advisement programs to help students develop course plans and determine course requirements, and the development of orientation programs and special scholarships to assist transfer students (Harden, 1991). In 1980 Florida's adoption of a common academic calendar and a common course numbering system became effective (Barkley, 1993).

Virginia, in 1991, instituted a policy that contains the following recommendations: (a) students who have earned an associate degree based upon a baccalaureate-oriented sequence will be considered to have obtained junior standing; (b) colleges should adopt a transfer module system, a coherent set of courses that forms the foundation of a solid liberal education and assures students that a core of courses will transfer; (c) one person should be designated as chief transfer officer at each institution; and (d) community colleges should determine whether minority students are being counseled into or otherwise enrolled disproportionately in programs that are not designed to transfer (State policy on transfer: State Council of Higher Education for Virginia, 1991).

Several studies (Barry & Barry, 1992; Prager, 1992; Cipres & Parish, 1993; St. Clair, 1993) have shown that state leadership is critical in effecting change in transfer policies. Knoell (1990) has argued that these changes are more likely to be successful if they originate at the local level through voluntary cooperative arrangements. Ignash (1992) stated that four-year institutions dominate decisions about transfer and are unlikely to relinquish control unless forced to do so by accrediting agencies or state mandate. Banks (1994) found that larger percentages of students transfer in states with formalized articulation and transfer agreements.

#### Data Base Accessibility

Knoell (1990) asserts that two-year colleges should develop a transfer student data base to help in recruitment, to enhance the tracking of student academic progress, and to assist four-year colleges in enrollment planning. Four-year institutions should develop a transfer student data system that would assist coordinating two-year colleges in assessing student flow and transfer student performance. According to Barkley (1993, p.45), "Transfer guides maintained on a data base accessible to all institutions within a system would be an even more powerful tool than paper copies printed annually that quickly become outdated." Several states have adopted common data bases in order to facilitate the information flow.

California's Project ASSIST (Articulation System Stimulating Interinstitutional Student Transfer) offers a data base that provides transfer and articulation information from all California colleges and universities. ASSIST provides "convenient access to

accurate and comprehensive information about the variety of postsecondary transfer alternatives available to community college students” and “ a means by which students can determine the transferability of courses taken in a two-year institution to any participating four-year institution” (Knoell, 1990, p.54).

In Florida, Miami-Dade Community College uses an Advisement and Graduation Information System (AGIS) to monitor students’ progress toward their degree goals and to alert counselors and students instantly to changes in general education and major course requirements. Statewide, a Student On-Line Advisement and Articulation (SOLAR) system provides general admission requirements and information as well as course and admission requirements for majors and the transfer process. Students using SOLAR can compare the courses different schools require for a specific major. Another statewide computer system, the Florida Information Resource Network (FIRN), transmits student information electronically among all educational levels. All of Florida’s public schools, colleges, and universities are on this system (Barkley, 1993).

Hatfield and Stewart (1988) found that two-year college students in Ohio can use a comprehensive system of specific guidelines to aid them in transferring to any of Ohio University’s six campuses. The articulation system uses a computerized method for converting course listings on the student’s transcript into corresponding courses at the university.

Student success in transfer is dependent upon dissemination of accurate, up-to-date information. Common, readily available data bases would be useful to counselors,

transfer students, faculty advisors, registrars, academic administrators or others who need accurate, current information about articulation for advising, monitoring, or planning to improve transfer (Knoell, 1990).

### Success of the Transfer Function

The success of the transfer function across the United States has had more to do with strong state leadership and the resulting commitment to transfer success than to any issues of quality of instruction or knowledge gained by students (Barry & Barry, 1992). The transfer function is alive and well and works best in states where formal articulation-transfer agreements are mandated. It functions most poorly where an absence of state direction and leadership forces the colleges and universities to work out the transfer function among themselves (Barry & Barry, 1992).

The reason for the weak transfer function when there is a lack of state leadership relates to the perceptions of the universities and their faculties and to the lack of a bureaucratic mechanism to make the transfer function work. State leadership became involved in transfer negotiation in Florida, Illinois, Georgia, and Texas in 1971. By 1973, at least 32 states had articulation-transfer agreements in which state agency policy or legal mandate was the driving force (Barry & Barry, 1992).

According to Barry and Barry (1992), there are three types of successful articulation programs sponsored by state governments. They are: (a) formal and legally based policies, which are defined in state law with mandated mechanisms in place to ensure compliance; (b) state system policies, which result from statewide articulation-

transfer agreements negotiated between two-year and four-year college representatives and formalized in state policy, with mandatory institutional compliance; and (c) voluntary agreements, which are state-wide articulation-transfer agreements negotiated between two-year and four-year college representatives, with voluntary institutional compliance.

The highest transfer rates have been in the states where the articulation-transfer agreements have a legislative basis, such as Florida, Missouri, Texas, Washington, and Rhode Island. Illinois, California, Maryland, New Jersey, and Arizona have state system policies. Michigan, Pennsylvania, Kentucky, and Minnesota have voluntary agreements. Ohio and Massachusetts are examples of states that have vague early legislation encouraging articulation and transfer, but few formal agreements exist and little work is done to keep them up to date (Barry & Barry, 1992).

### Transfer Student Academic Success

Eaton (1994) has stated that there is a clear, documentable relationship between collegiate study and educational attainment. Transfer is a test of the portability of academic experiences among a variety of higher education institutions. Ortiz (1990) stated that students who transferred had the grades and ability to attend a four-year college directly from high school.

A California study found the number of students transferring from community colleges to universities increased between 1986 and 1991 despite a decline in the number of potential transfer students, and their academic performance was consistently similar to that of "native" students. Colleges with transfer centers transferred significantly more

students than those lacking this service (Trends in transfer from California community colleges, 1991 update, 1991).

Henry and Smith (1994) found that community college graduates who apply to Colorado four-year institutions get accepted at high rates--93% for those who graduated between 1987 and 1991, and once enrolled, community college graduates perform quite well at Colorado four-year public postsecondary institutions. The cumulative grade point average was 3.0 (4.0 scale) for those who graduated from community colleges between fiscal years 1986-87 and 1990-91 and later transferred. Community college graduate transfers complete baccalaureate degrees at high rates (well over 60%) once they transfer.

Cepeda (1991) also found that transfer students perform, persist, and graduate at a level comparable to native students. There is evidence that the overall grade point averages of many transfer students drop by one-half of a point during their first upper division year, a phenomenon known as "transfer shock." In most cases, however, the students recover and earn grade point averages comparable to native baccalaureate students at the time of graduation (Barry & Barry, 1992).

Student transfer success is influenced by each college's internal conditions: student services, the academic program, and the administrative environment. External conditions not directly under the college's control are also important factors to consider. These include student demographics, characteristics of the four-year institutions to which community college students transfer, local economic conditions, and state and federal policies (St. Clair, 1993).

Variables related to personal practices that improve student success in transfer include clear deadlines for class assignments; personal self-motivation, concerned, responsive, knowledgeable faculty, and helpful parents and friends. The most important variables outside of personal motivation for maintaining student persistence were related to human interaction (Hall, 1990).

St. Clair (1993) stated that the responsibility for student academic success rests ultimately with the students whom the community college has agreed to serve with its open-door policy. Commitment is essential for learning and for completing a college transfer program. Community colleges should serve students appropriately, inform them of their responsibilities, and feel success at allowing students to experience their own successes.

### Bias Against Transfer Students

A definite bias exists in four-year institutions toward native students and against transfer students (Williams, 1992; Prager, 1991). According to Ignash (1992), faculty at four-year institutions often regard community college transfer students as inferior, even though they perform as well academically as native students. A Florida study (Williams, 1992) found native students 2.74 times more likely than transfer students to be admitted to a university program. The figures suggest a preference for admitting native students who are not as well qualified over fully qualified transfer students. This

practice has continued despite an earlier Florida technical report (Florida State University System, 1988) which showed the G.P.A. of community college transfer students closely paralleled that of native students at the university.

Pitzer College in 1993 actually declined to provide financial aid to any transfer students from other colleges, citing budget constraints and lack of adequate funds. According to an article in The Chronicle of Higher Education (1993), Pitzer College's unilateral decision to restrict financial aid, which was proposed without consulting the College Council, was being reconsidered.

Prager (1991) found that prejudice existed against transfer students even when the student has attended a two-year branch campus of a four-year university. She also found that internal transfer is affected by many of the same inhibitors that affect other two-and four-year institutions including elitist judgments about two-year students and programs, enrollment caps favoring baccalaureate track students, arbitrary rulings about curriculum parallelism, and notions about program terminality inconsistent with the educational aspirations of career track students. Prager argues that some baccalaureate programs and providers tacitly endorse transfer-inhibiting practices peculiar to articulation within four-year institutions, including the failure of those in authority to enforce articulation policies or, in some instances, to those forcing internal transfer students to reapply for admission as if they were foreign to the institution or to require curriculum sequences similar but not identical to the first two years of the four-year track.



### Tennessee: Background Information and Articulation Status

Tennessee, with 5,175,000 citizens, was ranked 17th in state population in the 1990 census. Sixty-three percent of the population has a high school diploma or less education, 16.9% has some college but no degree, 4.2% has an associate degree and 10.5% have a bachelor's degree (Chronicle of Higher Education, 1995).

Currently, Tennessee has 10 public four-year colleges and 14 public two-year colleges. There are also 54 private colleges and 143 vocational institutions in the state (Chronicle of Higher Education, 1995). Public colleges are organized into two separate systems, the University of Tennessee (UT) and the Tennessee Board of Regents (TBR), with a joint governing body, the Tennessee Higher Education Commission (THEC) (Personal communication with Dr. Jack Campbell and Dr. Bill Locke, October 1995).

In the fall of 1993, 115,774 students were enrolled in Tennessee's four-year colleges and 78,451 students were enrolled in Tennessee's public two-year colleges. In 1992-93, 6,801 associate degrees and 20,371 bachelor's degrees were awarded in the state institutions. Tennessee college enrollment increased 17.9% between 1983 and 1993. State appropriations for higher education increased 14% between the 1991-92 and the 1993-94 academic years. In 1995 slightly more than a tenth of the state budget was appropriated for higher education. This amount was reduced later in 1995 by the new governor. Most Tennessee residents (84%) who were college freshmen in the fall of 1993 attended college in Tennessee (Chronicle of Higher Education, 1995).

In 1988, the State of Tennessee published an articulation directive (see Appendix A). According to the Tennessee Board of Regents (1988), articulation agreements should

ensure that students are not forced by regulation to pursue training experiences aimed at competencies they already possess in order to acquire a credential. Articulation agreements must include specified competencies, must be in compliance with all applicable SACS criteria, and must be furnished as information to the Chancellor. The Tennessee directive specifies that two-year colleges may develop challenge exams or competency-based procedures that could give credit for up to one-half of the semester hours required for an A.A. degree or, as an alternative, to take competencies into account and not award credit, but place the student at a higher level in the curriculum. Tech-Prep agreements, developed with high schools, are to result in a planned four-year progression of study resulting in an associate degree. Each two-year institution is authorized to develop articulation agreements that include awarding credit. Only competency-based programs with clear assessment procedures may qualify for articulation agreements. The responsibility for coordinating articulation is placed upon the lead institution in each service area (Tennessee Board of Regents, 1988).

Review of the literature revealed one model designed to facilitate articulation among institutions of higher learning in Tennessee. Heard (1989) devised a model for articulation between Shelby State Community College (SSCC), Memphis State University (MSU), and Tennessee State University (TSU). The study included a literature review, case studies of the three institutions, a cross-case analysis, and interviews with personnel from MSU, TSU, and SSCC. The study sought to identify community college programs and courses that paralleled those of the state universities; differences and commonalities in the colleges' general education core curricula; and

duplication of course content in university general education and community college-university parallel programs. Other research questions concerned other states' solutions to the articulation problem and the establishment of a uniform articulation process.

Based on study findings, an articulation model was created, including a common general education core curriculum for the Associate of Arts and Science and the Bachelor of Arts and Science degrees. The model also provides for a common course numbering system that facilitates use of standardized student information systems software, a definition of plus-two articulation, and provisions that students with associate degrees from the state's two-year colleges be fully admitted to its universities as juniors.

In 1995 the Tennessee Legislature directed that THEC, UT, and TBR systems study articulation problems in Tennessee and report the findings. A report was issued in March of 1996. A full report is due in 1997 (Tennessee Higher Education Commission, 1996).

### Summary

According to Mellander and Robertson (1992), community colleges must lobby for and demand strong state-mandated articulation agreements so they can negotiate on an equal basis with universities. Community colleges have tended to develop conventional transfer programs that raise few questions at transfer time. Now they need to have the confidence to develop more innovative and substantial general education programs.

Chapter Two contains a review of literature concerning junior/community college history and function, challenges to the transfer function, types of cooperative

arrangements between two-and four-year colleges articulation/transfer arrangements practiced within several states, data base accessibility, factors related to success of the transfer function, transfer students academic success, and present practices in Tennessee.

## CHAPTER 3

### METHODOLOGY

#### Introduction

This chapter contains a description of the research design for this study, the population, sampling methods, questionnaire design, and analysis of data. This study is a descriptive study designed to collect data pertaining to the perceptions of persons identified as chief articulation officers in Tennessee public colleges.

#### Research Design

Descriptive research is concerned with depicting the present (Borg & Gall, 1983). Within descriptive studies, surveys are the most frequently used method of determining conditions as they currently exist. Surveys can be properly used as a screening device or to gain an accurate description of the present relationship among variables (Borg & Gall, 1983). According to Borg & Gall (1983), questionnaire items can be in either closed or open form. The form is determined by the objective of the particular questions. The closed form leads to more efficient quantification and analysis of results (Borg & Gall, 1983). It was decided that a closed form questionnaire would produce the objective, quantifiable information needed to study present TBR and UT articulation practices. Open-ended questions were added to solicit input not included in the closed format.

### Population

The population chosen for this research was limited to persons identified as chief articulation officers at the institutions governed by the Tennessee Board of Regents (TBR) and the University of Tennessee (UT). Identification of the person with greatest responsibility for articulation decisions was determined through contact with chief academic officers at each Tennessee public college. Chief academic officers in Tennessee public colleges are responsible for designating the person or persons responsible for articulation at their institution. Chief academic officers were identified through information provided from THEC.

### Questionnaire Design

The survey instrument was developed specifically for the study. The basis for the instrument was a selection of statements that represented articulation practices identified by a review of literature. Research studies, professional literature, and input from a diverse group of college educators were used in developing statements that represented common practices.

After a thorough review of the literature related to articulation efforts, the researcher designed several of the articulation statements based on ideas and techniques that have demonstrated positive results in articulation efforts. The literature also revealed many factors that inhibited articulation. All questions were addressed in a positive rather than negative context. Ideas related to leadership; communication; personnel involvement; coordination of curriculum, course-numbering, and record-keeping

methods; and evaluative measurements were incorporated in the design of the survey instrument. Formatting of the instrument was based upon a questionnaire designed by Green (1990). Green used two questionnaires, one for present practices, another for ideal practices in articulation/transfer between high schools/vocational schools and community colleges in Tennessee. She found considerable participant attrition between first and second questionnaire mailings. To avoid reduction in participation, this researcher designed one questionnaire with two stems, thus producing the needed information with a single questionnaire.

To have content validity, the items comprising the instrument must constitute a representative sample of the domain of items used to generalize the articulation practices.

Best (1981) reported:

The criterion of content validity is often assessed by a panel of experts in the field who judge its adequacy, but there is no numerical way to express it. Suggestions from colleagues...in the field of inquiry may reveal some ambiguities that can be removed and some items that do not contribute to its purpose...providing estimates of content validity (pp. 179, 197, 203).

Because content validity is assessed solely on a judgmental basis, the researcher analyzed the articulation statements contained in the survey instrument (See Appendix B) in the following ways:

1. After a thorough review of the literature related to articulation, an instrument was identified that contained elements that would be helpful in a study of transfer and articulation in Tennessee.
2. The instrument was revised and reformatted to meet the needs of this survey.

3. Two Likert-type scales were designed and values were assigned to response categories ranging from Never (1) to Always (5) in the Present Practices stem and Unnecessary (1) to Essential (5) in the Ideal stem.

4. The revised instrument was submitted to the researcher's doctoral committee.

5. All changes suggested were incorporated into a survey instrument for field testing.

6. States considered models in articulation were identified through literature review and persons working with articulation in colleges in those states who would be willing to participate in this study were identified.

7. Five persons responsible for college articulation in states considered models in articulation evaluated the instrument. Information concerning them and their selection is included in Appendix C. They were asked to evaluate the questionnaire, through editing, reorganizing, or challenging any item. Their opinions enabled the researcher to determine the extent to which the survey instrument measured the articulation practices it purported to measure.

8. As a result of the field-testing process, necessary revisions were made in the survey instrument.

### Procedures For Collecting Data

The following procedures were followed in conducting the study:

1. A review of related literature was conducted.



2. A validated instrument was sought. An instrument which contained information similar to that which was needed was identified; however, an exact appropriate instrument was not found.
3. A questionnaire was designed and was evaluated by experts in the field.
4. The questionnaire was reconfigured to meet suggestions of experts.
5. A list of potential respondents was obtained.
6. The appropriate number of instruments was prepared.
7. A letter was written and mailed along with the instrument and data sheet explaining the purpose and requesting responses.
8. A follow-up letter and additional questionnaire were sent to non-respondents after two weeks.
9. Telephone interviews were conducted with non-respondents after an additional two weeks.
10. At the completion of the data collection, data were analyzed.
11. Information from data analysis was used to develop recommendations for articulation/transfer in Tennessee.

#### Analysis of Data

Data derived from the questionnaire were ordinal. Statistical techniques used included basic statistics to ascertain means, the Rank test to rank means, the Sign test to compare medians from a single sample, and the Mann-Whitney to compare means from two samples.

According to Borg and Gall (1983) nonparametric statistics should be selected when deviations from assumptions specifically concerning normal distribution about the mean and equal population variances of the comparison groups are present.

Nonparametric statistics make no assumptions about the shape or variance of population scores. When scores are in the form of ranks, frequency counts, or dichotomies, nonparametric statistics should be used to analyze data.

The Sign test was used in determining whether the medians of scores of a single sample differed significantly from each other. The Mann-Whitney test was used in determining whether the distributions of scores of two independent samples differed significantly from each other. When the Mann-Whitney was statistically significant, it meant that the “bulk” of scores in one independent sample was higher than the “bulk” of scores in the alternate independent sample. Full descriptions of these analyses were included within Chapter IV.

### Summary

The population groups for this study consisted of administrators with chief responsibility for articulation within community colleges and universities under the governance of the Tennessee Higher Education Commission.

The survey instrument was developed after reviewing the literature related to articulation. It was validated by a panel of experts in articulation who work in states considered models in articulation practice.

Basic statistics, the Rank test, the Sign test, and the Mann-Whitney were used to analyze responses to the survey instrument. The results of analyses were presented in Chapter IV.

CHAPTER 4  
PRESENTATION AND ANALYSIS OF DATA

Introduction

Present and ideal articulation practices in Tennessee public colleges were investigated through the use of a single questionnaire that was sent to the 24 persons identified as Chief Articulation Officers in Tennessee public colleges. Of the 24 persons identified, 17 were identified as Academic Officials. Titles in other areas included Dean, Admissions, Records and Information Services; Assistant to the Executive Vice-President and Director of Evening Instruction; Dean of Arts and Sciences; Vice-President for the College; Vice-President for Instruction and Student Services; Director of the General Education Program; and Coordinator of Academic Advising and Retention. Within the target population, 22 of 24 persons (91.67%) responded to the survey instrument. Both non-respondents were at four-year colleges and gave time and commitment pressures as reasons for not responding.

The questionnaire consisted of 49 articulation practices organized into seven categories (see Appendix B). Each practice consisted of 10 choices presented upon two 5-point Likert-type scales. The 5-point scale on the left of each statement addressed present practices in articulation and to the right of each statement a second choice, also on a Likert-type scale, concerned ideal articulation practices.

### Present Articulation Practices

The left side of the survey instrument was used to collect responses from the population group with respect to their perception of the degree of present usage of identified articulation practices. The analysis of data was presented by sub-categories of practice: leadership, administration, curriculum and instruction, faculty, interinstitutional relationships, record keeping, and evaluation. In order to evaluate the frequency of present articulation practices used in Tennessee public colleges, categories were devised with a mean score of 2.50 or below designated as a practice that almost never occurred, 2.51 to 3.50 as a practice that sometimes occurred, and 3.51 or above as a practice that almost always occurred

#### Leadership Practices

Five practices were investigated within the leadership in articulation category. Examination of data revealed mean scores within the sometimes range occurred within the practices concerning strong state leadership in articulation ( $\bar{x}=3.27$ ) and frequency of meetings concerning articulation ( $\bar{x}=3.05$ ). Higher education governing board commitment to transfer ( $\bar{x}=3.57$ ) fell within the almost always occurred range. Questions concerning an active state committee on articulation all scored a mean of 2.11 or below, within the almost never occurred category. Responses to questions concerning active institutional articulation committees were significantly higher than state institutional articulation responses, with deans ( $\bar{x}=2.73$ ), instructors ( $\bar{x}=2.56$ ), and

advisors ( $\bar{x}=2.47$ ) more likely to serve on articulation committees and advisory committee members ( $\bar{x}=2.06$ ) and students ( $\bar{x}=1.41$ ) almost never serving; however, each aspect of the practice except the inclusion of academic deans or designated coordinators fell within the almost never occurs range.

### Administration Practices

Thirteen Administrative practices were examined. The first, which concerned annual reviews and updating of articulated programs, found the practice ( $\bar{x}=3.91$ ) almost always occurred. The second question, concerning inclusion of goals and procedures in articulation agreements sometimes occurred ( $\bar{x}=3.23$ ). Articulation handbooks were almost always available to students ( $\bar{x}=3.59$ ) and faculty and staff ( $\bar{x}=4.05$ ). Advisors ( $\bar{x}=3.50$ ) were slightly less likely to have access to articulation handbooks. Articulation subcommittees almost never existed ( $\bar{x}=2.25$ ), but when in existence were slightly more likely to be organized by instructional area ( $\bar{x}=2.32$ ) than across instructional areas ( $\bar{x}=2.26$ ). Joint planning of staff development workshops ( $\bar{x}=2.14$ ) almost never occurred. With a mean of 4.67, the most used practice within this section was the addition of articulation management responsibilities to other job responsibilities. Advising was sometimes counted toward faculty load ( $\bar{x}=2.62$ ), and transfer/articulation programs were sometimes in place for technical education graduates ( $\bar{x}=2.98$ ). Transfer centers ( $\bar{x}=1.46$ ) almost never existed. Specific times for granting transfer credit at

universities sometimes existed ( $\bar{x}=2.65$ ), but there was almost never a procedure to grant credit past the existing time deadline ( $\bar{x}=2.47$ ), or a process for tracking students who transferred to private or out of state colleges ( $\bar{x}=1.73$ ).

### Curriculum and Instruction Practices

In the category, Curriculum and Instruction, three practices were examined. A planned, sequential integrated instructional program almost never existed ( $\bar{x}=2.32$ ). The coordination of curricula when cooperative agreements existed sometimes occurred within the areas of curriculum content ( $\bar{x}=3.60$ ), and agreed upon areas of successful completion ( $\bar{x}=3.29$ ). It sometimes occurred in the areas of coordinated instructional objectives ( $\bar{x}=3.13$ ) and standardization of competency or skill standards ( $\bar{x}=3.33$ ). Representatives from business/industry ( $\bar{x}=2.86$ ) sometimes were involved in curriculum development for articulated occupational programs.

### Faculty Practices

Within this category, Faculty Practices, four practices were investigated. Faculty of both community colleges and universities almost always were involved in determining curriculum content of articulated courses ( $\bar{x}=3.68$ ), and reciprocal visits sometimes were made ( $\bar{x}=3.32$ ). Sometimes ( $\bar{x}=2.67$ ) faculty met on a regular basis concerning articulation matters. Shared teaching responsibility between institutions almost never occurred ( $\bar{x}=1.46$ ).

### Interinstitutional Relationship Practices

Regarding the category, Interinstitutional Relationships, 12 practices were investigated. The first, concerning interinstitutional articulation workshops ( $\bar{x}=1.96$ ) almost never occurred. The second practice, concerning advisor/counselor coordination between two- and four-year institutions, sometimes existed ( $\bar{x}=3.05$ ). There was almost never an agreement concerning existing resource usage ( $\bar{x}=2.00$ ). Sometimes ( $\bar{x}=3.23$ ) the articulation program was marketed by both community colleges and universities. When feasible, facilities and/or equipment sometimes were shared by coordinating institutions ( $\bar{x}=2.67$ ). Joint advisory committees almost never were used ( $\bar{x}=1.64$ ). A strategic articulation plan almost never ( $\bar{x}=2.14$ ) existed. Educational and occupational planning information for students almost never was developed jointly ( $\bar{x}=2.18$ ). An articulation handbook sometimes was ( $\bar{x}=2.64$ ) developed jointly. There was almost never ( $\bar{x}=1.82$ ) a common course numbering system or a common academic calendar ( $\bar{x}=1.68$ ) for coordinating institutions. Transferring students almost always ( $\bar{x}=3.68$ ) may have chosen to use university course requirements in effect when they began coursework at the community college.

### Record Keeping Practices

Seven record keeping practices were investigated. Joint monitoring of articulated programs almost never existed ( $\bar{x}=2.38$ ). Record keeping for the articulation program almost never was coordinated ( $\bar{x}=2.46$ ), and student records almost never were



expanded to accommodate needs at both the community college and university ( $\bar{x}=2.14$ ). There was almost never a computerized articulation system with a common data base available to all institutions ( $\bar{x}=1.50$ ), or a computerized system that converted course listings on transcripts to corresponding courses ( $\bar{x}=1.96$ ). There was sometimes an on-line system that provided information concerning student progress ( $\bar{x}=2.95$ ); but there was almost never the inclusion of general education requirements ( $\bar{x}=2.47$ ), admission requirements ( $\bar{x}=2.63$ ), changes in general educational and degree requirements ( $\bar{x}=2.39$ ), specific information for majors ( $\bar{x}=2.16$ ), or the transfer process ( $\bar{x}=1.84$ ). Annual reports concerning the number of students successfully transferring from two- to four-year colleges ( $\bar{x}=3.05$ ) were made sometimes.

### Evaluation Practices

In the category, Evaluation, five practices were investigated. An evaluation system to determine the effectiveness and efficiency of articulated programs fell within the almost never range with a mean of 1.68. Sufficient enrollment ( $\bar{x}=2.64$ ) and student success ( $\bar{x}=3.36$ ) were used sometimes as evaluative measurements of articulated programs. Written procedures to assess student abilities almost never had been developed ( $\bar{x}=2.38$ ). In addition, there was almost never ( $\bar{x}=1.37$ ) joint involvement in student placement within articulated programs.

### Summary of Present Articulation Practices

Present articulation practices consisted of the evaluation of 49 different practices by Tennessee public college chief articulation officers. Sub-choices within practices brought the number of items to 73. Data were ranked and a summary table was designed that would sort the data and visually depict the 10 most used articulation practices and the 10 least used articulation practices (see Table 1).

TABLE 1

RANK ORDERING OF 10 HIGHEST AND 10 LOWEST RANKED ITEMS IN  
PRESENT ARTICULATION PRACTICES IN TENNESSEE PUBLIC COLLEGES

Category	Practice	Mean
<u>Highest</u>		
Administration	Articulation added to other responsibilities	4.67
Administration	Articulation handbook available to faculty, staff	4.05
Administration	Annual review and updating of articulated programs	3.91
Faculty	Two- and four-year faculty involved in articulated curriculum content	3.68
Interinstitutional Relationships	Students may choose university course requirements in effect when began at two-year college	3.68
Curriculum and Instruction	Coordination includes common curriculum content	3.60
Administration	Articulation handbook available to students	3.59
Leadership	Higher education board commitment to transfer	3.57
Administration	Articulation handbook available for advisors	3.50

Table 1 (continued)

Category	Practice	Mean
Evaluation	Student success seen as evaluative measure of articulated program	3.36
<u>Lowest</u>		
Interinstitutional Relationships	Joint advisory committees used	1.64
Record Keeping	Computerized articulation system available to all institutions	1.50
Leadership	Active state articulation committee includes advisors/counselors	1.50
Faculty	Shared teaching responsibility between institutions	1.46
Administration	Transfer centers exist	1.46
Leadership	Active institutional committee includes students	1.41
Evaluation	Joint involvement in student placement within articulated programs	1.37
Leadership	Active state articulation committee includes advisory committee members	1.20
Leadership	Active state articulation committee includes students	1.19
Leadership	Active state articulation committee includes instructors	1.19

### Ideal Articulation Practices

The right side of the survey instrument was used to collect responses from the population group with respect to their perception of the degree of ideal usage of identified articulation practices. Ideal practice items were to be marked upon a Likert-type scale with choices ranging from unnecessary (1), to essential (5). A scale of 2.50 and below for unnecessary, 2.51 to 3.50 for sometimes should occur, and 3.51 and above for essential or always should occur, was developed to help sort information. The analysis of data was presented by sub-categories of practice: Leadership, Administration, Curriculum and Instruction, Faculty, Interinstitutional Relationships, Record Keeping, and Evaluation.

#### Leadership Practices

Within the Leadership in Articulation category, five practices were investigated. Examination of data revealed it is essential that there be strong state leadership in supporting ease of transfer among public colleges ( $\bar{x}=4.59$ ), that Tennessee's higher education governing board should demonstrate a commitment to transfer ( $\bar{x}=4.70$ ), and that administrators responsible for articulation should meet regularly ( $\bar{x}=4.64$ ). It is essential that academic deans and designated coordinators ( $\bar{x}=4.29$ ), as well as instructors ( $\bar{x}=3.79$ ), advisors ( $\bar{x}=3.74$ ), advisory committee members ( $\bar{x}=3.56$ ), and students ( $\bar{x}=3.58$ ) be members of state articulation committees. Within institutional articulation committee membership there were similar findings, with it considered essential that academic deans and designated coordinators ( $\bar{x}=4.57$ ), as well as

instructors ( $\bar{x}=4.28$ ), advisors ( $\bar{x}=4.22$ ), advisory committee members ( $\bar{x}=3.71$ ), and students ( $\bar{x}=3.67$ ) be members.

### Administration Practices

In the area of Administration, 13 practices were investigated. Analysis of data revealed that it was considered essential in ideal practices to include goals and operational procedures ( $\bar{x}=4.33$ ) within articulated programs. An annual review and updating of each articulated transfer program should be conducted ( $\bar{x}=4.77$ ). It is essential that articulation handbooks be available for students ( $\bar{x}=4.41$ ), advisors ( $\bar{x}=4.74$ ), faculty, and staff ( $\bar{x}=4.74$ ). Articulation subcommittees should exist sometimes ( $\bar{x}=3.27$ ) and should sometimes be organized by instructional areas ( $\bar{x}=3.48$ ) and sometimes across instructional areas ( $\bar{x}=3.30$ ). It is essential that staff development programs be jointly planned and conducted for articulation staff ( $\bar{x}=3.68$ ). Management responsibilities specific to articulation sometimes should be handled by existing staff as add-on responsibilities ( $\bar{x}=3.39$ ). Advising sometimes should be counted toward hours for faculty load ( $\bar{x}=3.29$ ). It is essential that transfer/articulation agreements be in place for technical education graduates ( $\bar{x}=3.93$ ). A transfer center with paid personnel should exist sometimes ( $\bar{x}=3.33$ ). Specific time deadlines for granting credit /advanced placement sometimes should exist ( $\bar{x}=3.20$ ), and procedures sometimes should be developed for awarding credit past the existing time deadline ( $\bar{x}=3.07$ ). It is essential

that a process for tracking students who transfer to private or out of state colleges be developed ( $\bar{x}=3.96$ ).

### Curriculum and Instruction Practices

In the category, Curriculum and Instruction, four practices were investigated. A planned, sequential, jointly developed, integrated instructional program spanning the freshman community college year through the senior year at the university level is essential ( $\bar{x}=3.86$ ). Within coordination of curricula practices, a commonality of curriculum content ( $\bar{x}=4.48$ ) is essential, and should include coordinated instructional objectives ( $\bar{x}=4.10$ ), standardization of competency standards ( $\bar{x}=4.10$ ), and agreed upon measures of successful completion ( $\bar{x}=4.25$ ). It is essential that representatives from business and industry be involved in curriculum development/revision ( $\bar{x}=3.85$ ).

### Faculty Practices

Four faculty practices were investigated. Examination of the data revealed that it is essential that faculty of both community college and university components be involved in determining articulated course curriculum content ( $\bar{x}=4.59$ ), make reciprocal visits ( $\bar{x}=4.46$ ), and meet on a frequent and regular basis ( $\bar{x}=4.24$ ). Faculty in articulated programs sometimes should have shared teaching responsibilities between institutions ( $\bar{x}=2.91$ ).

### Interinstitutional Relationship Practices

Regarding the category, Interinstitutional Relationships, twelve practices were investigated. An essential practice is the conduct of joint in-service programs/staff development workshops ( $\bar{x}=3.73$ ). Advisor/counselor coordination between community colleges and universities is essential ( $\bar{x}=4.32$ ). Sometimes there should be a jointly developed agreement on the use of existing resources ( $\bar{x}=3.46$ ). It is essential that marketing of articulated programs be handled by both community colleges and universities ( $\bar{x}=4.27$ ), and that facilities and equipment be shared when feasible ( $\bar{x}=4.14$ ). Sometimes joint advisory committees should be used ( $\bar{x}=3.20$ ). It is essential that strategic articulation plans exist ( $\bar{x}=3.86$ ). It is essential that printed information, such as educational and occupational planning information ( $\bar{x}=3.67$ ) and articulation handbooks for students be developed jointly ( $\bar{x}=3.91$ ). There sometimes should be common course numbering for similar courses ( $\bar{x}=3.46$ ), and a common academic calendar ( $\bar{x}=3.36$ ) for coordinating institutions. Essential practices should include allowing the transferring student to choose to use university course requirements in effect when the student began coursework at the community college ( $\bar{x}=4.10$ ).

### Record Keeping Practices

Seven record keeping practices were investigated. Tennessee's chief articulation officers reported the joint monitoring of articulation program progress ( $\bar{x}=4.00$ ), and the

expansion of student records to reflect that progress ( $\bar{x}=4.05$ ) as essential practices. It is essential that record keeping for articulated programs be coordinated ( $\bar{x}=3.91$ ). A computerized articulation system with a common data base available to all institutions had a mean of 4.45 and is considered essential. It is essential that the data base include course information ( $\bar{x}=4.46$ ), student information ( $\bar{x}=4.05$ ), curriculum information ( $\bar{x}=4.23$ ), and financial aid information ( $\bar{x}=3.76$ ), as well as other types of information ( $\bar{x}=4.33$ ). It is essential that there be a computerized system available which converts course listings on student transcripts to corresponding university courses ( $\bar{x}=4.29$ ). An on-line system which provides information concerning student progress ( $\bar{x}=4.32$ ), specific information for majors ( $\bar{x}=4.40$ ), information concerning general education requirements ( $\bar{x}=4.35$ ), changes in general education and degree requirements ( $\bar{x}=4.35$ ), admission requirements ( $\bar{x}=4.25$ ), and the transfer process ( $\bar{x}=4.30$ ) is essential. The production of annual reports concerning successful student transfer from two- to four-year colleges ( $\bar{x}=4.59$ ) is an essential practice.

### Evaluation Practices

Five practices in evaluation were investigated. Concerning ideal practices in evaluation, it is essential that community college and university components of the articulation program agree upon an evaluation system to determine the effectiveness and efficiency of the program ( $\bar{x}=4.23$ ). Sometimes sufficient enrollment ( $\bar{x}=3.41$ ) should be used as an evaluative measurement of articulation program success. It is essential that



student success at the four-year college ( $\bar{x}=4.05$ ) be considered an evaluative measurement of articulated programs. Written procedures to assess student skills/knowledge/competencies using a specifically devised form are an essential practice ( $\bar{x}=3.91$ ). Sometimes there should be joint involvement in student assessment and placement within articulated programs ( $\bar{x}=3.45$ ).

### Summary of Ideal Articulation Practices

Each of 49 articulation practices was evaluated by Tennessee public college chief articulation officers in order to determine ideal practice. Their responses were statistically evaluated and reported in text. In order to sort ideal practices by those that were viewed by respondents as more ideal and those that were considered less ideal, all responses were ranked. Comparisons of the most highly valued and least valued articulation practices as perceived by chief articulation officers in Tennessee public colleges were considered critical in determining which ideal practices should be recommended for state colleges. The 10 highest and 10 lowest ranked items in ideal articulation practices in Tennessee public colleges were reported in Table 2.

TABLE 2

RANK ORDERING OF 10 HIGHEST AND 10 LOWEST RANKED ITEMS IN IDEAL  
ARTICULATION PRACTICES IN TENNESSEE PUBLIC COLLEGES

Category	Practice	Mean
<b>Highest</b>		
Administration	Annual review and updating of articulated program	4.77
Administration	Articulation handbook available to faculty, staff	4.74
Administration	Articulation handbook available to advisors	4.74
Leadership	Higher education board commitment to transfer	4.70
Leadership	Regular meetings of persons responsible for articulation	4.64
Record Keeping	Annual reports of successful transfer from two- to four-year colleges produced	4.59
Leadership	Strong state leadership to ease transfer	4.59
Faculty	Faculty at both levels determine articulated course curriculum content	4.59
Faculty	Reciprocal visits made to discuss articulation	4.46
Record Keeping	Computerized articulation system with common data base available which contains student info	4.46

Table 2 (continued)

Category	Practice	Mean
<b>Lowest</b>		
Administration	Articulation should be handled as add-on responsibility	3.39
Interinstitutional Relationships	Common academic calendar for coordinating institutions	3.36
Administration	Transfer center with paid personnel exists	3.33
Administration	Articulation subcommittees organized across instructional areas	3.30
Administration	Advising counted toward faculty load	3.29
Administration	Articulation subcommittees should exist	3.27
Administration	Specific time deadlines for granting credit should exist	3.20
Interinstitutional Relationships	Joint advisory committees used	3.20
Administration	Procedures should be developed for extending credit past the deadline	3.07
Leadership	Faculty share teaching responsibilities between coordinating institutions	2.91
Leadership	Active state articulation committee includes instructors	1.19

### Present Compared with Ideal Articulation Practices

The survey instrument was used to collect responses from the persons identified as chief articulation officers at the 24 public colleges in Tennessee concerning their perception of the degree of present and ideal usage of the identified articulation/transfer practices. Forty-nine practices were organized within seven sub-categories of practice: leadership, administration, curriculum and instruction, faculty, interinstitutional relationships, record-keeping, and evaluation. The purpose of this section was two fold: (1) to compare the perceptions of chief articulation officers in Tennessee public colleges concerning present and ideal articulation practices; and (2) to identify the consensus among the respondents concerning ideal practices. The identified ideal practices served as the basis for the development of the recommendations to improve articulation/transfer among Tennessee Public Colleges.

Tables 3 through 9 reflect the results of using the Sign test to compare medians of present and ideal articulation practices within each of the seven subcategories addressed in the questionnaire. Each question within the categories, Leadership, Administration, Curriculum and Instruction, Faculty, Interinstitutional Relationships, Record Keeping and Evaluation, was evaluated using significance indicators. A significance finding at the .05 level indicated a difference between present articulation practice and ideal practice. Medians were examined in order to determine scatter and directionality of responses. Within the comparison of present and ideal practices, initial medians listed reflect present practice, the second median reflects ideal practice.

### Leadership Practices

Statistical analysis of questionnaire items concerning leadership practices identified significant differences between present and ideal practices. Significant differences were found within each practice identified. Medians tended to cluster at the higher end within the practices of strong state leadership, higher education board commitment to transfer, and frequency of meetings concerning articulation, but were widely spaced in practices dealing with state and institutional articulation participant groups. Areas of strong state leadership and frequency of meetings concerning transfer had present practice medians of 3. Higher education board commitment to transfer, with a median of four, occurred more often than any other item addressed within present leadership practices. Within state articulation committee membership, deans or coordinators with a median of 1.5 were slightly more likely to be members than other selection groups. Deans, instructors, and advisors were more likely to be members of institutional articulation committees than advisory board members or students (see Table 3).

TABLE 3

COMPARISON OF PRESENT AND IDEAL LEADERSHIP PRACTICES IN  
TENNESSEE PUBLIC COLLEGES

Practice	Median		Significance
	Present	Ideal	
1. Strong state leadership	3	5	***
2. Higher education board commitment to transfer	4	5	**
3. Frequency of meetings concerning articulation	3	5	***
4. Active state committee			
Deans or coordinators	1.5	5	***
Instructors	1	4	***
Advisor/counselor	1	4	***
Advisory board members	1	3.5	***
Students	1	4	***
5. Active institutional committee			
Deans or coordinators	2	5	***
Instructors	2	4	**
Advisors	2	4.5	**
Advisory Board members	1	4	***
Students	1	4	***

Note: NSD=no significant difference, \* $p < .05$ , \*\* $p < .01$ , \*\*\* $p < .001$ .

### Administrative Practices

Thirteen administrative practices were investigated for differences within present and ideal practices. Differences at the .001 level of significance were found within the areas of joint workshop planning, articulation management as an add-on responsibility, the existence of an institutional transfer center, and the availability of a process to track students transferring to private or out of state colleges. Joint workshop planning had a median of 2 for present practices, 4 for ideal practices. The existence of a transfer center with paid personnel had medians of 1 and 4. The availability of a process for tracking students to private or out of state colleges had medians of 1 and 4. The practice of adding articulation management to other job responsibilities had medians that were reversed from other findings, with a present median of 5, and an ideal median of 3. No significant differences in present and ideal articulation practices were found concerning availability of articulation handbooks to advisors, faculty, or staff. Students had less access to articulation handbooks. Within ideal practice, all groups would have access to articulation handbooks. No significant differences were found in present and ideal articulation practices concerning the inclusion of advising within faculty work load. No significant difference was found in the existence of deadlines for granting articulation credit or in procedures for granting credit past set deadlines. One respondent wrote that these practices were written within the articulation/transfer procedures. If articulation subcommittees existed they were slightly more likely to be organized across, rather than by instructional areas (see Table 4).

TABLE 4

COMPARISON OF PRESENT AND IDEAL ADMINISTRATION PRACTICES IN  
TENNESSEE PUBLIC COLLEGES

Practice	Mann-Whitney	Median		Significance
		Present	Ideal	
1. Annual review & updating of articulated program		4	5	*
2. Inclusion of goals, procedures in articulation agreements		3	5	**
3. Articulation handbook for:				
Students		4	5	*
Advisors		5	5	NSD
Faculty and staff		5	5	NSD
4. Institutional subcommittees exist		1.5	3.5	**
5. Subcommittee organization				
By instructional area		1	4	***
Across instructional areas		2	4	*
6. Staff workshops planned		2	4	***
7. Articulation management an add-on responsibility		5	3	***
8. Advising counted in hours for faculty load		2	4	NSD
9. Transfer/articulation for technical graduates		3	4	NSD
10. Institutional transfer center		1	4	***



Table 4 (continued)

Practice	Median		Significance
	Present	Ideal	
11. Deadline for granting articulation credit exists	3	3	NSD
12. Procedure for granting credit past the deadline exists	2	3	NSD
13. Process tracks students to private/out of state colleges	1	4	***

Note: NSD= no significant difference, \* $p < .05$ , \*\* $p < .01$ , \*\*\* $p < .001$ .

#### Curriculum and Instruction Practices

Three curriculum and instruction practices were examined. Data revealed significance at the .001 level in the area of providing a planned, sequential program that spans the freshman community college year through the senior university year. Medians clustered near the midpoint except in the area of coordination of curricular content, with a present practices median of 4 and an ideal practices median of 5. Curricular coordination was the most-used present articulation practice within the curriculum and instruction area. No significant differences were found within present and ideal practices in including business/industry in articulation decisions (see Table 5).

TABLE 5

COMPARISON OF PRESENT AND IDEAL CURRICULUM AND INSTRUCTION  
PRACTICES IN TENNESSEE PUBLIC COLLEGES

Practice	Median		Significance
	Present	Ideal	
1. Planned, sequential instructional programs span two-year college freshman to the four-year senior year	2	4	***
2. Curricular coordination includes:			
Common curriculum	4	5	**
Instructional objectives	3	4	*
Standardization of standards	3	5	**
Agreed upon measures of successful completion	3	5	**
3. Business/industry involved in occupational program revision	3	4	*

Note: NSD=no significant difference, \* $p < .05$ , \*\* $p < .01$ , \*\*\* $p < .001$ .

### Faculty Practices

Four faculty practices were examined. Each practice was found significant, with reciprocal visits, frequent and regular visits, and the sharing of teaching responsibilities within the articulated program significant at the .001 level. Medians for faculty involvement in curricular decisions were at the high end of the scale, with 4 for present practices and 5 for ideal practices. Sharing teaching responsibility between

institutions responses showed medians toward the lower end of the scale, with a present practices median of 1 and an ideal practices median of 3. Medians for other practices clustered toward the middle (see Table 6).

TABLE 6  
COMPARISON OF PRESENT AND IDEAL FACULTY PRACTICES IN TENNESSEE  
PUBLIC COLLEGES

Practice	Median		Significance
	Present	Ideal	
1. Community college and university faculty decide curriculum	4	5	**
2. Faculty make reciprocal visits	3.5	4.5	***
3. Faculty at both levels meet frequently and regularly concerning articulation	3	5	***
4. Articulated program faculties share teaching responsibilities	1	3	***

Note: NSD=no significant difference, \* $p < .05$ , \*\* $p < .01$ , \*\*\* $p < .001$ .

### Interinstitutional Relationships

Within the area, Interinstitutional Relationships, 12 practices were examined. Significance was found in 11 of 12 practices. Significance at the .001 level was found in 8 of the 12 practices, dealing with joint planning and development of programs, and the sharing of information, resources, and marketing. Medians for six practices, conduct of

joint in-service workshops, joint agreements on using existing resources, sharing facilities and equipment, the existence of a strategic articulation plan, joint development of student information, and joint development of an articulation handbook, scored medians of 2 for present practices and 4 for ideal practices. Widest median spreads within this practice were found in the use of joint advisory boards and the use of common course numbers and names for similar courses. No significant differences were found in the area addressing student choice of university requirements in effect when their coursework began at the community college (see Table 7).

TABLE 7  
COMPARISON OF PRESENT AND IDEAL INTERINSTITUTIONAL  
RELATIONSHIPS IN TENNESSEE PUBLIC COLLEGES

Practice	Median		Significance
	Present	Ideal	
1. Joint articulation workshops are conducted	2	4	***
2. Advisor/counselor coordination between two- and four-year colleges exists	3	4.5	***
3. A jointly developed agreement on the use of existing resources exists	2	4	***
4. Articulation program is marketed by two- and four-year colleges	3	4	***
5. Facilities/equipment are shared when feasible	2	4	***
6. Joint university/community college advisory boards are used	1	4	**

Table 7 (continued)

Practice	Median		Significance
	Present	Ideal	
7. Strategic articulation plan exists	2	4	***
8. Educational and occupational planning information jointly developed	2	4	**
9. Handbook jointly developed	2	4	**
10. Common course numbers and names for similar courses exists	1	4	***
11. A common academic calendar exists for coordinating institutions	1	3	***
12. Transferring students may choose to use university requirements in effect when coursework began at community college	4	4	NSD

Note: NSD=no significant difference, \* $p < .05$ , \*\* $p < .01$ , \*\*\* $p < .001$ .

### Record Keeping Practices

Seven broad record keeping practices were evaluated. Sub-choices within areas brought the total number of choices to 17. All items were found significant at the .05 level or above. Medians tended to cluster toward the middle within the practices of joint monitoring of articulation program progress, coordination of record keeping, and expansion of student records to accommodate needs at community colleges and universities. Medians in other areas were more dispersed. Within the practice concerning availability of a computerized articulation system to all institutions, the present practices

median was 1, the ideal practices median was 5. Other questions concerning information available on-line showed wide scatter between present and ideal practices. Spreads occurred in areas concerning availability of a computerized system to convert courses on a transcript to corresponding university courses, and availability of an on-line system that provides information concerning general education requirements, changes in general education and degree requirements, admission requirements, specific information for majors, and the transfer process (see Table 8).

TABLE 8  
COMPARISON OF PRESENT AND IDEAL RECORD KEEPING PRACTICES IN  
TENNESSEE PUBLIC COLLEGES

Practice	Median		Significance
	Present	Ideal	
1. Joint monitoring of articulation program progress exists	3	4	***
2. Record keeping is coordinated	2.5	4	***
3. Records accommodate needs of community college and university	2.5	4	***
4. Computerized articulation system is available to all institutions	1	5	***
System contains:			
Student information	1	4	**
Course information	2	5	**
Curriculum information	2	4	**
Financial aid information	1	4	**
Other	1	4	**

Table 8 (continued)

Practice	Median		Significance
	Present	Ideal	
5. A computerized system is available which converts course listings on student transcripts to corresponding university courses	1	4	***
6. On-line system provides information concerning			
Student progress	3	4.5	*
General education requirements	2	4.5	**
Changes in general education and degree requirements	1.5	4.5	**
Admission requirements	2	4	**
Specific information for majors	1	4.5	***
The transfer process	1	4.5	***
7. Annual reports are made of students successfully transferring from two- to four-year colleges	3	5	***

Note: NSD=no significant difference, \* $p < .05$ , \*\* $p < .01$ , \*\*\* $p < .001$ .

### Evaluation Practices

Five evaluation practices were examined and all were found significant. The first item, concerning an agreed-upon evaluation system for two- and four-year public colleges, was significant at the .001 level. Medians for that item were diverse with 1 for present practices and 5 for ideal practices. Medians concerning joint involvement in

student assessment and placement within articulated programs clustered toward the lower end. Medians for other practices were clustered toward the center (see Table 9) .

TABLE 9  
COMPARISON OF PRESENT AND IDEAL EVALUATION PRACTICES IN  
TENNESSEE PUBLIC COLLEGES

Practice	Median		Significance
	Present	Ideal	
1. Community college and university articulated programs have an agreed-upon evaluation system	1	5	***
2. Sufficient enrollment considered an evaluative measurement of program effectiveness and efficiency	3	4	*
3. Student success at the four-year institution is considered an evaluative measurement of articulated programs	3.5	4	*
4. Written procedures to assess student abilities have been developed	2	4	**
5. There is joint student assessment and placement in articulated program	1	3.5	***

Note: NSD=no significant difference, \* $p < .05$ , \*\* $p < .01$ , \*\*\* $p < .001$ .



### Summary of Present Compared With Ideal Articulation Practices

The Sign test was used to compare present with ideal articulation practices in Tennessee public colleges. Significant differences between present and ideal practices were identified in each of the subcategories examined. Medians were examined in order to identify scatter and direction of skew.

Within leadership practices all items were found to be significant. Broad scatter was found within practices concerned with participants involved with state and institutional articulation committees. The highest present practices median in the leadership practices was found within higher education board commitment to transfer.

Within administrative practices the annual review and updating of articulated programs, inclusion of goals and procedures in articulation agreements, the availability of articulation handbooks to students, the existence of institutional articulation subcommittees, subcommittee organization by and across instructional areas, planning of staff workshops, articulation management as an add-on responsibility, the availability of institutional transfer centers, and the existence of a process to track students to private or out-of-state colleges were found significant. Median scatter was greatest within practices concerning the availability of transfer centers and a process for tracking students who transfer to private or out-of-state colleges. Highest rated present practices concerned the annual review and updating of articulation programs and availability of articulation handbooks. The addition of articulation management responsibilities was the only practice that reflected a reverse trend between present and ideal medians, with the present median at 5 and the ideal at 3.

Significant differences were identified within each of the three curriculum and instruction practices evaluated. Medians clustered at the midpoint except in practices concerning coordination of curricular content and standardization of standards. The highest median for present practice occurred within inclusion of a common curriculum in curricular coordination.

Within faculty practices all questions were found significant. Three of the four were significant at the .001 level. Faculty involvement medians were at the high end of the scale while medians for sharing teaching responsibility between institutions were at the low end of the scale.

Significance was found in all questions within interinstitutional relationships except the last, concerning the ability of transferring students to choose to use the university catalogue requirements in effect when they began studies at the community college. Wide median spreads were found within areas concerning strategic articulation plans and common course numbering and nomenclature for similar courses.

Within record keeping practices, significant differences were found in all questions. Widest median scatter occurred within practices dealing with the availability of a computerized articulation system. Medians clustered in the center within practices concerning joint monitoring of articulation program progress, coordination of record keeping, and expansion of student records to accommodate needs of all institutions. Wide scatter was evident in remaining record keeping practices.

All five evaluation practices examined were found significant. Medians for an agreed upon evaluation system were diverse. Medians for joint assessment and placement in articulated programs were skewed toward the lower end of the scale.

Comparison of Present Articulation Practices Among Two-and Four-Year Tennessee  
Public Colleges

Barry and Barry (1992), King (1994), Mellander and Robertson (1992), and Prager (1992) have found that significant differences may sometimes occur in articulation practices of two-year and four-year colleges; therefore, two questions were designed by the researcher, one to discern if there is a significant difference between Tennessee's two-year and four-year public colleges in current articulation practices, and a second to identify differences existing between two-and four-year college chief articulation officers in perception of ideal practices. Research question 4, "Do differences in perception exist between Tennessee community college chief articulation officers and four-year college chief articulation officers with regard to the actual usage of identified articulation practices?", was designed to elicit information concerning differences in present articulation/transfer practices in two-and four-year public colleges in Tennessee. The Mann-Whitney test was used to identify significant differences in practices, and medians were used to identify dispersion/cluster and any significant direction of skew in differences in practices of four-year and two-year colleges. Analysis of the data revealed no statistically significant differences derived from the Mann-Whitney in the areas, Leadership, Curriculum & Instruction, Faculty, or Evaluation.

Within the area of administration the issue of advising being counted towards hours for faculty load, was found significant at the .05 level. Examination of variability between group medians revealed a 1 for two-year institutions and a 5 for four-year institutions. Four-year institutions are significantly more likely to count advising toward faculty load than are two-year institutions. In the area, Interinstitutional Relationships, question 1, concerning the joint conduct of in-service programs/staff development workshops on articulation was found significant at the .05 level. Median scores for the two groups were clustered, with two-year colleges scoring 1 and four-year colleges scoring 2.5. Within the Record Keeping area, there were significant differences revealed in the availability of a computerized articulation system for two-year and four-year colleges. The practice addressing the availability of a computerized articulation system that contained course information was found significant. Medians were 1 for two-year colleges and 3.5 for four-year colleges. Significant differences were also found in the availability of a computerized system that contains curriculum information. Medians were 1 for two-year and 3 for four-year institutions. A computerized articulation system that converts course listings on student transcripts to corresponding courses scored a median for two-year institutions of 1, while that of four-year institutions was 4. The scoring of availability of an on-line system to report student progress revealed significance in present practices within two- and four-year colleges, with the median for two-year colleges at 1, and the median for four-year colleges at 5. Community college chief articulation officers reported that computerized information was significantly less available at the two-year college level. Table 10 was designed to reflect questions found significant in comparing

present articulation practices within two- and four-year colleges. Items not identified as significant are included within Appendix D.

TABLE 10  
SIGNIFICANT DIFFERENCES IN PRESENT ARTICULATION PRACTICES  
BETWEEN TWO- AND FOUR-YEAR PUBLIC COLLEGES IN TENNESSEE

Practice	Mann-Whitney <u>W</u>	Median Two-Year	Median Four-Year	Significance
1. Administration				
Advising counted toward hours for faculty load	121	1	5	*
2. Interinstitutional relationships				
Joint in-service/workshops on articulation conducted	124	1	2.5	*
3. Record keeping				
Computerized articulation system contains course information	35	1	3.5	*
Computerized articulation system contains curriculum information	45.5	1	3	*
Computerized system converts course listings to corresponding university courses	129	1	4	*
On-line system for reporting Student progress	127	1	5	*

Note: \* $p < .05$ , \*\* $p < .01$ , \*\*\* $p < .001$ .

Summary of Comparison of Present Articulation Practices Among Two- and Four-Year Tennessee Public Colleges

The survey instrument was used to collect responses from persons identified as chief articulation officers concerning present practices in Tennessee public colleges. Research has shown that differences may exist in practices at the two-year and four-year college levels. The Mann-Whitney was used to statistically evaluate differences in present practices at the two-year and the four-year college levels. Medians were used to reflect scatter and directionality. Analysis of data revealed no statistically significant differences in the areas of leadership, curriculum and instruction, faculty, or evaluation. Issues of advising being counted as part of the faculty load, joint conduct of in-service programs /staff development workshops, the availability of a computerized articulation system that converts transcript course work to corresponding courses, and questions about an on-line system providing specific types of student and program information were found significant. Medians were clustered at the low end concerning the question of joint conduct of in-service/staff development workshops. Medians of other significant items were spread, with four-year college medians at the high end and two-year college medians consistently at 1. Data concerning present articulation practices that were found to be significant were included in Table 10. Complete data tables were placed within Appendix D.

Comparison of Ideal Articulation Practices Among Two-and Four-Year Tennessee  
Public Colleges

Is there a difference in perception of ideal articulation / transfer practices among Tennessee public colleges? Concern for the differences in ideal practices led to asking this question of chief articulation officers in Tennessee public colleges. Analysis of data revealed two significant differences within views of two-and four-year college chief articulation officers concerning ideal leadership practices. Both questions concerned persons included upon active state articulation committees. The first, concerning inclusion of deans and coordinators on active state committees, had medians of 5 for two-year colleges and 3.5 for four-year colleges. The second leadership item concerned the inclusion of instructors on state articulation committees, and had medians of 5 for community colleges and 3 for four-year colleges. Within administrative practices, significance at the .05 level was found in questions 8 and 13, concerning advising being counted towards hours for faculty load and there being a process in effect for tracking students who transfer to private or out of state colleges. Medians for the counting of advising toward faculty load were 2 for community colleges and 4.5 for universities. The median for the availability of a process for tracking students to private or out of state colleges was 4.5 for community colleges and 3 for universities. Within the Interinstitutional Relationships area, question 4, concerning the promotion or marketing of articulation programs by both community colleges and universities was found significant at the .05 level. Articulation promotion medians were 5 for community colleges and 4 for universities. Within Curriculum and Instruction, Faculty, Record-

Keeping, and Evaluation ideal practices, no significant differences were found between perceived ideal practices in two- and four-year public colleges in Tennessee (see Table 11 and Appendix D).

TABLE 11  
SIGNIFICANT DIFFERENCES IN IDEAL ARTICULATION PRACTICES  
BETWEEN TWO- AND FOUR-YEAR PUBLIC COLLEGES IN TENNESSEE

Practice	Mann-Whitney <u>W</u>	Median Two-Year	Median Four-Year	Significance
<b>Leadership</b>				
Active state articulation committee includes Deans/Coordinators	46.5	5	3.5	**
Active state committee includes instructors	54.5	5	3	*
<b>Administration</b>				
Advising counted in hours for faculty load	119.5	3	4.5	*
Process for tracking to private or out of state colleges in effect	61	4.5	3	*
<b>Interinstitutional Relationships</b>				
Articulation program promoted by two- and four-year colleges	58	5	4	*

Note: \* $p > .05$ , \*\* $p < .01$ , \*\*\* $p < .001$ .



### Summary of Comparison of Ideal Articulation Practices Among Two- and Four-Year Tennessee Public Colleges

Research has revealed that differences in practice may occur in two-year and four-year college articulation practices. The Mann-Whitney was used to determine if there were differences between two-and four-year Tennessee public college chief articulation officers in perceptions of ideal articulation transfer practices. Of 49 ideal practices examined, only five practices were found to differ significantly within the two- and four-year populations. Items concerning inclusion of deans/coordinators and instructors on active state articulation committees, advising being counted toward hours for faculty load, the availability of a process to track students who transfer to private or out of state colleges, and the promotion of articulation programs by both community colleges and universities were found significant.

### Summary of Presentation and Analysis of Data

Present and ideal articulation practices in Tennessee public colleges were evaluated using a questionnaire containing questions concerning items identified from literature as best practices in college articulation. Questionnaires were sent to persons identified as chief articulation officers in the 24 public colleges in Tennessee. Articulation officers were asked to evaluate each practice with two perspectives, one concerning present practice, and the second concerning ideal practice. Twenty-two of the 24 questionnaires were returned. The 22 questionnaires were evaluated to answer each of five research questions.

Questionnaire responses were evaluated for the first research question, “Which transfer and articulation practices are currently used in Tennessee public colleges?” using basic statistics. Means and a significance table were employed to evaluate frequency in use of present articulation practices. Results were presented within text and summarized in Table 1.

The second research question, “Which transfer and articulation practices ideally should be used in Tennessee public colleges?”, was also evaluated by comparing means with the use of a significance table. The statistical results depicting ideal articulation practices as perceived by persons identified as chief articulation officers in Tennessee public colleges were reported in text and summarized in Table 2.

Research question 3, “Is there a significant difference between present practices and ideal practices in articulation among Tennessee public colleges?”, was designed to compare present and ideal practices in Tennessee public colleges. The Mann-Whitney was used to derive statistical differences between present and ideal articulation practices. Tables 3-9 reflected the results.

Research questions 4 and 5, “Do differences in perception exist between Tennessee community college chief articulation officers and four-year college chief articulation officers with regard to the actual usage of identified articulation practices?”, and “Do differences in perception exist between Tennessee community college chief articulation officers and four-year college chief articulation officers with regard to the degree of ideal usage of articulation practices?”, were designed to evaluate differences in present practices and perception of ideal practices within two-year and four-year colleges.

Few items were identified as significant. Significant items were included in tables within text. Comparison of significant present practices were shown in table 10, while comparison of significant ideal practices were shown in Table 11. Complete tables were placed in Appendix D.

## CHAPTER 5

### FINDINGS, CONCLUSIONS, AND RECOMMENDATIONS

#### Introduction

This study had two purposes. The first was to solicit input from individuals identified as chief articulation officers at Tennessee public colleges to determine the components and characteristics of validated transfer/articulation models that are currently practiced among Tennessee public colleges to ease transfer of students among public institutions of higher learning. The second purpose was to seek input from those officers concerning ideal articulation practices that, if implemented, could improve Tennessee public college student matriculation. Five questions were designed to be answered through responses to an instrument that listed common articulation practices. The instrument, which was validated by a panel of experts in articulation in states considered models in articulation/transfer practices, was designed so that respondents marked each articulation practice twice, once to reflect present practices, and once to reflect ideal practices. The instrument was sent, along with cover letters, to each of the persons designated as chief articulation officers at the 24 public colleges in Tennessee. The study used data derived from the responses of 22 (91.67 %) of the chief articulation officers.

## Findings

The survey instrument consisted of a list of 49 practices associated with articulation. The practices were organized into seven categories, leadership, administration, curriculum and instruction, faculty, interinstitutional relationships, record keeping, and evaluation. Each practice was evaluated in order to determine present practice, ideal practice, differences between present and ideal practices, differences in four- and two-year college present practices, and differences in four- and two-year college ideal articulation practices. Means were examined and categories devised with a mean score of 2.5 or below designated as a practice that almost never occurred, 2.51 to 3.50 as a practice that sometimes occurred, and 3.51 or above as a practice that almost always occurred, in order to determine frequency of use of present and ideal practices. A summary table was used to show the 10 highest ranked and 10 lowest ranked items within present practices. A second summary table was used to show the 10 highest ranked and 10 lowest ranked items within ideal practice. The Sign Test was used to compare medians of present and ideal articulation practices. The Mann-Whitney was used to compare differences in present practices within two- and four-year colleges and to compare differences in ideal practices within two- and four-year colleges. Medians were employed to reveal cluster/scatter and skew in comparisons.

Within the five present leadership practices examined no items were found to almost always occur. Mean scores within the sometimes range occurred within strong state leadership in articulation, higher education board commitment to transfer and

frequency of meetings concerning transfer. Active state articulation committees almost never occurred. Active institutional committees, while having higher means than active state committees, still fell within the almost never occurs range. Significant differences were found between present and ideal practices within each of the 5 areas examined, with questions concerning strong state leadership, frequency of meetings concerning articulation, active state committee membership, and inclusion of deans, advisory board members, and students on institutional committees significant at the .001 level. In questions dealing with state and institutional participation groups, medians for present and ideal practices were widely spaced indicating a gap between inclusion of deans/coordinators, instructors, advisor/counselors, advisory board members and students in present and ideal practices. Medians indicated higher levels of activity in institutional committees than in state committees. Within institutional leadership practices, differences were not as pronounced, yet all practices showed significant differences in present and ideal membership on articulation committees. Medians tended to cluster at the upper end, indicating present use of the practice.

In the area of administrative practices 13 practices were examined. Annual review and updating of articulated programs, and articulation handbook availability almost always occurred in present practice. Significant differences between present and ideal practice were identified in the areas concerning annual review and updating of articulation programs, inclusion of goals and procedures in agreements, articulation handbook availability for students, the existence of institutional subcommittees, subcommittee organization by and across instructional areas, the planning of joint

workshops, articulation management as an add-on responsibility, the existence of transfer centers, and availability of a process to track students who transfer to private or out of state colleges. Although the annual review and updating of articulation agreements fell within the almost always occurred category in present practice, there was a significant difference between present and ideal practice. Medians for each present administrative practice were lower than medians for ideal administrative practice except in the area of articulation management as an additional add-on responsibility. Median for present practice was 5 while the ideal practice median was 3, indicating that in present practice articulation duties were added to other responsibilities. Several respondents wrote that this practice often added more burden to already overloaded schedules. One suggestion was that articulation be identified as part of the responsibilities for specific positions and included within job descriptions.

Three broad categories of practice were examined within curriculum and instruction. Differences between present and ideal curricular practices were significant at the .001 level in the area of planned, sequential programs spanning the freshman community college year through the senior university year. Significance was also found in curricular coordination areas of having a common curriculum, common instructional objectives, and agreed upon measures of successful completion. A planned, sequential instructional program almost never existed, but when cooperative agreements did exist coordination of curricula was more likely to occur especially within the areas of curriculum content and agreed upon areas of successful completion. Data examination revealed that in ideal practice coordination of the articulation program is an essential

practice. Significant differences were found concerning the standardization of standards for articulated programs, and the involvement of business and industry in occupational program revision.

Within faculty practices, two of the four present practices investigated, reciprocal faculty visits and regular meetings concerning articulation, were found to occur sometimes. Faculty at both community colleges and universities were almost always involved in determining curriculum content of articulated courses. Shared teaching responsibility between institutions almost never occurred. Significant differences between present and ideal practices were found in all areas. It was considered essential that faculty be involved in all aspects of articulation and that teaching responsibilities sometimes be shared between institutions.

Twelve interinstitutional relationships were investigated. One present practice, the ability of the transferring student to choose to use university course requirements in effect when they began coursework at the community college, was found within the always occurs range. In comparing present and ideal practices, significant differences were found in 11 of 12 practices, including holding joint articulation workshops, coordination of advisors/coordinators between two- and four-year colleges, provision of a joint agreement on the use of existing resources, marketing by two- and four-year colleges, the sharing of facilities/equipment, joint advisory board use, the existence of a strategic articulation plan, joint development of educational and occupational planning, joint development of handbooks, common course numbering, and the use of a common academic calendar for coordinating institutions. Medians tended to cluster near the



midpoint except when concerning the existence of a strategic articulation plan and a common course numbering and nomenclature system, that had broadly dispersed medians. Tennessee public college ideal practice would include development of a strategic articulation plan with common course numbers and nomenclature. Frequent and regular communication as well as cooperative effort would be critical components in ideal practice.

Seven broad questions were asked in the area of record keeping practices. Sub-choices brought the total to 17 items. Within present practices, all items were found significant. Significant differences were identified in the joint monitoring of articulation program progress, the coordination of record keeping, the expansion of records to meet the needs of community college and university, and the availability of a computerized articulation system available to all institutions that contains student information, and the availability of a program that converts course listings on student transcripts to corresponding university courses, an on-line system providing information concerning student progress, general education requirements, changes in general education and degree requirements, admission requirements, specific information for majors, the transfer process, and annual reports about successful transfer students. Medians tended to cluster toward the center except in areas concerning availability of a computerized system for storing and accessing a variety of information. It was considered unnecessary to include information concerning course information, curriculum information, financial aid information, or the other category. Ideal practice would include emphasis upon availability of computers and programs to store and access pertinent information.

Present evaluation practices revealed no practices that always occurred, three that sometimes occurred, and two that almost never occurred. In comparing present with ideal evaluation practices, significant differences were found in all five items. Significant differences existed between present and ideal practices in the areas of an agreed upon evaluation system, sufficient enrollment as an evaluative measurement of program efficiency and effectiveness, student success at the four-year institution being considered an evaluative measurement of articulated programs, the existence of written procedures to assess student abilities, and joint student assessment and placement in articulated programs. Medians tended to cluster toward the center except concerning an agreed-upon evaluation system, which had broadly dispersed medians, and joint involvement in student assessment and placement in articulated programs, with cluster toward the lower end. In present practice there is almost never an agreed-upon evaluation system; in ideal practice there would be. Joint involvement in student assessment and placement was not considered essential. One respondent wrote that within well developed articulation systems, placement is predetermined.

Several researchers have indicated that there may be a difference between articulation practices among two- and four-year institutions. In comparing the views of Tennessee public community college and university chief articulation officers upon 49 different statements, significant differences in present practices were found within six choice items, with four of them occurring within the same broad statement, and within five ideal practice items. Significant differences in present practice of two- and four-year colleges occurred within the counting of advising toward faculty load, the conduct of

joint in-service workshops on articulation, and four record keeping items: the availability of a computerized articulation system that contained course information, the availability of a computerized articulation system that contains curriculum information, the availability of a computerized system to convert course listings to corresponding university courses, and the availability of an on-line system for reporting student progress. Within present practice, advising being counted toward faculty load was significantly more likely to occur at a four-year institution. Joint in-service/workshops on articulation were more likely to be conducted at four-year colleges. Personnel at four-year colleges were significantly more likely to have access to computerized systems for maintaining and reporting student progress and other types of information than were personnel at two-year colleges.

Differences between perceptions of ideal articulation practices in two-year and four-year colleges were found within only five areas, the inclusion of deans/coordinators on active state articulation committees, the inclusion of instructors on state articulation committees, counting advising in hours toward faculty load, the availability of a process for tracking students to private or out of state colleges, and the promotion of articulation programs by two-and four-year colleges. Median examination revealed that the inclusion of deans/coordinators on active state committees was more likely to be viewed as ideal by officials of two-year than four-year colleges. Four-year college articulation officers viewed the inclusion of advising within hours for faculty load as ideal. The availability of a process for tracking students to private or out of state colleges was a higher priority

for two-year than four-year colleges. Articulation promotion medians were high for both community colleges and universities.

### Conclusions

Tennessee public college chief articulation officers report that within Tennessee public colleges five of the top 10 articulation practices presently used fell within the administration category. The most used administrative practices included the addition of articulation management to other responsibilities, the availability of articulation handbooks to faculty and staff, the annual review and updating of articulated programs, the availability of articulation handbooks to students, and the availability of articulation handbooks to advisors. Other practices reported within the top 10 most used articulation practices within Tennessee public colleges were the involvement of faculty at both levels in determining articulated program content, allowing student choice of university course requirements in effect when they began at the two-year college, the coordination of a common curricular content in articulated programs the commitment of the higher education board to transfer, and matriculated student success seen as an evaluative measure of the articulated program.

Present articulation practices that ranked lowest within Tennessee public colleges included five within the leadership category. All least-used leadership practices concerned inclusion of various groups, advisors/counselors, students, advisory committee members, students, and instructors, in the articulation process. Other least-used present practices included the use of joint advisory committees, the availability of a computerized

articulation system, sharing teaching responsibility between coordinating institutions, the existence of transfer centers, and joint involvement within articulated programs.

Tennessee public college chief articulation officers identified many articulation practices as ideal. The top 10 in ranking were provision of an annual review and updating of articulated programs, providing articulation handbooks for faculty and staff, providing articulation handbooks for advisors, having a higher education board that is committed to transfer, having regular meetings for persons responsible for articulation, producing annual reports of successful transfer from two- to four-year colleges, providing strong state leadership to ease transfer, including faculty at both levels in determining articulated course curriculum content, making reciprocal visits to discuss articulation, and providing a computerized articulation system with a common data base with pertinent information available to all.

Ideal articulation practices were identified by Tennessee public college chief articulation officers. Seven of the ten lowest rated ideal articulation practices were within the administration category. The lowest ranked ideal administrative practices included the addition of articulation to other responsibilities, provision of a transfer center with paid personnel organizing articulation committees across instructional areas, counting advising toward faculty load, organizing articulation subcommittees, requiring specific time deadlines for granting credit, and the development of guidelines for extending credit. Two interinstitutional relationship practices ranked within the two lowest ideal items were the provision of a common academic calendar for coordination institutions and the use of joint advisory committees. Two leadership practices were ranked lowest upon the

entire questionnaire, the sharing of teaching responsibilities among coordinating institutions and the inclusion of instructors on state articulation committees.

### Recommendations

Recommendations concerning continuance of work toward articulation agreements, inclusion of applied science degrees in agreements, improvement of printed material concerning articulation, access to electronic means for accessing and storing information, and cooperation among the governing boards as well as institutions were identified as essential practices within this study.

The research instrument had three as the midpoint for responses; therefore, practices with means of 3.01 and above were designated as practices that revealed agreement. Ideal articulation practice means that fell at three or below in response to the ideal articulation practices list were not included in the list of recommendations. Present practices responses revealed that Tennessee public colleges are currently employing a variety of articulation practices successfully. If items were identified with a mean of 3.50 or higher in present practices it was starred in the list because it was currently being practiced in Tennessee. Based upon statistical analysis of the responses by Tennessee public college chief articulation officers to the survey instrument, "Current and Ideal Articulation Practices in Tennessee Public Colleges", the following recommendations have been made:

## Recommendations for Improving Articulation Practices in Tennessee Public Colleges

### I. Leadership

1. There should be strong state leadership in supporting ease of transfer among public colleges in Tennessee.
- \* 2. Tennessee's higher education governing boards should demonstrate a commitment to transfer success.
3. Administrators responsible for articulation at community college and four-year institutions should meet on a frequent and regular basis.
4. There should be an active state articulation committee whose membership always includes a diverse group of representatives.
5. There should be an active institutional articulation committee whose membership includes: the Academic Dean/ designated coordinators, instructors, advisors/counselors, and students.

### II. Administration

- \* 1. There should be an annual review and updating of each articulated transfer program.
2. Articulation agreements should include goals and operational procedures.
- \* 3. Articulation handbooks should be available for students, advisors, faculty, and staff.
4. Articulation subcommittees should exist at each institution.

5. Articulation subcommittees should be organized by instructional areas.
6. Staff development programs/workshops should be jointly planned and conducted for staff who plan, implement, and maintain the articulation program.
- \* 7. Additional management responsibilities for the articulation program should be handled by existing staff as add-on responsibilities.
8. Advising should be counted in hours for faculty load.
9. Transfer/articulation agreements should be in place for two-year technical education graduates.
10. A transfer center with paid personnel should exist at each institution.
11. There should be a process in effect for tracking students who transfer to private or out of state colleges.

### III. Curriculum and Instruction

1. Planned, sequential, integrated instructional programs spanning the freshman community college year through the senior year at the university level should exist and should be jointly developed.
- \* 2. Coordination of curricula should include commonality of curriculum content, coordinated instructional objectives, standardization of competency or skill standards, and agreed upon measures of successful completion.
3. Representatives from business/industry should be involved in curriculum development/revision for articulated occupational program(s).



#### IV. Faculty

- \* 1. Instructional staff of both community college and university components should be involved in determining articulated/transfer course curriculum content at each level and from institution to institution.
- 2. Reciprocal visitations should be made by faculty.
- 3. Community college and university faculty should meet on a frequent and regular basis concerning articulation matters.

#### V. Interinstitutional Relationships

- 1. Joint inservice programs/staff development workshops on articulation should be conducted.
- 2. Adviser/counselor coordination between community colleges and universities should exist.
- 3. There should be a jointly developed agreement on the use of existing resources.
- 4. The articulation program should be promoted/marketed to students and community by both community colleges and universities.
- 5. Facilities and/or equipment should be shared, when feasible.
- 6. A strategic (three- to five-year) articulation plan should exist.
- 7. Educational and occupational planning information for dissemination to students should be jointly developed.
- 8. An articulation handbook should be jointly developed.

9. A common course numbering system and common nomenclature for similar courses should be in effect.
10. There should be a common academic calendar for coordinating institutions.
- \* 11. Transferring students should be able to choose to use university course requirements in effect when the student began coursework at the community college.

#### VI. Record Keeping

1. Joint monitoring of articulation program progress should exist.
2. Record keeping for the articulated program should be coordinated.
3. Permanent student records should be expanded to accommodate record keeping needs of both community college and university components of the articulated program.
4. A computerized articulation system with a common data base should be available to all institutions. It should contain student information.
5. A computerized system should be available that converts course listings on student transcripts to corresponding university courses.
6. There should be an on-line system that provides information concerning student progress, general education requirements, changes in general education and degree requirements, admission requirements, specific information for majors, and the transfer process.
7. Annual reports should be made of the number of students successfully transferring from two-year to four-year colleges.

## Evaluation

1. Community college and university components of the articulated program should agree upon a common evaluation system to determine the articulated program's efficiency and effectiveness.
2. Sufficient enrollment should be considered an evaluative measurement of articulated program(s).
3. Student success at the four-year institution should be considered an evaluative measurement of articulated program(s).
4. Where applicable, written procedures to assess student skills, knowledge, and/or competencies using a competency validation form, should be developed.
5. Joint involvement in student assessment and placement.

### Recommendations for Further Research

Approximately 10% of Tennessee undergraduate students transfer between colleges each year. In the fall of 1995, 3,597 students transferred from a Tennessee public two-year college to a public state university (Tennessee Higher Education Commission, 1996). Although all public two-year colleges in Tennessee have some articulation agreements with some state four-year colleges, they are more likely to be with colleges in close proximity and are usually limited to a few major subject areas. These agreements are difficult to keep current and difficult to properly disperse. Articulation is a process that requires a great deal of information to be available. It also requires coordination. A common data base with access to all who need the information

is needed to efficiently synthesize and access the data. Computerized storage and access to information would greatly enhance the ease of obtaining information. It is recommended that further research be done concerning availability, cost, installation, and training to use electronic means for storing and accessing articulation information.

Articulation is a controversial topic. Questions of academic freedom, differences in accreditation standards, and “turf” disputes color the issue. Articulation often involves negotiation and perseverance. It is time consuming. It must involve people who are knowledgeable about course content, accreditation standards, texts, and students. At least two areas of further research are found here. The first is the exploration of issues concerning personnel to be involved in the articulation process. Should as many persons as possible who have direct responsibility for coursework be involved in making articulation decisions within subject areas involved, or only academic deans and designated coordinators? Should there be a separate transfer center with its own specifically trained personnel to handle articulation issues? A second area of research might be concerned with how time could be apportioned for regular faculty or administrators to be involved in articulation discussions and decisions without the pressures of job overload often experienced.

We are a mobile society. The Tennessee economy is growing. The fall of 1995 found 36% of transferring students in Tennessee moving from an out of state college to a state university (Tennessee Higher Education Commission, 1996). Further research could deal with articulation involving the issue of developing reciprocal articulation agreements

with other states. A national articulation agreement makes sense considering the transience of our society.

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## APPENDICES

**APPENDIX A**

**TENNESSEE BOARD OF REGENTS ARTICULATION DIRECTIVE, 1988**

## APPENDIX A

## TENNESSEE BOARD OF REGENTS ARTICULATION DIRECTIVE, 1988

A. Each two-year institution is authorized to develop an articulated Career Mobility Ladder option which permits the awarding of credit by examination for up to one-half of the semester credit hours required for an associate degree. Credit awarded must be for specific courses and must be awarded only on the basis of successfully passing a challenge examination or competency-based assessment procedure for which the standards for proficiency are approved and accepted by the receiving collegiate institution.

B. Each two-year institution is authorized- as an alternative to A (above) -to develop placement procedures which take into account previously acquired competencies. In this instance, the student is not awarded credit but is placed at a higher level in the curriculum.

C. Each two-year institution is authorized to develop 2+2 tech-prep/associate degree programs with receptive high schools. Such programs result in a planned four-year course of study (culminating in the associate degree) which rests on a common core of learning and technical education and rests upon basic proficiency development in mathematics, science, communications, and technology -all in an applied setting.

D. Each two-year institution is authorized-using a recognized guide or procedure for awarding credit for extra-institutional learning-to develop articulation agreements that include the awarding credit. These recognized guides or procedures are: (1) ACE Guide to the Evaluation of Educational Experiences in the Armed Forces, (2) ACE National Guide to Educational Credit for Training Programs, (3) ACE Guide to Credit by Examination, (4) New Organizations, (5) College Entrance Examination Board Advanced Placement Program (CEEB/AP), (6) Credit by Departmental Examination, (7) degree-relevant extra-institutional learning credit awarded and transcribed by other accredited institutions, as well as that credit transcribed by ACE on the Army/ACE Registry Transcript System (AARTS) and the Registry of Credit Recommendations (RORC), (8) subject matter experts who are not members of the institution's faculty but who evaluate extra-institutional learning at the institution's request, and (9) individual portfolios using Council for Adult and Experiential Learning (CAEL) or other standardized guidelines authorized, in advance, by permission of the institution.

E. Articulation is a coordinating responsibility. The lead institution in each service area is responsible for coordination-including the development of articulation agreements-the development and delivery of vocational/technical, career, and job training programs and support services in its primary service area. In addition, TBR staff reviews of program proposals will-to facilitate articulation-consider program scope and cost as a factor in determining (especially in the case of high cost programs) whether established programs can serve larger service areas without adversely affecting student access.

The overall responsibility of the regional committee cited above is to develop and implement working articulation agreements in adherence to SACS criteria, TBR policy, and needs of the service area. Only competency-based programs with clear assessment procedures qualify. The following are types of issues that should be addressed:

1. Address the scope of each agreement developed, e.g., secondary to AVTS, secondary to two-year institution, AVTS to two-year institution, military to two-year institution, etc.
2. Address the specific programs, courses involved, assessment procedures, and assurance of competency-based nature of programming
3. Address the proposed time schedule (also statute of limitations).
4. Address any clientele limitations or requirements.
5. Address the exact process whereby credit will be granted, waived, substituted, etc.
6. Address the specific roles of each of the institutions involved in the agreement, e.g., records kept, costs, etc.
7. Address specifically any procedures for awarding credit for knowledge or skills acquired in other -than-school situations and assessment of any prior learning, including basic skills (see C, above).

The regional committee should also facilitate coordination of new program development involving articulation agreements.



F. A standing Statewide Articulation Monitoring Committee for Vocational/Technical Education and Training shall be established. The committee shall function as a referral body for problems and issues involving articulation in vocational/technical education, shall receive annual reports from each Regional Articulation Committee, and shall facilitate communication involving articulation issues. It shall be composed of:

One Board member appointed by the Chancellor

One representative from the TBR Academic Affairs staff

One representative from the TBR Vocational Education staff

Chairperson of the Area School Directors Sub-Council

The administrative officer from each lead institution responsible for vocational/technical articulation agreements

The committee shall make recommendations to the Chancellor.

**APPENDIX B**

**CURRENT AND IDEAL ARTICULATION PRACTICES IN TENNESSEE PUBLIC  
COLLEGES**

**APPENDIX B**

**CURRENT AND IDEAL ARTICULATION PRACTICES IN TENNESSEE PUBLIC COLLEGES**

These data will be used in a research study of articulation practices pertaining to Tennessee higher education programs. The purpose of this instrument is to determine the actual status and ideal articulation practices as perceived by the chief academic officers responsible for articulation at two-year community colleges and universities under the governance of the Tennessee Higher Education Commission.

**Instructions:** The following statements represent general articulation practices identified by a review of literature. Please indicate if the practice currently exists for your situation, and the practice as it ideally should exist. Indicate your position on the scale by placing a check mark in the appropriate box.

**PRESENT PRACTICE**

NEVER ALWAYS

1 2 3 4 5

**IDEAL PRACTICE**

UNNECESSARY ESSENTIAL

1 2 3 4 5

**I. LEADERSHIP IN ARTICULATION**

1. There is strong state leadership in supporting ease of transfer among public colleges and universities in Tennessee.

2. Tennessee's higher education governing boards have demonstrated a commitment to transfer success.

3. Administrators responsible for articulation at community colleges and four-year institutions meet on a frequent and regular basis.

4. There is an active state articulation committee whose membership includes:

-Academic Dean/Designated Coordinator

-Instructors

-Advisor/Counselor

-Advisory Committee Members

-Students

5. There is an active institutional articulation committee whose membership includes:

-Academic Dean/Designated Coordinator

-Instructors

-Advisor/Counselor

-Advisory Committee Members

-Students

Additional comments concerning leadership in articulation:

**II. ADMINISTRATION**

1. There is an annual review and updating of each articulated/transfer program.

2. Articulation agreements include goals and operational procedures.

**PRESENT PRACTICE**  
 NEVER                      ALWAYS  
 1   2   3   4   5

**IDEAL PRACTICE**  
 UNNECESSARY    ESSENTIAL  
 1   2   3   4   5

<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	3. An articulation handbook is available for: -students -advisors -faculty and staff 4. Articulation subcommittees exist at this institution. 5. Articulation subcommittees are organized -by instructional areas -across instructional areas 6. Staff development programs/workshops are jointly planned and conducted for staff who plan, implement, and maintain the articulation program. 7. Additional management responsibilities (e.g. program coordination, recruiting, student follow-up, agreement renegotiation, staff development) for the articulated program are handled largely by existing staff as add-on responsibilities. 8. Advising is counted toward hours for faculty load. 9. Transfer/articulation agreements are in place for two-year technical education graduates. 10. A transfer center with paid personnel exists at this institution. 11. A specific time deadline for granting articulation/transfer credit at the university exists. 12. A procedure for the awarding of credit/advanced placement at the university beyond the existing time deadline has been developed. 13. There is a process in effect for tracking students who transfer to private or out of state colleges.	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>  <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
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Additional comments concerning present or ideal administrative practices:

**III. CURRICULUM AND INSTRUCTION**

<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	1. Planned, sequential, integrated instructional programs spanning the freshman community college year through the senior year at the university level exist and are jointly developed. 2. Coordination of curricula includes: -commonality of curriculum content -coordinated instructional objectives -standardization of competency or skill standards -agreed upon measures of successful completion	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
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**PRESENT PRACTICE**

NEVER ALWAYS

1 2 3 4 5

**IDEAL PRACTICE**

UNNECESSARY ESSENTIAL

1 2 3 4 5

3. Representatives from business/industry are involved in curriculum development/revision for articulated occupational program(s).

Additional comments regarding present or ideal articulated curricular and instructional concerns:

**IV. FACULTY**

1. Faculty of both community college and university components are involved in determining articulated/transfer course curriculum content at each level and from institution to institution.
2. Reciprocal visitations are made by faculty.
3. Community college and university faculty meet on a frequent and regular basis concerning articulation matters.
4. Faculty in articulated program(s) have shared teaching responsibility between institutions.

Additional comments concerning present or ideal faculty involvement:

**V. INTERINSTITUTIONAL RELATIONSHIPS**

1. Joint inservice programs/staff development workshops on articulation are conducted.
2. Adviser/counselor coordination between community colleges and universities exists.
3. There is a jointly developed agreement on the use of existing resources.
4. Articulation program is promoted/marketed to students and community by both community colleges and universities.
5. Facilities and/or equipment are shared within coordinating institutions, when feasible.
6. Community college and university components of the articulation programs use joint advisory committee(s).
7. A strategic (three- to five-year) articulation plan exists.
8. Educational and occupational planning information for dissemination to students is jointly developed.
9. An articulation handbook is jointly developed.

**PRESENT PRACTICE**

NEVER ALWAYS

1 2 3 4 5

**IDEAL PRACTICE**  
UNNECESSARY ESSENTIAL

1 2 3 4 5

10. There is a common course numbering system and nomenclature for similar courses.
11. There is a common academic calendar for coordinating institutions.
12. The transferring student may choose to use university course requirements in effect when the student began coursework at the community college.

Additional comments concerning present or ideal interinstitutional relationships:

**VI. RECORD KEEPING**

1. Joint monitoring of articulation program progress exists.
2. Recordkeeping for the articulation program is coordinated.
3. Permanent student records have been expanded to accommodate recordkeeping needs of both community college and university components of the articulation program.
4. There is a computerized articulation system with a common data base available to all institutions. If so, does it contain:  
 -student information       
 -course information       
 -curriculum information       
 -financial aid information       
 -other: \_\_\_\_\_
5. There is a computerized system available which converts course listings on student transcripts to corresponding university courses.
6. There is an on-line system which provides information concerning:  
 -student progress       
 -general education requirements       
 -changes in general education and degree requirements       
 -admission requirements       
 -specific information for majors       
 -the transfer process
7. Annual reports are made of the number of students successfully transferring from two-year to four-year colleges.

Additional comments concerning present or ideal record-keeping strategies:

**PRESENT PRACTICE**

NEVER ALWAYS  
1 2 3 4 5

**IDEAL PRACTICE**  
UNNECESSARY ESSENTIAL  
1 2 3 4 5

**VII. EVALUATION**

1. Community college and university components of the articulation program have agreed upon an evaluation system to determine the articulated program's efficiency and effectiveness.
2. Sufficient enrollment is considered an evaluative measurement of articulated program(s).
3. Student success at the four-year institution is considered an evaluative measurement of articulated programs.
4. Where applicable, written procedures to assess student skills/knowledge/competencies using a competency validation form, have been developed.
5. There is joint involvement in student assessment and placement within articulated program(s). By whom? \_\_\_\_\_

Additional comments concerning present or ideal evaluation procedures:

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Other comments or suggestions:

## APPENDIX C

### IDENTIFICATION OF PANEL OF EXPERTS IN ARTICULATION



## APPENDIX C

## IDENTIFICATION OF PANEL OF EXPERTS IN ARTICULATION

A call was made to Dr. Terry Tollefson, Associate Professor at ETSU, who suggested I start with the American Association of Community Colleges in Washington, D.C. I spoke with Dr. Dave Pierce who identified three persons whom he felt met the criteria for this study and would be willing to participate. A second lead from Dr. Tollefson was to call Dr. Arthur Cohen, Director of the Erik Clearinghouse at UCLA. Dr. Cohen gave several more suggestions for persons who met the criteria and he felt would participate. All seven persons were contacted by telephone and all agreed to participate. Cover letters, questionnaires, and stamped return envelopes were prepared and mailed. Five of the seven returned the questionnaires with comments. Identifying information of the participating panel of experts follows:

Dr. Trudy Bers  
Vice Chancellor for Academic Services and Research  
Virginia Community College System  
Richmond, Virginia

Dr. Les Birdsall  
Diablo Valley College  
Pleasant Hill, California

Dr. Earl Hale, Director  
State Board for Community and Technical Colleges  
Olympia, Washington

**Dr. Anne-Marie McCartan**  
**Senior Director, Institutional Research**  
**Curriculum and Strategic Planning**  
**Oakton College**  
**Des Plaines, Illinois**

**Dr. Cathy Morris**  
**Dean of Institutional Research**  
**Miami-Dade Community College**  
**Miami, Florida**

**APPENDIX D**

**COMPLETE TABLES DENOTING DIFFERENCES IN PRESENT AND IDEAL  
ARTICULATION PRACTICES BETWEEN TWO- AND FOUR-YEAR PUBLIC  
COLLEGES IN TENNESSEE**

## APPENDIX D

COMPLETE TABLES DENOTING DIFFERENCES IN PRESENT AND IDEAL  
ARTICULATION PRACTICES BETWEEN TWO- AND FOUR-YEAR PUBLIC  
COLLEGES IN TENNESSEE

TABLE 12  
DIFFERENCES IN PRESENT LEADERSHIP PRACTICES AMONG TENNESSEE  
TWO- AND FOUR-YEAR PUBLIC COLLEGES

Practice	Mann-Whitney <u>W</u>	Median		Significance
		Two-Year	Four-Year	
1. Strong state leadership	105	3	3.5	NSD
2. Higher education board commitment to transfer	104.5	3	4	NSD
3. Frequency of meetings concerning articulation	97	3.5	3	NSD
4. Active state committee				
Deans or coordinators	48	2	1	NSD
Instructors	57	1	1	NSD
Advisor/counselor	57	1	1	NSD
Advisory board members	46.5	1	1	NSD
Students	57	1	1	NSD

Table 12 (continued)

Practice	Mann-Whitney <u>W</u>	Median Two-Year	Median Four-Year	Significance
5. Active institutional committee				
Deans or coordinators	79.5	4.5	3	NSD
Instructors	69	4	3	NSD
Advisors	75	3	3	NSD
Advisory board members	73	1	2	NSD
Students	70.5	1	1	NSD

Note: NSD=no significant difference, \* $p < .05$ , \*\* $p < .01$ , \*\*\* $p < .001$ .

TABLE 13

DIFFERENCES IN PRESENT ADMINISTRATIVE PRACTICES AMONG  
TENNESSEE TWO- AND FOUR-YEAR PUBLIC COLLEGES

Practice	Mann-Whitney <u>U</u>	Median Two-Year	Median Four-Year	Significance
1. Annual review & updating of articulated program	83	4	4	NSD
2. Inclusion of goals, procedures in articulation agreements	102	3	4	NSD
3. Articulation handbook for:				
Students	97	4	4	NSD
Advisors	69.5	5	4	NSD
Faculty and staff	69.5	5	4	NSD
4. Institutional subcommittees exist	113.5	1	3	NSD
5. Subcommittee organization				
By instructional area	72.5	1	2	NSD
Across instructional areas	71.5	1	2	NSD
6. Staff workshops planned	96	2	2	NSD
7. Articulation management an add-on responsibility	94	5	5	NSD
8. Advising counted in hours for faculty load	121	1	5	*
9. Transfer/articulation for technical graduates	62.5	3.5	2	NSD

Table 13 (continued)

Practice	Mann-Whitney <u>W</u>	Median Two-Year	Four-Year	Significance
10. Institutional transfer center	105	1	1	NSD
11. Deadline for granting articulation credit exists	90.5	3	3	NSD
12. Procedure for granting credit past the deadline exists	61.5	2	3	NSD
13. A process tracks students to private or out of state colleges	74.5	1	1	NSD

Note: NSD=no significant difference, \* $p < .05$ , \*\* $p < .01$ , \*\*\* $p < .001$ .

TABLE 14

DIFFERENCES IN PRESENT CURRICULUM & INSTRUCTION PRACTICES  
AMONG TENNESSEE TWO- AND FOUR-YEAR PUBLIC COLLEGES

Practice	Mann-Whitney <u>W</u>	Median		Significance
		Two-Year	Four-Year	
1. Planned, sequential instructional programs span two-year college freshman to the four-year senior year	99.5	2.5	2	NSD
2. Curricular coordination includes:				
Common curriculum	77.5	4	3	NSD
Instructional objectives	67	3	3	NSD
Standardization of standards	66.5	4	2.5	NSD
Agreed upon measures of successful completion	66	4	3	NSD
3. Business/industry involved in occupational program revision	70.5	3	2	NSD

Note: NSD=no significant difference, \* $p < .05$ , \*\* $p < .01$ , \*\*\* $p < .001$ .



TABLE 15

DIFFERENCES IN PRESENT FACULTY PRACTICES AMONG TENNESSEE TWO-  
AND FOUR-YEAR PUBLIC COLLEGES

Practice	Mann-Whitney <u>W</u>	Median		Significance
		Two-Year	Four-Year	
1. Community college and university faculty decide curriculum	96.5	4	4.5	NSD
2. Faculty make reciprocal visits	101	3	4	NSD
3. Faculty at both levels meet frequently and regularly concerning articulation	90	3	2.5	NSD
4. Articulated program faculties share teaching responsibilities	93	1	2	NSD

Note: NSD=no significant difference, \* $p < .05$ , \*\* $p < .01$ , \*\*\* $p < .001$ .

TABLE 16

DIFFERENCES IN PRESENT INTERINSTITUTIONAL RELATIONSHIPS AMONG  
TENNESSEE TWO- AND FOUR-YEAR PUBLIC COLLEGES

Practice	Mann-Whitney <u>W</u>	Median Two-Year	Median Four-Year	Significance
1. Joint articulation workshops are conducted	124	1	2.5	*
2. Advisor/counselor coordination between 2- and 4-year colleges exists	120.5	3	4	NSD
3. A jointly developed agreement on the use of existing resources exists	95.5	1.5	3	NSD
4. Articulation program is marketed by two- and four-year colleges	65.5	3	3	NSD
5. Facilities/equipment are shared when feasible	91	2	2.5	NSD
6. Joint university/community college advisory boards are used	114	1	2	NSD
7. Strategic articulation plan exists	93	2	2	NSD
8. Educational and occupational planning information jointly developed	98.5	1.5	2	NSD
9. Handbook jointly developed	89.5	2	2.5	NSD
10. Common course numbers and names for similar courses exists	103	1	2	NSD
11. A common academic calendar exists for coordinating institutions	110	1	2	NSD

Table 16 (continued)

Practice	Mann-Whitney <u>W</u>	Median Two-Year	Median Four-Year	Significance
12. Transferring students may choose to use university requirements in effect when coursework began at community college	91	3	4	NSD

Note: NSD=no significant difference, \* $p < .05$ , \*\* $p < .01$ , \*\*\* $p < .001$ .

TABLE 17

DIFFERENCES IN PRESENT RECORD KEEPING PRACTICES AMONG  
TENNESSEE TWO- AND FOUR-YEAR PUBLIC COLLEGES

Practice	Mann-Whitney <u>W</u>	Median Two-Year	Median Four-Year	Significance
1. Joint monitoring of articulation program progress exists	95	3	2.5	NSD
2. Recordkeeping is coordinated	90.5	2	3	NSD
3. Records accommodate needs of community college and university	91.5	2.5	2.5	NSD
4. Computerized articulation system available to all institutions	88	1	2	NSD
Contains:				
Student information	31	1	3	NSD
Course information	35	1	3.5	*
Curriculum information	45.5	1	3	*
Financial aid information	31.5	1	2.5	NSD
Other	92	1	1	NSD
5. A computerized system is available which converts course listings on student transcripts to corresponding university courses	129	1	4	*

Table 17 (continued)

Practice	Mann-Whitney <u>W</u>	Median Two-Year	Median Four-Year	Significance
6. On-line system provides information concerning				
Student progress	111	1	5	*
General education requirements	101.5	1	4	*
Changes in general education and degree requirements	97.5	1	3.5	*
Admission requirements	101.5	1	4.5	*
Specific information for majors	96	1	3	NSD
The transfer process	104	1	2	*
7. Annual reports are made of students successfully transferring from two- to four-year colleges				
	119	3	4	NSD

Note: NSD=no significant difference, \* $p < .05$ , \*\* $p < .01$ , \*\*\* $p < .001$ .

TABLE 18

DIFFERENCES IN PRESENT EVALUATION PRACTICES AMONG TENNESSEE  
TWO- AND FOUR-YEAR PUBLIC COLLEGES

Practice	Mann-Whitney <u>W</u>	Median Two-Year	Median Four-Year	Significance
1. Community college and university articulated programs have an agreed-upon evaluation system	109.5	1	2	NSD
2. Sufficient enrollment considered an evaluative measurement of program effectiveness and efficiency	99.5	3	3	NSD
3. Student success at the four-year institution is considered an evaluative measurement of articulated programs	88.5	3.5	3.5	NSD
4. Written procedures to assess student abilities have been developed	78.5	3	2	NSD
5. There is joint student assessment and placement in articulated program	74.5	1	1	NSD

Note: NSD=no significant difference, \* $p < .05$ , \*\* $p < .01$ , \*\*\* $p < .001$ .

TABLE 19

DIFFERENCES IN IDEAL LEADERSHIP PRACTICES AMONG TENNESSEE TWO-  
AND FOUR-YEAR PUBLIC COLLEGES

Practice	Mann-Whitney <u>W</u>	Median		Significance
		Two-Year	Four-Year	
1. Strong state leadership	64	5	4	NSD
2. Higher education board commitment to transfer	73	5	5	NSD
3. Frequency of meetings concerning articulation	78	5	4.5	NSD
4. Active state committee				
Deans or coordinators	46.5	5	3.5	* *
Instructors	54.5	5	3	*
Advisor/counselor	60	4	3	NSD
Advisory board members	58.5	4	3	NSD
Students	58.5	4	3	NSD
5. Active institutional committee				
Deans or coordinators	68	5	4.5	NSD
Instructors	73.5	4.5	4	NSD
Advisors	62	5	4	NSD
Advisory Board members	84	3	4	NSD
Students	74.5	3.5	4	NSD

Note: NSD=no significant difference, \* $p < .05$ , \*\* $p < .01$ , \*\*\* $p < .001$ .

TABLE 20

DIFFERENCES IN IDEAL ADMINISTRATIVE PRACTICES AMONG TENNESSEE  
TWO- AND FOUR-YEAR PUBLIC COLLEGES

Practice	Mann-Whitney <u>W</u>	Median		Significance
		Two-Year	Four-Year	
1. Annual review & updating of articulated program	101.5	5	5	NSD
2. Inclusion of goals, procedures in articulation agreements	86.5	5	5	NSD
3. Articulation handbook for:				
Students	99	5	5	NSD
Advisors	73.5	5	5	NSD
Faculty and staff	73.5	5	5	NSD
4. Institutional subcommittees exist	107	3	4.5	NSD
5. Subcommittee organization				
By instructional area	82	4	3.5	NSD
Across instructional areas	78	4	3	NSD
6. Staff workshops planned	72	4	4	NSD
7. Articulation management an add-on responsibility	57.5	3.5	3	NSD
8. Advising counted in hours for faculty load	119.5	3	4.5	*
9. Transfer/articulation for technical graduates	82	4	4	NSD
10. Institutional transfer center	91.5	3	4	NSD



Table 20 (continued)

Practice	Mann-Whitney <u>W</u>	Median Two-Year	Median Four-Year	Significance
11. Deadline for granting articulation credit exists	90.5	3	3.5	NSD
12. Procedure for granting credit past the deadline exists	54	3.5	3	NSD
13. A process tracks students to private or out of state colleges	61	4.5	3	*

Note: NSD= no significant difference, \* $p < .05$ , \*\* $p < .01$ , \*\*\* $p < .001$ .

TABLE 21

DIFFERENCES IN IDEAL CURRICULUM & INSTRUCTION PRACTICES AMONG  
TENNESSEE TWO- AND FOUR-YEAR PUBLIC COLLEGES

Practice	Mann-Whitney <u>W</u>	Median Two-Year	Median Four-Year	Significance
1. Planned, sequential instructional programs span two-year college freshman to the four-year senior year	70.5	4.5	4	NSD
2. Curricular coordination includes:				
Common curriculum	74	5	4.5	NSD
Instructional objectives	67	5	4	NSD
Standardization of standards	69.5	5	4	NSD
Agreed upon measures of successful completion	70	5	4	NSD
3. Business/industry involved in occupational program revision	65	5	4	NSD

Note: NSD=no significant difference, \* $p < .05$ , \*\* $p < .01$ , \*\*\* $p < .001$ .

TABLE 22

DIFFERENCES IN IDEAL FACULTY PRACTICES AMONG TENNESSEE TWO-  
AND FOUR-YEAR PUBLIC COLLEGES

Practice	Mann-Whitney <u>W</u>	Median Two-Year	Median Four-Year	Significance
1. Community college and university faculty decide curriculum	93	5	5	NSD
2. Faculty make reciprocal visits	94	4.5	4.5	NSD
3. Faculty at both levels meet frequently and regularly concerning articulation	76.5	5	4	NSD
4. Articulated program faculties share teaching responsibilities	71	3	2.5	NSD

Note: NSD=no significant difference, \* $p < .05$ , \*\* $p < .01$ , \*\*\* $p < .001$ .

TABLE 23

DIFFERENCES IN IDEAL INTERINSTITUTIONAL RELATIONSHIPS AMONG  
TENNESSEE TWO- AND FOUR-YEAR PUBLIC COLLEGES

Practice	Mann-Whitney <u>W</u>	Median		Significance
		Two-Year	Four-Year	
1. Joint articulation workshops are conducted	79.5	4	3.5	NSD
2. Advisor/counselor coordination between 2- and 4-year colleges exists	102.5	4	5	NSD
3. A jointly developed agreement on the use of existing resources exists	88	4	4	NSD
4. Articulation program is marketed by two- and four-year colleges	58	5	4	*
5. Facilities/equipment are shared when feasible	81	4.5	4	NSD
6. Joint university/community college advisory boards are used	87	3.5	4	NSD
7. Strategic articulation plan exists	94	4	4.5	NSD
8. Educational and occupational planning information jointly developed	68	4	3.5	NSD
9. Handbook jointly developed	81.5	4	4	NSD
10. Common course numbers and names for similar courses exists	75.5	4	3	NSD

Table 23 (continued)

Practice	Mann-Whitney <u>W</u>	Median Two-Year	Median Four-Year	Significance
11. A common academic calendar exists for coordinating institutions	84.5	4	3	NSD
12. Transferring students may choose to use university requirements in effect when coursework began at community college	99.5	4	4.5	NSD

Note: NSD=no significant difference, \* $p < .05$ , \*\* $p < .01$ , \*\*\* $p < .001$ .

TABLE 24

DIFFERENCES IN IDEAL RECORD KEEPING PRACTICES AMONG TENNESSEE  
TWO- AND FOUR-YEAR PUBLIC COLLEGES

Practice	Mann-Whitney <u>W</u>	Median		Significance
		Two-Year	Four-Year	
1. Joint monitoring of articulation program progress exists	74	4.5	3.5	NSD
2. Record keeping is coordinated	68.5	4	3	NSD
3. Records accommodate needs of community college and university	86	4	4.5	NSD
4. Computerized articulation system available to all institutions	59.5	5	4	NSD
Contains:				
Student information	44.5	4.5	4	NSD
Course information	49	4.5	5	NSD
Curriculum information	46.5	4.5	4	NSD
Financial aid information	46	4	4	NSD
Other	4.5	4.5	4	NSD
5. A computerized system is available which converts course listings on student transcripts to corresponding university courses	66.5	5	4	NSD

Table 24 (continued)

Practice	Mann-Whitney <u>W</u>	Median Two-Year	Median Four-Year	Significance
6. On-line system provides information concerning				
Student progress	103.5	4	5	NSD
General education requirements	93.5	4	5	NSD
Changes in general education and degree requirements	93.5	4	5	NSD
Admission requirements	80	4	4.5	NSD
Specific information for majors	81	4	4.5	NSD
The transfer process	72.5	5	4.5	NSD
7. Annual reports are made of students successfully transferring from two- to four-year colleges				
	76.5	5	4.5	NSD

Note: NSD=no significant difference, \* $p < .05$ , \*\* $p < .01$ , \*\*\* $p < .001$ .

TABLE 25

DIFFERENCES IN IDEAL EVALUATION PRACTICES AMONG TENNESSEE  
TWO- AND FOUR-YEAR PUBLIC COLLEGES

Practice	Mann-Whitney <u>W</u>	Median Two-Year	Median Four-Year	Significance
1. Community college and university articulated programs have an agreed-upon evaluation system	82	5	4.5	NSD
2. Sufficient enrollment considered an evaluative measurement of program effectiveness and efficiency	92	4	4	NSD
3. Student success at the four-year institution is considered an evaluative measurement of articulated programs	87.5	4	4	NSD
4. Written procedures to assess student abilities have been developed	69.5	5	4	NSD
5. There is joint student assessment and placement in articulated program	58.5	4	3	NSD

Note: NSD=no significant difference, \* $p < .05$ , \*\* $p < .01$ , \*\*\* $p < .001$ .



## VITA

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