

USER EVALUATION OF LEARNING RESOURCE PROGRAMS
IN VIRGINIA COMMUNITY COLLEGES,

by

C. Edward Huber,

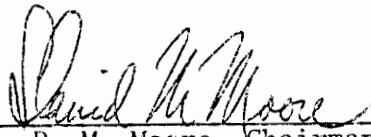
Dissertation submitted to the Graduate Faculty of the
Virginia Polytechnic Institute and State University
in partial fulfillment for the degree of

DOCTOR OF EDUCATION

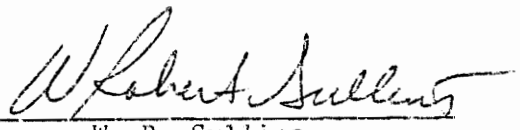
in

Community College Education

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January, 1978
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ACKNOWLEDGEMENTS

The author is indebted to many individuals who were helpful in the conception, planning, and accomplishment of this research. Appreciation is expressed to the members of his graduate committee, particularly to Dr. D. M. Moore, chairman, and to Dr. C. A. Atwell for statistical design advice.

Special acknowledgement is extended by the author to Drs. Edith and Fletcher Carter who were always available for generous assistance and encouragement, and to Ms. Nancy Miller in the Virginia Tech Computer Consultant Center for her patient tutelage in the arcane mysteries of the computer.

The author also wishes to express his sincere gratitude to the Virginia Department of Community Colleges and to the Directors of Learning Resources and Librarians at the participating college campuses for their support and help in gathering the data necessary to complete the study.

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Chapter 1

INTRODUCTION AND OVERVIEW OF THE PROBLEM

The community college movement is a uniquely American innovation in higher education. The Carnegie Commission on Higher Education has called the community college phenomenon "the most striking structural development in higher education in the United States." (The Open Door Colleges, 1970, p.3) Parallel with the process of numerical growth and conceptual expansion of the community college has been the evolution of the traditional college library into the much more comprehensive service entity now called the Learning Resource Center, with a larger staff of additional specialized personnel, offering the college a wider range of instructional and other support services.

The Learning Resource Center, unlike the old college library, is theoretically not just a passive adjunct to the college curriculum, but is becoming much more deeply involved in the dynamics of the instructional process. The learning resource program not only provides books and other learning materials for faculty and student use, but ideally also offers consultation in the selection and assistance in the use of these materials in the learning situation. The national trend towards the transformation of the community college library into the Learning Resource Center has accelerated in the past ten to fifteen years, and the majority of the two year institutions across the country

have adopted some form of the new concept of merged print and media resources and services. (Raines, 1973, p.10)

The organizational relationship of the Learning Resource Center in most Virginia community colleges is similar to that in many of the over twelve hundred such institutions in the United States. The Director of Learning Resources, usually with a background as a librarian, administers the organizationally integrated functions of the library, audiovisual department, photographic services and laboratory, graphics, learning and language laboratories, reprographic activities, and instructional consultation services. The director is normally responsible directly to the chief academic officer, and is on a hierarchical par with the chairmen of the various academic divisions.

As each of the twenty-three colleges in the Virginia state system was either created, or was developed from predecessor educational institutions, it began to form a specific profile according to its size, location, leadership, curriculum, and the sum of the characteristics of its faculty. So too did its Learning Resource Center evolve into a supportive configuration reflecting the distinctive personality and objectives of the parent institution. In some colleges in the system the traditional organizational separation of the library and audiovisual functions still exists, with learning carrels and other teaching resources the responsibility of the instructional departments.

Over 4.3 million dollars of public funds, exclusive of federal and other grants, was appropriated by the Virginia legislature for

library and learning resource programs in Virginia's community colleges during the fiscal year ending June 30, 1976, or an average of about 6.9 percent of the typical college's operational costs. (Commonwealth of Virginia Budget, 1976-1978, Community College Budget Tables)

Learning Resource Program Evaluation

The most recent national guidelines available for institutional self-evaluation of learning resource programs specifically for the community college are the Guidelines for Two-Year College Learning Resource Programs, hereafter referred to as the Guidelines. Published jointly by the American Association of Community and Junior Colleges, The American Library Association, and the Association for Educational Communications and Technology, the Guidelines are broadly conceptual rather than quantitative and specific. (Guidelines, 1973) A joint committee of the three associations is in the process of preparing quantitative criteria to accompany the Guidelines. ("New Quantitative Standards for Community College LRC's", 1975)

Normative standards previously produced by professional associations were and are relevant to the library and audiovisual activities separately, and are stated in terms of quantity rather than quality. An example is the American Library Association's Standards for Junior College Libraries (1960), which has been superceded by the Guidelines, above.

The publications of the Southern Association of Colleges and Schools relating to evaluation of learning resource elements in post-secondary educational institutions focus almost entirely on the

library, and are very brief and non-quantitative. (Standards of the College Delegate Assembly, 1972) (Manual for the Institutional Self Study Program of the Commission on Colleges, 1973)

In Virginia the role and objectives of the community college learning resource program have not been defined. At this time no formal guidelines, standards or procedures exist on the state level for program operation or evaluation. The Policy Manual published by the Virginia Department of Community Colleges contains, indexed under the word "library", only brief references to the disposition of obsolete books, federal programs relating to libraries, collection of fines for overdue materials, and instructions for budget preparation. The phrase "learning resources" isn't mentioned at all.

There is evidence that adherence to the guidelines and standards is often superficial, and frequently minimal. In many instances the "Learning Resource Center" is still essentially a conventional college library in new quarters, operating on the demand-response premise so familiar to academic library users for generations. A disproportionate percentage of professional and other staff time is still devoted to the acquisition and classification of materials, relative to that dedicated to the interface of resources and users. "Libraries are much more advanced in the incorporation of new media into their collections than they are in devising procedures to make the new library concept function adequately." (Hyer, 1972, p. 5)

Little research has been done to determine just how effectively the synthesis of library, audiovisual and other support functions is

serving the needs of the institution. Not much is known about how, and to what degree learning resources are actually used in instruction, or about the effectiveness of Virginia community college learning resource programs in accomplishing their objectives, beyond the usual library and audiovisual statistics reported annually to the college administration, to national associations, and to state and federal agencies.

Professionally sanctioned methods of evaluating the effectiveness of an integrated learning resource program in strengthening community college instruction have not yet been developed. Nationally accepted criteria such as the size of the book collection, library circulation figures, and the percentage of the college instructional and operational budget allocated for the learning resource program are useful quantitative datum gauges, but they do not measure the overall efficiency of the program in performing its mission.

As in all other community college activities and functions, the ideal method of evaluating a learning resource program would be to measure the degree to which it produces or contributes to student learning. However statistical techniques are yet to be devised which would isolate and measure the variable of a student's interface with the learning resource program from the unknown but presumably large number of other direct and indirect variables which have interacted to produce learning.

One approach to the problem of evaluation would be to assess learning resource programs not just quantitatively against prescribed norms, but also qualitatively, in terms of client appraisal of services

and resources. The two major clients of learning resources are students and faculty.

Several studies were accomplished during the 1960's in the area of student use and evaluation of the college and community college library, but no major research has been reported since 1968 except local, limited efforts. Studies at Knox College (Knapp, 1958), Dartmouth (What is a Library, 1958), College of the Desert (Hostrop, 1968), Purdue (Jain, 1960), Massachusetts Institute of Technology (Nicholson and Bartlett, 1962), University of Delaware (Lane, 1966), and other institutions indicate that student use of resources is mostly confined to the library as a study hall, and is largely determined by course imperatives, in other words by the faculty.

Student interaction with learning resource programs is relatively narrower, shallower and briefer than that of the faculty. Their evaluation of program elements is based less on the effectiveness of administrative, organizational and support techniques, and more on the availability of specifically required books and materials, the ambience and comfort of the environment, or the helpfulness of the staff.

Few studies exist that deal with instructor use and evaluation of learning resource programs, although there is much evidence in the literature that the instructor is the real determinant of learning resource demand and use by students. (Waddle, 1967, p. 50) (Knapp, 1958, p. 829) (Hostrop, 1973, p. 94) (Use, Misuse and Non-Use . . . , p. 87-88) Waddle is representative in his comment that "the key element in library use is the faculty." (p. 250)

Purpose of the Study

The purpose of this study was to determine the relationship between qualitative evaluation of community college learning resource programs, as measured by a questionnaire distributed to selected community college faculty and students, and quantitative evaluation measures frequently used as comparative indicators of program quality.

Six quantitative measures, often reported for descriptive and comparative purposes by academic library and learning resource program administrators, were selected for analysis of rank order relationships with corresponding qualitative category scores from the returned questionnaires. The six evaluation questionnaire categories and their corresponding quantitative measures were:

Qualitative Categories from Evaluation Questionnaire

Corresponding Quantitative Measures

- | | |
|--|---|
| 1. Financial Support
(Questions 1 - 5) | QN1. Funds spent per full-time equivalent (FTE) student on the learning resource program. |
| 2. Book Collection
(Questions 6 - 10) | QN2. Number of titles in the book collection per FTE student. |
| 3. Audiovisual Services
(Questions 11 - 15) | QN3. Number of titles in the media collection per FTE student. |
| 4. Readers' Services
(Questions 16 - 20) | QN4. Number of items circulated during the 1975/76 academic year per FTE student. |
| 5. Space Availability
(Questions 21 - 25) | QN5. Number of square feet in the Library/LRC complex per FTE student. |
| 6. Staffing Profile
(Questions 26 - 30) | QN6. Number of FTE students per staff member. |

Null Hypotheses

In order to answer the basic questions underlying this research topic, twelve null hypotheses were generated to test for rank order correlations between the paired variables, ranked by college, of the above categories, six for faculty and six for students, in selected Virginia community colleges. The twelve null hypotheses are stated in Chapter 3.

Delimitations of the Study

This research is limited to the learning resource programs in the eighteen single campus institutions in the Virginia Community College System; to faculty members who have completed at least one year of teaching at their respective colleges; and to currently registered students who attended the college in the spring quarter of the 1975/76 academic year.

Need for the Study

There are growing pressures on higher education, both internal and external, toward greater accountability for function and outcome. The public, whose tax dollars nourish the community college and who form its clientele, demands not just services which are adaptive and sensitive to local needs, but which are educationally defensible and financially justifiable. The community college, because of its wide and direct interaction with the public in its service area, is even more vulnerable to mounting public scrutiny and question than the four-year college or the university. In order for the increasingly expensive

resources of the community college to be more fully and effectively utilized, more research is needed to better understand how, and to what extent these resources actually support instruction. More effective methods should be sought not only to improve the product of the system, which is student learning, but to identify and analyze as many as possible of the variables that contribute to that product.

In January of 1975, Dr. Dana Hamel, Chancellor of the Virginia Community College System, sent a memo to the presidents of the colleges that "carried a word of caution for learning resource centers and a request for comment on how to justify funds expended by the LRC in this day of limited monies." (Report of the Ad Hoc Committee Studying Learning Resource Centers, 1975, Introduction) One of the results of this memorandum was the appointment of a committee of three Directors of Learning Resources from the colleges in the system, who surveyed the Learning Resource Centers and made recommendations. Results of the study are examined in Chapter 2 of this study, but the committee made the following recommendations dealing with evaluation:

2. (b) Non-statistical methods of evaluation should be identified.

(c) State guidelines are needed, that include a statement of purpose, and operating policies and procedures. (Report of the Ad Hoc Committee . . . 1975, abstract)

Thomas Galvin, in his address to the 1976 American Library Association annual conference, pointed out that:

We desperately need, as managers, to find alternative vehicles of institutional accountability. Adequate measures will probably place less emphasis on traditional quantitative indicators of library performance such as circulation and acquisitions data, and more emphasis on qualitative evidence of providing meaningful services to clients. In justifying our institutional existence we

will need to become less materials oriented and more client oriented, to find ways to collect and quantify client attitudes toward the library and client estimates of its resources and services and to compare these data over time. (Galvin, 1976, 1835)

Summary

The national trend towards unification of audiovisual, library, and other instructional services into the larger entity of the Learning Resource Center has been recognized in the Virginia Community College System. Learning resource program guidelines have been published by national professional associations. However, because these guidelines suggest broad concepts rather than discrete criteria, there is a wide variety in Virginia, as there is throughout the nation, in the role, characteristics and operation of learning resource programs. The development of these programs in the individual colleges has been left largely to local option, and state evaluation guidelines do not as yet exist.

One of the most difficult aspects of a community college instructional program to evaluate is the effectiveness of the learning resource program in its contribution to learning. Waddle (1967) observed that:

The use and services of the community college library are extremely difficult to assess, and indeed, there are no completely accurate measures. Quantitative measures are crude and incomplete, qualitative efforts open to many questions, and some aspects of library service have not lent themselves to a determination at all. The best evaluation of use and service is probably an individual one of self-evaluation which should be continuous in the light of daily testing by students and faculty. (p. 250)

Other problems in evaluation are: (1) the widely diversified purposes, sizes and clientele of individual institutions; (2) the

trend towards the integration of books, media and other resources into the Learning Resource Center, necessitating new methods of operation and evaluation; (3) difficulties in the application of available guidelines and standards; (4) the multitude of variables that interact to produce learning; and (5) lack of information on how and to what degree faculty and student clients actually use learning resources.

Traditional methods of library evaluation are dependent on quantitative data such as the number of books acquired or circulated each year. Such data are useful for superficial descriptive and comparative purposes, but are only surrogate for the qualitative analysis needed for in-depth self-evaluation. New evaluation approaches have been invited by the Virginia Department of Community Colleges. This study seeks to discover whether faculty and student qualitative evaluation of learning resource elements and services relates to program assessment according to customarily used quantitative measures.

Chapter 2

REVIEW OF THE LITERATURE AND CONCEPTUAL FRAMEWORK

Essential to the problem of evaluation of library/learning resource services is recognition that the program exists only to serve the needs of the larger institution of which it is a part. It is appropriate therefore to examine briefly the community college itself.

The Community College

As a distinctly American contribution to higher education, the two-year college, particularly the public community college, has become the most dynamic of the post-secondary educational institutions, both in terms of numbers and client growth. The almost explosive vitality of the community college is shown by their growth in numbers from 517 which reported statistics in the 19th (1952) edition of the American Library Directory, to 1,129 in the 30th (1975/76) edition.

Having some of its roots in the public school system, the community college has inherited many of its elements and traditions. Monroe (1972) points out that three principles guiding the community college originated early in the public schools:

- (1) universal opportunity for a free public education for all persons without distinction based on social class, family income, and ethnic, racial or religious backgrounds;
- (2) local control and support of free, non-tuitional educational systems; and
- (3) a relevant curriculum designed to meet both the needs of the individual and those of the nation. (p. 1)

Social institutions are established and expanded in response to specific human needs. The basic purposes and objectives of the Virginia Community College System were prescribed by the General Assembly of Virginia in the Community College Act of 1966 (Code of Virginia), and are exemplary of the typical college and system nationwide. Those purposes were expanded soon after, and are stated in the objectives included in the catalog of each community college. The six objectives which are germane to learning resource support of direct instruction are: occupational-technical education, university parallel-college transfer education, general education, continuing adult education, special training programs, and developmental (remedial) programs.

The community college learning resource program should be evaluated in terms of its effectiveness in contributing to the accomplishment of these objectives.

Review of Related Literature

The literature on community college libraries and Learning Resource Centers (hereafter referred to as LRC's) is predominantly in the form of periodical articles along with scattered studies that deal with library standards and accreditation; materials selection and classification; book collection analysis; library usage; personnel qualifications, status, and role perceptions; and the relationship of the library to the instructional program. A large number of articles are written by those wishing to express an opinion on whether and to what degree institutions are meeting standards established or suggested by accrediting associations, professional groups, or state governing and

coordinating agencies. The writers of this genre question whether too much emphasis is being placed on quantitative rather than qualitative criteria, and typically conclude that qualitative measures are more desirable than quantitative, but are more difficult to construct, and that someone should take the initiative in coming to grips with the problem. More recently the literature reflects the reaction to the 1972 publication of the LRC Guidelines, which are viewed with general approval, mixed with some concern that they are qualitative, but too vague and discretionary. (New Quantitative Standards . . . , 1976)

Many writers treat the LRC more or less as a library which has absorbed, to varying degrees, additional responsibility for operation of the audiovisual, learning laboratory, telecommunications, graphics/production, photographic, and instructional consultative functions of the college. Others view the LRC as a sort of coadunative synthesis of all available instructional support systems into an orchestrated learning tool with much broader responsibilities for effecting student learning.

Edmund Gleazer, Director of the American Association of Community and Junior Colleges, stated that "of all aspects of junior college development, less attention has been given to the junior college library than to any part of the instructional program." (Gleazer, 1966, p. 266) Many of the major treatises on the community college written in the past fifteen years or so by noted experts in the fields of instruction and educational administration do not stress the need for library or learning resource services. Examples of works which do not

even include the word library, or the phrase learning resources in their indexes are: Medsker (1960), Fields (1962), Kelley and Wilber (1970), Koos (1970), Moore (1971), Monroe (1972), and Roueche (1972). Parker (1961), in examining the doctoral research on the community junior college, compiled a bibliography of 225 dissertations on the subject to that time, and noted that only three out of the total dealt with the library or the audiovisual activity.

The Role of the Learning Resource Center

"The basic paradigm for college level learning consists of the student, the instructor, and the addition of learning resources."

(Harclerod, 1974, p. 13)

There is wide variance of opinion as to the proper role of the LRC in the instructional program of the community college. The spectrum ranges from the passive role of the traditional library on one hand, to a powerful catalyst for instructional innovation, mandated by the Dean of Instruction to be an agency for change, on the other. Most LRC's fall somewhere in the middle of the spectrum.

Meyers (1971), in his development of a theoretical model of a community college instructional materials center, observed in his statement of the problem that "ever since the instructional media center was born out of the wedlock of separate library and audiovisual centers, there has been a controversy on all aspects of organization, administration, and operation of the instructional media center in all levels of education." (p. 2) He discerned three distinct and competing philosophies of operation which underly the dispute:

1. A 20th century technological warehouse storing all types of information regardless of media type, with emphasis on teacher needs.

2. . . . same as number 1 . . . plus limited production capabilities, often operated by teachers, with emphasis on solving instructional problems primarily by utilizing educational hardware.

3. A refinement in the educational process through a technology of instruction with emphasis on learner needs, solving instructional problems by systematic organization and application of resources.

(p. 3)

Instructional media leadership, librarians, and audiovisual specialists have been divided on these three philosophies. Those who subscribe to category 1 tend to be librarians and/or experts in storage and retrieval. Contrastingly, adherents of category 2 are more often audiovisualists or experts in educational hardware. Lastly, if one subscribes to category 3, "he is probably an instructional technologist, an expert in the systematic production, organization and application of resources for the goal of meeting individual learner characteristics."

(Meyer, p. 3)

The profile of the learning resource program, its services, staff, building and budget, would to a considerable degree be the resultant of subscription to one or more of the above categories by the learning resource leadership and the college administration. There are wide differences in theory, practice, and even in terminology. Meyers studied fifty California community colleges which classified themselves as having integrated instructional media centers, and found that 62 percent referred to their "center" as the Library, 6 percent called it the Learning Resource Center, and 32 percent used various names such as Multimedia Instruction Center, Library and Audiovisual Department,

Instructional Media Center, Department of Learning Resources, Educational Media Center, and others.

Writers who have offered lists or profiles of LRC functions include Davis (1970), Harclerod (1964), Ofiesh (1974), Landini (1972), Meyers (1971), and Washburn (1971). Washburn's enumeration of elements of expected LRC performance is typical of those which stress the instructional responsibilities of an LRC rather than its library and audiovisual routines:

1. Pretesting and counseling of students into relevant instructional programs.
2. Aiding faculty members in the writing of instructional objectives and in the production of individualized learning units.
3. Cataloging, storing and retrieving instructional materials.
4. Producing or ordering needed instructional media (print and non-print).
5. Providing suitable facilities for individual and small group work.
6. Supervising the testing and revision of instructional products.
7. Training new faculty and updating faculty competencies.
8. Keeping records of student achievement on objectives of units. (p. 28)

Ofiesh (1974) argued that the LRC, under the direct supervision of the Dean of Instruction, should "assume a primary responsibility for training of faculty," with the understated caveat that there would "necessarily be role changes and attitudinal problems to contend with." He suggested that each teaching department appoint an instructor who would serve as a change advocate or agent of that department.

Orientation regarding the changes in relationships of faculty and administration resulting from the expanded role of the LRC in the instructional program would be required. (p. 1)

The LRC would generate a "competency based training program for the purpose of developing evaluation tools to evaluate the performance of the faculty." Ofiesh urged that a "coordinating council for introducing and monitoring the adoption of the systems approach to instruction in the . . . community college" be established, with the Dean of Instruction as chairman, and the Director of Learning Resources as council coordinator. Membership would consist of the departmental change agents and/or the department chairmen.

Lecture-directed faculty often oppose what they consider to be an intrusion by "librarians" into precincts where they have no business, namely the classroom. Many book-oriented librarians also fear the brash and upstart ways of the media specialists and instructional technologists with whom they find themselves in daily organizational contact in an integrated LRC, seeing them as enemies of reading and books. (Christensen, 1965, p. 304) (Spalsbury, 1975, p. 45)

At Los Angeles City College a committee of LRC staff and faculty used a modified Delphi technique to achieve consensus in establishing goals for a contemplated learning resource program. Possible positive and negative outcomes were listed and discussed by the faculty, becoming inputs into the planning process. (Landini, 1972)

The LRC as a System

Every system according to Banathy (1968) must have purpose, process and content. "The content is made up of the components put together for the system; the components in turn are chosen to carry out the particular processes required of the system to meet its purposes." (Ruark, 1971, p. 520) Purpose is therefore the controlling element in any system. It guides the definition and selection of the system components, and determines the development and sequence of the process. A major element of process is the feedback loop, which allows assessment of the process, which can then be adjusted for better outcomes.

The learning resources program, having its own purpose, process and content, is itself one of the components of the larger system of the college instructional program. Other component parts of this larger system are faculty, administration, physical plant, and student services. The purpose of the larger system is student learning generally, and the purpose of the learning resource program is to aid the instructor in designing and reaching specific, discrete, measurable student learning objectives.

. . . we must provide ways of measuring what the system does against the purpose for which it was created. And, what is more, since this is first and foremost a process, or ongoing system, we must provide this evaluation in the form of a feedback loop - information coming from operations and their effects which can be applied to change those same operations in full flight, and thus make them more effective and efficient. (Ruark, 1971, p. 521)

The difficulty, of course, lies in devising ways to measure the learning resource process against its purpose. Although the importance of the feedback loop is generally recognized as necessary for evaluation

of instructional systems, and the concept is used by learning resource consultative staff members in designing and improving learning experiences, feedback as a part of the total learning resource program is itself often rudimentary or inappropriate, and frequently non-existent.

Learning Resource Program
Clientele - The Student

The student is the major client of the learning resource program. The profile of the community college student as shown by Cross (1971), Thornton (1972), Carter (1972), Blocker (1965), Cohen (1969), and Roueche (1968), differs in many significant respects from that of the four-year college student.

The traditional college student may be characterized as a bright offspring of liberal, affluent, college educated parents, and a product of a culturally and educationally advantaged environment, that has been represented in the college population for a hundred years. The community college student in contrast has a wide range of tested aptitudes and levels of grade attainment. This student comes from every conceivable branch of society, encompassing a diversity of backgrounds, experiences, preparation and ambitions. (Cross, p. 38. Carter, p. 2) "Because these diversities exist each individual college needs to develop a clear factual understanding of the students which it serves, as a basis for program development." (Thornton, p. 145)

Washburn (1971) charges that the community college, despite its persistent efforts to achieve a distinctive educational mission, uses teaching styles and methodologies essentially no different than those

used in other educational institutions, such as high schools and colleges, with lectures, some supportive media, inflexible time frames, and identical treatment of students. Some of these practices are mandated by accrediting and state agencies, but many are controllable by the college locally. Course syllabi are stated in vague and global terms, and it is "impossible to identify clear and consistent objectives which can be meaningfully related to tangible measures of student achievement." (p. 22) She urges that if the espoused goal of "helping each student to develop to his fullest potential," is to be seriously attempted, then "we must cease to offer a single scheme of educational possibilities . . . and develop an institution that is truly unique in its mission of educational opportunity for all." (p. 22)

Learning Resource Center
Clientele - The Faculty

. . . The library problem is not the building, the collection of books and serials, or the service. The problem . . . is the faculty. We just do not assign work that requires library use . . . Until we on the faculty learn how to use the library, there is little use in spending time or money on surveys, buildings, books and services, and library staff. (Use, Misuse and Non-Use, p. 87-88)

One of the tasks of the Director of Learning Resources, and one upon which he/she is seldom evaluated, is to "sell" the faculty on the potential of learning resource materials and services to augment teaching power. Much of the literature relating directly or indirectly to the area of learning resource utilization by the teaching faculty focuses either on case studies of usage, or on barriers to the use of technology in general and media in particular. Little applies directly to the community college, being directed mostly at the public schools

or to the college and the university. Few studies are available which seek to discover more about how community college faculty perceive and apply learning resources in a comprehensive curriculum.

In February of 1976, the Learning Resource Center staff at Virginia Western Community College, as part of a self evaluation study, surveyed the faculty (N = 121 out of 175 faculty, or 69.1 percent) to determine client use and opinion of services. It was found that seven out of twenty-two services were used by as many as half the faculty, and only two services were used by as many as three-quarters of the faculty respondents. The data suggested that a large portion of the faculty at Virginia Western viewed the Library/LRC as a place to check out a book (83 percent) or read a newspaper (81 percent). Overall about one-third of the faculty were actually using Library/LRC facilities. Services which were used by less than 25 percent of the faculty were: having a bibliography prepared (11 percent); using microforms (20 percent); interlibrary loan (20 percent); requesting classroom showing of AV materials (23 percent); and recommending titles of AV materials for purchase (24 percent). (Wilson, 1976, p. 5-12)

Learning Resources in Innovative Teaching

McInnis (1968) suggests that there are two trends at present in American higher education which claim to be innovative, the transmission model and the acquisition model.

The Transmission Model relies very heavily on the hardware and software of educational technology to provide self-instructional modes

of learning. Although legitimately innovative, this trend is nevertheless:

Little more than an attempt to more effectively rationalize the traditional form of education whose primary concern is the mastery of a body of content. The dominant elements of the educational process, including faculty, students, information and examinations are carefully programmed to achieve maximum student attainment of predetermined, mostly symbol manipulative objectives. Education via instructional systems tends toward the dispensation of prescribed and preordered information. Learning . . . tends toward mental storage for later retrieval of the same type of information. (p. 1)

In this model the initiative lies with the teacher, who presents pre-packaged information which the student is expected to replicate. The learner becomes the recipient of education, and the conditioned dominant behavior is manipulative.

The Acquisitive Model is more radical in that it attempts to devise an entirely new approach to learning rather than rationalize the traditional form via technology. This form emphasizes the acquisition and assimilation of information by the learner, who assumes more of the initiative in seeking information which "can be most meaningfully related to his own particular needs to know, to do, and to be." (p. 2) In this model the student is viewed essentially as the incipient of his education, and the conditioned dominant behavior is associative instead of manipulative.

McInnis believes that both models have validity, and that the wave of the future lies with those institutions which recognize and incorporate both trends in their curriculum development. Both models will have implications for the design of supportive learning resource programs.

A major problem that confronts the administrator is that of why some professors so firmly resist the advances of new technology in their teaching. In many community colleges the faculty members are reluctant to agree that research findings about learning could apply to their own discipline, to their behavior in the classroom, and to the creation of academic policies. An important function of the well-managed learning resource system is to "point out significant research, to emphasize instructional trends that appear promising, and to plead for a much broader role for the instructor" than the restricted and traditional stereotype. (Sweetnam, 1972, p. 18)

Rohrlick (1972) conducted a study at the State University of New York at New Paltz during the 1970-71 academic year to investigate faculty attitudes toward media, their perceptions of deterrents to use, and actual media use. Six major deterrents perceived by the faculty to impede media use most were identified, in order of magnitude, as:

- (1) inadequately trained teachers in the use of media
- (2) inadequate media budgets
- (3) inadequate media facilities
- (4) lack of appropriate materials
- (5) insufficient media use planning time
- (6) teaching loads too great (p. 4)

Washburn (1971) identified some of the reasons for what she considered to be the failure of technology to penetrate education more than superficially. She lists some of the impediments to greater use of media as:

1. Fear of Technology. Computerized data banks and miniaturized electronics, such as "bugging" devices are often perceived in our

society as threats to privacy. "Teaching has always been seen as an intimate and unrecorded phenomenon." (p. 8)

2. Terminology. . . . reveals prejudice against the unfamiliar intruding into the educational realm. "Media has almost come to mean anything new." (p. 9)

3. Position of Media Personnel. Media staff have often slipped too easily into a service role, and frequently have been viewed as technicians. Course and textbook decisions are made without consultation with the media staff, and they are often excluded from curricular committees. (p. 10)

4. Inadequate Software. Financial emphasis has been on hardware instead of software. Equipment appears long before software is available. Lack of a viable theory of learning has impeded development of well integrated software. Media people have been trained more in the use of hardware than with learning theory of design and presentation. (p. 11)

5. Accessibility. There is a need for a nationally accepted classification and cataloging system for diverse media that will be as useful as the Dewey decimal system and the Library of Congress classification is for books. There is a plentitude of useful evaluation tools to aid the librarian in selecting appropriate books for collection development or specific instructional use, but even if a media citation is located "the present evaluation of the software even of the Educational Film Library Association is quite subjective . . . based solely on previews by three adults, excluding members of the target audience." (p. 12)

6. Localism. National distribution of media software at low unit cost needs the same economies of scale as other products of the productive complex. Duplication of locally produced materials is enormous. "For technology to be really effective two things are needed; large resources in time, money and manpower for development and production; and a large population for distribution. . . ." (p. 12)

7. Limited Attack. Quoting Allen (1969, p. 218), Washburn cites "limited efforts to improve the curriculum . . . rigidities of scheduling, subject matter compartmentalization, lecture-print orientation, and the previous training of teachers and administrators." (p. 13)

Washburn sees at the root of education's troubles "the absence of any but the most ambiguous and nebulous objectives." (p. 14)

Even in the graduate library schools, where one might expect leadership in the seminal diffusion of both the content and the practice of advanced learning concepts, there is as yet only cursory and pro forma recognition of the LRC as a somewhat modernized library.

Robert Chang (1975) investigated the attitudes of administrators from graduate library schools and educational technology programs throughout the United States toward the learning resources concept and toward integrating the library science and educational technology programs. He found that over 60 percent were positive toward the LRC concept and would combine the library science and educational technology fields into one unified curriculum if they had the opportunity to start a new program. (Dissertation Abstracts, February, 1976, p. 4822-A)

Goldstein (1967), Dean of the Graduate School at Florida State University, wrote gloomily:

1. The newer media are still not regarded as significant elements in library service by library school teachers and administrators.

2. Neither pre-professional nor in-service training programs developed for libraries have reached a significant stage of development respecting media services.

3. The newer media are not used either extensively or well to assist teaching any aspect of librarianship in either formal or informal instructional programs, and there is no evidence to suggest that there will be any changes in the near future. (p. 260)

In a study of 144 larger library units across the United States, representing approximately one and one-half percent of all public, academic and state libraries in the country, Goldstein found that 104 (or 75 percent) actually made no use of non-print materials in their training activities. As for library education agencies, the net yield of the author's survey impressions suggest considerable lack of interest among most faculty members, apart from showing general films on library services, introducing occasional slides, a few projectuals and recordings in materials courses, or making occasional use of an opaque projector to present materials used in the teaching of cataloging. (p. 262)

Hooper (1969) cites other barriers to fuller exploitation of media. He writes that fear of comprehensive change in education has caused programmed instruction, television, and other audiovisual techniques to play marginal roles. "It has led to innovation being pasted on the outside of an educational institution; when the grant money runs out, the innovation is carefully peeled off without damaging the structure and thrown away." (p. 261) He notes further that

comprehensive planning is impeded by budgeting procedures which make it difficult for many instructional operations to be judged or evaluated effectively. (p. 262)

Cohen and Brawer (1972) charge that

Part of the problem is that the media specialist (tapes in hand) and the instructor (clinging to his classroom full of students) are arguing at cross purposes. In their soi-disant capacity as "systems analysts," the media specialists speak of "feed-back loops," "control functions," and process constraints." To them instructors are part of the school environment, to be cajoled, coerced, or shunted aside.

But the instructors put themselves at the center of the enterprise, feeling genuinely that what the students need most is "contact with me." (p. 74)

Waddle (1967) also gave expression to the problem of factors in library useage. In theory the teaching faculty and the library staff work together in trying to meet the institutional objectives through the instructional program, but the library's portion of the task is essentially supportive of faculty decisions. "The scanty evidence available indicates that the faculty expectations of support and assistance are apt to be modest indeed." (p. 50)

The President's Commission on Instructional Technology (1970) in its report concluded that the impact of technology has been small compared with the magnitude of the educational system as a whole. Probably not more than five percent of the time in a given week involves media, or any instruction other than "the teacher, the blackboard or pictures, charts, and maps hung on the wall." For higher education estimates are no higher. "There are many observers who say that a closer estimate would be one percent. The low estimates attest the

fact that even schools that are well equipped with technological media may use them little if at all." (p. 65)

The Carnegie Commission was more optimistic. In their 1972 report The Fourth Revolution, the authors wrote:

Higher education (and education generally) now faces the first great technological revolution in five centuries in the potential impact of the new electronics. . . . By the year 2000 it now appears that a significant proportion of instruction in higher education on campus may be carried out through informational technology." (p. 1)

Implications of this new technology include the library becoming more the center for the storage and retrieval of information in whatever form. The report suggested that new libraries should be planned with the potential impact of technology in mind, and regarded libraries as "promising catalysts of continuing innovation and development in the use of technology by colleges and universities." (p. 51)

Library and Learning Resource Center Usage Studies

The pattern that emerges from the literature on student usage of the library and the LRC in the community college is clearer than that in most other related sectors, because much more research has been done in this area. Almost all of the studies were focused on the library. None could be found that dealt with the larger entity of the LRC, mostly because students tend to interact with the library more than with any other part of the LRC.

Studies by Long (1967), Lane (1966), Knapp (1958), the Kramers (1968), Hostrop (1968), Allen (1971), and others show that students use the library mostly as a study hall; most library book circulation is

course related and instructor mandated; female students use the library more than male students; library usage is positively correlated to college persistence; sophomores use the library more than freshmen; library users tend to earn higher grades than non-library users; a significant number of students never check out a book; a small number of courses account for a large percentage of the circulation; and students do not feel or express a need for better library or LRC orientation.

Long (1967) noted that "library literature indicates generally . . . little emphasis on the library by many instructors, and little use of the library by junior college students." (p. 3)

In assessing the undergraduate use of the library in four studies at the University of Delaware in 1962, Gorham Lane (1966) noted that

Although the University Library is regarded consensually as a potent educational force, its strength is more often than not described in terms of its physical facilities, the extent of its collections, or even its budget. (p. 277)

He ventures that these statistics do not provide a measure of the library's effectiveness as an instrument of education.

Such measures can be obtained only by assessing the extent to which students use the library and the extent to which such use relates to academic growth. These measures are not easy. They are time consuming and expensive, and they cannot be achieved with complete objectivity. (p. 277)

Knapp concluded, based not only on the objective evidence of her study at Knox College, but on her "several years of experience with college libraries, college curricula, and college facilities," that "to call the library the 'heart of the college' is to speak in hyperbole," and that there is "widespread lack of understanding, or at least

consensus, among faculty and staff about what a library can and should contribute to the college - indeed, about what a library is." (p. 93)

Guy Lyle, whose definitive work The Administration of the College Library has been used as a textbook through four editions and several decades by graduate library schools, writes that the study-hall library "flourishes today in more colleges than one cares to think about," and although one may view "the spectacle of students crowding the reading rooms of the library, the fact remains that most of them are there studying their own textbooks and appear to have no incentive to use the library except as a refuge for quiet study." (p. 145)

The literature supports the premise that students have little interest in better library or LRC orientation, and in fact "will openly resist voluntary participation in library orientation and instruction programs." (Paulson, 1968, p. 3) Even so, there is widespread agreement that:

The problem of overcoming educator apathy, of serving a diverse, rapidly growing student population with varied needs, of relying on library-centered instructors, and of instructing students not motivated for learning about the library, are all obstacles which must be overcome if junior colleges are going to educate self sufficient persons. (p. 4)

The Director of Learning Resources

The majority of community college LRC's are administered by professional librarians, and the largest percentage of LRC professional staff are also librarians. (Matthews, 1972) Even in those progressive community colleges where the transmutation of the library into the LRC has been administratively successful, the LRC is still thought of, and

even referred to by senior college administrators as "the Library," and its chief administrator as "the Librarian." The literature on LRC's and LRC directors clearly reflects this reality. Few studies exist which treat the Director of Learning Resources per se. Most deal with the "Librarian" or the "Library Director."

Much of the literature consists of criticism of and by librarians for what is seen as a lamentably epicene and timid image of professional reaction, and to what is perceived to be librarians' preoccupation with the contents and procedures of the library to the detriment of service. The charge is that method has triumphed over purpose.

Librarians who plan to be a part of the new communications era must escape their image as 'keepers of books,' and assume a new role as resource specialists in all information formats - - audiovisual, printed and computerized. The new breed of librarians must also be conversant with the theories of human learning and instructional programming if they are to become actively involved in the library concept wherein they must assume a tutorial role, rather than occupy the conventional mode as dispensers of information. (Quinly, 1967, p. 274)

Thomas Galvin (1975), Dean of the Graduate School of Library and Information Sciences at the University of Pittsburgh, wrote,

We define and describe the library in terms of its contents rather than its clientele . . . The fact is that most librarians have not felt the necessity to turn their libraries around to a client orientation because their jobs do not depend directly on their ability to demonstrate increasing success in meeting the information needs of their constituents. (p. 728)

Moore (1973), in his study of the library in the administrative and organizational structure of the public community college, examined the relationship between the "head librarian" and the college administration and faculty, and recommended that "studies be conducted to determine the qualifications needed by head librarians of public

community colleges." Other recommendations were that research be conducted to identify the administrative and faculty perceptions concerning the effectiveness of the "head librarian" in his assignment, and to determine his/her role in educational change. (Dissertation Abstracts, 1974, p. 4300-A)

Schultz (1965) shows that, compared to four year colleges and universities, the community college drew (at that time) a majority of its administrators and faculty from outside higher education, and that most of the remaining administrative officers and librarians were trained in colleges and universities. The perceptions of those with experience and training outside of higher education may differ from those similar officials with training and experience in higher education.

In her descriptive study designed to probe characteristics of directors of the Library/LRC's in 465 comprehensive public community colleges, Matthews (1972) found that: their modal age was 40-49; 62 percent were male; 66.6 percent had held previous positions as librarians, 7.9 percent as learning resource professionals, and 3.1 percent as media specialists; 29.5 percent had previous experience in the secondary school, 47.4 percent in higher education, and 20.9 percent had gained experience in other occupations; more than half (58.7 percent) of the respondents reported to the Dean of Instruction, 13.3 percent to the Vice President, and 11 percent directly to the President; 75 percent replied affirmatively that their library and audiovisual services were administered as an integrated unit; 95.5 percent indicated some degree of acceptance of the integrated media concept, with 66.6 percent agreeing strongly; 84.6 percent reported library science as the area of graduate specialization;

57.9 percent had formal study in media techniques; only 14.5 percent had planned to seek employment in junior or community colleges before taking their professional training; few had studied in programs designed specifically for the preparation of personnel for the Learning Resource Center.

The question of the status and role of the Director of Learning Resources may not be as problematic in Virginia community colleges as it apparently is elsewhere. In September of 1973, at a series of regional meetings for the purpose of identifying the concerns of middle-echelon college administrative personnel, the Virginia Department of Community Colleges surveyed 128 Division Chairmen, Coordinators of Counseling, Directors of Continuing Education, Directors of Learning Resources, and other "first line supervisors." (Concerns, 1973) Seventy-two percent of the respondents indicated some degree of satisfaction with the present role, status and responsibilities of the Director of Learning Resources, while 28 percent reported that they were dissatisfied or very dissatisfied with this element. Unfortunately the survey did not show what profile the Director actually displayed at the individual institutions - whether that of a traditional library administrator, a learning specialist, a teacher, or a resource coordinator, and whether the satisfaction/dissatisfaction index related to the real role, or to the difference between the real and the ideal. The questionnaire aggregated all respondents rather than differentiating the responses of the Division Chairmen from the Directors of Learning Resources. One complaint expressed was that "there was no person on the state level to go to who is expert in the area of learning resources." (Concerns, p. 54)

Sizemore (1973), in his study of the role of the librarian in the public two-year colleges in Georgia, found significant difference in perception of the administrative function of the "library director" between administrators, librarians and faculty, with the latter two groups believing that the librarian should assume a stronger administrative role. Sizemore's findings indicated that inadequate communication contributes significantly to disagreements as to the role of the librarian. For example, administrators and faculty do not see the director communicating adequately the library's services and needs to the college community, and further suggest that the director should more actively publicize information about the college program back to the library staff.

There are many who feel that academic library experience and/or library professional degrees are inappropriate preparation for the position of LRC director. Meyers (1971) concludes that "unqualified individuals are often put into LRC leadership positions." (p. 9) He advises that the director should be a generalist with teaching and systems background instead of a librarian, or even an audiovisual specialist. (p. 178) The recently superceded Standards for School Library Programs called for the director of the LRC to have competencies in both the library and audiovisual areas as well as knowledge in learning theory and communications development. (p. 10)

Virginia Community College
Learning Resource Research

In 1965 Errett W. McDiarmid, Professor of Library Science at the University of Minnesota, was engaged by the Virginia State Council of

Higher Education to accomplish a study of the libraries of all institutions of higher education in the state, both public and private. The data were collected by means of a questionnaire which focused on such quantitative information as book collection size, budgets, staffing and facilities. Analysis was reinforced by one-day visits to most of the college and university libraries, including three state-supported two-year colleges.

The study criticized the two-year college libraries as they then existed as "very weak." Not one of the state controlled two-year college libraries met the minimum standards for library staff suggested by the 1960 Standards. (McDiarmid, p. 83) There were a total of only five and one-half (full time equivalent) professionally trained librarians in all the public two-year colleges, when there should have been twenty-two. Six libraries had no professionally qualified librarian on the staff. Regarding learning materials, McDiarmid observed:

It is inconceivable that Clifton Forge-Covington Community College, Wytheville Community College, Roanoke Technical Institute, and Danville Community College can even begin to offer reasonable library service with their limited collections. The collection at Roanoke Technical Institute, from a casual survey of the shelves is almost completely void of anything except a beginning collection of technical books. For courses in humanities and social sciences the library is pitifully weak. Periodical holdings in the state controlled two-year colleges are likewise very minimal.

The data and conclusions of the McDiarmid study provided valuable input to that part of the planning process preceeding the establishment of the Virginia Community College System, which dealt with the role and structure of the library and/or learning resource program.

In response to the expressed concern of the Chancellor of the Virginia Community College System for accountability of expenditures

for learning resource programs, an ad hoc committee of three Directors of Learning Resources from the colleges of the system was appointed in 1975 to study the thirty-two LRC units in the twenty-three colleges. Among their findings were the following items relative to evaluation of learning resource programs. (Report of the Ad Hoc Committee Studying Learning Resource Centers, 1975)

1. Much data were unreliable because of misinterpretation, irrelevant data, lack of system-wide guidelines, estimated figures, physical arrangements, and philosophies of use.

2. LRC's are definitely being used, and at a faster-growing rate than student body growth. During the 1974-75 academic year for each student, 9.86 books were checked out, as were 1.3 periodicals, and 4.42 non-print items; 1.13 audio and 3.82 visual items were produced; 8.7 people visited the learning laboratories, and 2.37 tests were administered.

3. Of the twenty-seven LRC units whose administrators responded, 80 percent agreed that LRC's complimented classroom instruction in ways too varied to be meaningfully listed; 92 percent agreed that the use of many LRC materials is unrecordable; 88 percent agreed that ready reference and research assistance are largely unrecorded; 100 percent agreed that LRC's need to be evaluated by users periodically; 82 percent agreed that statistics cannot indicate all the ways that LRC's serve their users; 61 percent agreed there is a need for state guidelines, policies and procedures; 57 percent agreed that the purpose of LRC's is not generally known.

There was strong feeling that LRC personnel should establish standardized policies and procedures, insofar as practical; that the concept and functions of an LRC should be communicated to the community, the college, and the VCCS itself; that regional accreditation standards be revised for the 1970's; that there be professional development for all staff members; and that effectiveness be measured against goals and objectives established by each LRC, rather than the statistical collection of data. (Report . . . , 23)

Other Learning Resource
Center Studies

Gehring (1974) surveyed the state-of-the-art of learning resource programs in 113 selected community colleges in the mid-Atlantic states, investigating the degree of application of instructional technology. He too noted that "although the literature review revealed many references to these trends, there is a void of reported research and investigation of such applications." Conclusions drawn from the data indicated that:

1. the majority of LRC personnel accept and are highly receptive to the application of instructional technology, and most are seeking ways to apply the process-based system;
2. the individual programs throughout the region have had limited exposure, and it would be mutually beneficial to have more active association - both regional and statewide - to share the collective knowledge;
3. mid-Atlantic LRC's are concerned and are taking an initiative to provide the widest possible range in the mediated instructional formats available, supported mainly by locally produced software;
4. the LRC's are well on their way towards providing a viable, learner centered academic instructional environment, especially suited to the needs and objectives of the two-year college student.

Berning (1974) examined the learning resource programs of twelve of the fourteen public community colleges of Colorado in the light of the Guidelines, querying the individual directors. Results of his

survey indicated that although the respondents subscribe to the integrated learning resource concept, some have not yet been able to implement it as a practical working unit. One of his recommendations was centralized guidance on the state level. (Dissertation Abstracts, p. 3022A)

Standards and Guidelines

In the late 1920's librarians in many small colleges and junior colleges desperately needed and were seeking a clear goal of excellence, stated in explicitly quantitative terms toward which their institutions could strive, and which could be used in seeking administrative support in that endeavor. "Until 1929 the statement of what a college library ideally should be had to be sought in the writings of leading academic librarians." (Brown, 1972, p. 204) Writing in 1929, William Warner Bishop charged, "It is not too much to say that at present the junior college libraries as a group fall far short of efficiency, either in service or in books. This deficiency is one of the most serious counts against the junior college as it now exists." (p. 6)

Eels (1931) listed eighteen accrediting associations and universities which, theoretically at least, set forth standards for the junior college library. These standards included such vague generalities as "subject to inspection" (American Council on Education, 1924), and "adequate" (University of Missouri, 1920's), "5000 volumes, and periodicals and public documents. \$600 annually for new books." (University of Illinois, 1920's) (Eels, p. 180-181)

The earliest quantitative proposals relative to two-year college libraries came in the late 1920's from the American Council on Higher

Education (suggesting 8,000 volumes) and the American Association of Junior Colleges (3,500 volumes). Both statements were based on the implied assumption that the junior college would be a "small rather limited institution with an extremely limited curriculum." (Eels, 1931, p. 446)

The College and Reference Section Yearbook for 1930, published by the College and Reference Section of the American Library Association presented a summary of "Suggestions for Minimum College Library Standards." Junior college libraries were not specifically mentioned because it was assumed that these libraries were to be included as "college libraries."

Recognizing the need to remedy the situation, the Junior College Roundtable, predecessor of the Junior College Libraries Section of the American Library Association, published in 1932 the first professional statement of quantitative standards. They recommended a minimum collection of 10,000 volumes for a junior college of up to 500 students, 15,000 volumes for up to 1,000 students, and 20,000 volumes for more than 1,000 students. Two professional librarians were recommended but no mention was made of clerical or other supportive staff. The effect of the statement on junior colleges was negligible, but for the next two decades it was all that was available to junior college librarians, along with the standards for four-year college libraries, to evaluate their services. (Wallace, 1972, p. 222)

An ad hoc committee of the Junior College Libraries of ALA began for the first time in 1953 to develop a statement of evaluative standards for junior college libraries, based on the quantitative standards

of California and other progressive states. Revised several times, this document was finally published in 1960 as Standards for Junior College Libraries hereinafter referred to as the Standards.

The Standards became the national definition of library service for the two-year college, calling for: a minimum of 20,000 volumes with an additional 5,000 volumes for each additional 500 students; a minimum of 5 percent of the total educational and general budget for library services for a well established library, more for newly established institutions and/or libraries with audiovisual responsibilities; at least two professional librarians for effective service in any junior college with an enrollment of up to 500 students, and in addition, at least one nonprofessional staff member.

The writers of the Standards even then recognized the problems inherent in the important differences between the quantitative and the qualitative characteristics of a junior college library in evaluating its services. Section VII, entitled "The Quality of the Service and its Evaluation," acknowledges the difficulty, but goes on to encourage librarians and college administrators not to avoid it, but to continue to seek ways to better assess the library's effectiveness in supporting the college curriculum:

Because there are so many intangible factors involved, one of the most difficult tasks of librarianship is to determine the quality of library service. But the inherent difficulties in no way minimize the importance of attempting to discover the extent to which a given library is serving its clientele.

Statistical records maintained by the circulation department constitute one major source of information which may be useful in an evaluation of service. . . . However, one should always be aware of the shortcomings and potential dangers of such statistical studies, and exercise proper precautions. . . . It may also be

advisable for the teaching faculty and the library staff to undertake joint studies of the library's programs and resources.

The Standards were the cause of controversy from the time they were published. They "perplexed many junior college presidents and deans, disturbed and challenged librarians who had accepted the status quo in their own isolated institutions, and confused accrediting associations, where all standards were interpreted as minimal." (Wallace, 1973, p. 223) Objections were that ALA was presumptuous in issuing standards for junior college libraries without consulting junior college administrators or the American Association of Junior Colleges. Secondly, because administrators were compelled to meet the requirements of regional accrediting associations, many felt that the accrediting standards were the only valid and acceptable criteria for evaluation of a junior college library. Minimums in books and personnel considerably exceeded the realities of most junior colleges in 1960.

B. Lamar Johnson, well known both as a librarian and as an administrator wrote:

Because of the qualitative and subjective nature of most of the criteria included in the Standards . . . difficulties will inevitably be encountered in applying the criteria to specific libraries. Conclusions regarding the quality of the book collection and of its relevance to the educational program of a particular college, must for example largely be based on subjective judgement. Likewise, standards for evaluating the effectiveness of library service are not objectively defined. (Johnson, 1961, p. 159)

Finally, many disapproved of the Standards because they felt that the criteria were unrealistically high for the small, private college, and that the cost of meeting them would be prohibitive.

Tanis (1965) warned that the Standards were being applied by some accrediting agencies routinely, without modification, to all types of two-year colleges in all sorts of situations. "Newly established schools, small schools, and large institutions are being forced into the same Procrustean Bed. . . . The standards cannot be applied usefully by a team of accreditation specialists who spend a few days on a campus assessing dozens of instructional programs just as complicated as or more complicated than the library. It just cannot be done." (p. 97)

However, as Wallace observes, positive outcomes resulted from the Standards, which contributed to library development and evaluation in two-year colleges. Communications developed between ALA and the American Association of Junior Colleges (AAJC), which led to consultation and coordination on other concerns of mutual interest to the two organizations. Secondly, the 20,000 volume recommendation did exert pressures which resulted in larger and more adequate library collections. Comparison of collection sizes reported in the 22nd (1960) and the 27th (1970-71) editions of the American Library Directory show a significant increase in the number of junior college libraries which reported collections of over 20,000 volumes. Thirdly, the U.S. Office of Education indirectly validated the collection norm by using it to evaluate collection deficiencies in considering applications for supplementary grants under Title IIA of the Higher Education Act of 1965. And, finally, the Standards provided an administrative and philosophical model for the organization and service orientation of the many new junior and community colleges being established across the country. Comparisons between the

23rd (1962) and the 28th (1972) editions of the American Library Directory show that the number of two-year college libraries reporting increased from 645 to 1,056, a total of 411 more libraries, up 63 percent.

The 1960 Standards have been used extensively for self-evaluation, for budget and institutional planning, and for guidance of administrative officers and librarians in understanding the purposes and role of services in meeting institutional instructional objectives.

However, rapid, almost revolutionary technological, economic, social, and educational changes were occurring in the 1960's which made the Standards increasingly obsolete. The pioneer document was not designed to cope with such trends and developments as the improving administrative status of librarians, some of whom were now recognized as Deans of Library Service or Directors of Learning Resources; the growing acceptance of merged library, audiovisual and other services into Learning Resource Centers; the impact of multi-campus community college districts; instructional experimentation with individualized learning techniques; the use of closed circuit television and computers in the curriculum; development of state systems of community colleges; and the open-door community college concept. "Before the end of the decade it was clear that new directions had to be found." (Wallace, p. 226)

In 1972 a joint ad hoc committee of ALA, AAJC, and AECT (the American Association for Educational Communications and Technology) presented the newest professional statement of paradigmatic practice. The Guidelines for Two-Year College Learning Resources Programs are a sharp departure from the 1960 Standards in many crucial ways: emphasis upon administrative unification of print and audiovisual services into

the LRC; provision of a fuller range of audiovisual responsibilities including graphics production, television, campus distribution services, as well as a variety of learning facilities away from a central facility; a program rather than a geographical view of learning resources; recognition of learning resource activities as integral to the instructional process, from instructional development, and acquisition and production of materials, to the provision of services to individuals and to the classroom; and encouragement toward expansion of library services acquisition, organization, distribution, and utilization of the newer media under the centralized responsibility of a chief administrator with the stature of a dean or vice-president "selected on the basis of acquired competencies which relate to the purposes of the program, educational achievement, administrative ability, community and scholarly interests, professional activities, and service orientation." (Guidelines, Section IIA) Discrete quantitative figures are totally excluded from the document.

In November of 1975 ALA again appointed a committee to develop quantitative standards to go with the Guidelines, "to provide a means for assessing a learning resources program." (New Quantitative Standards, p. 2088)

Evaluation of the Learning Resource Center

Any program of education must submit itself to evaluation. Evaluation will need to consist of a variety of data upon which reasoning decisions can be made. To identify the strengths and weaknesses of the program, clearly defined objectives are essential. (Lowrey, 1971, p. 516)

The use and services of the community college learning resource program are extremely difficult to assess, and in fact there are no completely accurate and satisfactory measures. "Quantitative measures are crude and incomplete, qualitative efforts open to many questions, and some aspects of library service have not lent themselves to a determination at all." (Waddle, 1967, p. 250)

The literature suggests that over the past forty-five years there has been a continuous effort by a variety of groups and individuals to measure the quality of service of the community and junior college library. Wolf (1971) noted that

The emphasis on status studies has reflected a continuing need within the field for basic data . . . that could be used for the extraction of norms, for the basis by which standards could be developed and eventually for the evaluation that might be accomplished. Today several progressive states with large community college systems are developing systems of information retrieval for library data, and the U.S. Office of Education has a fully working annual system for the acquisition of library data on community colleges. These various systems of collection of library data are still in their infancy, and there is an obvious void in the effective utilization of such data. (p. 66)

Patillo (1956) lamented that "The library is one of the most difficult phases of an institution to evaluate adequately. There seem to be serious problems in almost every method of appraising the effectiveness of a college library." (p. 397) Rothstein (1964), after an extensive survey of efforts to develop adequate measures for library reference services, wrote, "All in all, the evaluation of reference service thus far can best be depicted as a closed circuit of futility." (p. 461)

The literature is replete with articles with titles such as "Measurement of Library Service," "Evaluation and Measurement,"

"Evaluation of Library Service," and the like. However, few if any authors fulfill the promise implied in the titles. Such articles usually deal with book collections and their use, and exhort practitioners of library and information services to "strive for effectiveness," or to use quantitative measurement techniques which have already proven unsatisfactory.

Six measurable characteristics appear consistently throughout the literature, along with the underlying assumption that there is a relationship between the quantified measures and the service profile of the library:

1. Basic collection, periodical and reference materials
2. Professional, technical, and supportive staff
3. Facilities and space for faculty and students
4. Financial resources and support
5. Utilization by students and faculty
6. Expenditures (Wolf, 1971, p. 68)

There are no known studies which combine reliable factual data with evaluative criteria which have been agreed upon by faculty, administrators, and professional librarians.

The growing concern in the library profession toward changing its focus from book orientation to user and service orientation is causing somewhat less emphasis to be placed on traditional forms of effectiveness measures, like circulation statistics and book collection size. Mohamed (1976) used the Hillman Library, University of Pittsburg, to develop and test a model for the quantitative measurement of academic library effectiveness by the application of user-oriented behavioristic criteria. Three of these criteria were used to obtain effectiveness measures: Service Perception Factors, Need Satisfying

Capability, and Behavior Determining Capability. Mohamed found that the various user groups were not homogeneous with respect to their perception of services, need satisfying capability and the behavior patterns followed in the process of achieving need satisfaction in the library. Similarly it was found that the librarians could not always correctly estimate the service requirements of patrons or determine the expected behavior patterns of users in order to determine their need satisfying capability in the library. (Dissertation Abstracts, March, 1977, p. 5481A)

In a study funded by the U.S. Department of Health, Education and Welfare for the purpose of developing a self-evaluation instrument for appraising educational media programs of both schools and colleges (Fulton, 1966), a panel of prominent educational media experts identified six elements as being essential to an adequate educational media program:

1. Administrative commitment to an institution-wide educational media program.
2. Educational media as an integral part of curriculum and instruction.
3. An educational media center
4. Adequate physical facilities for the use of educational media.
5. An adequate budget for the educational media program
6. An adequate educational media staff

One important illustration of the abuse of measurement in libraries today is the over-reliance on circulation as a prime indicator of performance.

Numbers or statistics are too often treated as having an intrinsic scientific value so powerful that using them becomes an end in itself. This mystique of quantity is often an exaggerated regard for the significance of measurement, just because it's quantitative, without regard for what is being measured, or what can substantially be done with the measure. Traditional library statistics are a prime example. Although the profession began collecting them as far back as 1876, the statistical reports have never progressed beyond describing totals in each category. There has been no attempt to analyze what the reported quantities mean or how they relate to each other. (De Prospero and Altman, 1973, p. 3606)

De Prospero and Altman have developed and tested a method of measuring library usage which is statistically sound, yet usable by staff members who do not have a sophisticated knowledge of complex sampling and probability theory. Based on techniques used in business and industry for many years, the method views the learning resource materials collection as an inventory problem in a warehouse with a large volume of stock that is continually turning over in response to the classical market laws of supply and demand. A complete description of their sampling procedures is given in their book. (De Prospero and Altman, 1973)

Young (1975) investigated approaches to evaluating library service in a community college library, hoping to discover a predictable relationship between selected management data inputs, and effective library service as output. She determined that management data alone do not predict and should not be the sole means of evaluating service. Dissertation Abstracts, 1975, p. 1148-A)

Erickson (1968) worked out five levels of evaluation for the school Instructional Materials Center:

Level 1. Annual service evaluation by the director by analysis of record keeping data, summarized in an annual report.

Level 2. In addition to the service evaluation in the annual report, a self evaluation using one of the available self-evaluation check lists.

Level 3. Level 1, plus level 2, plus solicitation of school wide feedback in the form of a teacher questionnaire designed to invite assessment of staff, plant, materials, equipment and service.

Level 4. Evaluation by an invited evaluation team or consultant against standards and/or guidelines.

Level 5. All of the previously mentioned levels, plus a complete in-depth assessment of the total program in the light of the specific objectives and profile of the institution, by a team of evaluators who study all available comprehensive checklists, surveying the faculty and students as well, and interviewing selected people from all clientele groups. (p. 601-602)

Although the problem of developing standards and using them as minimum evaluative criteria or goals to be attained has never been completely resolved, nevertheless "standards, whether they are implemented or not, serve to focus attention on evaluation and its aspects." (Wolf, 1971, p. 60, and p. 67)

Lombardi (1965) suggests that there are actually three sets of standards in use: one by the national professional associations, one by the regional accrediting agency, and, perhaps most potent, "de facto" standards, which are applied by local learning resource personnel and administrators. De facto standards are established as a result of observations of and checks on service patterns and routines such as analysis of books used and circulation, student use of reference works or periodicals, the number of faculty who recommend the purchase or discard of learning materials, or who develop instructional modules.

Other inputs to the gradual development of de facto standards are staff visits to other colleges to compare procedures, and the criticisms of students and faculty, which produce adjustments in service. (p. 104)

Harriet Genung (1965), observing that there has been much confusion in the interpretation of criteria, suggested that a dichotomy of criteria types should be recognized: "There are 'working criteria' which librarians and deans of instruction alike need in order to achieve quality of service; and there are the evaluative criteria which the president of the college and the accrediting commission need. The two sets should be compatible, even though they are separate." (p. 58) Genung disagrees with those who believe that quantification should be avoided in applying criteria, pointing out that such discrete values as the budget for library service, faculty teaching loads, the number of students and faculty that one librarian can assist, how many technicians are needed to assist a professional librarian or audiovisual specialist, all must be quantified specifically.

An area of great concern in the profession, about which much has been written, is the size and quality of the academic library book collection as a measure of excellence. Clapp and Jordan (1965) presented a suggested formula for "liminal" collection size, which included such factors as a base number of books, plus numbers for students, faculty and curriculum subject fields. The Clapp-Jordan formula rapidly became the gauge for measuring book collections throughout the nation for academic libraries mostly because it was

the first such "standard" available. It was and is still used in Virginia in preparing academic library budgets for submission to the Department of Community Colleges, and to the State Council of Higher Education. Serious questions have been raised in Virginia, as elsewhere, regarding the applicability of the formula for the two-year college.

Clapp and Jordan warned against relying too heavily on quantitative approaches (p. 373), and pointed out that one of the criticisms against the 1960 Standards was that the suggested quantitative criteria contained therein were not:

. . . convincing in the sense that they rest on demonstrations of actual numbers of books required for specific educational purposes. Instead the suggested figures admittedly reflect the accidentals of library statistics (without indication of how this reflection is effected) or agreement among librarians consulted. (p. 372)

They cautioned that their formula:

presumes that even liminal or minimum accuracy can be achieved with its assistance only if all material is carefully chosen with a view to the purpose to be served, and the weeding program is as active and realistic in relation to needs as is the program of acquisition. (p. 373)

Years later in 1974, Jordan, in a letter to a colleague, made the point that:

The formula approach works best with large complex institutions, where there are a plethora of pluses and minuses that can average themselves out. In retrospect I can see that we should have warned against the abuse of a formula approach in dealing with small institutions . . . , with a limited range of subjects and a rich and pervasive use of learning resources.

. . . at the time we wrote our article, we were all too conscious of the many factors that we had not identified. We felt that our work was merely a take-off point in a brand new area that had heretofore been so totally neglected. It was intended as a think piece, not as a standard to be blindly

followed. We had hoped to develop appreciation of the factors involved in and relevant to academic library material budgets, and to raise the level of sophistication from the heretofore incredibly crude comparison based on raw volume count, which had been so badly subject to abuse

The most common self-evaluation impetus is that which is adjunctive to the accreditation process, which commonly requires a searching self-analysis of the library/LRC every five or ten years along with all other activities of the college. Accreditation acts as a unifying force among learning resource staff, faculty, and administration, who accept self-study because it is "part of the educational mores of higher education, and because it is conducted by an agency not under the control of the administration and the board of trustees."

(Lombardi, 1965, p. 101)

Lombardi offers the following arguments in support of accreditation:

1. It provides (at least in California) for a self study at least once in every five years.
2. It provides a parallel study by an outside group.
3. It provides opportunity for formal exchange of ideas between staff and evaluators.
4. It requires response to suggestions and recommendations of the accrediting group.
5. It preserves the library from undue restrictive practices when financial resources are low.
6. It forces librarians and administrators to accept or to establish standards for financing, acquisition, services to students, and staff, facilities, etc.
7. It reinforces the principle that libraries should be staffed and managed by professionally trained librarians.

8. It helps the librarian to withstand unwarranted censorship by community pressure groups. (Lombardi, 1965, p. 106)

Accreditation often acts as a catalyst to speed up a college's development by offering a view of itself through the eyes of interested, informed colleagues, against a wide background of experience, heightened by the immediacy of personal contact. This is true of the college as well as the library. The accreditation process adds thrust to the diffusion of innovation through the cross-fertilization of instructional improvements throughout higher education.

The Manual for the Institutional Self Study Program of the Commission on Colleges of the Southern Association of Colleges and Schools, treats libraries in section VI, which addresses on a page and a half the six categories of administration, collection, services, facilities, budget, and projections. Guidance is vague, and the question format is employed, as in the following example:

3. Services

What is the faculty and student evaluation of the services rendered by the library? Are those services sufficiently devoted to the support of education? How many hours each day and per week is the library open for services?

List and evaluate all responsibilities of the library beyond the receiving and distributing of books and periodicals, such as the audiovisual program or library orientation. Are they being administered as part of the academic program?

The thrust of the self study is toward the library's degree of approximation to its traditional role in the four year college and university. There is little to guide the Director of an active, integrated, systems based learning resource program in meeting institutional objectives.

Summary of Chapter II

The literature relating to the community college library is large, but less is written on the narrower and newer concept of the integrated learning resource program as a function of instruction. Although much is said about the importance of learning resources by parochial commentators, major writers in the field of community college instruction and administration have ignored this sector almost entirely in their works. The researcher interested in the learning resource program must search in two separate areas: library literature, and that of instructional technology and media use. There is little overlap between the two.

Writings are predominantly periodical articles which exhort, admonish, or describe local philosophy and practice. Few dissertations exist which deal with evaluation of the learning resource program as a whole, but a few are available which examine administrative aspects of the junior and community college library, particularly the librarian's status and role perception, and student usage. Areas of major focus are: the adequacy of standards and guidelines; the role of the LRC in the instructional program; funding formulas for book collection development; systems application in the LRC; student and faculty usage patterns; faculty resistance to instructional technology; individualized, media-based instructional practices; qualifications of the LRC director; and problems in evaluation of services.

Some view the LRC concept with enthusiasm, and others see it as little more than an expanded library with additional audiovisual

responsibilities, administered by librarians who agree that the LRC should have a broader role in instruction, but have not been very successful in bringing this about in their own institutions.

Faculty course requirements determine LRC, particularly library, usage. The lecture method of instruction still predominates in most institutions. Few courses and fewer programs have been individualized for students. Students use the LRC as a library study-hall, check out no more books than they have to by course necessity, and do not use audiovisual and production facilities to any great degree.

Because of all the above variables, evaluation of the LRC effectiveness is difficult. Standards and guidelines have evolved over the past fifty years for the purpose of evaluating the library, and more lately the LRC, but many agree on their inadequacy. There is consensus that better evaluation methods, more related to assessment of instructional objectives are needed. Meantime, program evaluation still consists mainly in applying quantitative measurement criteria such as book collection size, number of professional staff, budget data, and circulation of materials. No research was found that attempted to find correlations between these quantitative variables and faculty evaluation as a qualitative variable.

Chapter 3

RESEARCH DESIGN, METHODS AND PROCEDURES

In Chapters 1 and 2 the problems inherent in the evaluation of community college learning resource programs were discussed, a general overview of related literature was presented, and the conceptual framework that underlies evaluation rationale was examined. In this chapter the structure and sequence of the research design will be described.

RESEARCH DESIGN

The basic research design consists of: (1) using an appropriate survey questionnaire to develop client qualitative rating scores of learning resource programs and ranking them by college; (2) compiling selected program quantitative measures, and also ranking them by college; and (3) seeking relationships in the form of Spearman rank order (R) correlation coefficients between the ranked rating scores as the dependent variables, and the corresponding ranked quantitative measures as the independent variables.¹

I. Sample Groups

A. Faculty: A random sample of 40 percent of the teaching faculty, but no fewer than twelve individual instructors, was selected

¹Note: Pearson (r) correlation coefficients were calculated on the data as a secondary analysis. The results are found in Appendix W.

from each of the eighteen single-campus community colleges in the Virginia system. The source was the 1975/76 catalog from each college. The sample totaled 383 of the 957 faculty members who taught in these colleges during the 1975/76 academic year, the last year for which complete quantitative data were available. The 1976/77 catalog for each college was cross-checked to be sure that all selectees were still teaching at their respective institutions. On January 5, 1977, each faculty member was sent a three page questionnaire (See Appendix F), a self-addressed, stamped envelope, and an explanatory cover letter (See Appendix E) which included a requested return date of February 1, 1977.

The sample as selected included vocational-technical faculty as well as instructors of college parallel courses (See Table 4, page 76). A follow-up letter was sent to non-responding faculty on February 23, 1977. April 1 was established as the cut-off date beyond which late returns could not be included.

B. Students: Program evaluation by students was accomplished by sending to the senior learning resource administrator at each college enough student questionnaires for approximately 4 percent of the enrolled headcount students, requesting him/her to have students complete the survey instrument during a selected day of expected heavy student use. Questionnaires were administered at different times during the day, including evening hours, so as to avoid a preponderance of morning, afternoon or evening users. When all questionnaires were completed the packets were returned to the researcher for scoring and analysis. The number of students in the sample ranged from fifteen

at the smallest colleges to 176 at the largest, for a total original sample size of 1,385 students. The administrators at one community college declined to participate in the study, and questionnaires from another institution were too few and too late to include, so the number of participating colleges was reduced to sixteen for the student analysis portion of the research, and the sample size to 1,097.

The student questionnaire (See Appendix H) was designed to assure that only students who had been registered at their respective colleges for at least one year were respondents, again, like the faculty group, to maintain consistency with available quantitative data.

C. Directors of Learning Resources: The Director of Learning Resources, or comparable Library administrator at each of the eighteen colleges was sent a survey form (See Appendix J) designed to gather and/or verify the data to establish quantitative measures for each program (See Appendix C, and Table 10, page 84), along with a cover letter (See Appendix I), a packet of student questionnaires, and instructions as to procedure, reduced in size and printed on both sides of a single sheet of paper.

II Evaluation Instrument (See Appendices F and H)

To assure appropriateness and validity the forced-rating questions used in the survey instrument were selected or adapted from the nationally used Evaluative Criteria (4th edition, 1969), Section 6, "Educational Media Services -- Library and Audiovisual," published by the National Study of Secondary School Evaluation. To facilitate

computer analysis and scoring the faculty and student versions of the instrument were almost identical except for items specifically worded for each client group. All four pages of each questionnaire version were reduced in size and printed on both sides of a single sheet of paper for ease of scoring, handling, mailing and analysis.

The questionnaire was field tested during the 1976 summer academic session on all faculty members (N = 36 returns) teaching at Radford College, Radford, Virginia, and also on all faculty members (N = 11 returns) teaching and all students (N = 43 returns) who entered the Learning Resource Center on a selected day at Harford Community College, Churchville, Maryland.

Each of the questionnaire versions consisted of (1) a group of general questions designed to elicit usage patterns and user characteristics, and (2) six groups of five forced-choice questions, each group related to a single quantitative measure, plus an additional overall evaluation question, for a total of thirty-one forced-choice questions. The seven stem choices for each question, and the numerical values assigned to them were:

<u>Response</u>	<u>Numerical Value</u>
0. Unknown	0
1. Very poor or missing	1
2. Poor	2
3. Fair	3
4. Good	4
5. Very Good	5
6. Excellent	6

IV Statistical Procedures

A. Quantitative Evaluation Measures: QN1 through QN6: Six quantitative measures, often reported for descriptive and comparative purposes by academic library and learning resource administrators, were selected for analysis of rank order relationships with corresponding qualitative category scores from the returned questionnaires from each client group. These measures were provided by the Library/LRC Directors at each institution, from the published budget of the Commonwealth of Virginia, and from the State Council of Higher Education for Virginia.

These six quantitative measures, stated per headcount student, were: learning resource program expenditures (designated for data presentation and for computer programming purposes as (QN1); book titles (QN2); audiovisual items (QN3); circulation (QN4); space (QN5); and staff (QN6) for each college. When these data were arranged in rank order by college for each quantitative measure they were termed variables RQN1 through RQN6 (See Definitions, Appendix A).

B. Qualitative Evaluation Measures: Category Score Computation: This score is derived from the numerical value of the responses to five questions in a selected area of learning resource services or factors, by the faculty or student respondents at a given college. The category score is a ratio of the actual stem choice numerical yield to the possible stem choice numerical yield (excluding responses marked "0" -- Unknown) of all the responses from one of the two client groups to the five questions in that category at a given college.

Example: Questionnaires were returned by twelve faculty members from Blue Ridge Community College (BR). Questions one through five on the questionnaire related to the adequacy of the financial support of the learning resource program at their college. The responses to these five questions extracted from the questionnaires returned by the twelve faculty respondents appeared as follows:

Table 1

Sample Faculty Questionnaire Results Showing Stem Choices Circled for Questions 1 - 5 (Blue Ridge Community College)

Faculty Questionnaire Category	Individual Faculty Members (N = 12)												Totals	
	A	B	C	D	E	F	G	H	I	J	K	L		
	Question		Stem Choices Marked											
Category 1 (FY1)	1	2	3	2	1	3	5	4	1	2	1	6	3	33
FINANCIAL SUPPORT	2	2	3	3	1	4	3	4	1	2	1	5	2	31
(Questions 1 - 5)	3	1	5	3	0	1	4	4	1	2	4	5	0	30
	4	3	5	0	0	3	4	0	3	4	1	5	3	31
	5	2	4	4	0	3	4	0	2	5	3	4	4	35
														= 160
														Total possible score: 360
														Number of times "0" was marked: 7

A score was derived from the above data using the following

formula:

$$FY1 = \frac{a}{(b \times c \times d) - (e \times d)}$$

When FY1 = Faculty Category 1 (Five questions on Financial Support) score for the college.

- a = The sum of the numerical values of all the responses in the five question category from all the faculty respondents at the college, or 160 from Blue Ridge (BR).
- b = Total number of faculty respondents from the college, or 12.
- c = Number of questions in the category, or 5.
- d = Highest possible stem choice value, or 6.
- e = Total number of times stem choice "0" was marked in this five question group by all respondents, or 7.

Therefore the faculty score for Category 1, FINANCIAL SUPPORT (FY1) for Blue Ridge Community College was calculated as follows:

$$FY1 = \frac{160}{(12 \times 5 \times 6) - (7 \times 6)} = .5301$$

A similar score was computed for each of the other seventeen colleges for the first five questions on the returned faculty questionnaires, and these scores were arranged in rank order by the computer. The rank order variable of college scores in this category was designated in presentation and in computer programming as RFY1, or the rank order of faculty Category 1 scores from the eighteen colleges. The corresponding quantitative measures of each of the eighteen programs were designated as QN1, and when arranged in rank order were designated as RQN1, or the rank order of funds spent per headcount student by the colleges on their respective learning resource programs. Scores were developed from the student questionnaires in the same manner as those of the faculty, and designated as ST1, with their rank order variable indicated as RST1 (See Definitions, Appendix A).

The six quantitative measures and their corresponding questionnaire categories described in A and B above are presented more specifically in Table 2, following:

Table 2

Quantitative Measures and Corresponding Qualitative Measures

Quantitative Measures *		Corresponding Qualitative Measures From the Student and Faculty Evaluation Questionnaires **	
<u>Designation</u>	<u>Measure</u>	<u>Designation</u>	<u>Category Score</u>
QN1:	Funds spent on the learning resource program per headcount student.	FY1/ST1:	Faculty or student scores in Category 1: FINANCIAL SUPPORT (Questions 1 - 5)
QN2:	Number of titles in the book collection per headcount student	FY2/ST2:	Faculty or student scores in Category 2: BOOK COLLECTION (Questions 6 - 10)
QN3:	Number of items in the media collection per headcount student.	FY3/ST3:	Faculty or student scores on Category 3: AUDIOVISUAL SERVICES (Questions 11 - 15)
QN4:	Number of items circulated during the 1975/76 academic year per headcount student.	FY4/ST4:	Faculty or student scores in Category 4: READERS SERVICES (Questions 16 - 20)
QN5:	Number of square feet in the Library/LRC complex per headcount student.	FY5/ST5:	Faculty or student scores in Category 5: SPACE AVAILABILITY (Questions 21 - 25)
QN6:	Number of Library/LRC staff members per headcount student.	FY6/ST6:	Faculty or student scores in Category 6: STAFFING PROFILE (Questions 26 - 30)

* See Table 8 on page 82 for measure values by college.

** See Table 9, page 83 and Table 10, page 84 for measure values by college.

C. Null Hypotheses

In order to seek answers to the basic questions underlying this research topic, the following null hypotheses were generated:

H₀1: There is no significant ($P < .05$) rank order correlation between the faculty evaluation questionnaire scores in Category 1: Financial Support (Questions 1 - 5), ranked by college, and the amount of funds spent on the learning resource program per headcount student, ranked by college.

H₀2: There is no significant ($P < .05$) rank order correlation between the faculty evaluation questionnaire scores in Category 2: Book Collection (Questions 6 - 10), ranked by college, and the number of titles in the book collection per headcount student, ranked by college.

H₀3: There is no significant ($P < .05$) rank order correlation between the faculty evaluation questionnaire scores in Category 3: Audiovisual Services (Questions 11 - 15), ranked by college, and the number of items in the media collection per headcount student, ranked by college.

H₀4: There is no significant ($P < .05$) rank order correlation between the faculty evaluation questionnaire scores in Category 4: Readers Services (Questions 16 - 20), ranked by college, and the number of items circulated during the 1975/76 academic year per headcount student, ranked by college.

H₀5: There is no significant ($P < .05$) rank order correlation between the faculty evaluation questionnaire scores in Category 5:

Space Availability (Questions 21-25), ranked by college, and the number of square feet in the Library/LRC per headcount student, ranked by college.

H₀6: There is no significant ($P < .05$) rank order correlation between the faculty evaluation questionnaire scores in Category 6: Staffing Profile (Questions 26 - 30), ranked by college, and the number of headcount students per staff member, ranked by college.

H₀7: There is no significant ($P < .05$) rank order correlation between the student evaluation questionnaire scores in Category 1: Financial Support (Questions 1 - 5), ranked by college, and the amount of funds spent on the learning resource program per headcount student, ranked by college.

H₀8: There is no significant ($P < .05$) rank order correlation between the student evaluation questionnaire scores in Category 2: Book Collection (Questions 6 - 10), ranked by college, and the number of titles in the book collection per headcount student, ranked by college.

H₀9: There is no significant ($P < .05$) rank order correlation between the student evaluation questionnaire scores in Category 3: Audiovisual Services (Questions 11 - 15), ranked by college, and the number of items in the media collection per headcount student, ranked by college.

H₀10: There is no significant ($P < .05$) rank order correlation between the student evaluation questionnaire scores in Category 4: Readers Services (Questions 16 - 20), ranked by college, and the number

of items circulated during the 1975/76 academic year per headcount student, ranked by college.

H₀11: There is no significant ($P < .05$) rank order correlation between the student evaluation questionnaire scores in Category 5: Space Availability (Questions 21 - 25), ranked by college, and the number of square feet in the Library/LRC per headcount student, ranked by college.

H₀12: There is no significant ($P < .05$) rank order correlation between the student evaluation questionnaire scores in Category 6: Staffing Profile (Questions 26 - 30), ranked by college, and the number of headcount students per staff member, ranked by college. The twelve null hypotheses are summarized as follows:

Null Hypotheses	Relates to Rank Order Relationship Between:	
	<u>Quantitative Measure</u> (per headcount student) Ranked by College	<u>Qualitative Measure</u> (questionnaire scores) Ranked by College
H ₀ 1	Funds spent on the learning resource program	Faculty scores from questions 1 - 5
H ₀ 2	Number of titles in the book collection	Faculty scores from questions 6 - 10
H ₀ 3	Number of titles in the media collection	Faculty scores from questions 11 - 15
H ₀ 4	Number of items circulated during 1975/76	Faculty scores from questions 16 - 20
H ₀ 5	Number of square feet in the Library/LRC	Faculty scores from questions 21 - 25
H ₀ 6	Number of headcount students per staff member	Faculty scores from questions 26 - 30
H ₀ 7	Funds spent on the learning resource program	Student scores from questions 1 - 5

H ₀ 8	Number of titles in the book collection	Student scores from questions 6 - 10
H ₀ 9	Number of titles in the media collection	Student scores from questions 11 - 15
H ₀ 10	Number of items circulated during 1975/76	Student scores from questions 16 - 20
H ₀ 11	Number of square feet in the Library/LRC	Student scores from questions 21-25
H ₀ 12	Number of headcount students per staff member	Student scores from questions 26 - 30

D. Spearman Rank Order Correlation Coefficient (R) Computation

Colleges were ranked by qualitative score in each of the six categories for each of the two client groups, and these ranked variables were compared with their corresponding ranked quantitative measures. A Spearman rank order correlation coefficient (Rho, or R) was calculated to determine the degree of correlation between the ranks of the paired variables in each category. A correlation coefficient (R) of .476 was considered statistically significant at the .05 level in accordance with the table of critical values for Spearman coefficients for N = 18, the number of colleges from which faculty returns were received. A correlation coefficient (R) of .507 was considered significant at the .05 level for N = 16, the number of colleges which returned student questionnaires. The computer program provided for the calculation of all significance levels automatically, taking this difference into consideration, and adjusting for ties in the ranks.

Specific faculty and student questionnaire qualitative evaluation scores and quantitative measure values are set forth in Chapter 4, however an example Spearman rank order correlation coefficient (R)

calculation is presented in Table 3 for clarification purposes. A total of thirty-six such calculations were made, summarized as follows:

<u>Rank Order Calculations</u>	<u>Coefficients Produced</u>
Six null hypotheses for faculty scores	6
Six null hypotheses for student scores	6
Faculty scores from question thirty-one with each of the six quantitative measures	6
Faculty composite scores from thirty questions with each of the six quantitative measures	6
Student scores from question thirty-one with each of the six quantitative measures	6
Student composite scores from thirty questions with each of the six quantitative measures	6
Total number of Spearman (R) coefficients calculated	<hr/> 36

Table 3 contains an example of a Spearman coefficient calculation. To be statistically significant at the .05 level, R must be .476 or greater. In this case the rank order correlation coefficient between the two sets of variables is .336. Therefore: null hypotheses one (H_01) is accepted; there is no significant correlation at the .05 level between FY1 - faculty scores in Category 1: Financial Support (Questions 1 - 5), ranked by college, and QN1 - the amount of funds spent on the learning resource program per headcount student, ranked by college. The Spearman technique, it must be stressed, deals only with measure ranks, not with their values or distances apart.

Table 3

Example Calculation of a Spearman Rank Order Correlation
Coefficient (R) for Two Sets of Ranked Variables:
Hypothesis H₀₁

College	FY1	QN1	FY1 Rank	QN1 Rank	dif	dif ²
DV Danville	.7706	\$ 83.08	1	3	2	4
GE Germanna	.6667	154.64	2	1	1	1
WY Wytheville	.6494	41.90	3	14	11	121
SW Southwest Va	.6370	42.46	4	13	9	81
PC Paul D. Camp	.6250	59.07	5	10	5	25
TN Thomas Nelson	.6241	52.01	6	11	5	25
LF Lord Fairfax	.6208	60.96	7	7	0	0
DL Dabney Lancaster	.6046	88.66	8	2	6	36
ME Mountain Empire	.5833	61.31	9.5	6	3.5	12.25
PV Piedmont Va	.5833	60.09	9.5	8	1.5	2.25
VH Va Highlands	.5735	59.88	11	9	2	4
JT John Tyler	.5709	41.53	12	15	3	9
NR New River	.5400	25.66	13	18	5	25
PH Patrick Henry	.5230	73.88	14	5	9	81
VW Va Western	.5152	29.00	15	17	2	4
BR Blue Ridge	.5031	44.79	16	12	4	16
CV Central Va	.4756	29.47	17	16	1	1
ES Eastern Shore	.3462	74.20	18	4	14	196

N = 18

dif² = 643.5

$$\bar{R} = 1 - \frac{6 \text{ dif}^2}{N(N^2 - 1)} = 1 - \frac{3861}{5814} = .336$$

FY1 = Faculty Financial Support Scores (Questions 1 - 5)

QN1 = Quantitative Measure - Funds Spent per Headcount Student

E. Additional Evaluation Scores Computed

(1) Overall Evaluation Score: One additional question, number thirty-one (See Appendices F and H), was added to the faculty and student questionnaires, soliciting an overall evaluation of the respective learning resource programs:

31. In terms of its effectiveness in supporting the instructional program of your college, how would you rate the Library/LRC program overall?

Additional qualitative evaluation scores from both the faculty and student questionnaires were computed from the responses to this question in the same manner as the scores from the five-question categories (See page 63)

(2) Composite Score: A score was computed from the aggregated responses to all thirty category questions by each of the two groups at each college, again using the same scoring method.

For presentation and computer programming purposes these two qualitative variables were designated as follows (for specific measure values see Table 9 on page 83 and Table 10 on page 84)

FY7 (Faculty) or ST7 (Student) OVERALL EVALUATION SCORE
(Question thirty-one).

FY8 (Faculty) or ST8 (Student) COMPOSITE SCORE from all
thirty questions in the six categories.

Although no hypotheses were developed for these two variables, nevertheless additional correlations were sought between each of the four scores, ranked by college, and every one of the six quantitative measures.

F. Data Processing

The information from each returned questionnaire was key-punched as received onto a data processing card. The Statistical Analysis System (SAS-76) was used to program the calculation of scores, score ranks and correlation coefficients, sorting by characteristics and frequencies, and other data, using the IBM double 370 computer at Virginia Polytechnic Institute and State University. Computer programs will be found in Appendices K, L, and W. Pearson correlation coefficients (r) were also developed for all paired sets of variables, with statistical significance set at .4438 ($P < .05$) for $N = 18$, and .4683 ($P < .05$) for $N = 16$ (See Appendix W).

SUMMARY OF CHAPTER 3

The purpose of this study was to determine the relationship between qualitative evaluation of eighteen single campus Virginia community college learning resource programs, as measured by a questionnaire distributed to a random sample of faculty ($N = 264$ returns) and students ($N = 827$ returns), with quantitative evaluation measures frequently used as comparative indicators of program quality.

Six learning resource program measures (provided by the Library/LRC Directors at each institution) were selected and compiled from each college for analysis of rank order relationships with corresponding category scores (qualitative measures) from the returned questionnaires from each college. The nearly identical faculty and student instruments consisted of six groups of five questions each, plus one additional overall evaluation question, for a total of thirty-one questions. The

six quantitative measures, and their corresponding evaluation questionnaire categories were:

Quantitative Evaluation Measures (Provided by Library/LRC Directors)	Qualitative Evaluation Measures (Faculty/Student Questionnaire Scores)
QN1: Funds spent per student on the learning resource program	FY1/ST1: Financial Support Score (Questions 1 - 5)
QN2: Number of titles in the book collection per student	FY2/ST2: Book Collection Score (Questions 6 - 10)
QN3: Number of titles in the media collection per student	FY3/ST3: Audiovisual Services Score (Questions 11 - 15)
QN4: Number of items circulated per student	FY4/ST4: Readers Services Score (Questions 16 - 20)
QN5: Number of square feet in the Library/LRC per student	FY5/ST5: Space Availability Score (Question 21 - 25)
QN6: Number of FTE Students per staff member	FY6/ST6: Staffing Profile Score (Questions 26 - 30)

The research sequence proceeded as follows:

1. QUALITATIVE EVALUATION MEASURES: Scores, calculated from the ratio of the sum of the actual responses to the sum of the possible responses, were computed from the answers to each five-question category from the student, and also separately from the faculty respondents at each college.

2. The resulting student scores in each of the six categories were ranked by college, and the same process was repeated separately for faculty scores.

3. QUANTITATIVE EVALUATION MEASURES: The six quantitative measures, each corresponding to a five-question category on the

questionnaire, were ranked separately by college. These data were provided by the Library/LRC Directors at each institution.

4. NULL HYPOTHESES: Twelve null hypotheses, six for faculty and six for students, were constructed to test for rank order relationships between each of the six sets of student and faculty scores (qualitative measures) and their corresponding sets of ranked quantitative measures.

5. Spearman (R) and Pearson (r) correlation coefficients were computed between the twelve sets of paired ranks, six for faculty and six for students.

6. A score was similarly developed from faculty and also separately from student responses to question thirty-one, which invited overall Library/LRC evaluation by the two client groups. These two sets of scores were separately ranked by college, and each ranked data set was tested for rank order relationships with every one of the six ranked sets of quantitative measures, using Spearman (R) and Pearson (r) statistical analysis.

7. A composite score was developed from the aggregated responses to all thirty questions (but excluding question thirty-one) from all faculty respondents at each college, and a similar score was computed separately for student respondents. These two sets of scores were also separately ranked by college, and each ranked data set was tested for rank order relationships with each one of the six ranked sets of quantitative measures, using the Spearman (R) and, as a secondary analysis, Pearson (r) statistical computations.

Chapter 4

PRESENTATION AND ANALYSIS OF DATA

The findings of the research are described in this chapter. Faculty and student questionnaires were mailed in January and in early February, 1977. Follow-up letters were sent to non-responding faculty on February 23, 1977, and a cut off date for data gathering was set at April 1. Questionnaires were keypunched at the Radford College Library as received. Computer programs were devised during March, and put into the computer in late March and early April, 1977.

Faculty Questionnaire Returns

A random sample of 383 teaching faculty members totaling 40 percent of the 957 individuals teaching in the eighteen single-campus community colleges in the Virginia system during the 1975/76 academic year were sent questionnaires designed to evaluate six areas of Library/LRC service. Total faculty returns numbered 275, for a return rate of 71.8 percent, however eleven responses, or 2.87 percent, were invalidated because of incomplete information or late receipt. The number of usable responses were 264, for a return rate of 68.9 percent. The responses are tabulated by teaching area in Table 4, and the analysis of the responses by college is shown in Table 5. Thirty-eight instructional disciplines were identified in the sample for a total of 312 responses noted for this questionnaire item, reflecting the fact that many respondents reported teaching in two or more disciplines.

Table 4

Faculty Responses by Teaching Area

(N = 264)

Vocational and Special	Responses	College Parallel	Responses
Accounting	16	Art	2
Adult Education	2	Biology	18
Agriculture	3	Chemistry	7
Air Conditioning	2	Economics	7
Architecture	3	English/Speech	32
Automotive	2	Foreign Languages	3
Business	29	Political Science	10
Data Processing	3	Geography/Geology	2
Developmental/Remedial	5	History	13
Drafting	12	Humanities	1
Electricity/Electronics	18	Mathematics/Statistics	47
Engineering	7	Philosophy	2
Health and PE	9	Physics	6
Machine Shop	4	Psychology	11
Medical Technology	47	Science/Technology	1
Music	3	Sociology	12
Nursing	17		
Photography	1		
Police Science	3		
Secretarial Science	13		
Theater	2		
Welding	3		
Totals	145		167
Total Teaching Areas Reported	312*		

*76 respondents reported teaching in two or more disciplines

Table 5

Faculty Questionnaire Responses by College

Code	College	Teaching Faculty	Questionnaires Sent (40%)	Responses	Return Rate
BR	Blue Ridge	42	17	12	70.5%
CV	Central Virginia	72	29	19	65.5
DL	Dabney Lancaster	34	14	13	92.9
DV	Danville	68	27	22	81.5
ES	Eastern Shore	20	12	6	50.0
GE	Germanna	33	13	10	76.9
JT	John Tyler	78	31	26	83.9
LF	Lord Fairfax	66	21	18	85.7
ME	Mountain Empire	28	12	7	58.3
NR	New River	52	21	16	76.2
PC	Paul D. Camp	31	12	8	66.7
PH	Patrick Henry	21	12	9	75.0
PV	Piedmont Virginia	28	12	6	50.0
SW	Southwest Virginia	41	16	12	75.0
TN	Thomas Nelson	110	45	24	53.3
VH	Virginia Highlands	56	18	10	55.6
VW	Virginia Western	119	48	26	54.2
WY	Wytheville	58	23	20	87.0
Totals		957	383	264	68.9%

Sixteen teaching areas totaling 167 responses were identified as college parallel disciplines, and twenty-two areas amounting to 145 responses were designated as vocational/technical disciplines. This dichotomization was in some cases arbitrary because certain disciplines could be perceived as belonging to either category.

Student Questionnaire Returns

A sample of 1,385 students, representing 4 percent of the 34,592 students registered at the eighteen campuses were asked to evaluate their respective learning resource programs. Unlike the faculty sample, which was selected randomly from the total population of teaching instructors at each college (both users and non-users), only students who entered the Library/LRC during selected times, were willing to fill out the questionnaire, and were second year students, participated in the research. Table 6 shows a tabulation of responses by major study area.

The number of questionnaires returned was 888, for a 64.1 percent return rate. The number of invalidated returns was sixty-one, or 4.4 percent. Usable returns amounted to 827 for a usable return rate of 59.7 percent. Table 7 shows a tabulation of responses by college.

Analysis of Relationships Between Quantitative and Qualitative Measures

A. Quantitative Measures: Six quantitative measures relating to the learning resource programs of the eighteen single-campus Virginia community colleges were selected and gathered for analysis of rank order relationships with six corresponding five-question

Table 6

Student Responses by Major Study Area (N = 827)

Major	Responses
a. Liberal Arts/Humanities	149
b. Science/Mathematics	103
c. Business Technologies	212
d. Engineering/Technical	134
e. Social Science	35
f. Police/Public Service	57
g. Health Technologies	56
h. General Courses	68
j. Education	24
k. Agriculture	13
l. Wildlife Technology	<u>7</u>
*Total	851

* 24 Students reported two or more majors

Table 7

Student Questionnaire Responses by College (N = 827)

Code	College	Students Registered	Questionnaires Sent (4%)	Responses	Return Rate
BR	Blue Ridge	1,911	76	46	48.4%
CV	Central Virginia	2,948	118	95	80.5
DL	Dabney Lancaster	881	35	30	85.7
DV	Danville	2,123	85	83	97.6
ES	Eastern Shore	550	30	15	50.0
GE	Germanna	633	30	29	96.7
JT	John Tyler	2,800	112	-	-
LF	Lord Fairfax	1,370	55	41	74.5
ME	Mountain Empire	1,071	43	38	88.4
NR	New River	2,323	93	43	46.2
PC	Paul D. Camp	1,037	41	34	82.9
PH	Patrick Henry	1,029	41	40	97.6
PV	Piedmont Virginia	1,966	79	47	59.5
SW	Southwest Virginia	1,880	75	73	97.3
TN	Thomas Nelson	4,396	176	-	-
VH	Virginia Highlands	1,221	51	50	98.0
VW	Virginia Western	4,919	197	119	60.4
WY	Wytheville	1,534	61	44	72.1
Totals		34,592	1,385	827	59.7%

qualitative category scores from the returned questionnaires from each client group. The raw data for each college program (See Appendix C) were translated into quantitative measures per student headcount, and each of these six variables ranked by college. Table 8 presents the measure values for each of the six quantitative variables, and gives the rank of each college within each measure.

B. Qualitative Measures: Faculty and Student Evaluation Questionnaire Category Scores (See Chapter 3, page 62 for score derivation): The questions on the two separate faculty and student survey questionnaires were arranged in six groups of five questions, each group relating to a specific quantitative measure. The scores derived from the responses of the faculty respondents at each college, and the score ranking of each five-question category for all colleges are presented in Table 9. Corresponding student responses are shown in Table 10.

The six quantitative variables and their corresponding qualitative score categories are repeated from Chapter 3 in Table 11 on page 85 for convenience.

Table 8

Virginia Community College Learning Resource Program Quantitative (QN) Measures by Student Headcount,
With Relative Ranks (See also Appendix C for basic program quantitative measures)

College	FINANCE		BOOK COLLECTION		AV SERVICES		READERS SERVICES		SPACE		STAFF	
	\$ per Student		Books per Student		AV Items per Student		Circulation per Student		Ft ² per Student		Students per Staff Member	
	QN1	Rank	QN2	Rank	QN3	Rank	QN4	Rank	QN5	Rank	QN6	Rank
Blue Ridge	\$ 44.79	12	15.8	8	2.4	5	7.6	14	6.7	5	382.2	15
Central Virginia	29.47	16	11.4	13	.2	18	8.5	11	8.8	3	655.1	18
Dabney Lancaster	88.66	2	34.8	1	1.6	7	16.8	7	5.4	9	146.8	3
Danville	83.08	3	15.5	9	.7	14	17.5	3	4.1	12	235.9	11
Eastern Shore	74.20	4	26.7	2	.9	13	4.6	17	8.2	4	183.3	7
Germanna	154.64	1	25.2	3	3.0	1	26.2	1	28.2	1	126.6	1
John Tyler	41.53	15	9.3	14	.4	17	6.6	15	5.4	10	509.1	17
Lord Fairfax	60.96	7	16.8	6	2.6	3	18.7	2	5.3	11	152.2	4
Mountain Empire	61.31	6	14.3	12	2.7	2	9.5	8	6.5	7	178.5	6
New River	25.66	18	8.0	17	1.9	6	7.9	13	2.8	18	290.4	13
Paul D. Camp	59.07	10	15.1	10	1.0	11	8.5	10	3.7	13	294.0	14
Patrick Henry	73.38	5	23.6	4	2.5	4	9.2	9	13.9	2	165.9	5
Piedmont Virginia	60.09	8	6.6	18	1.4	8	12.9	6	3.0	16	218.4	9
Southwest Virginia	42.46	13	14.3	11	1.1	10	6.2	16	2.9	17	417.8	16
Thomas Nelson	52.01	11	9.1	15	.6	15	8.4	12	6.1	8	209.3	8
Virginia Highlands	59.88	9	16.4	7	1.0	12	15.7	5	3.6	14	244.2	12
Virginia Western	29.00	17	9.1	16	.4	16	4.4	18	3.0	15	243.2	10
Wytheville	41.90	14	18.0	5	1.3	9	11.0	7	6.5	16	139.5	2

Table 9

Faculty Questionnaire Category Scores by College, With Rankings

College	FY1	Rank	FY2	Rank	FY3	Rank	FY4	Rank	FY5	Rank	FY6	Rank	FY7	Rank	FY8	Rank
1. *BR	.5031	16	.7356	8	.6780	11	.7235	10	.7083	5	.7099	9	.7500	10	.6781	11
2. CV	.4756	17	.7294	11	.7591	5	.7453	9	.7271	4	.6873	11	.7982	4	.6909	7
3. DL	.6046	8	.7786	5	.6771	12	.7581	8	.5077	17	.7554	6	.7821	7	.6816	10
4. DV	.7706	1	.8211	3	.7500	8	.7603	7	.5270	15	.8114	2	.7955	5	.7379	4
5. ES	.3462	18	.7299	10	.7319	10	.7652	5	.6474	10	.7431	7	.7778	8	.6861	9
6. GE	.6667	2	.7600	6	.7925	2	.7813	4	.7569	2	.6736	12	.8333	2	.7406	3
7. JT	.5709	12	.7186	12	.7661	4	.6928	12	.8291	1	.7133	8	.7372	11	.7226	6
8. LF	.6208	7	.8199	4	.8314	1	.7650	6	.6878	8	.8376	1	.8519	1	.7651	1
9. ME	.5833	9.5	.6238	18	.6324	15	.6078	17	.5655	12	.6436	16	.6190	16	.6105	17
10. NR	.5400	13	.7436	7	.7588	6	.7876	3	.3918	18	.6694	13	.7708	9	.6498	13
11. PC	.6250	5	.6974	13	.5657	17	.6127	16	.5856	11	.6036	18	.6458	15	.6156	16
12. PH	.5230	14	.6667	16	.4958	18	.5635	18	.7520	3	.6111	17	.5926	18	.6069	18
13. PV	.5833	9.5	.8452	1	.7576	7	.8056	1	.5333	18	.7982	3	.8056	3	.7375	5
14. SW	.6370	4	.6833	15	.6728	13	.6429	13	.6818	9	.6887	10	.7083	13	.6687	12
15. TN	.6241	6	.6268	17	.5856	16	.6246	15	.6898	7	.6551	14	.6041	17	.6340	14
16. VH	.5735	11	.6973	14	.7447	9	.7973	2	.5317	14	.7870	4	.7333	12	.6891	8
17. VW	.5152	15	.7333	9	.6353	14	.6311	14	.5176	16	.6509	15	.6987	14	.6231	15
18. WY	.6494	3	.8350	2	.7921	3	.6933	11	.7070	6	.7624	5	.7833	6	.7441	2

FY1: Five questions on Finance
 FY2: Five questions on the Book Collection
 FY3: Five questions on Audiovisual Services
 FY4: Five questions on Readers Services

FY5: Five questions on Space availability
 FY6: Five questions on the Staff
 FY7: Overall evaluation question number 31
 FY8: Composite score from all 30 questions

*See Table 7 or Appendix B for college abbreviations

Table 10

Student Questionnaire Category Scores by College, With Rankings

College	ST1	Rank	ST2	Rank	ST3	Rank	ST4	Rank	ST5	Rank	ST6	Rank	ST7	Rank	ST8	Rank
1. #BR	.6206	6	.6703	12	.7301	9	.6895	12	.6913	9	.7133	9	.7355	11	.6917	10
2. CV	.5714	10	.7003	8	.7346	7	.7351	7	.7020	7	.7588	4	.8158	3	.7123	7
3. DL	.5594	14	.6891	10	.6595	14	.6905	11	.5874	15	.6793	12	.6889	13	.6509	12
4. DV	.6704	1	.8305	1	.8169	1	.8486	1	.7252	4	.7884	1	.8474	1	.7905	1
5. ES	.5449	15	.7268	5	.7730	3	.8207	2	.7273	3	.7566	5	.7889	4	.7446	3
6. GE	.6068	7	.7005	7	.7303	8	.7067	10	.7261	3	.6997	11	.7644	7	.7070	8
7. JT*	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
8. LF	.6234	5	.7551	2	.7781	2	.7437	4	.6955	8	.770	2	.8211	2	.7362	4
9. ME	.5333	16	.6437	15	.6676	12	.6803	13	.5978	13	.6629	14	.7368	10	.6356	14
10. NR	.5708	12	.5993	16	.6640	13	.6430	14	.4922	16	.6373	15	.6822	15	.6034	16
11. PC	.5856	9	.6519	14	.6347	16	.5871	16	.6901	10	.6009	16	.6471	16	.6297	15
12. PH	.6557	3	.7326	4	.7547	5	.7407	5	.7909	1	.7713	3	.7583	9	.7472	2
13. PV	.5667	13	.6813	11	.7120	11	.7270	8	.5867	14	.7093	10	.6950	12	.6740	11
14. SW	.6009	8	.7217	6	.7221	10	.7460	3	.7114	6	.7324	8	.7831	5	.7156	6
15. TN*	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
16. VH	.6522	4	.6957	9	.7468	6	.7398	6	.6196	12	.7453	6	.7633	8	.7051	9
17. VW	.5713	11	.6583	13	.6524	15	.6244	15	.6321	11	.6715	13	.6835	14	.6397	13
18. WY	.6667	2	.7487	3	.7649	4	.7267	9	.7137	9	.7407	7	.7765	6	.7316	5

ST1: Five questions of Finance
 ST2: Five questions on the Book Collection
 ST3: Five questions on Audiovisual Services
 ST4: Five questions on Readers Services

ST5: Five questions on Space availability
 ST6: Five questions on the Staff
 ST7: Overall evaluation question number 31
 ST8: Composite score from all 30 questions

#See Appendix B for college abbreviations

*No student returns from Thomas Nelson or John Tyler Community Colleges

Table 11

Quantitative Measures and Corresponding Qualitative Measures

Quantitative Measures *	Corresponding Qualitative Measures From the Student and Faculty Evaluation Questionnaires **
<u>Designation</u>	
QN1: Funds spent on the learning resource program per headcount student	FY1/ST1: Faculty or student scores in Category 1: FINANCIAL SUPPORT (Questions 1 - 5)
QN2: Number of titles in the book collection per headcount student	FY2/ST2: Faculty or student scores in Category 2: BOOK COLLECTION (Questions 6 - 10)
QN3: Number of items in the media collection per headcount student	FY3/ST3: Faculty or student scores in Category 3: AUDIOVISUAL SERVICES (Questions 11 - 15)
QN4: Number of items circulated during the 1975/76 academic year per headcount student	FY4/ST4: Faculty or student scores in Category 4: READERS' SERVICES (Questions 16 - 20)
QN5: Number of square feet in the Library/LRC complex per headcount student	FY5/ST5: Faculty or student scores in Category 5: SPACE AVAILABILITY (Questions 21 - 25)
QN6: Number of headcount students per Library/LRC staff member	FY6/ST6: Faculty or student scores in Category 6: STAFFING PROFILE (Questions 26 - 30)

* See Table 8 on page 82 for measure values by college.

** See Table 9, page 83 and Table 10, page 84 for measure values by college.

NULL HYPOTHESES TEST RESULTS

The twelve null hypotheses constructed to test for rank order relationships between qualitative and quantitative variables are summarized here from Chapter 3 for convenience:

Null Hypotheses	Relates to Rank Order Relationship Between:	
	<u>Quantitative Measure</u> (per headcount student) Ranked by College	<u>Qualitative Measure</u> (questionnaire scores) Ranked by College
H ₀ 1	Funds spent on the learning resource program	Faculty scores from questions 1 - 5
H ₀ 2	Number of titles in the book collection	Faculty scores from questions 6 - 10
H ₀ 3	Number of titles in the media collection	Faculty scores from questions 11 - 15
H ₀ 4	Number of items circulated during 1975/76	Faculty scores from questions 16 - 20
H ₀ 5	Number of square feet in the Library/LRC	Faculty scores from questions 21 - 25
H ₀ 6	Number of headcount students per staff member	Faculty scores from questions 26 - 30
H ₀ 7	Funds spent on the learning resource program	Student scores from questions 1 - 5
H ₀ 8	Number of titles in the book collection	Student scores from questions 6 - 10
H ₀ 9	Number of titles in the media collection	Student scores from questions 11 - 15
H ₀ 10	Number of items circulated during 1975/76	Student scores from questions 16 - 20
H ₀ 11	Number of square feet in the Library/LRC	Student scores from questions 21 - 25
H ₀ 12	Number of headcount students per staff member	Student scores from questions 26 - 30

The results of the twelve null hypothesis tests were as follows:

H₀1: The paired measures FY1 as the dependent variable (faculty evaluation scores on five questions relating to financial support, ranked by college) and QN1 as the independent variable (amount of money spent on the learning resource program per headcount student, ranked by college) were found to have a rank order correlation coefficient (R) of .33557 with a significance level of .1734, therefore null hypothesis H₀1 was accepted at the .05 level.

H₀2: The paired measures FY2 as the dependent variable (faculty evaluation scores on five questions relating to the book collection, ranked by college) and QN2 as the independent variable (number of titles in the collection per headcount student, ranked by college) were found to have a rank order correlation coefficient (R) of .13106, with a significance level of .6402, therefore null hypotheses H₀2 was accepted at the .05 level.

H₀3: The paired measures FY3 as the dependent variable (faculty evaluation scores on five questions relating to audiovisual services, ranked by college) and QN3 as the independent variable (number of media items in the collection per headcount student, ranked by college) were found to have a rank order correlation coefficient (R) of .06089, with a significance level of .8103, therefore null hypothesis H₀3 was accepted at the .05 level.

H₀4: The paired measures FY4 as dependent variable (faculty evaluation scores on five questions relating to readers services, ranked by college) and QN4 as the independent variable (number of items

circulated during the 1975/76 academic year per headcount student, ranked by college) were found to have a rank order correlation coefficient (\underline{R}) of .36842, with a significance level of .1315, therefore null hypothesis H_{04} was accepted at the .05 level.

H_{05} : The paired measures FY5 as the dependent variable (faculty evaluation scores on five questions related to space, ranked by college) and QN5 as the independent variable (number of square feet in the Library/LRC per headcount student, ranked by college) were found to have a rank order correlation coefficient (\underline{R}) of .68421, with a significance level of .0017, therefore null hypothesis H_{05} was rejected at the .05 level.

H_{06} : The paired measures FY6 as the dependent variable (faculty evaluation scores on five questions relating to staffing, ranked by college) and QN6 as the independent variable (number of headcount students served by each staff member, ranked by college) were found to have a rank order correlation coefficient (\underline{R}) of .15377 with a significance level of .5424, therefore null hypothesis H_{06} was accepted at the .05 level.

H_{07} : The paired measures ST1 as the dependent variable (student evaluation scores on five questions relating to financial support, ranked by college) and QN1 as the independent variable (amount of money spent on the learning resource program per headcount student, ranked by college) were found to have a rank order correlation coefficient (\underline{R}) of .00882, with a significance level of .9741, therefore null hypothesis H_{07} was accepted at the .05 level.

H₀8: The paired measures ST2 as the dependent variable (student evaluation scores on five questions relating to the book collection, ranked by college) and QN2 as the independent variable (number of titles in the book collection per headcount student, ranked by college) were found to have a rank order correlation coefficient (R) of .54118, with a significance level of .0304, therefore null hypothesis H₀8 was rejected at the .05 level.

H₀9: The paired measures ST3 as the dependent variable (student evaluation scores on five questions relating to audiovisual services, ranked by college) and QN3 as the independent variable (number of media items in the collection per headcount student, ranked by college) were found to have a rank order correlation coefficient (R) of -.04412, with a significance level of .8711, therefore null hypothesis H₀9 was accepted at the .05 level. This coefficient proved to be negative.

H₀10: The paired measures ST4 as the dependent variable (student evaluation scores on five questions relating to readers services, ranked by college) and QN4 as the independent variable (number of items circulated during the 1975/76 academic year per headcount student, ranked by college) were found to have a rank order correlation coefficient of .21176, with a significance level of .4311, therefore null hypothesis H₀10 was accepted at the .05 level.

H₀11: The paired measures ST5 as the dependent variable (student evaluation scores of five questions relating to space, ranked by college) and QN5 as the independent variable (number of square feet in the Library/LRC complex per headcount student, ranked by college)

were found to have a rank order correlation coefficient (R) of .63235, with a significance level of .0086, therefore null hypothesis H_{011} was rejected at the .05 level.

H_{012} : The paired measures ST6 as the dependent variable (student evaluation scores on five questions relating to staffing, ranked by college) and QN6 as the independent variable (number of headcount students per full time equivalent staff member, ranked by college) were found to have a rank order correlation coefficient (R) of .13529, with a significance level of .6174, therefore null hypothesis H_{012} was accepted at the .05 level.

A summary of Spearman correlation coefficients (R) calculated, and their corresponding significance levels are presented in Table 12. In Table 13 all Spearman coefficients computed for every pair of variables analyzed, including the twelve null hypotheses, question 31, and the questionnaire composite scores, are exhibited.

Overall Program Evaluation by Faculty and Students - Question 31

In Table 14 is summarized the aggregate stem choice responses to the thirty-first question on both questionnaires, which invites respondents to assess their respective learning resource programs overall, in terms of effectiveness in supporting their instructional and academic efforts. Almost 13 percent of the faculty, compared to 20 percent of the students rated the Library/LRC Excellent, and an insignificant number (less than 1 percent) of both groups rated their respective programs as Very poor or missing. Respondents rating their

Table 12

Summary of Null Hypothesis Tests

Quantitative Variable	Null Hypothesis	Qualitative Variable	Spearman (R)	Signif Level
RQN1: FINANCE measures ranked by college	H ₀ 1 H ₀ 7	RFY1 RST1	.336 .009	.173 .974
RQN2: BOOK COLLECTION measures ranked by college	H ₀ 2 H ₀ 8	RFY2 RST2	.131 .541	.604 .030
RQN3: AV TITLES measures ranked by college	H ₀ 3 H ₀ 9	RFY3 RST3	.061 .044	.810 .871
RQN4: CIRCULATION measures ranked by college	H ₀ 4 H ₀ 10	RFY4 RST4	.368 .212	.133 .431
RQN5: SPACE measures ranked by college	H ₀ 5 H ₀ 11	RFY5 RST5	.684 .632	.002 .009
RQN6: STAFFING measures ranked by college	H ₀ 6 H ₀ 12	RFY6 RST6	.154 .135	.542 .617

 = Significant correlation at the .05 level

- = Inverse or negative correlation

RFY1/RST1 = Faculty/student scores from Category 1 - FINANCE
(Questions 1 - 5) in college rank order.

RFY2/RST2 = Faculty/student scores from Category 2 - BOOK COLLECTION
(Questions 6 - 10) in college rank order.

RFY3/RST3 = Faculty/student scores from Category 3 - AV TITLES
(Questions 11 - 15) in college rank order.

RFY4/RST4 = Faculty/student scores from Category 4 - CIRCULATION
(Questions 16 - 20) in college rank order.

RFY5/RST5 = Faculty/student scores from Category 5 - SPACE
(Questions 21 - 25) in college rank order.

RFY6/RST6 = Faculty/student scores from Category 6 - STAFFING
(Questions 26 - 30) in college rank order.

Table 13

Summary of Spearman Correlation Coefficients (R) Between Ranked College Category Scores and Ranked College Quantitative Measures

Quantitative Variables	Qualitative Variables					
	Faculty Questionnaire			Student Questionnaire		
RQN1: Ranked FINANCE Measures	RFY1 R .336	RFY7 .212	RFY8 .162	RST1 .009	RST7 .276	RST8 .376
RQN2: Ranked BOOK COLLECTION Measures	RFY2 R .131	RFY7 .203	RFY8 .232	RST2 <u>.541</u>	RST7 .306	RST8 .494
RQN3: Ranked AV TITLES Measures	RFY3 R .061	RFY7 .137	RFY8 ☐ .018	RST3 ☐ .044	RST7 .162	RST8 .129
RQN4: Ranked CIRCULATION Measures	RFY4 R .368	RFY7 <u>.513</u>	RFY8 <u>.511</u>	RST4 .212	RST7 .279	RST8 .215
RQN5: Ranked SPACE Measures	RFY5 R <u>.684</u>	RFY7 .082	RFY8 .086	RST5 <u>.632</u>	RST7 .365	RST8 .444
RQN6: Ranked STAFFING Measures	RFY6 R .154	RFY7 .222	RFY8 .164	RST6 .135	RST7 .156	RST8 .244

☐ = Significant correlation at the .05 level

R = Spearman coefficient

☐ = Inverse or negative correlation

RFY1/RST1 = Faculty/student scores from Category 1 - FINANCE (Questions 1 - 5) in college rank order.

RFY2/RST2 = Faculty/student scores from Category 2 - BOOK COLLECTION (Questions 6 - 10) in college rank order.

RFY3/RST3 = Faculty/student scores from Category 3 - AV TITLES (Questions 11 - 15) in college rank order.

RFY4/RST4 = Faculty/student scores from Category 4 - CIRCULATION (Questions 16 - 20) in college rank order.

RFY5/RST5 = Faculty/student scores from Category 5 - SPACE (Questions 21 - 25) in college rank order.

RFY6/RST6 = Faculty/student scores from Category 6 - STAFFING (Questions 26 - 30) in college rank order.

RFY7/RST7 = Faculty/student scores from Question 31 - OVERALL RATING in college rank order.

RFY8/RST8 = Faculty/student composite scores from all 30 questions aggregated, in college rank order.

Library/LRC's as Good, Very Good, or Excellent were 217 or 82.2 percent for faculty, and 697 or 84.6 percent for students.

Table 14

Summary of Question 31 Stem Choices - Students and Faculty

Stem Choice	Faculty Responses	Percentage	Student Responses	Percentage
0 Unknown	# -	-	-	-
1 Very poor or missing	1	.4%	7	.9%
2 Poor	7	2.7	13	1.6
3 Fair	39	14.8	106	12.9
4 Good	78	29.5	262	31.8
5 Very good	105	39.8	270	32.8
6 Excellent	34	12.9	165	20.0
	264	100.1	* 823	100.1

Questionnaires with "Unknown" circled for question thirty-one were invalidated, and not included in the study.

* Four students neglected to respond to question thirty-one.

Individual Institutional Rankings

Although no overall correlation was found between the selected quantitative evaluation measures and qualitative evaluation by learning resource users, nevertheless the variable score rankings in several categories for the eighteen colleges present some interesting patterns. Reference to Appendix T, page 206, Appendix U, page 208, and Appendix V, page 210, will be helpful in the following presentation. Again it must be recognized that one of the weaknesses of the Spearman statistical technique is that it treats only the ranks of the data, not the measure values, or distances apart.

Institutions in which either all scores, or all but one, were within a range of seven ranks in a major variable set were:

Quantitative Scores: Dabney Lancaster, Germanna, John Tyler, Lord Fairfax, Mountain Empire, Patrick Henry, Paul D. Camp, Southwest Virginia, Thomas Nelson, and Virginia Western.

Faculty Scores: Blue Ridge, Central Virginia, Eastern Shore, Lord Fairfax, Mountain Empire, Patrick Henry, Paul D. Camp, Southwest Virginia, Virginia Western and Wytheville.

Student Scores: Blue Ridge, Central Virginia, Dabney Lancaster, Danville, Eastern Shore, Germanna, Lord Fairfax, Mountain Empire, New River, Patrick Henry, Paul D. Camp, Piedmont Virginia, Southwest Virginia, Virginia Highlands, Virginia Western and Wytheville.

Faculty and student evaluation scores were remarkably close to each other within several of the colleges for some of the variables. Institutional data which yielded faculty and student scores within one rank of each other in certain variables were:

Category 1 (finance): Danville, Eastern Shore, Lord Fairfax, New River and Wytheville.

Category 2 (book collection): Germanna, Mountain Empire, and Wytheville.

Category 3 (audiovisual services): Blue Ridge, Lord Fairfax, Paul D. Camp and Wytheville.

Category 4 (reader's services): None

Category 5 (space): Danville, New River, Patrick Henry, Paul D. Camp, Virginia Highlands, Southwest Virginia and Wytheville.

Category 6 (staffing): Blue Ridge, Danville, Germanna, Lord Fairfax, Mountain Empire, Paul D. Camp, and Virginia Western.

Category 7 (overall evaluation question thirty-one): Blue Ridge, Central Virginia, Lord Fairfax, Virginia Western, and Wytheville.

Category 8 (composite score from all thirty categorized questions): Blue Ridge, Central Virginia, Mountain Empire, Paul D. Camp, and Virginia Western.

Because no student returns were received from Thomas Nelson or John Tyler, faculty scores from these colleges were excluded in the above analysis to maintain consistency in the number of ranks.

Institutions with the most congruence between faculty and student score ranks were: Blue Ridge, Central Virginia, Lord Fairfax, Mountain Empire, Paul D. Camp, Virginia Western and Wytheville. Colleges with the least congruence between ranked faculty and student scores were: Eastern Shore, New River, Patrick Henry, and Piedmont Virginia.

The college with the closest clustering of quantitative score ranks was Germanna, which was also the highest ranking in this area, with the number one rank in five of the six measures. The institution with the closest clustering of student scores was Danville, with seven out of eight rankings in first place. The closest faculty cluster was found to be Virginia Western, with most of the eight scores in the thirteenth or fourteenth ranks. New River scores showed the largest variation in faculty rankings, while Eastern Shore student scores displayed the largest variation within that group. Wide variations between quantitative measures within an institution were not deemed significant for the purpose of this study.

Caution in interpreting the rank order of any measures in this study as an indication of the relative excellence or inadequacy of any institutional learning resource program cannot be overstressed. Questionnaire categories were focused on only six selected learning resource program quantitative measures. Many other variables also interact within each Library/LRC and each college that affect not only the organizational climate, but also the effectiveness of learning resource elements in contributing to the instructional efforts of faculty, staff and students.

User Characteristics and Library/LRC Usage Patterns

Although the major thrust of this research was to determine whether there is a significant statistical relationship between certain quantitative and qualitative community college learning resource program measures, it was felt that advantage should be taken of the opportunity to gather descriptive and use data from the faculty and student population samples. A summary of this section of the questionnaire responses is presented in Appendices P and R.

In Chapter 4 the findings of the study were presented. In Chapter 5, following, the research is summarized, the results discussed and analyzed, and recommendations for further research are stated.

Chapter 5

SUMMARY, DISCUSSION, CONCLUSIONS AND RECOMMENDATIONS

SUMMARY OF THE STUDY

Statement of the Problem

One of the most difficult aspects of a community college instructional program to evaluate is the effectiveness of the Library/Learning Resource Center in supporting the college curriculum. Traditional methods of library evaluation are heavily dependent on the quantitative data reported for descriptive and comparative purposes by academic library and learning resource program administrators. These quantitative data often tend to be viewed as surrogate measures of program quality. Qualitative evaluation is usually accomplished only during periodic self study or accrediting association examination cycles, or conducted locally with ad hoc questionnaires to student and faculty client groups. No studies are available that seek to discover how quantitative and qualitative evaluation are related. The purpose of this study was to determine the relationship between qualitative evaluation of community college learning resource programs, as measured by a questionnaire distributed to selected community college faculty and students at eighteen single campus Virginia community colleges, and quantitative measures frequently used as comparative indicators of program quality.

Research Design

The research design consisted of: (1) using an appropriate survey questionnaire to develop client rating scores on learning resource programs and ranking these scores by college; (2) compiling selected program quantitative measures and also ranking them by college; and (3) seeking relationships in the form of Spearman rank order (R) correlation coefficients between the rating scores as the dependent variables, and their corresponding quantitative measures as the independent variables.

The two almost identical questionnaire versions consisted of six groups of five questions, each group related to a single quantitative measure, plus one additional or overall question, for a total of thirty-one questions. Basic client characteristics and program usage data were also sought (see Appendix P and Appendix R). The question groups and their corresponding quantitative measures were:

Quantitative Evaluation Measures (Provided by Library/LRC Directors)	Qualitative Evaluation Measures (Faculty/Student Questionnaire Scores)
QN1: Funds spent per student on the learning resource program	FY1/ST1: Financial Support Score (Questions 1 - 5)
QN2: Number of titles in the book collection per student	FY2/ST2: Book Collection Score (Questions 6 - 10)
QN3: Number of titles in the media collection per student	FY3/ST3: Audiovisual Services Score (Questions 11 - 15)
QN4: Number of items circulated per student	FY4/ST4: Readers Services Score (Questions 16 - 20)
QN5: Number of square feet in the Library/LRC per student	FY5/ST5: Space Availability Score (Questions 21 - 25)
QN6: Number of FTE Students per staff member	FY6/ST6: Staffing Profile Score (Questions 26 - 30)

Scores were calculated for each of the six five-question categories from faculty (N = 264) and student (N = 827) returns and ranked by college. Twelve null hypotheses, six for faculty and six for students, were tested using Spearman rank order (R) correlation coefficients at the .05 level to determine the statistical relationship between the ranked scores as the dependent variables and their respective quantitative measures as the independent variables. Additionally, scores were developed from the overall evaluation question, number thirty-one, and also from the composite results of all thirty categorized questions. These two scores were also ranked by college and tested for rank order relationships with each of the six quantitative measures. Finally, as a secondary analysis, Pearson (r) correlation coefficients were calculated between all paired sets (see Appendix W).

Research Findings

With certain specific and isolated exceptions, no overall relationship was found to exist between selected community college learning resource program quantitative evaluation data and qualitative evaluation of corresponding measurement areas by faculty and student users. No comparative institutional data were provided to respondents. The findings of the research therefore appear to indicate that faculty and student satisfaction as users of learning resources is not significantly greater in community colleges that provide more resources per headcount student for materials, services and staff than it is for those institutions which provide relatively less. A summary of

Spearman coefficients calculated for each of the twelve hypotheses is set forth in Table 15.

Table 15

Summary of Spearman Correlation Coefficients (R) Between Ranked Learning Resource Program Quantitative Measures and Ranked Faculty/Student Questionnaire Responses for All Hypotheses

	<u>Quantitative Measures</u>		<u>Qualitative Measures</u>	
	Hypothesis	Faculty Responses (R)	Hypothesis	Student Responses (R)
FINANCE	1	.336	7	.009
BOOK COLLECTION	2	.131	8	.541
AUDIOVISUAL TITLES	3	.061	9	☐ .044
CIRCULATION	4	.368	10	.212
SPACE	5	.684	11	.632
STAFF	6	.154	12	.135

☐ = Significant at the .05 level

☐ = Negative correlation

Note: For more detailed analysis see Tables 12 and 13 on pages 91 and 92.

DISCUSSION

From the research findings it would be inappropriate to assume, when evaluating community college learning resource programs, that user opinion, as expressed through an evaluation questionnaire, can be substituted for quantitative data in the six areas selected for this study. It follows then that the reverse is also true, that quantitative measurement in these areas cannot be substituted for client evaluation of learning resource elements or services. The evaluation process,

whether conducted by an external group such as an accrediting association, or by local, internal self assessment, relies heavily on quantitative data for comparative appraisal of program elements against norms or against other comparable institutions. The underlying assumption of course is that the form of quantitative measurement reflects the substance of program quality in supporting instruction, as viewed by the direct generators and recipients of the instructional process, faculty and students.

The findings of this research indicate that, at least for the six library/learning resource criteria selected for the study, no such relationship appears to exist. It is not manifest that numerical evidence in fact measures program quality, however, because comparative data is the language of regional and national accrediting associations, the quantitative approach will no doubt continue to serve as the basis for the evaluation of learning resource programs for the foreseeable future. Periodic solicitation of user opinions of services, especially to coincide with quantitative evaluation cycles, should also be required in order to reinforce, but not to surrogate for, quantitative evaluation.

Finance

No significant relationship was found between the amount of funds spent on the learning resource program per headcount student, ranked by college, and faculty or student scores, ranked by college, for (1) five questions evaluating the adequacy of learning resource program financial support; (2) overall evaluation question number

thirty-one; or (3) the thirty-question composite score. The difference between faculty and student scores was statistically insignificant.

In seeking to identify those variables that produce higher client satisfaction with community college learning resource programs, one might expect to find that higher per capita funding would produce greater client ratings. If the variability of measurable, basic inputs such as financial support do not seem to affect client ratings of learning resource programs, then apparently intangible factors must be sought. Likely possibilities are staff professional expertise, morale and human relations skills, the aggressiveness and sophistication of readers services programs, and organizational leadership.

Book Collection

Faculty: No relationship was found between the number of book titles in the learning resources collection per headcount student, ranked by college, and faculty scores, ranked by college, for (1) five questions evaluating the book collection; (2) for overall evaluation question thirty-one; or (3) for the thirty-question composite score.

Students: A significant relationship ($R = .541$, $P < .05$) was found to exist between the number of book titles per headcount student and student scores for five questions evaluating the collection. No relationship was found to exist between the number of book titles and student scores for overall evaluation question number thirty-one or for the thirty-question composite score.

Only the student scores for the specific questionnaire area of book collection evaluation correlated with quantitative data. Overall

program evaluation by students was evidently not affected by their opinions regarding book collection adequacy. It should not be surprising that student users would tend to rate the usefulness of larger collections higher than smaller ones because a larger selection of books and periodicals available on a given subject reduces student competition for their use, and widens the choices obtainable as inputs into written assignments and subject understanding. The evaluation questions, however, stressed adequacy and effectiveness, focusing on qualitative values rather than numerical. Further research for the purpose of examining the relationship between user evaluation and book collection quality, as determined by comparing holdings with standard bibliographies, is recommended.

No explanation can be given as to why the number of titles in the book collection correlates with student ratings, but not with corresponding faculty scores. Perhaps faculty tend to assess the adequacy of a college library book collection in the narrower but more knowledgeable context of their own disciplines, while student experience with resources availability is broader and more cross-disciplinary, though more transitory. Apparently size alone does not produce higher faculty satisfaction. Less easily measured factors such as book collection weeding, maintenance and inventory efforts, reshelving time, and the organized neatness of books on the shelves may also be considerations when users evaluate instructional resources.

Only 96 out of 823, or 11.7 percent of student respondents reported that the inadequacy of the book collection was a problem

encountered in using the Library/LRC. When faculty were asked whether their respective book collections were adequate to support the curriculum in their teaching areas, 183 out of 260 responding, or 70.3 percent rated their respective book collections adequate in quantity of materials, 203 out of 253, or 81.2 percent rated them adequate in quality, and 215 out of 254, or 84.6 percent judged the book collection as adequate in recency.

Audiovisual Titles

No significant relationship was found between the number of audiovisual titles in the learning resource collection per student headcount, ranked by college, and faculty or student scores, ranked by college, for (1) five questions relating to audiovisual services; (2) for overall evaluation question number thirty-one; or (3) for the thirty-question composite score. From the findings it would seem that larger non-print media collections, while desirable for obvious reasons, do not necessarily result in higher user satisfaction, either with audiovisual services per se, or with learning resource programs generally. Factors other than audiovisual collection size may influence user ratings of audiovisual services, such as degree of client acceptance and usage, recency and instructional applicability of resources, arrangement and accessibility, availability and reliability of basic equipment, the number and skill of media personnel, and the effectiveness of staff efforts to "sell" faculty on the value of media in classroom teaching. Table 16 shows a summary of faculty and student audiovisual use as reported by respondents, and Table 17 reflects

the summarized views of faculty and students on the necessity for student use of audiovisual formats for academic success.

Table 16

Frequency of Faculty and Student Audiovisual Use in Single-Campus Virginia Community College Library/LRC's

	Daily	Several Times a Week	Several Times a Month	Several Times a Quarter	Almost Never	Total
Faculty	28	68	69	73	25	263
%	10.6%	25.9%	26.2%	27.8%	9.5%	100.0%
Students	16	74	141	225	367	823
%	1.9%	9.0%	17.1%	27.3%	44.6%	99.9%

Table 17

Opinions of Student and Faculty Respondents on the Necessity for Student Use of Audiovisual Equipment/Materials in Order to Make a Grade of A

	<u>Necessary</u>	<u>Helpful</u>	<u>Unnecessary</u>	<u>Total</u>
Faculty	100	139	21	260
%	38.5%	53.5%	8.0%	100.0%
Students	132	400	219	751
%	17.6%	53.3%	29.2%	100.0%

Circulation

Faculty: No significant relationship was found to exist between the number of books and media materials circulated (loaned) per head-count student, ranked by college, and faculty scores, ranked by college, for five questions evaluating readers services. However, a significant relationship was discovered between items checked out of the Library/LRC and faculty scores for overall program evaluation questions thirty-one ($R = .513, P < .05$), and for the composite score for all thirty categorized questions on the questionnaire ($R = .511, P < .05$). Readers' services, often referred to as public services, encompasses all those staff activities and practices of a Library/LRC which relate to the facilitation of client use of learning resources, such as reference, reserve materials control, circulation of materials and interlibrary loan. The findings appear to indicate that higher book/media circulation, while not influencing faculty satisfaction with reader's services, seem to have a positive affect on overall faculty opinion of the Library/LRC. Students constitute the major client group using the Library/LRC and are by far the predominant variable in circulation statistics. They attend classes with checked-out library books in their possession. Perhaps faculty perceive heavier student borrowing of library books as the most visible feedback indication of Library/LRC resource adequacy and use, or as evidence of serious student scholarly intent, or even of student interest in their respective teaching disciplines, and this evidence may translate into higher faculty esteem for the Library/LRC.

Students: No significant relationship was found to exist between circulation data, ranked by college, and (1) five questions evaluating reader's services; (2) overall evaluation question thirty-one; and (3) the thirty-question composite score.

Both faculty and students indicated strong agreement that the use of learning resource materials, such as books and periodicals, is necessary or helpful for successful teaching and learning (see Appendices P and R).

Circulation of books and materials is a primary function, and is by far the largest quantitative reporting measure of readers' services activity in a typical community college Library/LRC. Of the two major client groups, students and faculty, students are the heaviest borrowers of books, and numerically the largest users of services. However the literature indicates that student Library/LRC use is primarily dependent on course requirements, and is therefore essentially faculty induced. Studies by Long (1967), Lane (1966), Knapp (1958), Hostrop (1968), Allen (1961) and others show that most book circulation is course related and instructor mandated (see Chapter 2, pages 20 and 21 of this study). Higher circulation rates may increase faculty satisfaction with learning resources, but students do not appear to view the Library/LRC with higher esteem as the circulation load increases. Student dissatisfaction and even irritation may even grow as fewer books on a subject in instructional demand may be on the shelf at a given time.

Space

A significant relationship was found to exist between the number of square feet in the Library/LRC complex per headcount student, ranked by college, and both faculty ($R = .684, P < .05$) and student ($R = .632, P < .05$) scores for five questions relating to space adequacy, ranked by college. No relationship was discovered between space availability and scores from overall evaluation question thirty-one or for the composite scores from the thirty categorized questions for either students or faculty.

Although sufficiency of space is a superficial criteria for evaluating community college learning resource programs, it is nonetheless considered by accrediting associations and other professional evaluators to be an important factor in the evaluation process. Comparative institutional space per headcount student is the primary measure used by the Virginia State Council for Higher Education in recommending allocations for capital expenditures for new construction. Learning Resource Centers and Libraries may often be rated by users, staff and visitors more on the superficial factors of carpeting, furnishings, air conditioning, lighting and spaciousness than on the more substantive aspects of service, such as staff numbers and capability and materials availability. Apparently, however, the adequacy of space availability does not affect overall evaluation of a learning resource program by student and faculty users in the eighteen institutions studied, because no correlation was found between the number of square feet in the Library/LRC's of these colleges and client overall or aggregate evaluation scores.

Staffing

No significant relationship was found to exist between number of headcount students served by each staff member, ranked by college, and either faculty or student scores, ranked by college, for: (1) five questions evaluating the learning resources staff; (2) overall evaluation question thirty-one; or (3) the composite responses to all thirty categorized questions. Evidently the number of staff assigned does not affect overall evaluation of the learning resource program by clients.

In smaller community colleges there is a closer personal relationship among the faculty, students, professional staff and supporting personnel. Often the shared sense of instructional mission is heightened, and there is a daily interaction between people at all organizational levels which intensifies reciprocal understanding of organizational and academic needs. A result of increased student bodies is a greater number of faculty and bigger Library/LRC staffs. The service advantages that accrue with larger learning resource staffing may be offset by the increased impersonality of large group relationships, so that bigger staffs do not necessarily result in higher client satisfaction.

Overall Evaluation by Faculty and Students - Question 31

Both client groups generally viewed their respective learning resource programs and Library/LRC's with fairly high esteem (see Table 14, page 93). Over 82 percent of faculty respondents (217 out of 264) rated their programs overall as good, very good or excellent, with only

3 percent marking poor or very poor. Almost 85 percent of students (697 out of 823 responding to this question) rated their programs overall as good, very good or excellent, with only 2.5 percent viewing them as poor or very poor. Again it must be stated that respondents were provided with no comparative institutional quantitative data, and replied on the basis of their experiences with their respective Library/LRC's only.

Rank Order Comparisons

Institutional Rankings: Although the findings of the research indicate that there is no overall significant correlation between qualitative and quantitative learning resource evaluation variables in the eighteen single-campus community colleges examined, nevertheless some patterns appear to exist in the category rank orders of the institutions which suggest that further study of certain institutional profiles might yield some interesting results. In the following discussion of institutional rank order patterns it would be helpful to refer to Appendix T, page 206, Appendix U, page 208, Appendix V, page 210, and the findings presented in Chapter 4, pages 93 through 96.

Simple observation of the patterns in the variable rank orders indicate a discernable consistency in the clustering of some of the rank orders within each of the faculty and student evaluation groups for each college, and a lesser, but still apparent pattern of rank order proximity within the six quantitative measures for individual institutions. The two best examples of this are the student rank orders for Danville Community College, which ranked first in seven out of the eight student

evaluation measures, and Germanna, which ranked first in all quantitative measures except one, and additionally, clustered closely in the first four ranks in faculty evaluation measures. Other institutions which appear to show distinct cluster patterns in one or more of the three evaluation areas were Dabney Lancaster, John Tyler, Lord Fairfax, Mountain Empire, Patrick Henry, Paul D. Camp, Southwest Virginia, Thomas Nelson, and Virginia Western.

Eastern Shore had the second highest number of books per headcount student of all the eighteen colleges, yet showed the second lowest number of books circulated. However both faculty and students rated readers services relatively highly, leading to the conclusion that the number of books circulated is not necessarily an indication of the effectiveness of readers' services provided by the learning resource staff. Piedmont had the lowest number of books per headcount student, yet ranked sixth in books circulated, and first in both book collection evaluation and in reader's services by faculty. The reverse pattern existed at Patrick Henry and Southwest Virginia, where relatively high ranking in book circulation contrasted with very low rankings in readers' services. Germanna ranked first in staffing measures, but only twelfth in faculty and eleventh in student rankings. Again the conclusion that quantity does not always mean quality is unavoidable.

Although Central Virginia had the lowest number of audiovisual titles per headcount student, both faculty and students seemed relatively satisfied with the adequacy of audiovisual services. Central Virginia also had the smallest staff per student served, but student scores ranked fourth. Both results imply that the number of titles in the media

collection or the size of the staff are not in themselves reliable indexes of client satisfaction. An analagous situation was present in the data from Danville, where audiovisual titles ranked fourteenth, but student scores in audiovisual services ranked first and faculty scores ranked eighth, and also at John Tyler where audiovisual titles ranked seventeenth, yet faculty scores ranked fourth.

The faculty scores from Patrick Henry were the lowest of any college, with the exception of the space evaluation category, which ranked third, close to the institution's second ranking in the number of square feet in the LRC per headcount student. Yet this contrasts with the ranking of third in quantitative measures for the college. Whether the the very low faculty ranking reflects a deep dissatisfaction on the part of instructors with the learning resource program, or the staff, or with other factors at that college is speculative.

The lowest student scores were found to be from New River, which was also lowest in funding per headcount student, and in the number of square feet in the LRC per student. The lowest ranking by both students and faculty in the specific evaluation category of space reflects the extreme severity of the space problem at New River, which has become a victim of its own success. The student body has risen from a few hundred at its establishment in 1970 to over 2,300 in 1975/76, greatly taxing a plant designed to serve about six hundred students. It is very possible that client tolerance of overtaxed facilities may ultimately become strained enough to affect their evaluation of other learning resource program elements.

It must be assumed that other variables in each institutional setting will inevitably influence client opinion to some degree in their assessment of the effectiveness of learning resource services offered at their respective colleges. Some of these constituents are as subtle as human relationships, or as intangible as the frustrations resulting from a myriad causes related or unrelated to the academic situation. There are long term and daily dynamics at work in every institution that affect individual values, perceptions and conduct, and these factors could, and probably do influence survey responses, so that a questionnaire that seeks to measure client evaluation of book collection adequacy might also be measuring something else as well.

Such intangibles as the friendliness, approachability, enthusiasm and helpfulness of the learning resource staff, or the awkwardness of the layout of a physical plant that is otherwise large enough for adequate service, may affect client evaluation of other program services almost without their realization. This factor may account, for example, for the unusually low faculty rankings from Patrick Henry Community College relative to high student and quantitative rankings, or the wide variations within the faculty data at Virginia Highlands.

Faculty and Student Score
Rank Order Comparisons

Spearman rank order correlation coefficients (R) were also calculated between the ranked faculty and student scores in each of the eight pairs of measures (finance, book collection, audiovisual services, readers' services, space, staffing, overall evaluation question

thirty-one and the composite scores). Faculty and student scores correlated significantly only in category five, space ($R = .8308, P < .05$). Whether the low faculty scores at Patrick Henry Community College relative to student scores reflect an atypical but genuine dissatisfaction with certain aspects of the learning resource program at that college is conjectural, however when the data from this institution was excluded from the calculations, then significant correlations emerged in category three, audiovisual services ($R = .5678, P < .05$); category six, staffing ($R = .6482, P < .05$), and category eight, the thirty-question composite score ($R = .6625, P < .05$).

It is necessary to emphasize that all variable rankings must be considered solely within the limited context of this study, and are not to be deemed a measure of the relative excellence of institutional programs. The faculty sample, chosen randomly from the college catalogs, included respondents who may use the Library/LRC so seldom as to be classified almost as non-users, while the student sample consisted completely of students who entered the facility during a given period of time, and are therefore "users" by definition.

CONCLUSIONS

The findings of this study lead to the following conclusions:

1. When evaluating community college learning resource programs, quantitative measures, such as book collection size or circulation figures, are not reliable indicators of program excellence as perceived by faculty and student learning resource users. The degree of program effectiveness cannot therefore be inferred from such quantitative data as

funds expended per headcount student or the size of the staff per hundred students served. Conversely qualitative measures, such as scores derived from client evaluation surveys, cannot subrogate for the quantitative data which is the language of evaluation used by librarians and media specialists to compare data profiles against professional standards. Personal, subjective evaluation of learning resource materials and services by faculty and student users may, however, be a more valid assessment of program effectiveness in supporting the curriculum at a given point in time than mere quantification of expenditures, inventories and activities. Overall rankings in measurement data cannot be the sole criteria for evaluation.

2. The highest ranking colleges in each set of evaluation variables were: Lord Fairfax (faculty scores), Danville (student scores), and Germanna (quantitative measures). The lowest ranking in the same three areas were: Patrick Henry (faculty scores), New River (student scores), and Virginia Western (quantitative measures). Again the overall rankings of a college compared with similar institutions in a specific quantitative or qualitative measure or measures cannot be interpreted as an indication of the relative merit or excellence of its learning resource program. Each college must be evaluated on an individual basis.

3. There is no relationship between the size of an institution as measured by the number of students registered, and qualitative evaluation by faculty and student users.

4. Faculty and student clients of learning resource programs in the eighteen single-campus Virginia community colleges examined in this

study both gave high ratings to learning resource staff, materials collections, and services, but generally restrict their use of learning resources to available books and periodicals, with a large percentage of students seldom or never using audiovisual or inter-library loan services.

RECOMMENDATIONS

1. Annual program self evaluation by community college learning resource administrators, both in Virginia and nationally, is recommended, using all quantitative measures available, reinforced with client evaluation through a survey questionnaire. Additional qualitative variables should be sought and identified at each individual college and included in the evaluation process to the extent possible.

2. The Virginia Department of Community Colleges should:

(a) Provide a learning resource coordinator/consultant at the Department (state) level to assist community college Directors of Learning Resources with program improvement and both summative and formative evaluation procedures.

(b) Annually survey the Library/LRC's in the state community colleges using a standardized data gathering instrument with all measures and terms well defined, consistent with the annual federal HEGIS report.

(c) Fund and conduct regional and/or state workshops frequently for community college learning resource personnel in order to maintain current awareness of the state of the art in the use of print and non-print media in the instructional process.

(d) Encourage institutional research officers at the

various colleges to actively assist and encourage learning resource administrators in the use of appropriate statistical methods to conduct research in services, usage and activities.

(e) Encourage organizational and operational merging of learning resource elements at each college, and work towards reduction of the narrow, parochial view that often devolves from isolation of individual program components, such as an exclusively "book" oriented perception of instruction by librarians, or an "audiovisual" concept by media coordinators.

Recommendations for Further Research

1. It is recommended that two groups of students be selected at a suitable number of similar community colleges in Virginia, one group with a record of high academic performance, and the other with low grades, and their respective evaluation of learning resource services be compared. The two group design could include both qualitative and quantitative variables as well as comparisons of sample characteristics and data on learning resource use.

2. This study produced some preliminary quantitative client usage data. Further research is needed to determine how learning resources are used by both client groups and to what degree. In what way does learning resource use differ between and among college parallel students and faculty, and vocational/technical students and faculty?

3. Guidelines suggest, and national practice as reflected in the literature indicates, that a movement exists toward the organizational integration of learning resource elements such as the library, audio-

visual components, learning laboratory, instructional consultant and testing services, photo and graphic support, language laboratory, reprographic services and other functions into the Learning Resource Center. Research is needed to determine (a) to what degree integration of program elements along the "Ofiesh" (see bibliography) and Guideline models exists in Virginia and nationally; and (b) in what measurable way has the learning process been influenced in those institutions which have merged learning resource components towards "ideal" models.

4. Why do students rate the Library/LRC significantly higher than faculty do?

5. How and to what degree do learning resource programs support off-site and on-campus continuing education and evening classes and public service needs?

6. Why does there appear to be a significant relationship between book circulation data and faculty ratings of readers' services, as well as their overall evaluation of the learning resource program, while student evaluation of programs seem unaffected by variations in this measure?

7. Does book collection quality, as measured by the degree of availability in the collection of recommended titles in standard bibliographies, affect faculty or student evaluation of learning resources?

8. Research is desirable to determine whether Library/LRC orientation or training programs conducted for students in the use of materials and services increase their use and/or alter their perception of the Library/LRC.

9. Replication of this study is recommended in other states in order to test the findings elsewhere.

Summary of Chapter 5

The purpose of this study was to determine the relationship between qualitative evaluation of community college learning resource programs, as measured by a questionnaire distributed to selected community college faculty and students at eighteen single-campus Virginia community colleges, and six quantitative measures frequently used as comparative indicators of program quality, using Spearman correlation coefficient (R) rank order analysis. With certain specific and isolated exceptions no overall relationship was found to exist between quantitative and qualitative evaluation.

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APPENDIX A

Definitions

FY1: A score derived from all faculty responses at a given college to questionnaire category 1, FINANCIAL SUPPORT (questions 1 - 5).

FY2: A score derived from all faculty responses at a given college to questionnaire category 2, BOOK COLLECTION (questions 6 - 10).

FY3: A score derived from all faculty responses at a given college to questionnaire category 3, AUDIOVISUAL SERVICES (questions 11 - 15).

FY4: A score derived from all faculty responses at a given college to questionnaire category 4, READER'S SERVICES (questions 16 - 20).

FY5: A score derived from all faculty responses at a given college to questionnaire category 5, SPACE AVAILABILITY (questions 21 - 25).

FY6: A score derived from all faculty responses at a given college to questionnaire category 6, STAFFING PROFILE (questions 26 - 30).

FY7: A score derived from all faculty responses at a given college to questionnaire question thirty-one, OVERALL PROGRAM EVALUATION.

FY8: A score derived from all faculty responses at a given college to the aggregate of all thirty categorized questions (COMPOSITE SCORE).

QN1: Funds spent on the learning resource program per headcount student at a given college.

QN2: Number of titles in the book collection per headcount student at a given college.

QN3: Number of items in the media collection per headcount student at a given college.

QN4: Number of items circulated during the 1975/1976 academic year per headcount student at a given college.

QN5: Number of square feet in the Library/LRC complex per headcount student at a given college.

QN6: Number of students served by each staff member at a given college.

RFY1 through RFY8: Variables FY1 through FY8 arranged respectively in rank order by college.

RST1 through RST8: Variables ST1 through ST8 (see below) arranged respectively in rank order by college.

RQN1 through RQN6: Variables QN1 through QN8 arranged respectively in rank order by college.

ST1 through ST8: Student scores corresponding to FY1 through FY8 above.

APPENDIX B

List of Participating Virginia Community Colleges and
Their Identifying Codes Used in This Study

APPENDIX B

List of Participating Virginia Community Colleges and
Their Identifying Codes Used in This Study

Blue Ridge Weyers Cave	BR	New River Dublin	NR
Central Virginia Lynchburg	CV	Patrick Henry Martinsville	PH
Dabney S. Lancaster Clifton Forge	DL	Paul D. Camp Franklin	PC
Danville Danville	DV	Piedmont Virginia Charlottesville	PV
Eastern Shore Melfa	ES	Southwest Virginia Richlands	SW
Germanna Locust Grove	GE	Thomas Nelson Hampton	TN
John Tyler Chester	JT	Virginia Highlands Abingdon	VH
Lord Fairfax Middletown	LF	Virginia Western Roanoke	VW
Mountain Empire Big Stone Gap	ME	Wytheville Wytheville	WY

APPENDIX C

Primary Quantitative Data for Virginia Community College
Learning Resource Programs--1975/1976

Primary Quantitative Data for Virginia Community College Learning Resource Programs--1975/1976

College	A *Library Budget	B Books in Collection	C AV Items in Collection	D Circulation	E Space in Square Feet	F Staff	G Headcount Students
BR	\$ 85,599	30,182	4,556	14,528	12,737	5	1,911
CV	86,891	33,509	666	24,922	25,000	4.5	2,948
DL	78,109	30,624	1,442	14,830	4,792	6	881
DV	176,385	32,994	1,488	37,136	8,790	9	2,123
ES	40,812	14,682	506	2,527	4,500	3	550
GE	97,888	15,962	1,910	16,567	17,854	5	633
JT	116,294	26,032	1,120	18,608	15,000	6.5	2,800
LF	83,518	23,021	3,540	25,605	7,300	9	1,370
ME	65,658	15,299	2,853	10,170	6,956	6	1,071
NR	59,600	18,679	4,527	18,238	6,500	8	2,323
PC	60,752	15,600	1,060	8,715	3,807	3.5	1,029
PH	76,090	24,482	2,572	9,578	14,458	6.25	1,037
PV	118,135	12,928	2,843	25,829	5,800	9	1,966
SW	79,820	26,920	2,055	11,749	5,432	4.5	1,880
TN	228,644	40,115	2,843	37,031	26,852	21	4,396
VH	73,118	20,025	1,193	19,151	4,435	5	1,221
VW	164,673	44,500	2,102	21,779	15,000	7	4,919
WY	64,273	27,636	1,942	16,851	10,000	7	1,534

*Average of 1974/75 and 1975/76 Budgets

Sources: A - 1976/77 Governors Budget and College Responses B, C, D HEGIS REPORTS
E, F - College Responses; G - State Council of Higher Education for Virginia

APPENDIX D

Letter of Approval for the Research From the
Virginia Department of Community Colleges



VIRGINIA COMMUNITY COLLEGE SYSTEM
7 NORTH 8TH STREET, P.O. BOX 1556, RICHMOND, VIRGINIA 23212, AREA CODE 804/786-2231

July 16, 1976

Mr. C. Edward Huber
Office of the Library Director
Radford College
Radford, Virginia 24141

Dear Ed:

The Advisory Council of Presidents has approved your study on the topic of evaluating learning resource programs. I recommend that you include in your cover letter for the questionnaire to faculty and LRC directors a statement about the above-noted approval.

Several points were noted about your student questionnaire, Ed. One, the inclusion of the name, Fred Heath and title assistant director of public services is obviously irrelevant and, we assume, to be removed. Two, it is recommended that you hold the number of student questionnaires to be distributed during a certain period of time to the minimum number which will suit your purpose, and attempt to vary that number so that the smaller institutions would not be expected to complete as many as the larger institutions.

Please send me a copy of your dissertation when it is completed and approved by your university committee. Best wishes for your study.

Very truly yours,

Fred A. Snyder
Director
Research, Development and
Planning Division

FAS:egw

APPENDIX E

Cover Letter to Faculty Questionnaire

January 5, 1977

Dear Faculty Member:

I am engaged in a doctoral study, the purpose of which is to determine the relationship between qualitative evaluation of community college learning resource programs, as measured by a questionnaire distributed to a random sample of faculty and student clients, with quantitative measures frequently used as comparative indicators in the evaluation process. This research has been approved by the Council of Presidents of the Virginia Community College System, by the Division of Research and Planning of the Department of Community Colleges, and by the Graduate School of Education at Virginia Polytechnic Institute and State University.

As an educational administrator I am sensitively aware of the value of your time, and this survey instrument has been carefully constructed for minimum length consistent with data requirements. It should take less than ten minutes to complete.

Your name was randomly selected from the faculty listed in each college catalog of the eighteen single-campus institutions in the Virginia Community College System, and assigned a code number for the purpose of maximizing the return rate by permitting follow-up queries to those who do not respond on the first mailing cycle. No names are needed, nor will they be included in the research findings, and your complete anonymity is assured. The coded mailing lists will be destroyed after the dissertation is finished.

Your cooperation in my research is very important and will be much appreciated. Would you please complete the questionnaire and return it to me before February 1, 1977? An abstract of the findings of the study will be sent to each Library/Learning Resource Center involved in the research for your information. Thank you very much for your courtesy and assistance.

Sincerely,



C. Edward Huber
Library Director
Radford College

APPENDIX F

Faculty Evaluation Survey Questionnaire for Virginia
Community College Learning Resource Programs

The questionnaire is divided into two sections: Section I - Faculty Characteristics and Usage Profile; and Section II - Library/LRC program evaluation. Section II consists of thirty-one questions, as follows:

Questions 1 - 5:	Library/LRC Financial Support
Questions 6 - 10:	Book Collection
Questions 11 - 15:	Audiovisual Services
Questions 16 - 20:	Reader's Services
Questions 21 - 25:	Space Availability
Questions 26 - 30:	Staffing Profile
Question 31:	Overall Evaluation

The four pages of the cover letter and questionnaire were reduced in size so as to fit on both sides of a single sheet of paper for convenience in mailing, handling, scoring, analysis and filing.

Faculty Evaluation Survey Questionnaire for Virginia Community
College Learning Resource Programs

Section I: Faculty Characteristics and Useage Profile

- A. How many years have you taught at this community college? _____
- B. In what subject areas do you teach? Example: Biology

- C. (Check where applicable) In order for you to successfully accomplish your teaching objectives, is your own use of:
- Library books : Necessary___? Helpful___? Unnecessary___?
Library periodicals : Necessary___? Helpful___? Unnecessary___?
Audiovisual materials: Necessary___? Helpful___? Unnecessary___?
- D. In order for your students to successfully accomplish course objectives with a grade of A, is their use of:
- Library books : Necessary___? Helpful___? Unnecessary___?
Library periodicals : Necessary___? Helpful___? Unnecessary___?
Audiovisual materials: Necessary___? Helpful___? Unnecessary___?
- E. Are the books and learning materials available in the Library/Learning Resource Center to support the curriculum in all your subject areas sufficient in quantity? Yes___; No___. Sufficient in recency? Yes___; No___; Of appropriate quality? Yes___; No__.
- F. How many books do you check out during a quarter, on the average?
More than 10___; 3 to 10___; 1 or 2___; None___.
- G. How often do you use audiovisual equipment or materials on the average?
Daily___ Several times a month___ Almost never___
Several times a week___ Several times a quarter___
- DURING THE PAST 12 MONTHS DID YOU:
- H. Request from the Library staff a list of materials available in the collection on a particular subject? Yes___; No__.
- I. Recommend any book titles and/or learning materials to the Library or Learning Resource Center staff for acquisition? Yes___; No__.
- J. Receive training in the use of audiovisual equipment by Library or Learning Resource Center staff? Yes___; No__.
- K. Place books or materials on reserve for student use in the Library or Learning Resource Center at any time? Yes___; No__.
- L. Request instructional advice or consultant service from the staff in designing or teaching any of your courses? Yes___; No__.

Section II: Library and/or Learning Resource Program Evaluation

Instructions: The Library/Learning Resource Program should be evaluated not against standards or norms, but in terms of your opinion of program effectiveness in supporting the specific curriculum at your institution.

Please circle the number after each item which best represents your evaluation of the service, activity or practice, using the following scale:

un: Unknown; 1: Very Poor or missing; 2: Poor; 3: Fair;
4: Good 5: Very good; 6: Excellent

- | | |
|--|----------------|
| 1. How adequate are funds for the purchase of printed materials? | un 1 2 3 4 5 6 |
| 2. How adequate are funds for the <u>purchase</u> of audiovisual materials? | un 1 2 3 4 5 6 |
| 3. How adequate are funds for the <u>production</u> of audiovisual materials? | un 1 2 3 4 5 6 |
| 4. How adequate are funds for the purchase and repair of audiovisual equipment? | un 1 2 3 4 5 6 |
| 5. How adequate are funds for staffing? | un 1 2 3 4 5 6 |
| 6. How effectively are teachers involved in the selection of instructional materials? | un 1 2 3 4 5 6 |
| 7. How effectively are books and learning materials organized and filed for convenience and availability? | un 1 2 3 4 5 6 |
| 8. How adequate are current periodical subscriptions to meet faculty needs and interests? | un 1 2 3 4 5 6 |
| 9. How adequate are periodical backfiles to support the instructional program? | un 1 2 3 4 5 6 |
| 10. How adequately does the staff keep the faculty informed of the publication or availability of books and media in their respective fields for possible acquisition? | un 1 2 3 4 5 6 |
| 11. How effectively do members of the staff serve faculty in the efficient use of media and equipment? | un 1 2 3 4 5 6 |
| 12. How adequate are the facilities for the use and production of audiovisual resources? | un 1 2 3 4 5 6 |
| 13. How adequate is the quantity of audiovisual equipment to support instructional needs? | un 1 2 3 4 5 6 |

- | | | | | | | | | |
|-----|--|----|---|---|---|---|---|---|
| 14. | To what extent do media services meet the needs of students? | un | 1 | 2 | 3 | 4 | 5 | 6 |
| 15. | How effectively do staff members assist faculty in the production of instructional media? | un | 1 | 2 | 3 | 4 | 5 | 6 |
| 16. | How flexible and efficient is the materials and equipment loan system? | un | 1 | 2 | 3 | 4 | 5 | 6 |
| 17. | To what extent are all students given effective formal orientation in the use of library and media materials and services? | un | 1 | 2 | 3 | 4 | 5 | 6 |
| 18. | How effective is the formal orientation program for new faculty members? | un | 1 | 2 | 3 | 4 | 5 | 6 |
| 19. | How adequate is the number of hours per week that the facility is open for service? | un | 1 | 2 | 3 | 4 | 5 | 6 |
| 20. | To what degree is good communication maintained with students, faculty, and community? | un | 1 | 2 | 3 | 4 | 5 | 6 |
| 21. | How adequate is total space in the Library/Learning Resource Center? | un | 1 | 2 | 3 | 4 | 5 | 6 |
| 22. | How adequate are facilities for the use of Library resources (reading and research areas)? | un | 1 | 2 | 3 | 4 | 5 | 6 |
| 23. | How adequate is the amount of shelving available for library books and materials? | un | 1 | 2 | 3 | 4 | 5 | 6 |
| 24. | How adequate is workroom and storage space? | un | 1 | 2 | 3 | 4 | 5 | 6 |
| 25. | How adequate is storage space for audiovisual materials and equipment? | un | 1 | 2 | 3 | 4 | 5 | 6 |
| 26. | How adequate is the number of professional staff? | un | 1 | 2 | 3 | 4 | 5 | 6 |
| 27. | How adequate is the number of paraprofessional staff? | un | 1 | 2 | 3 | 4 | 5 | 6 |
| 28. | How adequate is the number of clerical staff? | un | 1 | 2 | 3 | 4 | 5 | 6 |
| 29. | How qualified are professional staff for the positions they hold? | un | 1 | 2 | 3 | 4 | 5 | 6 |
| 30. | How qualified are the paraprofessional staff for the positions they hold? | un | 1 | 2 | 3 | 4 | 5 | 6 |
| 31. | In terms of its effectiveness in supporting the instructional program of your college, how would you rate the Library/Learning Resource program overall? | un | 1 | 2 | 3 | 4 | 5 | 6 |

APPENDIX G

Follow-Up Letter to Non-Responding Faculty

February 23, 1977

Dear Faculty Member:

On January 5, 1977, as part of my doctoral research, I mailed a learning resource program evaluation survey questionnaire, along with a stamped, self-addressed envelope, to 383 faculty members at 18 single-campus Virginia community colleges. Your name was among those randomly selected from the faculty listed in your college catalog, and as of this date no reply has been received from you. If for some reason you did not receive my letter due to the vagaries of the postal service, or if you have misplaced the questionnaire, another copy is enclosed for your convenience.

As a client of learning resource services your assistance in providing a personal evaluation of program support of your instructional activities is extremely important to me. The deadline date for the completion of my data gathering is fast approaching, and I would be very grateful if you would take a few minutes now to mark your responses on the accompanying questionnaire and drop it in the mail. If you have already completed and returned the questionnaire immediately before receiving this letter, please ignore this follow-up. Thank you for your time and patience. I appreciate your help.

Sincerely

C. Edward Huber
C. Edward Huber
Library Director
Radford College

APPENDIX H

Student Evaluation Survey Questionnaire for Virginia
Community College Learning Resource Programs

The questionnaire is divided into two sections: Section I: Student Characteristics and Usage Profile; and Section II: Library/LRC Program Evaluation. Section II consists of thirty-one questions as follows:

Questions 1 - 5:	Library/LRC Financial Support
Questions 6 - 10:	Book Collection
Questions 11 - 15:	Audiovisual Services
Questions 16 - 20:	Reader's Services
Questions 21 - 25:	Space Availability
Questions 26 - 30:	Staffing Factors
Question 31:	Overall Evaluation

The four pages of the cover letter and questionnaire were reduced in size to fit on both sides of a single sheet of paper for convenience in mailing, handling, scoring, filing and analysis

Student Evaluation Survey Questionnaire for Virginia Community
College Learning Resource Programs

February 2, 1977

Dear Student:

I am engaged in a doctoral study, the purpose of which is to determine the relationship between qualitative evaluation of Virginia community college learning resource programs, as measured by a questionnaire distributed to a random sample of faculty and student clients, with selected quantitative measures frequently used as comparative indicators in the evaluation process. This research has been approved by the Research Committee of the Council of Presidents of the Virginia Community College System, by the Division of Research and Planning of the Department of Community Colleges, and by the Graduate School of Education at Virginia Polytechnic Institute and State University.

As both an educational administrator and as a student, I am sensitively aware of the value of your time, and this survey instrument has been carefully constructed for minimum length consistent with data requirements. It should take less than ten minutes to complete. When you are finished, please return the completed questionnaire to the senior staff member on duty.

Your cooperation in my research is very important to me, and will be deeply appreciated. An abstract of the findings of the study will be sent to each Library/Learning Resource Center involved in the research for your information. Thank you very much for your courtesy and assistance.

Sincerely,

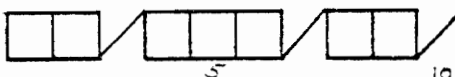
C. Edward Huber
C. Edward Huber
Library Director
Radford College

Section I: Student Characteristics and Usage Profile

Please check the quarters during which you were a registered student, either full or part time, at this community college:

Fall 1974	Winter 1974	Spring 1975	Summer 1975	Fall 1975	Winter 1975	Spring 1976	Summer 1976	Fall 1976
_____	_____	_____	_____	_____	_____	_____	_____	_____

Key punch data fields →



Do not use

For the following questions please circle the letter(s) preceding the correct or appropriate statement(s).

A. What is your area of study?

- | | |
|----------------------------|--------------------------|
| a. Liberal Arts/Humanities | f. Police/Public Service |
| b. Science/Mathematics | g. Health Technologies |
| c. Business Technologies | h. General Courses |
| d. Engineering/Technical | i. Other (specify) _____ |
| e. Social Science | |

B. How often do you use the Library/Learning Resource Center (LRC)?

- | | | |
|-------------------------|----------------------------|-----------------|
| a. Daily | c. Several times a month | e. Almost never |
| b. Several times a week | d. Several times a quarter | |

C. For what purpose(s) do you most generally use the Library/LRC?

- | | |
|-----------------------------------|---------------------------------|
| a. Specific assignment/research | d. Casual reading |
| b. Study, using Library materials | e. Browsing |
| c. Study, using your own books | f. Using AV materials/equipment |

D. In order for you to successfully accomplish course objectives in your major area of study with a grade of A, is your use of:

- | | | | | |
|------------------------|---|--------------|------------|----------------|
| Library books | : | a. Necessary | b. Helpful | c. Unnecessary |
| Library periodicals | : | a. Necessary | b. Helpful | c. Unnecessary |
| Audiovisual materials: | : | a. Necessary | b. Helpful | c. Unnecessary |

E. How often do you use audiovisual equipment/materials?

- | | | |
|-------------------------|----------------------------|-----------------|
| a. Daily | c. Several times a month | e. Almost never |
| b. Several times a week | d. Several times a quarter | |

F. How many books do you check out during a quarter on the average?

- | | | | |
|-----------------|------------|-----------|---------|
| a. More than 10 | b. 3 to 10 | c. 1 or 2 | d. None |
|-----------------|------------|-----------|---------|

G. How frequently do you use the Library's interlibrary loan service?

- | | | |
|----------|-----------|----------|
| a. Often | b. Seldom | c. Never |
|----------|-----------|----------|

H. What are the most serious problems encountered in the Library/LRC?
Circle one or more.

- | | |
|---------------------------------|-----------------------------------|
| a. No major problems | f. Noise |
| b. Confusing locational schemes | g. Inadequate hours |
| c. Missing books/materials | h. Difficult checkout procedures |
| d. AV materials inadequate | i. Building or area too small |
| e. Book collection inadequate | j. Not enough reading/study space |

Other: _____

(OVER) →

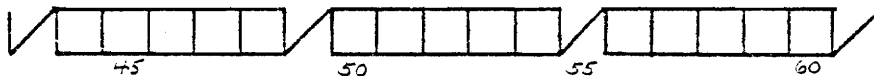


Section II: Student Evaluation of the Library/Learning Resource Program

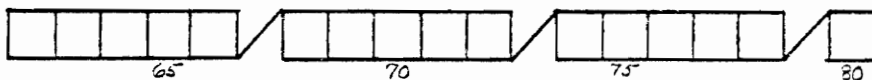
Instructions: Responses should reflect your opinion of program effectiveness in supporting the instructional and personal needs of students for Library/Learning Resource services. Please circle the number after each item according to your opinion of the service or practice, using the following scale:

un: Unknown 1: Very poor or missing 2: Poor 3: Fair 4: Good 5: Very Good
6: Excellent

1. How adequate are funds for the purchase of printed materials?	un	1	2	3	4	5	6
2. How adequate are funds for the purchase of audiovisual materials?	un	1	2	3	4	5	6
3. How adequate are funds for the <u>production</u> of audiovisual materials?	un	1	2	3	4	5	6
4. How adequate are funds for the purchase and repair of audiovisual equipment?	un	1	2	3	4	5	6
5. How adequate are funds for staffing?	un	1	2	3	4	5	6
6. How effectively are students involved in the selection of books and learning materials?	un	1	2	3	4	5	6
7. How effectively are books and learning materials organized and filed for convenience and availability?	un	1	2	3	4	5	6
8. How adequate are current periodical subscriptions to meet student needs and interests?	un	1	2	3	4	5	6
9. How adequate are periodical <u>backfiles</u> to support the instructional program?	un	1	2	3	4	5	6
10. To what degree is the collection kept functional and current by systematic weeding and maintenance?	un	1	2	3	4	5	6
11. How effectively do staff members serve students in the effective use of media and AV equipment?	un	1	2	3	4	5	6
12. How adequate is the quantity of audiovisual equipment to support instructional needs?	un	1	2	3	4	5	6
13. To what extent do media services meet the needs of students?	un	1	2	3	4	5	6
14. How adequate are facilities for the use and production of audiovisual resources?	un	1	2	3	4	5	6
15. How good is the condition of audiovisual equipment?	un	1	2	3	4	5	6



- | | | | | | | | | |
|-------|---|----|---|---|---|---|---|---|
| 16. | How flexible and efficient is the materials and equipment loan system? | un | 1 | 2 | 3 | 4 | 5 | 6 |
| 17. | To what extent are students given effective formal orientation in the use of library and media materials and services? | un | 1 | 2 | 3 | 4 | 5 | 6 |
| 18. | To what extent do the staff members help students to develop reference and research skills? | un | 1 | 2 | 3 | 4 | 5 | 6 |
| 19. | How adequate is the number of hours per week that the facility is open for service? | un | 1 | 2 | 3 | 4 | 5 | 6 |
| 20. | To what degree is good communications maintained with students regarding services? | un | 1 | 2 | 3 | 4 | 5 | 6 |
| <hr/> | | | | | | | | |
| 21. | How adequate is total space in the Library/Learning Resource Center? | un | 1 | 2 | 3 | 4 | 5 | 6 |
| 22. | How adequate are facilities for the use of Library resources (reading and research areas)? | un | 1 | 2 | 3 | 4 | 5 | 6 |
| 23. | How adequate is the amount of shelving available for library books and materials? | un | 1 | 2 | 3 | 4 | 5 | 6 |
| 24. | How adequate is Library workroom and storage space? | un | 1 | 2 | 3 | 4 | 5 | 6 |
| 25. | How adequate is storage space for audiovisual materials and equipment? | un | 1 | 2 | 3 | 4 | 5 | 6 |
| <hr/> | | | | | | | | |
| 26. | How adequate is the number of professional staff? | un | 1 | 2 | 3 | 4 | 5 | 6 |
| 27. | How adequate is the number of paraprofessional staff? | un | 1 | 2 | 3 | 4 | 5 | 6 |
| 28. | How adequate is the number of clerical staff? | un | 1 | 2 | 3 | 4 | 5 | 6 |
| 29. | How qualified are the professional staff for the positions they hold? | un | 1 | 2 | 3 | 4 | 5 | 6 |
| 30. | How qualified are the paraprofessional staff for the positions they hold? | un | 1 | 2 | 3 | 4 | 5 | 6 |
| 31. | In terms of its effectiveness in supporting your instructional efforts, how would you rate the Library/Learning Resource program overall? | un | 1 | 2 | 3 | 4 | 5 | 6 |
| <hr/> | | | | | | | | |



APPENDIX I

Cover Letter to Library/LRC Directors

On the back of this letter was printed, in reduced size, the two pages of the data-gathering student survey. This allowed the letter and instrument to be kept to one sheet of paper for ease in handling, mailing, scoring, filing and analysis.

February 7, 1977


Dear Library/LRC Director:

As Director of Learning Resources at New River Community College for almost four years, and presently as Director of the Library at Radford College, I have long shared with my colleagues a concern for the problems inherent in evaluating academic library and learning resource programs. I am engaged in a doctoral study, the purpose of which is to determine the relationship between qualitative evaluation of community college learning resource programs, as measured by a questionnaire distributed to selected faculty and second-year student clients, with quantitative measures frequently used as comparative indicators in the evaluation process. This study has been approved by the Research Committee of the Council of Presidents of the Virginia Community College System, by the Division of Research and Planning of the Department of Community Colleges, and by the Graduate School of Education at Virginia Polytechnic Institute and State University.

I would deeply appreciate your help in accomplishing my study. As a library administrator I am acutely aware that your time is valuable, and that many other matters compete for your attention. However your cooperation is vital, for the research design requires: (1) certain quantitative data, as requested below, from each of the eighteen single-campus institutions in the system, and (2) a number of completed survey questionnaires from second-year students equal to at least four percent of the full time equivalent students registered at each college returned to me for analysis. The aggregated total from all participating colleges will be approximately 1400 questionnaires. A similar instrument is being sent to a random sample of 384 individual teaching faculty members at the same colleges.

Because of computer analysis requirements, and other time-frame imperatives, all data must be gathered by February 25, 1977. I would be grateful if you would return this letter with the requested data filled in, and the completed student questionnaires before that date. An abstract of the findings of the study will be sent to each Library/LRC involved in the study for your information. Thank you very much for your consideration and assistance.

Sincerely,


C. Edward Huber
Library Director
Radford College

Continued →

APPENDIX J

Quantitative Data-Gathering Instrument and Instructions
to Directors of Library/LRC's for Handling of
Student Questionnaires

A. **QUANTITATIVE DATA**

1. Financial Support: The following library expenditures for _____ Community College were extracted from the 1976/78 State of Virginia Budget:

	<u>1974/1975</u>	<u>1975/1976</u>
	\$ _____	\$ _____

Are the above figures correct for your college? **Yes** _____ **No** _____

In either case, please enter the correct expenditures of state appropriated funds here:

	<u>1974/1975</u>	<u>1975/1976</u>
Appropriations:	\$ _____	\$ _____
Gifts (Financial):	_____	_____
Grants:	_____	_____
Other:	_____	_____
Total Library Expenditures:	\$ _____	\$ _____

2. Learning Materials Collection as of June 30, 1976: Figures may be taken from the annual HEGIS Report submitted to the Department of HEW on October 1, 1976 (Form 2300-5) for the 1975/76 fiscal year:

Number of bookstock volumes, including bound periodicals (HEGIS, line 2)	_____
Units in microform (HEGIS, line 7)	_____
Audiovisual/media titles (HEGIS, line 8)	_____

3. Circulation - 1975/1976 (HEGIS, line 29) _____

4. Space: Number of ft² in the Library/LRC on June 30, 1976: _____

5. Staffing Profile (as of June 30, 1976):

<u>Professional</u>	
Librarians	_____
Non-librarians	_____

<u>Paraprofessional</u>	
Library Assistants	_____
Others	_____

<u>Clerical</u>	
Library clerical	_____
Others	_____

Total Library/LRC Staff: _____

Continued →

B. QUALITATIVE DATA - STUDENT EVALUATION QUESTIONNAIRES

QUESTIONNAIRES ARE FOR STUDENTS IN THEIR SECOND YEAR AT THIS COLLEGE

Accompanying this letter are a number of evaluation questionnaires equivalent to four percent of the headcount students registered at your college in the fall quarter of 1976. The difference between headcount and FTE numbers is to allow for destroyed, lost or invalidated questionnaires. If for any reason more copies are needed they may be made locally. In that event, two sided copying will not be necessary.

A questionnaire can be completed by a student in about ten minutes. It is anticipated that certain data relative to budget, staff or space may be unknown to student clients. This in itself has a research purpose.

Tests have indicated that all instruments can be completed in one day for a small to average community college.

SUGGESTED PROCEDURE

1. Questionnaires should be given by a well-briefed staff member or competent student assistant to students entering the Library/LRC at times when student use is expected, from experience, to be heavy.
2. Questionnaires should be administered at different times during the day to assure equitable distribution among morning, afternoon, and evening students.
3. Questionnaires should be given only to registered students in their SECOND YEAR at this college, who express a willingness to fill them out at that time for immediate return to the staff member. Questionnaires should not leave the Library/LRC.
4. Please return this letter and the completed questionnaires to me in the enclosed, self-addressed brown envelope.

The data from the completed survey instruments may be of value to you as evaluation feedback of your own operation, and you may wish to extract and analyze this information before returning.

I am greatly indebted to you for your help in this research. Thank you again for your patience in assisting me.

Please insert here the cost of any extra charges incurred:
Reimbursement will be made by return mail.

APPENDIX K

Faculty Questionnaire Scoring and Analysis
Computer Program

Faculty Questionnaire Scoring and Analysis Computer Program

```
DATA INPUT; INPUT COLLEGE $ 1-2 ID 4-6 YEARS 8-9 DISC1 11-12 DISC2 14-15
NEC11 $ 17 NEC12 $ 18 NEC13 $ 19 NEC21 $ 21 NEC22 $ 22 NEC23 $ 23
BKADQ1 $ 25 BKADQ2 $ 26 BKADQ3 $ 27 BKSBOR 29 AVUSE 31
SERV1 $ 33 SERV2 $ 35 SERV3 $ 37 SERV4 $ 39 SERV5 $ 41
CATSC11 44 CATSC12 45 CATSC13 46 CATSC14 47 CATSC15 48
CATSC21 50 CATSC22 51 CATSC23 52 CATSC24 53 CATSC25 54
CATSC31 56 CATSC32 57 CATSC33 58 CATSC34 59 CATSC35 60
CATSC41 62 CATSC42 63 CATSC43 64 CATSC44 65 CATSC45 66
CATSC51 68 CATSC52 69 CATSC53 70 CATSC54 71 CATSC55 72
CATSC61 74 CATSC62 75 CATSC63 76 CATSC64 77 CATSC65 78 GEN 80;
TOTAL1 = SUM(CATSC11, CATSC12, CATSC13, CATSC14, CATSC15);
NMISS1=0;
IF TOTAL1 = 0 THEN NMISS1=5;
IF TOTAL1 = 0 THEN RATIO1 = 0; IF TOTAL1 = 0 THEN GO TO TWO;
IF CATSC11 = 0 THEN NMISS1 = NMISS1+1;
IF CATSC12 = 0 THEN NMISS1 = NMISS1+1;
IF CATSC13 = 0 THEN NMISS1 = NMISS1+1;
IF CATSC14 = 0 THEN NMISS1 = NMISS1+1;
IF CATSC15 = 0 THEN NMISS1 = NMISS1+1;
RATIO1 = TOTAL1/ (6*(5-NMISS1));
TWO: TOTAL2 = SUM(CATSC21, CATSC22, CATSC23, CATSC24, CATSC25);
NMISS2=0;
IF TOTAL2 = 0 THEN NMISS2=5;
IF TOTAL2 = 0 THEN RATIO2 = 0; IF TOTAL2 = 0 THEN GO TO THREE;
IF CATSC21 = 0 THEN NMISS2 = NMISS2+1;
IF CATSC22 = 0 THEN NMISS2 = NMISS2+1;
IF CATSC23 = 0 THEN NMISS2 = NMISS2+1;
IF CATSC24 = 0 THEN NMISS2 = NMISS2+1;
IF CATSC25 = 0 THEN NMISS2 = NMISS2+1;
RATIO2 = TOTAL2/ (6*(5-NMISS2));
```

Faculty Questionnaire Scoring and Analysis Computer Program (Continued)

```
THREE: TOTAL3 = SUM(CATSC31, CATSC32, CATSC33, CATSC34, CATSC35);
NMISS3=0;
IF TOTAL3 = 0 THEN NMISS3=5;
IF TOTAL3 = 0 THEN RATIO3 = 0; IF TOTAL3 = 0 THEN GO TO FOUR;
IF CATSC31 = 0 THEN NMISS3 = NMISS3+1;
IF CATSC32 = 0 THEN NMISS3 = NMISS3+1;
IF CATSC33 = 0 THEN NMISS3 = NMISS3+1;
IF CATSC34 = 0 THEN NMISS3 = NMISS3+1;
IF CATSC35 = 0 THEN NMISS3 = NMISS3+1;
RATIO3 = TOTAL3/ (6*(5-NMISS3));
FOUR: TOTAL4 = SUM(CATSC41, CATSC42, CATSC43, CATSC44, CATSC45);
NMISS4=0;
IF TOTAL4 = 0 THEN NMISS4=5;
IF TOTAL4 = 0 THEN RATIO4 = 0; IF TOTAL4 = 0 THEN GO TO FIVE;
IF CATSC41 = 0 THEN NMISS4 = NMISS4+1;
IF CATSC42 = 0 THEN NMISS4 = NMISS4+1;
IF CATSC43 = 0 THEN NMISS4 = NMISS4+1;
IF CATSC44 = 0 THEN NMISS4 = NMISS4+1;
IF CATSC45 = 0 THEN NMISS4 = NMISS4+1;
RATIO4 = TOTAL4/ (6*(5-NMISS4));
FIVE: TOTAL5 = SUM(CATSC51, CATSC52, CATSC53, CATSC54, CATSC55);
NMISS5=0;
IF TOTAL5 = 0 THEN NMISS5=5;
IF TOTAL5 = 0 THEN RATIO5 = 0; IF TOTAL5 = 0 THEN GO TO SIX;
IF CATSC51 = 0 THEN NMISS5 = NMISS5+1;
IF CATSC52 = 0 THEN NMISS5 = NMISS5+1;
IF CATSC53 = 0 THEN NMISS5 = NMISS5+1;
IF CATSC54 = 0 THEN NMISS5 = NMISS5+1;
IF CATSC55 = 0 THEN NMISS5 = NMISS5+1;
RATIO5 = TOTAL5/ (6*(5-NMISS5));
```

Faculty Questionnaire Scoring and Analysis Computer Program (Continued)

```
SIX: TOTAL6 = SUM(CATSC61, CATSC62, CATSC63, CATSC64, CATSC65);
NMISS6=0;
IF TOTAL6 = 0 THEN NMISS6=5;
IF TOTAL6 = 0 THEN RATIO6 = 0; IF TOTAL6 = 0 THEN GO TO SEVEN;
IF CATSC61 = 0 THEN NMISS6 = NMISS6+1;
IF CATSC62 = 0 THEN NMISS6 = NMISS6+1;
IF CATSC63 = 0 THEN NMISS6 = NMISS6+1;
IF CATSC64 = 0 THEN NMISS6 = NMISS6+1;
IF CATSC65 = 0 THEN NMISS6 = NMISS6+1;
RATIO6 = TOTAL6/ (6*(6-NMISS6));
SEVEN: RATIOGEN = GEN/6;
TOTSUM = SUM(TOTAL1, TOTAL2, TOTAL3, TOTAL4, TOTAL5, TOTAL6);
TOTMISS = SUM (OF NMISS1-NMISS6);
CARDS;
INDIVSCR = TOTSUM/ (6*(30-TOTMISS));
PROC SORT OUT = SORTED; BY COLLEGE DISC1;
PROC PRINT; BY COLLEGE; TITLE COLLEGE BY DISC1;
PROC MEANS N SUM; VAR GEN TOTSUM TOTMISS TOTAL1 TOTAL2 TOTAL3 TOTAL4 TOTAL5
TOTAL6 NMISS1 NMISS2 NMISS3 NMISS4 NMISS5 NMISS6;
OUTPUT OUT = TOTALS SUM = TOTGEN COLLSUM COLLMISS
SUMTOT1 SUMTOT2 SUMTOT3 SUMTOT4 SUMTOT5 SUMTOT6
SUMMISS1 SUMMISS2 SUMMISS3 SUMMISS4 SUMMISS5 SUMMISS6 N=N;
BY COLLEGE;
DATA COMPUTE; SET TOTALS;
GENSCORE = TOTGEN/ (N*6);
COMPSCR = COLLSUM/ (6*((30*N) -COLLMISS));
SCORE1 = SUMTOT1/ (6*((N*5) - SUMMISS1));
SCORE2 = SUMTOT2/ (6*((N*5) - SUMMISS2));
SCORE3 = SUMTOT3/ (6*((N*5) - SUMMISS3));
SCORE4 = SUMTOT4/ (6*((N*5) - SUMMISS4));
SCORE5 = SUMTOT5/ (6*((N*5) - SUMMISS5));
SCORE6 = SUMTOT6/ (6*((N*5) - SUMMISS6));
```

Faculty Questionnaire Scoring and Analysis Computer Program (Continued)

```
PROC PRINT; TITLE COMPUTES;  
PROC FREQ DATA = SORTED; BY COLLEGE; TABLES  
DISC1 DISC2 NEC11 NEC12 NEC13 NEC21 NEC22 NEC23  
BKADQ1 BKADQ2 BKADQ3 BKSBOR AVUSE SERV1 SERV2 SERV3 SERV4 SERV5  
CATSC11 CATSC12 CATSC13 CATSC14 CATSC15  
CATSC21 CATSC22 CATSC23 CATSC24 CATSC25  
CATSC31 CATSC32 CATSC33 CATSC34 CATSC35  
CATSC41 CATSC42 CATSC43 CATSC44 CATSC45  
CATSC51 CATSC52 CATSC53 CATSC54 CATSC55  
CATSC61 CATSC62 CATSC63 CATSC64 CATSC65;  
TITLE FREQUENCIES;  
/*  
//
```

APPENDIX L

Student Questionnaire Scoring and Analysis
Computer Program

Student Questionnaire Scoring and Analysis Computer Program

```
DATA INPUT; INPUT COLLEGE $ 1-2 MAJOR1 $ 4 MAJOR2 $ 5
USEFREQ $ 8 USEPRP1 $ 11 USEPRP2 $ 12 USEPRP3 $ 13
USEPRP4 $ 14 USEPRP5 $ 15 USEPRP6 $ 16 USEPRP7 $ 17
NEC1 $ 19 NEC2 $ 20 NEC3 $ 21 AVUSE $ 23 BKSBOR $ 25 ILLUSE $ 27
PROB1 $ 29 PROB2 $ 30 PROB3 $ 31 PROB4 $ 32 PROB5 $ 33
CATSC11 44 CATSC12 45 CATSC13 46 CATSC14 47 CATSC15 48
CATSC21 50 CATSC22 51 CATSC23 52 CATSC24 53 CATSC25 54
CATSC31 56 CATSC32 57 CATSC33 58 CATSC34 59 CATSC35 60
CATSC41 62 CATSC42 63 CATSC43 64 CATSC44 65 CATSC45 66
CATSC51 68 CATSC52 69 CATSC53 70 CATSC54 71 CATSC55 72
CATSC61 74 CATSC62 75 CATSC63 76 CATSC64 77 CATSC65 78 GEN 80;
TOTAL1 = SUM(CATSC11, CATSC12, CATSC13, CATSC14, CATSC15);
NMISS1=0;
IF TOTAL1 = 0 THEN NMISS1=5;
IF TOTAL1 = 0 THEN RATIO1 = 0; IF TOTAL1 = 0 THEN GO TO TWO;
IF CATSC11 = 0 THEN NMISS1 = NMISS1+1;
IF CATSC12 = 0 THEN NMISS1 = NMISS1+1;
IF CATSC13 = 0 THEN NMISS1 = NMISS1+1;
IF CATSC14 = 0 THEN NMISS1 = NMISS1+1;
IF CATSC15 = 0 THEN NMISS1 = NMISS1+1;
RATIO1 = TOTAL1/ (6*(5-NMISS1));
TWO: TOTAL2 = SUM(CATSC21, CATSC22, CATSC23, CATSC24, CATSC25);
NMISS2=0;
IF TOTAL2 = 0 THEN NMISS2=5;
IF TOTAL2 = 0 THEN RATIO2 = 0; IF TOTAL2 = 0 THEN GO TO THREE;
IF CATSC21 = 0 THEN NMISS2 = NMISS2+1;
IF CATSC22 = 0 THEN NMISS2 = NMISS2+1;
IF CATSC23 = 0 THEN NMISS2 = NMISS2+1;
IF CATSC24 = 0 THEN NMISS2 = NMISS2+1;
IF CATSC25 = 0 THEN NMISS2 = NMISS2+1;
RATIO2 = TOTAL2/ (6*(5-NMISS2));
```


Student Questionnaire Scoring and Analysis Computer Program (Continued)

```
THREE: TOTAL3 = SUM(CATSC31, CATSC32, CATSC33, CATSC34, CATSC35);
NMISS3=0;
IF TOTAL3 = 0 THEN NMISS3=5;
IF TOTAL3 = 0 THEN RATIO3 = 0; IF TOTAL3 = 0 THEN GO TO FOUR;
IF CATSC31 = 0 THEN NMISS3 = NMISS3+1;
IF CATSC32 = 0 THEN NMISS3 = NMISS3+1;
IF CATSC33 = 0 THEN NMISS3 = NMISS3+1;
IF CATSC34 = 0 THEN NMISS3 = NMISS3+1;
IF CATSC35 = 0 THEN NMISS3 = NMISS3+1;
RATIO3 = TOTAL3/ (6*(5-NMISS3));
FOUR: TOTAL4 = SUM(CATSC41, CATSC42, CATSC43, CATSC44, CATSC45);
NMISS4=0;
IF TOTAL4 = 0 THEN NMISS4=5;
IF TOTAL4 = 0 THEN RATIO4 = 0; IF TOTAL4 = 0 THEN GO TO FIVE;
IF CATSC41 = 0 THEN NMISS4 = NMISS4+1;
IF CATSC42 = 0 THEN NMISS4 = NMISS4+1;
IF CATSC43 = 0 THEN NMISS4 = NMISS4+1;
IF CATSC44 = 0 THEN NMISS4 = NMISS4+1;
IF CATSC45 = 0 THEN NMISS4 = NMISS4+1;
RATIO4 = TOTAL4/ (6*(5-NMISS4));
FIVE: TOTAL5 = SUM(CATSC51, CATSC52, CATSC53, CATSC54, CATSC55);
NMISS5=0;
IF TOTAL5 = 0 THEN NMISS5=5;
IF TOTAL5 = 0 THEN RATIO5 = 0; IF TOTAL5 = 0 THEN GO TO SIX;
IF CATSC51 = 0 THEN NMISS5 = NMISS5+1;
IF CATSC52 = 0 THEN NMISS5 = NMISS5+1;
IF CATSC53 = 0 THEN NMISS5 = NMISS5+1;
IF CATSC54 = 0 THEN NMISS5 = NMISS5+1;
IF CATSC55 = 0 THEN NMISS5 = NMISS5+1;
RATIO5 = TOTAL5/ (6*(5-NMISS5));
```

Student Questionnaire Scoring and Analysis Computer Program (Continued)

```
SIX: TOTAL6 = SUM(CATSC61, CATSC62, CATSC63, CATSC64, CATSC65);
NMISS6=0;
IF TOTAL6 = 0 THEN NMISS6=5;
IF TOTAL6 = 0 THEN RATIO6 = 0; IF TOTAL6 = 0 THEN GO TO SEVEN;
IF CATSC61 = 0 THEN NMISS6 = NMISS6+1;
IF CATSC62 = 0 THEN NMISS6 = NMISS6+1;
IF CATSC63 = 0 THEN NMISS6 = NMISS6+1;
IF CATSC64 = 0 THEN NMISS6 = NMISS6+1;
IF CATSC65 = 0 THEN NMISS6 = NMISS6+1;
RATIO6 = TOTAL6/ (6*(6-NMISS6));
SEVEN: RATIOGEN = GEN/6;
TOTSUM = SUM(TOTAL1, TOTAL2, TOTAL3, TOTAL4, TOTAL5, TOTAL6);
TOTMISS = SUM (OF NMISS1-NMISS6);
INDIVSCR = TOTSUM/ (6*(30-TOTMISS));
CARDS;
PROC SORT OUT = SORTED; BY COLLEGE MAJOR1;
PROC PRINT; BY COLLEGE; TITLE COLLEGE BY MAJOR1;
PROC MEANS N SUM; VAR GEN TOTSUM TOTMISS TOTAL1 TOTAL2 TOTAL3 TOTAL4 TOTAL5
TOTAL6 NMISS1 NMISS2 NMISS3 NMISS4 NMISS5 NMISS6;
OUTPUT OUT = TOTALS SUM = TOTGEN COLLSUM COLLMISS
SUMTOT1 SUMTOT2 SUMTOT3 SUMTOT4 SUMTOT5 SUMTOT6
SUMMISS1 SUMMISS2 SUMMISS3 SUMMISS4 SUMMISS5 SUMMISS6 N=N;
BY COLLEGE;
DATA COMPUTE; SET TOTALS;
GENSCORE = TOTGEN/ (N*6);
COMPSCR = COLLSUM/ (6*((30*N) -COLLMISS));
SCORE1 = SUMTOT1/ (6*((N*5) - SUMMISS1));
SCORE2 = SUMTOT2/ (6*((N*5) - SUMMISS2));
SCORE3 = SUMTOT3/ (6*((N*5) - SUMMISS3));
SCORE4 = SUMTOT4/ (6*((N*5) - SUMMISS4));
SCORE5 = SUMTOT5/ (6*((N*5) - SUMMISS5));
SCORE6 = SUMTOT6/ (6*((N*5) - SUMMISS6));
```

Student Questionnaire Scoring and Analysis Computer Program (Continued)

```
PROC PRINT; TITLE COMPUTES;  
PROC FREQ DATA = SORTED; BY COLLEGE; TABLES  
MAJOR1 MAJOR2 USEFREQ USEPRP1 USEPRP2 USEPRP3 USEPRP4 USEPRP5 USEPRP6 USEPRP7  
PROB1 PROB2 PROB3 PROB4 PROB5 NEC1 NEC2 NEC3 AVUSE BKSBOR ILLUSE  
CATSC11 CATSC12 CATSC13 CATSC14 CATSC15  
CATSC21 CATSC22 CATSC23 CATSC24 CATSC25  
CATSC31 CATSC32 CATSC33 CATSC34 CATSC35  
CATSC41 CATSC42 CATSC43 CATSC44 CATSC45  
CATSC51 CATSC52 CATSC53 CATSC54 CATSC55  
CATSC61 CATSC62 CATSC63 CATSC64 CATSC65;  
TITLE FREQUENCIES;
```

APPENDIX M

Summary of Faculty Evaluation Question Responses
by Stem Choice

Summary of Faculty Evaluation Question Responses by Stem Choice (N = 264)

<u>Question</u>		<u>0 Unknown</u>		<u>1 Very Poor</u>		<u>2 Poor</u>		<u>3 Fair</u>		<u>4 Good</u>		<u>5 Very Good</u>		<u>6 Excellent</u>	
	<u>Responses</u>		<u>%</u>		<u>%</u>		<u>%</u>		<u>%</u>		<u>%</u>		<u>%</u>		<u>%</u>
1.	Responses	53	20.1	8	3.3	23	8.7	59	22.5	64	24.2	41	15.5	16	6.0
2.		52	19.7	17	6.4	33	12.5	57	21.6	58.	22.0	36	13.6	11	4.0
3.		73	27.7	14	5.3	22	8.3	48	18.2	60	22.7	34	1.6	13	4.9
4.		111	42.0	9	3.4	23	8.7	46	17.4	45	17.0	20	7.6	10	3.8
5.		103	39.0	7	2.7	27	10.2	41	15.5	62	23.5	16	6.1	8	3.0
6.		11	4.2	6	2.3	11	4.2	40	15.2	54	20.5	82	31.1	60	22.7
7.		2	.8	3	1.1	5	1.9	19	7.2	63	23.9	94	35.6	78	29.6
8.		5	1.9	3	1.1	10	3.8	28	10.6	73	27.7	98	37.1	46	17.4
9.		16	6.1	8	3.0	22	8.3	60	22.7	64	24.2	63	23.9	31	11.7
10.		1	.4	13	4.9	21	8.0	35	13.3	49	18.6	72	27.3	73	27.7
11.		4	1.5	8	3.0	16	6.1	26	9.9	65	24.6	84	31.8	61	23.1
12.		12	4.6	5	1.9	14	5.3	43	16.3	78	29.6	79	29.9	33	12.5
13.		5	1.9	7	2.7	14	5.3	45	17.1	81	30.7	81	30.7	31	11.7
14.		46	17.4	4	1.5	6	2.3	40	15.2	87	33.0	59	22.4	22	8.3
15.		24	9.1	11	4.2	16	6.1	37	14.0	64	24.2	72	27.3	40	15.2

Summary of Faculty Evaluation Question Responses by Stem Choice (Continued)

(N = 264)

Question	0 Unknown		1 Very Poor		2 Poor		3 Fair		4 Good		5 Very Good		6 Excellent	
		%		%		%		%		%		%		%
16. Responses	20	7.6	11	4.2	13	4.9	42	15.9	68	25.8	70	26.5	40	15.2
17.	55	20.8	9	3.4	20	7.6	41	15.5	60	22.7	57	21.6	22	8.3
18.	54	20.5	18	6.8	19	7.2	52	19.7	49	18.6	55	20.8	17	6.4
19.	4	1.5	1	.4	8	3.0	21	8.0	57	21.6	94	35.6	79	29.9
20.	17	6.4	2	.8	18	6.8	42	15.9	74	28.0	71	26.9	40	15.2
21.	2	.8	11	4.2	37	15.9	54	20.5	55	20.8	62	23.9	42	15.9
22.	2	.8	9	3.41	29	11.0	50	18.9	70	26.5	66	25.0	38	14.6
23.	13	5.0	6	2.3	36	13.6	40	15.2	67	25.4	62	23.5	40	15.2
24.	60	22.7	10	3.8	36	13.6	52	19.7	47	17.8	40	15.2	19	7.2
25.	51	19.3	11	4.2	42	15.9	63	23.9	53	20.1	33	12.5	11	4.2
26.	25	9.5	4	1.5	14	5.3	43	16.3	80	30.3	68	25.8	30	11.4
27.	43	16.3	6	2.3	14	5.3	46	17.4	81	30.7	53	20.1	21	7.8
28.	58	22.0	3	1.1	12	4.5	44	16.7	70	26.5	58	22.0	19	7.2
29.	37	14.0	1	.4	3	1.1	21	7.8	43	16.3	87	33.0	72	27.3
30.	68	25.8	4	1.5	11	4.2	35	13.3	57	21.6	63	23.9	26	9.9
31.			1	.4	7	2.3	39	14.8	78	29.5	105	39.8	34	12.9

APPENDIX N

Summary of Student Evaluation Question Responses
by Stem Choice

Summary of Student Evaluation Question Responses by Stem Choice

(N = 827)

Question	0 Unknown		1 Very Poor		2 Poor		3 Fair		4 Good		5 Very Good		6 Excellent	
		%		%		%		%		%		%		%
1. Responses	459	55.5	16	1.9	28	3.4	117	14.1	140	16.9	40	4.8	27	3.3
2.	468	56.6	13	1.6	39	4.7	114	13.8	120	14.5	57	6.9	16	1.9
3.	480	58.0	17	2.1	37	4.5	116	14.0	116	14.0	45	5.4	16	1.9
4.	483	58.4	18	2.2	33	3.6	120	14.5	107	12.9	46	5.6	20	2.4
5.	466	56.3	23	2.8	30	3.6	90	10.9	130	15.7	62	7.5	26	3.1
6.	215	26.0	48	5.8	73	8.8	154	18.6	178	21.5	125	15.1	34	4.1
7.	35	4.2	7	.8	35	4.2	94	11.4	230	27.8	252	30.5	174	21.0
8.	45	5.4	17	2.1	40	4.8	113	13.7	216	26.1	221	27.7	175	21.2
9.	107	12.9	19	2.3	35	4.2	130	15.7	234	28.3	182	22.0	119	14.4
10.	210	25.4	8	1.0	28	3.4	116	14.0	220	26.6	158	19.1	87	10.5
11.	61	7.4	9	1.1	26	3.1	101	12.2	174	21.0	229	27.7	227	27.4
12.	102	12.3	3	.4	21	2.5	135	16.3	225	30.8	208	25.2	103	12.5
13.	133	16.1	9	1.0	31	3.7	138	16.7	261	31.6	188	22.7	67	8.1
14.	173	20.9	5	.6	30	3.6	131	15.8	245	29.6	150	18.1	93	11.2
15.	108	13.1	12	1.5	26	3.1	117	14.1	229	27.7	208	25.2	127	15.4

Summary of Student Evaluation Question Responses by Stem Choice (Continued)

(N = 827)

Question	0 Unknown		1 Very Poor		2 Poor		3 Fair		4 Good		5 Very Good		6 Excellent	
		%		%		%		%		%		%		%
16.	243	29.4	10	1.2	28	3.4	116	14.0	215	26.0	148	17.9	67	8.1
17.	52	6.3	35	4.2	71	8.6	137	16.6	220	26.6	180	21.8	132	16.0
18.	47	5.7	20	2.4	64	7.7	145	17.5	212	25.6	186	22.5	153	18.5
19.	19	2.3	20	2.4	27	3.3	65	7.9	188	22.7	242	29.3	266	32.2
20.	58	7.0	11	1.3	41	5.0	140	16.9	239	28.9	224	27.1	114	13.8
21.	15	1.8	21	3.3	59	7.0	165	20.0	261	31.6	182	22.0	119	14.4
22.	9	1.1	15	1.8	45	5.4	172	20.8	277	33.5	193	23.3	116	14.0
23.	23	2.8	15	1.8	42	5.1	193	23.3	260	31.4	186	22.5	108	13.1
24.	235	28.4	18	2.2	50	6.0	155	18.7	198	23.9	111	13.4	60	7.3
25.	267	32.3	18	2.2	53	6.4	171	20.7	165	20.0	106	12.8	47	5.7
26.	107	12.9	6	.7	21	2.5	149	18.0	258	31.2	183	22.1	103	12.5
27.	174	21.0	5	.6	29	3.5	129	15.6	232	28.1	177	21.4	81	9.8
28.	239	28.9	6	.7	15	1.8	129	15.6	218	26.4	154	18.6	66	8.0
29.	196	23.7	10	1.2	9	1.1	68	8.2	189	22.9	193	23.3	162	19.6
30.	263	31.8	11	1.3	17	2.1	85	10.3	204	24.7	160	19.3	87	10.5
31.	4	.5	7	.8	13	1.6	106	12.8	262	31.7	270	32.6	165	20.0

APPENDIX O

Frequency Distribution of Responses from the Faculty
Questionnaire for Questions 1-30 for All Colleges

The following explanatory key applies to Appendix O, which starts on the next page.

Stem Choice

0: Unknown	4: Good
1: Very Poor	5: Very Good
2: Poor	6: Excellent
3: Fair	

College Codes

BR Blue Ridge	JT John Tyler	PV Piedmont Virginia
CV Central Virginia	LF Lord Fairfax	SW Southwest Virginia
DL Dabney Lancaster	ME Mountain Empire	TN Thomas Nelson
DV Danville	NR New River	VH Virginia Highlands
ES Eastern Shore	PH Patrick Henry	VW Virginia Western
GE Germanna	PC Paul D. Camp	WY Wytheville

Faculty Questionnaire Frequency Distribution

<u>Question</u>	<u>College</u>																		<u>Totals</u>
<u>Answer Choice</u>	BR	CV	DL	DV	ES	GE	JT	LF	ME	NR	PC	PH	PV	SW	TN	VH	VW	WY	
1. Funds for printed material purchase																			
0	0	2	2	3	2	2	6	3	3	6	3	1	2	2	4	2	7	3	53
1	3	2	0	0	1	0	0	0	0	0	0	0	0	0	1	0	0	1	8
2	3	2	0	0	2	0	5	4	1	3	0	0	1	0	0	0	2	0	23
3	3	8	4	0	1	1	8	2	2	4	0	4	0	3	5	3	10	1	59
4	1	3	3	5	0	4	4	5	1	3	3	1	2	6	5	3	3	12	64
5	1	2	4	7	0	2	2	2	0	0	2	3	1	1	6	2	3	3	41
6	1	0	0	7	0	1	1	2	0	0	0	0	0	0	3	0	1	0	16
2. Funds for purchase of AV Materials																			
0	0	2	2	2	3	1	7	3	3	6	2	2	2	2	2	1	9	3	52
1	3	2	0	0	1	0	0	1	0	0	0	1	0	0	2	2	4	1	17
2	3	3	2	0	2	0	6	3	0	3	0	3	0	2	2	0	3	1	33
3	3	7	1	1	0	2	5	3	1	5	1	2	1	1	7	5	7	5	57
4	2	5	4	7	0	4	4	4	3	2	3	0	2	5	3	1	2	7	58
5	1	0	3	9	0	2	3	3	0	0	2	1	1	1	6	1	1	2	36
6	0	0	1	3	0	1	1	1	0	0	0	0	0	1	2	0	0	1	11
3. Funds for AV material production																			
0	2	1	2	6	3	1	7	3	3	5	5	4	3	3	5	1	15	4	73
1	3	4	2	0	1	0	0	1	0	0	0	0	0	0	2	0	1	0	14
2	1	3	1	0	1	0	4	2	1	0	1	3	0	1	3	1	0	0	22
3	1	5	3	1	0	1	7	4	0	4	0	1	3	3	4	3	4	4	48
4	3	5	3	8	1	3	3	2	2	6	2	1	0	3	3	2	6	7	60
5	2	1	2	4	0	4	4	5	0	1	0	0	0	1	3	2	0	5	34
6	0	0	0	3	0	1	1	1	1	0	0	0	0	1	4	1	0	0	13

Faculty Questionnaire Frequency Distribution (Continued)

Question	College																		Totals
	BR	CV	DL	DV	ES	GE	JT	LF	ME	NR	PC	PH	PV	SW	TN	VH	VW	WY	
4. Funds for AV equipment purchase and repair																			
0	3	5	4	5	5	2	12	8	4	7	5	6	4	3	6	6	17	9	111
1	1	2	1	0	1	0	0	1	0	0	0	0	0	0	2	0	1	0	9
2	0	4	1	0	0	0	2	2	1	1	0	1	1	1	4	2	2	1	23
3	4	5	2	4	0	5	6	1	1	2	2	1	1	3	2	2	3	2	46
4	2	2	4	6	0	3	2	1	1	5	1	1	0	4	5	0	3	5	45
5	2	1	1	5	0	0	2	3	0	1	0	0	0	0	2	0	0	3	20
6	0	0	0	2	0	0	2	2	0	0	0	0	0	1	3	0	0	0	10
5. Funds for staffing																			
0	2	3	4	9	4	3	11	4	4	6	5	3	5	5	9	6	16	4	103
1	0	2	1	0	0	0	0	2	0	0	0	0	0	0	2	0	0	0	7
2	2	2	0	0	1	2	5	3	0	3	1	2	0	0	3	0	2	1	27
3	2	9	2	1	0	1	3	1	1	5	2	1	0	1	1	3	6	2	41
4	5	3	5	9	1	4	5	2	2	2	0	2	1	4	5	0	2	10	62
5	1	0	1	1	0	0	2	2	0	0	0	1	0	2	3	0	0	3	16
6	0	0	0	2	0	0	0	4	0	0	0	0	0	0	1	1	0	0	8
6. Teacher involvement in instructional material selection																			
0	1	1	1	0	1	0	3	1	0	1	0	0	0	0	0	0	2	0	11
1	0	0	0	0	0	0	0	0	1	0	0	1	0	0	2	1	0	1	6
2	0	0	1	0	0	0	2	1	0	0	0	0	0	3	3	1	0	0	11
3	0	3	1	0	1	1	7	0	2	3	0	3	0	1	8	0	6	4	40
4	2	5	2	8	0	4	3	1	2	6	2	1	1	5	3	1	7	1	54
5	6	7	3	13	2	3	4	8	1	6	2	2	2	2	4	6	5	6	82
6	3	3	5	1	2	2	7	7	1	0	4	2	3	1	4	1	6	8	60

Faculty Questionnaire Frequency Distribution (Continued)

Question	<u>College</u>																	<u>Totals</u>	
	Answer Choice	BR	CV	DL	DV	ES	GE	JT	LF	ME	NR	PC	PH	PV	SE	TN	VH		VW	WY
7. Effective organization and filing of books and materials																			
0	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	2
1	0	0	0	1	0	0	0	0	0	0	0	1	0	0	0	0	0	1	3
2	0	0	0	0	0	0	1	0	0	0	0	1	0	1	1	1	0	0	5
3	0	0	1	1	0	1	1	1	0	0	3	3	0	1	4	0	3	0	19
4	2	5	4	4	0	0	10	1	4	4	2	2	0	6	5	2	9	3	63
5	8	8	3	6	4	6	6	7	3	8	2	1	4	4	8	5	8	3	94
6	2	5	5	10	2	3	7	9	0	4	1	1	2	0	6	2	6	13	78
8. Adequacy of current periodical subscriptions																			
0	0	0	0	0	0	0	0	1	0	0	0	1	1	0	1	0	1	0	5
1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0	3
2	2	0	0	0	0	0	3	0	2	0	0	0	0	0	1	1	1	0	10
3	0	4	2	0	2	0	3	2	1	3	0	0	1	0	6	2	1	1	28
4	2	6	4	6	1	2	6	5	0	6	2	3	0	6	6	2	10	6	73
5	6	8	3	8	3	5	11	6	4	6	6	4	2	6	3	5	4	8	98
6	2	1	4	8	0	3	3	4	0	1	0	1	2	0	4	0	8	5	46
9. Adequacy of periodical backfiles																			
0	1	0	0	1	0	0	3	1	0	1	2	1	1	0	2	1	2	0	16
1	0	0	0	0	0	0	0	0	3	0	0	0	0	1	4	0	0	0	8
2	2	0	0	1	0	1	6	2	1	0	2	0	1	1	1	0	4	0	22
3	3	8	4	2	3	3	4	5	1	8	1	1	0	4	3	3	5	2	60
4	3	5	4	3	2	1	5	3	1	3	3	3	1	2	8	2	8	7	64
5	1	6	3	11	1	5	6	5	1	2	0	4	2	4	1	4	2	5	63
6	2	0	2	4	0	0	2	2	0	2	0	0	1	0	5	0	5	6	31

Faculty Questionnaire Frequency Distribution (Continued)

Question	College																		Totals
	BR	CV	DL	DV	ES	GE	JT	LF	ME	NR	PC	PH	PV	SW	TN	VH	VW	WY	
10. Effectiveness of current-awareness services																			
0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1
1	2	0	1	0	1	0	0	0	0	0	0	0	0	1	5	1	2	0	13
2	1	2	0	0	1	0	4	1	0	0	2	2	0	0	6	2	0	0	21
3	2	5	1	1	0	4	1	0	1	2	2	3	1	0	5	1	4	2	35
4	2	3	2	4	2	3	7	0	4	3	3	1	0	4	1	2	7	1	49
5	4	6	5	8	0	2	5	8	1	6	1	3	2	4	4	3	6	4	72
6	1	3	4	9	2	1	8	9	1	5	0	0	3	3	3	1	7	13	73
11. Effectiveness of Staff assistance in media use																			
0	0	0	0	1	0	0	0	0	0	0	1	1	0	1	0	0	0	0	4
1	0	0	0	0	0	0	1	0	0	0	1	1	0	0	3	0	2	0	8
2	0	1	1	1	0	0	1	1	1	0	0	2	0	0	3	0	4	1	16
3	4	0	0	0	1	2	0	1	1	0	1	4	0	3	6	1	1	1	26
4	2	6	4	9	1	1	5	1	2	2	3	1	2	4	7	4	7	4	65
5	4	9	5	6	2	5	10	7	1	7	2	0	3	2	4	3	7	7	84
6	2	3	3	5	2	2	9	8	2	7	0	0	1	2	1	2	5	7	61
12. Adequacy of AV production facilities																			
0	0	0	0	2	1	0	1	0	0	0	0	1	2	0	2	0	3	0	12
1	0	0	1	0	0	0	0	0	1	0	1	0	0	0	0	0	2	0	5
2	2	1	3	0	0	0	2	0	0	1	1	1	0	0	1	0	2	0	14
3	3	2	2	2	1	1	1	1	0	2	3	5	0	3	6	3	7	1	43
4	3	4	3	8	1	2	5	6	2	7	2	2	2	5	8	3	6	9	78
5	4	9	4	5	3	5	10	8	2	5	1	0	2	3	4	4	4	6	79
6	0	3	0	5	0	2	7	3	2	1	0	0	0	1	3	0	2	4	33

Faculty Questionnaire Frequency Distribution (Continued)

Question	College																	Totals	
	Answer Choice	BR	CV	DL	DV	ES	GE	JT	LF	ME	NR	PC	PH	PV	SW	TN	VH		VW	WY
13. Quantity of AV equipment																			
0	0	0	0	0	0	0	1	0	0	0	1	0	2	1	0	0	0	0	5
1	0	0	0	0	0	0	0	1	2	0	0	0	0	0	4	0	0	0	7
2	0	0	1	1	0	0	1	0	1	0	1	2	0	1	2	0	2	2	14
3	2	3	4	1	0	0	4	0	0	4	2	3	1	2	5	1	12	1	45
4	3	8	2	7	6	4	6	2	2	8	1	3	2	5	4	4	7	7	81
5	6	7	4	9	0	5	7	9	2	4	3	1	1	2	7	4	4	6	81
6	1	1	2	4	0	1	7	6	0	0	0	0	0	1	2	1	1	4	31
14. Adequacy of media services for students																			
0	0	3	0	3	4	1	3	3	1	4	2	3	3	3	3	3	4	3	46
1	0	0	0	0	0	0	0	0	0	0	0	1	0	0	3	0	0	0	4
2	0	0	1	1	0	0	1	0	0	0	0	0	0	0	2	0	1	0	6
3	3	3	2	3	0	0	7	0	2	1	3	2	1	2	5	1	5	0	40
4	1	4	7	9	2	4	7	2	4	6	2	3	0	7	5	3	13	8	87
5	7	8	2	5	0	3	7	8	0	4	1	0	2	0	6	1	1	4	59
6	1	1	1	1	0	2	1	5	0	1	0	0	0	0	0	2	2	5	22
15. Staff assistance to faculty in media production																			
0	1	0	1	2	2	0	1	2	0	0	3	0	1	1	4	0	6	0	24
1	0	0	0	0	0	0	0	0	1	0	2	2	0	0	4	0	2	0	11
2	3	0	1	1	0	0	2	1	1	0	0	1	0	0	4	0	2	0	16
3	5	3	3	1	0	1	3	1	1	0	2	4	0	4	4	1	3	1	37
4	1	3	3	11	2	3	3	2	2	7	1	2	2	5	4	3	5	5	64
5	2	9	5	3	2	3	10	6	2	5	0	0	2	1	3	5	6	8	72
6	0	4	0	4	0	3	7	6	0	4	0	0	1	1	1	1	2	6	40

Faculty Questionnaire Frequency Distribution (Continued)

Question	College																	Totals	
	BR	CV	DL	DV	ES	GE	JT	LF	ME	NR	PC	PH	PV	SW	TN	VH	VW		WY
16. Efficiency of circulation system																			
0	2	0	0	1	0	1	1	2	0	2	1	1	1	0	1	2	4	1	20
1	0	1	0	0	0	0	0	1	1	0	0	1	0	1	2	0	2	2	11
2	1	0	1	0	0	0	1	0	0	0	0	3	0	1	4	0	1	1	13
3	3	4	3	2	0	0	3	2	2	0	1	2	0	3	5	1	8	3	42
4	1	8	2	7	2	2	6	1	3	5	6	0	1	3	6	2	7	6	68
5	4	4	5	9	3	2	7	6	1	7	0	2	1	4	6	3	2	4	70
6	1	2	2	3	1	5	8	6	0	2	0	0	3	0	0	2	2	3	40
17. Student orientation in Library/LRC use																			
0	2	4	1	1	4	0	7	5	1	7	3	0	1	3	1	3	11	1	55
1	0	0	0	1	0	0	4	0	0	0	0	0	0	0	0	1	3	0	9
2	1	1	0	0	0	0	2	0	2	1	3	4	0	1	0	0	4	1	20
3	2	2	1	3	0	1	6	3	1	1	1	1	1	4	6	0	3	5	41
4	3	5	4	2	1	2	3	3	1	5	1	3	1	4	11	2	2	7	60
5	4	7	3	12	1	4	3	5	1	1	0	0	3	0	4	3	2	4	57
6	0	0	4	3	0	3	1	2	1	1	0	1	0	0	2	1	1	2	22
18. New Faculty orientation in Library/LRC use																			
0	2	0	2	1	4	1	4	4	0	7	2	2	2	1	5	4	10	3	56
1	1	0	0	0	0	1	4	1	1	0	2	2	0	1	1	0	4	0	18
2	1	1	1	1	0	1	2	1	1	1	0	1	0	4	3	0	1	0	19
3	1	5	2	8	1	1	2	2	3	1	3	3	0	3	3	0	5	9	52
4	2	5	2	5	1	1	8	2	0	4	0	0	1	2	5	1	2	8	49
5	4	8	5	4	0	4	3	7	2	2	1	1	2	1	6	4	1	0	55
6	1	0	1	3	0	1	3	1	0	1	0	0	1	0	1	1	3	0	17

Faculty Questionnaire Frequency Distribution (Continued)

Question	College																		Totals
	BR	CV	DL	DV	ES	GE	JT	LF	ME	NR	PC	PH	PV	SW	TN	VH	VW	WY	
19. Adequacy of weekly service hours																			
0	0	0	0	0	0	0	1	0	0	1	0	0	1	0	0	1	0	0	4
1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1
2	0	0	0	0	0	0	0	1	0	0	0	0	0	0	6	0	1	0	8
3	0	0	2	1	2	1	1	4	0	0	0	1	1	2	4	0	2	0	21
4	2	3	1	5	1	2	5	1	2	2	4	3	1	3	5	2	9	6	57
5	4	7	8	7	1	2	12	6	5	5	3	3	1	3	6	5	8	8	94
6	6	9	2	9	2	5	7	6	0	8	1	2	2	4	3	2	6	5	79
20. Effectiveness of communication with client groups																			
0	0	2	0	2	0	0	2	1	0	1	0	0	1	0	2	3	2	1	17
1	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	2
2	0	0	0	2	0	1	4	2	2	0	1	1	0	0	3	0	1	1	18
3	3	2	4	0	0	2	3	0	2	2	2	3	1	1	7	0	9	1	42
4	5	5	1	8	2	3	6	3	2	4	1	3	2	5	8	3	6	7	74
5	3	6	5	6	3	3	5	7	1	4	4	0	0	5	4	2	5	8	71
6	1	4	3	4	1	1	5	5	0	5	0	1	2	1	0	2	3	2	40
21. Adequacy of Library/LRC space																			
0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	2
1	1	0	2	1	0	0	0	0	0	3	1	0	0	0	1	1	1	0	11
2	0	0	5	8	0	0	1	0	2	7	1	1	2	0	0	1	9	0	37
3	0	1	2	7	2	1	1	5	1	3	4	0	1	4	5	3	9	5	54
4	3	7	2	2	2	2	5	3	1	3	0	3	1	3	6	3	4	5	55
5	5	6	2	2	1	3	8	6	3	0	2	2	0	3	6	2	2	10	63
6	3	5	0	2	1	4	11	4	0	0	0	3	1	2	6	0	0	0	42

Faculty Questionnaire Frequency Distribution (Continued)

Question	College																		Totals
	BR	CV	DL	DV	ES	GE	JT	LF	ME	NR	PC	PH	PV	SW	TN	VH	VW	WY	
22. Adequacy of reading and research space																			
0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	2
1	0	0	3	2	0	0	0	0	0	2	0	0	0	0	0	2	0	0	9
2	1	0	3	5	1	0	0	1	1	6	1	0	1	0	2	2	5	0	29
3	1	2	2	6	2	1	1	3	1	5	2	1	1	3	3	2	11	3	50
4	3	6	3	4	1	4	6	5	2	3	1	3	2	3	9	2	5	8	70
5	5	7	2	3	1	2	9	5	3	0	3	3	0	5	6	2	3	7	66
6	2	4	0	2	1	3	10	3	0	0	1	2	1	1	4	0	2	2	38
23. Adequacy of shelving space																			
0	0	0	0	1	0	0	0	1	2	1	0	1	1	0	2	0	2	2	13
1	0	0	1	1	0	0	0	0	0	3	0	0	0	0	1	0	0	0	6
2	2	0	4	7	0	0	0	1	2	7	0	0	1	2	2	3	5	0	36
3	0	1	1	7	1	1	1	4	0	3	3	0	1	2	2	2	10	1	40
4	2	8	7	1	3	3	3	4	2	1	2	1	2	4	8	3	5	8	67
5	3	7	0	3	1	4	10	5	1	1	2	4	0	3	5	2	4	7	62
6	5	3	0	2	1	2	12	3	0	0	1	3	1	1	4	0	0	2	40
24. Adequacy of Library workroom and storage space																			
0	4	2	1	1	1	1	8	4	3	1	2	1	4	3	5	5	12	3	60
1	1	0	0	1	0	0	0	0	1	3	0	0	1	0	0	1	1	0	10
2	1	2	3	8	0	0	0	3	1	8	1	1	1	0	2	1	3	1	36
3	1	5	4	5	3	3	3	3	1	3	2	0	0	5	3	1	8	2	52
4	0	5	3	4	2	3	4	4	0	1	2	4	0	1	7	0	0	7	47
5	2	4	2	2	0	2	4	3	1	0	1	2	0	2	4	2	2	7	40
6	3	1	0	1	0	1	7	1	0	0	0	1	0	1	3	0	0	0	19

Faculty Questionnaire Frequency Distribution (Continued)

Question	College																		Totals
	BR	CV	DL	DV	ES	GE	JT	LF	ME	NR	PC	PH	PV	SW	TN	VH	VW	WY	
25. Adequacy of space for AV equipment and materials																			
0	0	2	0	3	3	1	3	5	2	1	1	2	3	2	5	3	11	4	51
1	0	0	1	1	0	0	0	0	0	2	2	1	1	0	0	1	2	0	11
2	3	1	3	5	0	0	1	3	3	6	1	0	1	2	4	2	5	2	42
3	5	7	1	6	2	3	3	3	1	7	3	2	1	2	6	2	6	3	63
4	4	5	6	5	1	3	8	4	1	0	0	2	0	1	4	1	0	8	53
5	0	3	2	1	0	2	4	3	0	0	1	2	0	4	5	1	2	3	33
6	0	1	0	1	0	1	7	0	0	0	0	0	0	1	0	0	0	3	11
26. Number of professional staff																			
0	0	1	0	1	1	0	3	1	1	3	0	0	2	1	3	2	5	1	25
1	1	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0	4
2	0	1	0	0	0	1	2	1	1	3	0	2	0	0	1	0	2	0	14
3	2	7	2	1	1	2	3	2	1	5	2	2	0	2	4	0	7	0	43
4	7	3	4	6	3	5	5	3	2	5	3	4	1	5	8	3	5	8	80
5	1	4	6	9	1	1	9	4	2	0	2	0	2	2	7	3	5	10	68
6	1	2	1	5	0	1	4	7	0	0	0	1	1	2	1	2	1	1	30
27. Number of paraprofessional staff																			
0	1	1	0	6	1	0	6	2	1	4	1	0	3	1	3	2	10	1	43
1	2	0	0	0	0	1	0	1	1	0	0	0	0	0	0	0	1	0	6
2	0	3	0	0	0	0	4	0	0	0	1	1	0	0	3	0	2	0	14
3	1	4	2	2	0	1	3	3	2	4	4	4	2	4	4	0	5	1	46
4	4	5	4	5	4	7	7	1	1	8	2	3	0	3	8	5	4	10	81
5	2	5	7	7	1	0	4	4	2	0	0	0	0	2	5	3	4	7	53
6	2	1	0	2	0	1	2	7	0	0	0	1	1	2	1	0	0	1	21

Faculty Questionnaire Frequency Distribution (Continued)

Question	College																		Totals
	BR	CV	DL	DV	ES	GE	JT	LF	ME	NR	PC	PH	PV	SW	TN	VH	VW	WY	
28. Number of clerical staff																			
0	1	2	1	4	2	1	7	3	2	5	1	2	3	2	5	2	13	2	58
1	1	0	0	0	0	0	0	1	0	0	0	0	0	0	1	0	0	0	3
2	0	3	0	0	1	2	1	0	0	0	1	1	0	0	2	0	1	0	12
3	0	4	1	3	2	4	4	3	0	4	4	2	1	2	4	0	5	1	44
4	3	6	3	5	1	3	3	1	3	7	1	4	0	5	5	4	4	12	70
5	5	3	8	8	0	0	8	3	2	0	1	0	1	2	6	3	3	5	58
6	2	1	0	2	0	0	3	7	0	0	0	0	1	1	1	1	0	0	19
29. Competency of professional staff																			
0	2	1	0	2	1	0	4	2	2	3	0	0	1	1	3	3	12	0	37
1	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1
2	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0	1	0	3
3	2	0	2	1	0	1	3	0	1	0	2	3	0	2	2	0	2	0	21
4	1	6	3	1	0	1	5	0	1	3	0	3	1	3	9	0	1	5	43
5	3	5	4	7	1	4	7	7	1	6	6	3	2	5	5	6	7	8	87
6	4	7	4	11	4	4	6	9	1	4	0	0	2	1	4	1	3	7	72
30. Competency of paraprofessional staff																			
0	2	1	2	6	1	1	10	4	3	4	1	1	2	2	5	5	16	2	68
1	1	0	0	0	0	0	0	0	0	0	1	0	0	1	1	0	0	0	4
2	0	1	0	1	0	0	3	0	1	0	0	1	0	1	3	0	0	0	11
3	1	3	2	1	0	3	1	1	1	1	3	1	1	3	7	1	4	1	35
4	3	6	4	2	2	2	7	0	1	5	1	5	1	3	5	1	0	9	57
5	4	7	3	6	1	3	4	7	1	5	2	1	0	2	3	2	5	7	63
6	1	1	2	6	2	1	1	6	0	1	0	0	2	0	0	1	1	1	26

APPENDIX P

Summary of Faculty Characteristics
and Library/LRC Usage

Summary of Faculty Characteristics and Library/LRC Usage

<u>Question</u>	<u>Responses</u>		<u>%</u>
A. Not applicable	N = 264		
B. See Table 4, page 76			
C. Necessity for faculty use of Library materials			
Books	Necessary	126	48.3
	Helpful	111	42.5
	Unnecessary	24	09.2
	Total	<u>261</u>	
Periodicals	Necessary	119	45.9
	Helpful	114	44.0
	Unnecessary	26	10.0
	Total	<u>259</u>	
AV Materials	Necessary	139	53.5
	Helpful	100	38.5
	Unnecessary	21	08.1
	Total	<u>260</u>	
D. Necessity for student use of Library materials			
Books	Necessary	84	32.2
	Helpful	133	50.9
	Unnecessary	44	16.9
	Total	<u>261</u>	
Periodicals	Necessary	69	26.7
	Helpful	136	52.7
	Unnecessary	53	20.5
	Total	<u>258</u>	
AV Materials	Necessary	97	12.6
	Helpful	115	14.9
	Unnecessary	47	06.1
	Total	<u>257</u>	

Summary of Faculty Characteristics and Library/LRC Usage (Continued)

<u>Question</u>		<u>Responses</u>	<u>%</u>
E. Book collection sufficiency			
Quantity	Yes	183	70.4
	No	77	29.6
	Total	<u>260</u>	
Recency	Yes	203	80.2
	No	50	19.8
	Total	<u>253</u>	
Quality	Yes	215	84.6
	No	39	15.4
	Total	<u>254</u>	
F. Number of books checked out per quarter			
a. More than 10		80	30.5
b. 3 to 10		140	53.4
c. 1 or 2		35	13.4
d. None		7	02.7
	Total	<u>262</u>	
G. Use of AV materials and equipment			
a. Daily		28	10.6
b. Several times a week		68	25.9
c. Several times a month		69	26.2
d. Several times a quarter		73	27.8
e. Almost never		25	09.5
	Total	<u>263</u>	
H. Bibliography request from the Library staff			
	Yes	113	43.1
	No	149	56.9
	Total	<u>262</u>	
I. Book acquisition recommendations			
	Yes	229	87.1
	No	34	12.9
	Total	<u>263</u>	

Summary of Faculty Characteristics and Library/LRC Usage (Continued)

<u>Question</u>		<u>Responses</u>	<u>%</u>
J. Training in the use of AV equipment			
	Yes	113	42.9
	No	150	57.1
	Total	263	
K. Materials placed on reserve for student use			
	Yes	175	66.8
	No	87	33.2
	Total	262	
L. Consultant service requested			
	Yes	77	29.3
	No	186	70.7
	Total	263	

APPENDIX Q

Frequency Distribution of Responses from the Student Questionnaire
for Question 1-30 for All Colleges

The following explanatory key applies to Appendix Q, which starts on the next page:

Stem Choice

0: Unknown	4: Good
1: Very Poor	5: Very Good
2: Poor	6: Excellent
3: Fair	

College Codes

BR Blue Ridge	JT John Tyler	PV Piedmont Virginia
CV Central Virginia	LF Lord Fairfax	SW Southwest Virginia
DL Dabney Lancaster	ME Mountain Empire	TN Thomas Nelson
DV Danville	NR New River	VH Virginia Highlands
ES Eastern Shore	PH Patrick Henry	VW Virginia Western
GE Germanna	PC Paul D. Camp	WY Wytheville

Student Questionnaire Frequency Distribution

<u>Question</u>	<u>College</u>																		<u>Totals</u>
<u>Answer Choice</u>	BR	CV	DL	DV	ES	GE	JT	LF	ME	NR	PC	PH	PV	SW	TN	VH	VW	WY	
1. Funds for printed material purchase																			
0	28	57	15	44	9	22	-	19	12	26	18	22	27	45	-	26	67	22	459
1	0	3	1	2	0	0	-	0	5	0	0	0	1	1	-	2	1	0	16
2	0	2	3	2	3	0	-	2	3	2	2	0	1	2	-	1	4	1	28
3	6	12	1	9	1	1	-	6	9	10	5	4	11	7	-	6	22	7	117
4	10	15	8	10	0	5	-	10	6	4	7	8	6	13	-	9	20	9	140
5	0	4	0	10	1	1	-	2	1	0	2	5	1	4	-	2	3	4	40
6	2	2	2	6	1	0	-	2	2	1	0	1	0	1	-	4	2	1	27
2. Funds for purchase of AV Materials																			
0	31	57	14	49	10	19	-	19	12	26	20	22	27	42	-	27	71	22	468
1	0	1	1	2	0	0	-	2	2	1	0	0	0	2	-	1	1	0	13
2	0	7	3	2	2	2	-	1	5	2	0	1	3	3	-	1	6	1	39
3	7	11	2	8	1	2	-	4	12	6	8	6	6	8	-	5	22	6	114
4	7	13	7	6	1	5	-	12	3	7	4	5	7	11	-	9	14	9	120
5	0	6	1	14	0	1	-	3	3	1	1	5	4	6	-	4	3	5	57
6	1	0	2	2	1	0	-	0	1	0	1	1	0	1	-	3	2	1	16
3. Funds for AV material production																			
0	31	57	17	48	10	20	-	21	12	29	20	22	26	42	-	25	78	22	480
1	0	5	2	1	0	1	-	2	4	0	0	0	0	1	-	1	0	0	17
2	1	5	3	1	2	1	-	2	4	1	3	1	2	4	-	1	5	1	37
3	6	8	4	10	2	2	-	3	5	7	6	6	11	12	-	8	20	6	116
4	7	14	3	13	1	3	-	8	10	5	3	6	6	8	-	6	15	8	116
5	0	5	1	5	0	2	-	4	2	1	1	5	2	5	-	6	0	6	45
6	1	1	0	5	0	0	-	1	1	0	1	0	0	1	-	3	1	1	16

Student Questionnaire Frequency Distribution (Continued)

Question	College																		Totals
	BR	CV	DL	DV	ES	GE	JT	LF	ME	NR	PC	PH	PV	SW	TN	VH	VW	WY	
4. Funds for AV equipment purchase and repair																			
0	33	58	15	50	10	22	-	20	12	28	20	22	26	42	-	28	75	22	438
1	0	5	1	1	0	0	-	2	4	0	1	0	0	3	-	1	0	0	18
2	0	8	2	2	1	0	-	0	4	0	1	3	3	5	-	0	4	0	33
3	6	5	7	12	3	3	-	6	5	9	7	6	9	7	-	8	21	6	120
4	6	9	2	9	1	2	-	7	9	5	2	4	7	11	-	7	16	10	107
5	0	10	1	6	0	1	-	4	3	1	2	5	2	4	-	2	1	4	46
6	1	0	2	3	0	1	-	2	1	0	1	0	0	1	-	4	2	2	20
5. Funds for staffing																			
0	31	50	16	45	10	23	-	22	12	26	20	21	29	42	-	29	68	22	466
1	0	7	1	2	0	1	-	1	2	1	0	0	1	1	-	2	4	0	23
2	1	4	3	0	1	1	-	1	5	2	1	1	2	2	-	2	4	0	30
3	4	11	6	5	1	1	-	5	6	4	6	3	5	6	-	4	16	7	90
4	8	8	2	15	2	1	-	6	8	7	5	9	9	15	-	6	21	8	130
5	2	11	0	13	0	2	-	5	3	1	2	5	1	5	-	4	3	5	62
6	0	4	2	3	1	0	-	1	2	2	0	1	0	2	-	3	3	2	26
6. Student involvement in instructional material selection																			
0	14	26	5	24	6	7	11	11	5	11	9	7	15	17	-	8	38	12	215
1	5	4	3	2	1	0	-	4	5	3	4	0	3	2	-	3	7	2	48
2	1	11	4	1	0	6	-	6	7	8	3	4	3	4	-	1	11	3	73
3	6	18	2	7	4	5	-	6	14	13	6	8	9	14	-	12	23	7	154
4	12	14	9	24	1	8	-	7	2	6	8	8	10	16	-	14	28	11	178
5	7	16	7	15	3	2	-	7	4	2	4	11	5	16	-	10	8	8	125
6	1	6	0	10	0	1	-	0	1	0	0	2	2	4	-	2	4	1	34

Student Questionnaire Frequency Distribution (Continued)

Question	College																		Totals
	BR	CV	DL	DV	ES	GE	JT	LF	ME	NR	PC	PH	PV	SW	TN	VH	VW	WY	
7. Effective organization and filing of books and materials																			
0	2	10	0	1	0	0	-	0	3	3	3	0	1	3	-	1	8	0	35
1	0	1	0	1	0	0	-	0	0	0	1	0	1	0	-	1	2	0	7
2	2	6	0	0	0	1	-	1	1	4	2	4	2	2	-	3	6	1	35
3	6	13	3	4	0	7	-	1	6	6	2	5	4	5	-	2	28	2	94
4	15	23	16	15	5	5	-	6	11	15	14	6	17	22	-	12	36	12	230
5	16	20	7	22	8	13	-	16	13	14	8	19	13	26	-	16	23	18	252
6	5	22	4	40	2	3	-	17	4	1	4	6	9	15	-	15	16	11	174
8. Adequacy of current periodical subscriptions																			
0	5	7	0	5	0	1	-	1	0	2	2	2	4	7	-	3	6	0	45
1	0	1	0	0	0	2	-	1	1	5	0	1	0	2	-	2	2	0	17
2	3	7	3	2	1	0	-	0	2	1	0	1	5	2	-	3	10	0	40
3	10	13	3	1	2	2	-	4	8	13	7	4	8	8	-	5	21	4	113
4	16	23	10	17	4	10	-	7	10	10	11	8	11	22	-	17	29	11	216
5	8	24	9	19	5	4	-	19	10	9	10	14	12	20	-	9	31	18	221
6	4	20	5	39	3	10	-	9	7	3	4	10	7	12	-	11	20	11	175
9. Adequacy of periodical backfiles																			
0	10	13	0	9	3	4	-	5	4	9	8	7	7	8	-	5	14	1	107
1	1	0	0	0	1	1	-	1	3	2	0	2	2	1	-	1	4	0	19
2	2	5	2	0	0	2	-	0	1	3	2	1	5	3	-	2	6	1	35
3	9	14	5	5	1	3	-	4	6	11	8	4	6	8	-	14	26	6	130
4	11	35	11	13	3	7	-	11	13	10	7	13	13	23	-	10	38	16	234
5	10	15	8	25	4	7	-	12	6	7	6	6	8	25	-	11	19	13	182
6	3	13	4	31	3	4	-	8	5	1	3	7	6	5	-	7	12	7	119

Student Questionnaire Frequency Distribution (Continued)

Question	College																		Totals
	BR	CV	DL	DV	ES	GE	JT	LF	ME	NR	PC	PH	PV	SW	TN	VH	VW	WY	
10. Systematic weeding and maintenance																			
0	15	22	4	20	5	10	-	9	4	12	13	12	15	18	-	9	32	10	210
1	1	0	0	1	0	0	-	0	0	0	0	0	0	1	-	3	1	1	8
2	0	3	2	0	1	0	-	1	4	4	3	1	4	2	-	2	1	0	28
3	9	11	3	1	2	2	-	3	11	13	8	1	5	11	-	9	23	4	116
4	10	33	12	17	2	7	-	10	10	4	8	14	11	14	-	14	43	11	220
5	8	18	9	23	5	7	-	11	7	8	0	3	5	20	-	9	11	14	158
6	3	8	0	21	0	3	-	7	2	2	2	9	7	7	-	4	8	4	87
11. Effectiveness of Staff assistance in media use																			
0	7	3	2	5	1	0	-	1	1	2	5	2	2	3	-	0	27	0	61
1	0	2	0	0	0	0	-	0	1	0	0	0	3	0	-	1	2	0	9
2	0	2	1	3	0	0	-	1	2	3	3	3	2	2	-	1	3	0	26
3	6	12	5	4	0	4	-	2	10	8	10	3	3	4	-	5	24	1	101
4	9	14	7	7	2	11	-	6	9	10	7	9	14	22	-	10	23	14	174
5	15	27	7	22	5	8	-	15	7	9	7	12	10	28	-	19	24	14	229
6	9	35	8	42	7	6	-	16	8	11	2	11	13	14	-	14	16	15	227
12. Adequacy of AV production facilities																			
0	8	7	1	9	2	4	-	1	2	5	8	3	5	8	-	3	35	1	102
1	0	2	0	0	0	0	-	0	0	1	0	0	0	0	-	0	0	0	3
2	0	1	2	1	0	0	-	1	4	2	2	1	1	2	-	1	3	0	21
3	7	18	8	9	3	3	-	4	8	8	6	5	10	8	-	3	31	4	135
4	12	22	12	15	4	11	-	10	12	15	11	14	18	28	-	19	28	24	255
5	15	30	6	29	3	9	-	16	8	10	4	9	7	21	-	15	17	9	208
6	4	15	1	20	3	2	-	9	4	2	3	8	6	6	-	9	5	6	103

Student Questionnaire Frequency Distribution (Continued)

Question	College																	Totals	
	Answer Choice	BR	CV	DL	DV	ES	GE	JT	LF	ME	NR	PC	PH	PV	SW	TN	VH		VW	WY
13. Quantity of AV equipment																			
0	11	8	2	13	5	2	-	5	4	8	8	6	8	12	-	6	32	3	133
1	0	2	0	1	0	0	-	1	0	1	0	1	1	0	-	1	1	0	9
2	0	3	1	1	1	1	-	0	5	4	4	2	1	2	-	2	4	0	31
3	5	17	7	8	1	7	-	3	4	6	9	4	6	12	-	10	34	5	138
4	17	33	11	19	2	13	-	14	12	15	8	11	19	24	-	15	29	19	261
5	12	23	8	25	6	3	-	15	9	9	5	12	7	18	-	10	15	11	188
6	1	9	1	16	0	3	-	3	4	0	0	4	5	5	-	6	4	6	67
14. Adequacy of media services for students																			
0	14	11	4	14	7	6	-	2	6	8	14	6	8	11	-	5	47	10	173
1	0	1	0	0	0	0	-	1	1	0	0	0	1	0	-	1	0	0	5
2	1	5	5	1	0	0	-	3	3	3	1	0	2	1	-	1	3	1	30
3	9	10	6	8	4	4	-	1	6	12	8	7	11	10	-	6	24	5	131
4	15	30	10	14	1	13	-	15	13	13	9	7	15	29	-	18	31	12	245
5	6	24	5	25	2	2	-	10	4	7	2	13	6	13	-	8	11	12	150
6	1	14	0	21	1	4	-	9	5	0	0	7	4	9	-	11	3	4	93
15. Condition of AV equipment																			
0	6	9	1	10	2	2	-	3	2	5	10	5	6	6	-	3	34	4	108
1	0	2	0	0	0	1	-	0	2	1	0	0	0	3	-	1	2	0	12
2	0	5	2	0	0	0	-	1	6	2	1	2	0	3	-	1	3	0	26
3	6	13	12	9	2	2	-	2	6	8	3	3	5	8	-	3	31	4	117
4	14	21	8	9	2	10	-	14	9	15	16	10	14	29	-	21	27	10	229
5	13	33	6	28	7	5	-	13	9	9	2	11	12	17	-	11	12	20	208
6	7	12	1	27	2	9	-	8	4	3	2	9	10	7	-	10	10	6	127

Student Questionnaire Frequency Distribution (Continued)

Question	College																	Totals	
	BR	CV	DL	DV	ES	GE	JT	LF	ME	NR	PC	PH	PV	SW	TN	VH	VW		WY
16. Efficiency of circulation system																			
0	22	20	3	26	5	16	-	9	2	10	14	14	14	26	-	6	40	16	243
1	0	4	2	0	0	0	-	0	0	2	1	1	0	0	-	0	0	0	10
2	1	2	2	1	2	0	-	1	3	2	0	1	2	2	-	2	7	0	28
3	4	12	6	3	0	3	-	7	6	11	11	5	3	6	-	7	26	6	116
4	8	29	14	19	2	3	-	11	14	7	7	8	17	20	-	12	35	9	215
5	10	19	3	21	5	5	-	9	12	9	1	8	5	14	-	11	7	9	148
6	1	9	0	13	1	2	-	4	1	2	0	3	6	5	-	12	4	4	67
17. Student orientation in Library/LRC use																			
0	3	9	0	6	0	1	-	3	0	4	7	1	3	4	-	0	9	2	52
1	1	4	0	0	0	0	-	0	3	7	4	1	1	3	-	1	9	1	35
2	4	4	3	0	0	1	-	1	8	8	5	7	4	8	-	3	12	3	71
3	11	14	6	3	0	4	-	7	9	8	7	5	4	12	-	10	28	9	137
4	15	23	5	19	5	7	-	10	11	8	9	9	13	15	-	18	40	13	220
5	9	24	9	19	4	10	-	13	5	6	2	10	14	20	-	10	14	11	180
6	3	17	7	36	6	6	-	7	2	2	0	7	8	11	-	8	7	5	132
18. Staff assistance to students in developing reference skills																			
0	5	4	0	4	1	1	-	3	2	5	4	2	2	2	-	0	11	1	47
1	2	2	0	0	0	2	-	2	1	3	3	0	1	0	-	0	4	0	20
2	4	2	1	0	0	3	-	1	5	8	6	1	4	3	-	7	15	4	64
3	11	13	5	3	2	6	-	5	8	8	9	7	2	14	-	8	35	9	145
4	10	25	9	13	5	9	-	14	11	6	7	10	18	19	-	14	28	14	212
5	10	26	8	21	0	4	-	10	9	10	3	15	11	23	-	12	12	12	186
6	4	23	7	42	7	4	-	6	2	3	2	5	9	12	-	9	14	4	153

Student Questionnaire Frequency Distribution (Continued)

Question	College																		Totals
	BR	CV	DL	DV	ES	GE	JT	LF	ME	NR	PC	PH	PV	SW	TN	VH	VW	WY	
19. Adequacy of weekly service hours																			
0	2	4	0	2	0	1	-	0	0	3	2	0	3	0	-	0	1	1	19
1	0	2	0	0	0	0	-	2	0	1	0	0	2	0	-	2	10	1	20
2	0	3	1	1	0	2	-	2	2	0	1	1	5	1	-	1	7	0	27
3	7	8	7	3	2	1	-	2	2	4	4	2	2	2	-	4	13	2	65
4	9	19	9	14	1	5	-	9	9	8	12	7	12	16	-	6	45	7	188
5	14	38	10	21	2	15	-	12	10	12	9	15	10	29	-	14	17	14	242
6	14	21	3	42	10	5	-	14	15	15	6	15	13	25	-	23	26	19	266
20. Effectiveness of communication with client groups																			
0	8	7	0	5	3	1	-	4	2	3	9	3	3	1	-	0	9	0	58
1	0	2	1	0	0	0	-	1	0	0	1	0	1	0	-	0	2	3	11
2	0	5	2	3	0	4	-	0	5	2	3	3	1	0	-	3	9	1	41
3	12	12	5	6	1	5	-	3	4	13	9	3	4	13	-	8	35	7	140
4	18	27	10	14	2	14	-	10	7	11	10	9	18	20	-	14	42	13	239
5	5	21	11	24	7	3	-	17	14	13	2	18	14	28	-	16	17	14	224
6	3	21	1	31	2	2	-	6	6	1	0	4	6	11	-	9	5	16	114
21. Adequacy of Library/LRC space																			
0	2	0	0	4	0	0	-	0	0	1	0	1	0	1	-	0	6	0	15
1	1	3	1	1	0	0	-	1	3	7	0	0	2	1	-	3	3	1	27
2	0	6	7	3	1	1	-	1	3	8	2	1	8	1	-	9	7	0	58
3	8	19	9	12	5	4	-	8	7	17	5	3	16	4	-	12	31	5	165
4	17	29	9	25	2	7	-	13	14	5	12	15	11	33	-	13	38	18	261
5	8	24	2	23	4	11	-	9	6	4	9	10	9	18	-	8	24	13	182
6	10	14	2	15	3	6	-	9	5	1	6	10	1	15	-	5	10	7	119

Student Questionnaire Frequency Distribution (Continued)

Question	College																		Totals
	BR	CV	DL	DV	ES	GE	JT	LF	ME	NR	PC	PH	PV	SW	TN	VH	VW	WY	
22. Adequacy of reading and research space																			
0	0	2	0	0	0	0	-	0	0	0	0	1	0	1	-	0	5	0	9
1	1	0	0	0	1	0	-	1	2	5	0	0	2	0	-	0	3	0	15
2	1	7	2	1	1	0	-	1	2	4	2	1	8	1	-	8	6	0	45
3	5	18	11	10	2	5	-	6	12	18	8	5	14	4	-	13	33	8	172
4	24	26	10	31	4	12	-	10	12	12	10	9	14	36	-	15	39	13	277
5	8	25	5	24	3	7	-	13	6	3	10	13	7	20	-	10	24	15	193
6	7	17	2	17	4	5	-	10	4	1	4	11	2	11	-	4	9	8	116
23. Adequacy of shelving space																			
0	0	1	0	3	0	1	-	1	0	1	2	0	0	4	-	0	10	0	23
1	0	0	0	1	0	0	-	0	3	5	0	0	0	1	-	2	3	0	15
2	2	5	3	2	0	2	-	1	2	11	3	0	4	0	-	2	4	1	42
3	13	15	8	16	3	2	-	11	14	19	8	2	17	10	-	9	38	8	193
4	13	30	10	22	3	13	-	16	11	3	8	13	15	29	-	24	31	19	260
5	11	28	8	24	5	6	-	7	4	2	8	13	6	22	-	8	25	9	186
6	7	16	1	15	4	5	-	5	4	2	5	12	5	7	-	5	8	7	108
24. Adequacy of Library workroom and storage space																			
0	16	21	4	21	4	7	-	11	5	8	10	12	15	20	-	22	51	8	235
1	0	0	1	1	0	0	-	2	5	2	0	0	1	1	-	2	2	1	18
2	3	5	5	2	0	0	-	3	1	12	2	0	6	3	-	2	3	3	50
3	10	11	7	13	3	6	-	6	11	17	7	3	10	10	-	10	24	7	155
4	10	27	10	25	3	8	-	10	8	2	8	7	9	22	-	8	28	15	198
5	4	21	3	14	4	4	-	5	6	0	8	10	3	13	-	5	8	3	111
6	3	10	0	7	1	4	-	4	2	2	1	8	3	4	-	1	3	7	60

Student Questionnaire Frequency Distribution (Continued)

<u>Question</u>	<u>College</u>																	<u>Totals</u>	
<u>Answer</u> <u>Choice</u>	BR	CV	DL	DV	ES	GE	JT	LF	ME	NR	PC	PH	PV	SW	TN	VH	VW	WY	
25. Adequacy of space for AV equipment and materials																			
0	16	22	3	31	5	8	-	14	6	12	16	17	15	22	-	19	51	10	267
1	0	2	1	1	0	0	-	1	4	1	0	1	1	1	-	1	4	0	18
2	0	5	8	1	0	1	-	2	4	9	3	1	4	6	-	3	5	1	53
3	13	14	7	16	2	6	-	5	13	12	4	1	9	16	-	12	29	12	171
4	9	28	7	15	2	7	-	12	6	4	4	6	10	15	-	8	21	11	165
5	5	21	3	9	6	5	-	6	4	2	5	7	5	10	-	6	7	5	106
6	3	3	1	10	0	2	-	1	1	3	2	7	3	3	-	1	2	5	47
26. Number of professional staff																			
0	12	7	2	5	1	4	-	5	2	3	6	7	6	8	-	6	29	4	107
1	0	0	0	0	1	0	-	0	1	2	1	0	0	0	-	0	0	1	6
2	1	2	2	0	0	2	-	0	2	2	13	0	1	1	-	2	3	0	21
3	6	15	4	8	2	7	-	6	8	18	11	3	8	11	-	5	33	4	149
4	15	22	15	24	2	7	-	10	14	11	9	10	19	27	-	20	34	19	258
5	9	29	5	27	5	8	-	11	5	2	3	15	8	20	-	13	15	8	183
6	3	20	2	19	2	1	-	9	6	5	1	5	5	6	-	4	5	8	103
27. Number of paraprofessional staff																			
0	17	12	5	15	1	7	-	10	2	9	9	10	8	12	-	13	38	6	174
1	0	1	0	0	1	0	-	0	0	0	1	0	0	1	-	0	0	1	5
2	0	8	2	0	0	1	-	0	5	4	4	0	1	2	-	0	2	0	29
3	5	7	7	8	2	6	-	6	8	16	7	3	7	12	-	5	23	7	129
4	10	27	9	21	3	8	-	10	13	8	7	6	16	22	-	21	36	15	232
5	12	26	6	28	5	6	-	10	6	2	4	14	9	18	-	8	15	8	177
6	2	14	1	11	3	1	-	5	4	4	2	7	6	6	-	3	5	7	81

Student Questionnaire Frequency Distribution (Continued)

Question	College																		Totals
	BR	CV	DL	DV	ES	GE	JT	LF	ME	NR	PC	PH	PV	SW	TN	VH	VW	WY	
28. Number of clerical staff																			
0	19	19	6	29	3	12	-	14	3	11	12	14	12	21	-	11	40	13	239
1	0	2	0	0	1	0	-	0	0	0	0	0	0	0	-	1	1	1	6
2	0	2	0	0	1	0	-	0	3	4	2	1	1	0	-	0	1	0	15
3	3	12	5	10	2	4	-	3	11	16	9	4	5	9	-	8	24	4	129
4	14	26	11	20	3	7	-	9	9	6	7	5	18	23	-	14	35	11	218
5	8	25	7	17	4	5	-	9	8	2	3	11	6	13	-	11	14	11	154
6	2	9	1	7	1	1	-	6	4	4	1	5	5	7	-	5	4	4	66
29. Competency of professional staff																			
0	19	11	8	17	3	9	-	11	3	6	13	15	15	18	-	7	34	7	196
1	1	0	0	0	0	0	-	1	2	4	0	0	1	0	-	0	0	1	10
2	0	2	0	0	0	0	-	0	1	1	2	0	0	0	-	1	2	0	9
3	3	6	3	2	1	2	-	1	4	4	6	2	4	4	-	5	19	2	68
4	11	20	10	15	3	8	-	5	15	11	8	8	10	15	-	7	29	14	189
5	11	24	5	23	3	8	-	12	8	9	2	8	10	25	-	13	22	10	193
6	1	32	4	26	5	2	-	11	5	8	3	7	7	11	-	17	13	10	162
30. Competency of paraprofessional staff																			
0	21	21	10	26	4	12	-	14	3	10	16	17	18	22	-	16	43	10	263
1	0	2	0	0	0	0	-	1	2	1	2	0	0	1	-	0	1	1	11
2	0	0	1	0	1	0	-	0	3	2	1	2	4	2	-	0	1	0	17
3	4	3	6	5	0	2	-	1	6	6	5	5	6	5	-	3	21	7	85
4	15	30	9	16	3	7	-	10	14	11	8	5	11	18	-	12	27	8	204
5	4	22	3	24	3	6	-	11	9	7	1	9	3	17	-	13	16	12	160
6	2	17	1	12	4	2	-	4	1	6	1	2	5	8	-	6	10	6	87

APPENDIX R

Summary of Student Characteristics and Library/LRC Usage

Summary of Student Characteristics and Library/LRC Usage

<u>Question</u>	<u>Responses</u>	<u>%</u>
A. See Table 6, page 79		
B. Frequency of Library/LRC Usage		
a. Daily	206	25.0
b. Several times a week	329	39.9
c. Several times a month	138	16.7
d. Several times a quarter	102	12.4
e. Almost never	49	5.9
	Total	824
C. Purpose of Library/LRC Use		
a. Specific assignment/research	446	26.1
b. Study, using Library materials	340	19.9
c. Study, using your own books	426	24.9
d. Casual reading	230	13.5
e. Browsing	134	7.8
f. Using AV materials/equipment	131	7.7
	Total	1707
D. Use necessity for an A grade		
Books	Necessary 343	42.3
	Helpful 412	50.9
	Unnecessary 55	6.8
	Total 810	
Periodicals	Necessary 210	27.2
	Helpful 469	60.8
	Unnecessary 92	
	Total 771	
AV Materials	Necessary 132	17.6
	Helpful 400	53.3
	Unnecessary 219	
	Total 751	

Summary of Student Characteristics and Library/LRC Usage (Continued)

<u>Question</u>	<u>Responses</u>	<u>%</u>
E. Frequency of Audiovisual use		
a. Daily	16	01.9
b. Several times a week	74	09.0
c. Several times a month	141	17.1
d. Several times a quarter	225	27.3
e. Almost never	367	44.6
	Total	<u>823</u>
F. Books checked out during a quarter		
a. More than 10	180	21.8
b. 3 to 10	391	47.3
c. 1 or 2	192	23.2
d. None	63	07.6
	Total	<u>826</u>
G. Frequency of Interlibrary loan use		
a. Often	73	0.90
b. Seldom	180	22.2
c. Never	556	68.7
	Total	<u>809</u>
H. Most serious problems with the Library/LRC		
a. No major problems	408	39.3
b. Confusing locational schemes	51	04.9
c. Missing books/materials	147	14.2
d. AV materials inadequate	20	01.9
e. Book collection inadequate	86	08.3
f. Noise	167	16.1
g. Inadequate hours	42	04.0
h. Difficult checkout procedures	16	01.5
i. Building or area too small	53	05.1
j. Not enough reading or study space	48	04.6
	Total	<u>1038</u>

APPENDIX S

Faculty and Student Overall Evaluation Frequency
Distribution--Question 31

Faculty and Student Overall Evaluation Frequency Distribution--Question 31

Question	College																	Totals	
	BR	CV	DL	DV	ES	GE	JT	LF	ME	NR	PC	PH	PV	SW	TN	VH	VW		WY
31. Faculty overall Library/LRC evaluation																			
1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1
2	1	0	0	0	0	0	1	0	0	0	0	1	0	0	2	0	1	1	7
3	1	2	1	3	0	1	4	1	3	2	2	3	0	1	9	0	6	0	39
4	3	3	4	5	2	1	9	1	3	4	5	4	1	7	5	7	7	7	78
5	5	11	6	8	4	5	7	11	1	8	1	1	5	4	7	2	11	8	105
6	2	3	2	6	0	3	5	5	0	2	0	0	0	0	0	1	1	4	34
31. Student overall Library/LRC evaluation																			
1	0	1	0	0	1	0	-	0	0	1	1	0	2	0	-	0	0	1	7
2	0	2	0	0	0	0	-	0	1	4	0	1	1	0	-	0	4	0	13
3	8	7	7	1	3	4	-	1	6	7	10	2	6	8	-	6	27	3	106
4	18	17	14	18	1	9	-	10	13	13	11	15	22	21	-	19	46	15	262
5	13	37	7	25	3	11	-	21	12	4	9	18	10	29	-	15	31	15	270
6	7	31	2	37	7	5	-	9	6	4	2	4	6	15	-	10	10	10	165

APPENDIX T

Overall Rank Order of Virginia Community College Learning
Resource Programs by Faculty, Student, and
Quantitative Data Evaluation

Overall Rank Order of Virginia Community College Learning Resource Programs by
Faculty, Student, and Quantitative Data Evaluation

Rank	Faculty Scores	Student Scores	Quantitative Measures
1	Lord Fairfax	Danville	Germanna
2	Germanna	Lord Fairfax	Patrick Henry
3	Wytheville	Patrick Henry	Dabney Lancaster
4	Piedmont Virginia	Eastern Shore	Lord Fairfax
5	Danville	Wytheville	Mountain Empire (Tied)
6	John Tyler	Southwest Virginia	Blue Ridge
7	Central Virginia	Central Virginia	Danville
8	Dabney Lancaster	Virginia Highlands	Eastern Shore
9	Virginia Highlands	Germanna	Virginia Highlands
10	Eastern Shore	Blue Ridge	Paul D. Camp
11	Blue Ridge	Piedmont Virginia	Central Virginia
12	New River	Dabney Lancaster	Piedmont Virginia
13	Southwest Virginia	Virginia Western	Wytheville
14	Thomas Nelson	Mountain Empire	Southwest Virginia
15	Paul D. Camp	Paul D. Camp	Thomas Nelson
16	Virginia Western	New River	John Tyler
17	Mountain Empire	*	New River
18	Patrick Henry	*	Virginia Western

*Student returns from John Tyler arrived too late and too few to include. The administration of Thomas Nelson declined to participate in the student evaluation phase of this research.

APPENDIX U

Colleges Ranked by Quantitative
and Qualitative Scores

Colleges Ranked by Quantitative and Qualitative Scores

Rank (N = 18 Colleges)							Variable																					
#	Quantitative Scores						Faculty Category Scores								Student Category Scores													
	Q1	Q2	Q3	Q4	Q5	Q6	FY1	FY2	FY3	FY4	FY5	FY6	FY7	FY8	ST1	ST2	ST3	ST4	ST5	ST6	ST7	ST8						
							Colleges																					
1	*	GE	DL	GE	GE	GE	DV	PV	LF	PV	JT	LF	LF	LF	DV	DV	DV	DV	PH	DV	DV	DV	DV					
2		DL	ES	ME	LF	PH	WY	GE	WY	GE	VH	GE	DV	GE	WY	WY	LF	LF	ES	ES	LF	LF	PH					
3		DV	GE	LF	DV	CV	DL	WY	DV	WY	NR	PH	PV	PV	GE	PH	WY	ES	SW	GE	PH	CV	ES					
4		ES	PH	PH	DL	ES	LF	SW	LF	JT	GE	CV	VH	CV	DV	VH	PH	WY	LF	DV	CV	ES	LF					
5		PH	WY	BR	VH	BR	PH	PC	DL	CV	ES	BR	WY	DV	PV	LF	ES	PH	PH	WY	ES	SW	WY					
6		ME	LF	NR	PV	WY	ME	TN	GE	NR	LF	WY	DL	WY	JT	BR	SW	VH	VH	SW	VH	WY	SW					
7		LF	VH	DL	WY	ME	ES	LF	NR	PV	DV	TN	ES	DL	CV	GE	GE	CV	CV	CV	WY	GE	CV					
8		PV	BR	PV	ME	TN	TN	DL	BR	DV	DL	LF	JT	ES	VH	SW	CV	GE	PV	LF	SW	VH	GE					
9		VH	DV	WY	PH	DL	PV	ME	VW	VH	CV	SW	BR	NR	ES	PC	VH	BR	WY	BR	BR	PH	VH					
10		PC	PC	SW	PC	JT	VW	PV	ES	ES	BR	ES	SW	BR	DL	CV	DL	SW	GE	PC	PV	ME	BR					
11		TN	SW	PC	CV	LF	DV	VH	CV	BR	WY	PC	CV	JT	BR	VW	PV	PV	DL	VW	GE	BR	PV					
12		BR	ME	VH	TN	DV	VH	JT	JT	DL	JT	ME	GE	VH	SW	NR	BR	ME	BR	VH	DL	PV	DL					
13		SW	CV	ES	NR	PC	NR	NR	PC	SW	SW	PV	NR	SW	NR	PV	VW	NR	ME	ME	VW	DL	VW					
14		WY	JT	DV	BR	VH	PC	PH	VH	VW	VW	VH	TN	VW	TN	DL	PC	DL	NR	PV	ME	VW	ME					
15		JT	TN	TN	JT	VW	BR	VW	SW	ME	TN	DV	VW	PC	VW	ES	ME	VW	VW	DL	NR	NR	PC					
16		CV	VW	VW	SW	PV	SW	BR	PH	TN	PC	VW	ME	ME	PC	ME	NR	PC	PC	NR	PC	PC	NR					
17		VW	NR	JT	ES	SW	JT	CV	TN	PC	ME	DL	PH	TN	ME	**												
18		NR	PV	CV	VW	NR	CV	ES	ME	PH	PH	NR	PC	PH	PH	**												

= Tied for 9th place

* For an explanation of college codes see Appendix B

** No student returns from Thomas Nelson or John Tyler

For codes see Appendix A

APPENDIX V

Variable Rank Orders of Individual Colleges

APPENDIX V

Variable Rank Orders of Individual Colleges

<u>BLUE RIDGE</u>	Evaluation Category							
	1	2	3	4	5	6	7	8
Quantitative Score Rankings	12	8	5	14	5	15		
Faculty Score Rankings	16	8	11	10	5	9	10	11
Student Score Rankings	6	12	9	12	9	9	11	10

<u>CENTRAL VIRGINIA</u>	Evaluation Category							
	1	2	3	4	5	6	7	8
Quantitative Score Rankings	16	13	18	11	3	18		
Faculty Score Rankings	17	11	5	9	4	10	4	7
Student Score Rankings	10	8	7	7	7	5	3	7

<u>DABNEY S. LANCASTER</u>	Evaluation Category							
	1	2	3	4	5	6	7	8
Quantitative Score Rankings	2	1	7	4	9	3		
Faculty Score Rankings	8	5	12	8	17	6	7	10
Student Score Rankings	14	10	14	11	15	12	13	12

<u>DANVILLE</u>	Evaluation Category							
	1	2	3	4	5	6	7	8
Quantitative Score Rankings	3	9	14	3	12	11		
Faculty Score Rankings	1	3	8	7	15	2	5	4
Student Score Rankings	1	1	1	1	4	1	1	1

<u>EASTERN SHORE</u>	Evaluation Category							
	1	2	3	4	5	6	7	8
Quantitative Score Rankings	4	2	13	17	4	7		
Faculty Score Rankings	18	10	10	5	10	7	8	9
Student Score Rankings	15	5	3	2	2	5	4	3

<u>GERMANNA</u>	Evaluation Category							
	1	2	3	4	5	6	7	8
Quantitative Score Rankings	1	3	1	1	1	1		
Faculty Score Rankings	2	6	2	4	2	12	2	3
Student Score Rankings	7	7	8	10	3	11	7	8

<u>JOHN TYLER</u>	Evaluation Category							
	1	2	3	4	5	6	7	8
Quantitative Score Rankings	15	14	17	15	10	17		
Faculty Score Rankings	12	12	4	12	1	8	11	6
Student Score Rankings	No Returns							

APPENDIX V (continued)

Variable Rank Orders of Individual Colleges

<u>LORD FAIRFAX</u>	Evaluation Category							
	1	2	3	4	5	6	7	8
Quantitative Score Rankings	7	6	3	2	11	4		
Faculty Score Rankings	7	4	1	6	8	1	1	1
Student Score Rankings	5	2	2	4	8	2	2	4

<u>MOUNTAIN EMPIRE</u>	Evaluation Category							
	1	2	3	4	5	6	7	8
Quantitative Score Rankings	6	12	2	8	7	6		
Faculty Score Rankings	9	18	15	17	12	16	16	17
Student Score Rankings	16	15	12	13	13	14	10	14

<u>NEW RIVER</u>	Evaluation Category							
	1	2	3	4	5	6	7	8
Quantitative Score Rankings	18	17	6	13	8	13		
Faculty Score Rankings	13	7	6	3	18	13	9	13
Student Score Rankings	12	16	13	14	16	15	15	16

<u>PATRICK HENRY</u>	Evaluation Category							
	1	2	3	4	5	6	7	8
Quantitative Score Rankings	5	4	4	9	2	5		
Faculty Score Rankings	14	16	18	18	3	17	18	18
Student Score Rankings	3	4	5	5	1	3	9	2

<u>PAUL D. CAMP</u>	Evaluation Category							
	1	2	3	4	5	6	7	8
Quantitative Score Rankings	10	10	11	10	13	14		
Faculty Score Rankings	5	13	17	16	11	18	15	16
Student Score Rankings	9	14	16	16	10	16	16	15

<u>PIEDMONT VIRGINIA</u>	Evaluation Category							
	1	2	3	4	5	6	7	8
Quantitative Score Rankings	8	18	8	6	16	9		
Faculty Score Rankings	10	1	7	1	13	3	3	5
Student Score Rankings	13	11	11	8	14	10	12	11

<u>SOUTHWEST VIRGINIA</u>	Evaluation Category							
	1	2	3	4	5	6	7	8
Quantitative Score Rankings	13	11	10	16	17	16		
Faculty Score Rankings	4	15	13	13	9	10	13	12
Student Score Rankings	8	6	10	3	6	8	5	3

APPENDIX V (continued)

Variable Rank Orders of Individual Colleges

<u>THOMAS NELSON</u>	Evaluation Category							
	1	2	3	4	5	6	7	8
Quantitative Score Rankings	11	15	15	12	8	8		
Faculty Score Rankings	6	17	16	15	7	14	17	14
Student Score Rankings	No Returns							

<u>VIRGINIA HIGHLANDS</u>	Evaluation Category							
	1	2	3	4	5	6	7	8
Quantitative Score Rankings	9	7	12	5	14	12		
Faculty Score Rankings	11	14	9	2	14	4	12	8
Student Score Rankings	4	9	6	6	12	6	8	9

<u>VIRGINIA WESTERN</u>	Evaluation Category							
	1	2	3	4	5	6	7	8
Quantitative Score Rankings	17	16	16	18	15	10		
Faculty Score Rankings	15	9	14	14	16	15	14	15
Student Score Rankings	11	13	15	15	11	13	14	13

<u>WYTHEVILLE</u>	Evaluation Category							
	1	2	3	4	5	6	7	8
Quantitative Score Rankings	14	5	9	7	6	2		
Faculty Score Rankings	3	2	3	11	6	5	6	2
Student Score Rankings	2	3	4	9	5	7	6	5

APPENDIX W

Correlation Coefficient (Spearman R and Pearson r)
Computer Program

Correlation Coefficient (Spearman R and Pearson r) Computer Program (Continued)

DATA STUDENTS; INPUT COLLEGE \$	ST1	ST2	ST3	ST4	ST5	ST6	ST7	ST8; CARDS;
BR	6206	6703	7301	6895	6913	7113	7355	6917
CV	5714	7003	7346	7351	7020	7588	8158	7123
DL	5594	6891	6595	6905	5874	6793	6889	6509
DV	6704	8305	8169	8486	7252	7884	8474	7905
ES	5449	7268	7730	8207	7273	7566	7889	7446
GE	6068	7005	7303	7067	7261	6997	7644	7070
LF	6234	7551	7781	7437	6955	7770	8211	7362
ME	5333	6437	6676	6803	5978	6629	7368	6356
NR	5708	5993	6640	6430	4922	6373	6822	6034
PC	5856	6519	6347	5871	6901	6009	6471	6297
PH	6557	7326	7547	7407	7909	7713	7583	7472
PV	5667	6813	7120	7270	5967	7093	6950	6740
SW	6009	7217	7221	7460	7114	7324	7831	7156
VH	6522	6957	7468	7398	6196	7453	7633	7051
VW	5713	6583	6524	6244	6321	6715	6835	6397
WY	6667	7487	7649	7267	7137	7407	7765	7316
DATA FACULTY; INPUT COLLEGE \$	FY1	FY2	FY3	FY4	FY5	FY6	FY7	FY8; CARDS;
BR	5031	7356	6780	7253	7083	7099	7500	6781
CV	4756	7294	7591	7453	7271	6873	7982	6909
DL	6046	7786	6771	7581	5077	7554	7821	6816
DV	7706	8211	7500	7603	5270	8114	7955	7379
ES	3462	7299	7319	7652	6474	7431	7778	6861
GE	6567	7600	7925	7813	7569	6736	8333	7406
JT	5709	7185	7661	6928	8291	7133	7372	7226
LF	6208	8199	8314	7650	6878	8376	8519	7651
ME	5833	6238	6324	6078	5655	6346	6190	6105
NR	5400	7436	7588	7876	3918	6694	7708	6498
PC	6250	6974	5657	6127	5856	6036	6458	6156
PH	5230	6667	4958	5635	7520	6111	5926	6069
PV	5833	8452	7576	8056	5333	7982	8056	7375

Correlation Coefficient (Spearman R and Pearson r) Computer Program (Continued)

SW	6370	6833	6728	6429	6818	6887	7083	6687			
TN	6241	6268	5856	6246	6898	6551	6041	6340			
VH	5735	6973	7447	7973	5317	7870	7333	6891			
VW	5152	7333	6353	6311	5176	6509	6987	6231			
WY	6494	8350	7921	6933	7070	7624	7833	7441			
DATA	QUANT;	INPUT	COLLEGE	\$	QN1	QN2	QN3	QN4	QN5	QN6;	CARDS;
BR	44.79	15.79	2.384		7.602		6.665		262		
CV	29.47	11.37	.226		8.454		8.480		153		
DL	88.66	34.76	1.637		16.833		5.439		681		
DV	83.08	15.54	.701		17.492		4.140		424		
ES	74.20	26.69	.920		4.594		8.182		545		
GE	154.64	25.22	3.017		26.172		28.205		790		
JT	41.53	9.30	.400		6.645		5.357		232		
LF	60.96	16.80	2.584		18.690		5.328		657		
ME	61.31	14.28	2.663		9.496		6.495		560		
NR	25.66	8.04	1.949		7.851		2.798		344		
PC	59.07	15.06	1.030		8.469		3.700		340		
PH	73.38	23.61	2.480		9.236		13.942		603		
PV	60.09	6.57	1.466		12.863		2.950		458		
SW	42.46	14.32	1.093		6.249		2.889		239		
TN	52.01	9.13	.647		8.423		6.108		478		
VH	59.88	16.40	.977		15.684		3.632		410		
VW	29.00	9.05	.427		4.428		3.049		142		
WY	41.90	18.02	1.266		10.985		6.519		456		

Correlation Coefficient (Spearman R and Pearson r) Computer Program

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PROC SORT; BY COLLEGE; DATA ALL; MERGE STUDENTS FACULTY QUANT; BY COLLEGE;
PROC PRINT; TITLE INPUT;
PROC CORR SPEARMAN PEARSON; TITLE CORR OUTPUT; VARIABLES ST1; WITH QN1;
PROC CORR SPEARMAN PEARSON; TITLE CORR OUTPUT; VARIABLES ST2; WITH QN2;
PROC CORR SPEARMAN PEARSON; TITLE CORR OUTPUT; VARIABLES ST3; WITH QN3;
PROC CORR SPEARMAN PEARSON; TITLE CORR OUTPUT; VARIABLES ST4; WITH QN4;
PROC CORR SPEARMAN PEARSON; TITLE CORR OUTPUT; VARIABLES ST5; WITH QN5;
PROC CORR SPEARMAN PEARSON; TITLE CORR OUTPUT; VARIABLES ST6; WITH QN6;
PROC CORR SPEARMAN PEARSON; TITLE CORR OUTPUT; VARIABLES FY1; WITH QN1;
PROC CORR SPEARMAN PEARSON; TITLE CORR OUTPUT; VARIABLES FY2; WITH QN2;
PROC CORR SPEARMAN PEARSON; TITLE CORR OUTPUT; VARIABLES FY3; WITH QN3;
PROC CORR SPEARMAN PEARSON; TITLE CORR OUTPUT; VARIABLES FY4; WITH QN4;
PROC CORR SPEARMAN PEARSON; TITLE CORR OUTPUT; VARIABLES FY5; WITH QN5;
PROC CORR SPEARMAN PEARSON; TITLE CORR OUTPUT; VARIABLES FY6; WITH QN6;
PROC CORR SPEARMAN PEARSON; TITLE CORR OUTPUT;
VARIABLES ST7; WITH QN1 QN2 QN3 QN4 QN5 QN6;
PROC CORR SPEARMAN PEARSON; TITLE CORR OUTPUT;
VARIABLES ST8; WITH QN1 QN2 QN3 QN4 QN5 QN6;
PROC CORR SPEARMAN PEARSON; TITLE CORR OUTPUT;
VARIABLES FY7; WITH QN1 QN2 QN3 QN4 QN5 QN6;
PROC CORR SPEARMAN PEARSON; TITLE CORR OUTPUT;
VARIABLES FY8; WITH QN1 QN2 QN3 QN4 QN5 QN6;
PROC RANK DESCENDING; VAR ST1 ST2 ST3 ST4 ST5 ST6 ST7 ST8;
RANKS RST1 RST2 RST3 RST4 RST5 RST6 RST7 RST8; PROC PRINT;
TITLE RANKS;
PROC RANK DESCENDING; VAR FY1 FY2 FY3 FY4 FY5 FY6 FY7 FY8;
RANKS RFY1 RFY2 RFY3 RFY4 RFY5 RFY6 RFY7 RFY8;
TITLE RANKS;
PROC RANK DESCENDING; VAR QN1 QN2 QN3 QN4 QN5 QN6;
RANKS RQN1 RQN2 RQN3 RQN4 RQN5 RQN6;
TITLE RANKS;
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APPENDIX X

Summary of Pearson Correlation Coefficients (r) Between
Ranked College Category Scores and Ranked
College Quantitative Measures

Summary of Pearson Correlation Coefficients (r) Between Ranked College
Category Scores and Ranked College Quantitative Measures

Quantitative Variables	Qualitative Variables						
	Faculty Questionnaire			Student Questionnaire			
RQN1: Ranked FINANCE Measures	r	RFY1 .318	RFY7 .230	RFY8 .286	RST1 .108	RST7 .157	RST8 .284
RQN2: Ranked BOOK COLLECTION Measures	r	RFY2 .094	RFY7 .156	RFY8 .084	RST2 .298	RST7 .130	RST8 .286
RQN3: Ranked AV TITLES Measures	r	RFY3 ⊖.002	RFY7 .064	RFY8 .029	RST3 ⊖.019	RST7 ⊖.065	RST8 ⊖.095
RQN4: Ranked CIRCULATION Measures	r	RFY4 .500	RFY7 .511	RFY8 .579	RST4 .224	RST7 .273	RST8 .268
RQN5: Ranked SPACE Measures	r	RFY5 .498	RFY7 .134	RFY8 .158	RST5 .452	RST7 .207	RST8 .250
RQN6: Ranked STAFFING Measures	r	RFY6 .194	RFY7 .143	RFY8 .228	RST6 .140	RST7 .127	RST8 .209

☐ = Significant correlation at the .05 level

r = Pearson coefficient

⊖ = Inverse or negative correlation

- RFY1/RST1 = Faculty/student scores from Category 1 - FINANCE
(Questions 1-5) in college rank order.
- RFY2/RST2 = Faculty/student scores from Category 2 - BOOK COLLECTION
(Questions 6-10) in college rank order.
- RFY3/RST3 = Faculty/student scores from Category 3 - AV TITLES
(Questions 11-15) in college rank order.
- RFY4/RST4 = Faculty/student scores from Category 4 - CIRCULATION
(Questions 16-20) in college rank order.
- RFY5/RST5 = Faculty/student scores from Category 5 - SPACE
(Questions 21-25) in college rank order.
- RFY6/RST6 = Faculty/student scores from Category 6 - STAFFING
(Questions 26-30) in college rank order.
- RFY7/RST7 = Faculty/student scores from Question 31 - OVERALL RATING
in college rank order.
- RFY8/RST8 = Faculty/student composite scores from all 30 evaluation
questions aggregated, in college rank order.

VITA

The author was born in Philadelphia, Pennsylvania on September 29, 1924 and was raised in Southern New Jersey. After a twenty year career in the Navy and Air Force as an electronics technician he retired on December 31, 1962 in the grade of Master Sergeant. He graduated from Florida State University, Tallahassee, Florida, in 1964 with a Bachelor of Arts Degree in History, and was awarded the Master of Arts Degree in Library Science by Florida State in 1965.

Service as a reference Librarian at the Fort Lauderdale Public Library, Fort Lauderdale, Florida was followed by appointment as Director of the Public Library at Riviera Beach, Florida in 1966. In 1968 he became Director of the Public Library at Cocoa, Florida, and in 1970 was appointed Coordinator of Library Services at newly opening New River Community College in Dublin, Virginia, where he became Director of Learning Resources in 1972. He assumed the position of Library Director at Radford College, Radford, Virginia in 1974.

The author is married to the former Elizabeth Martz and has one child, Lynn. He has served as Chairman of the Community College subsection of the Virginia Library Association, and is also a member of the Virginia Educational Media Association and the Association for Educational Communications and Technology.

C. Edward Huber

USER EVALUATION OF LEARNING RESOURCE PROGRAMS

IN VIRGINIA COMMUNITY COLLEGES

by

C. Edward Huber

(ABSTRACT)

The purpose of this study was to determine the relationship between qualitative evaluation of community college learning resource programs, as measured by a questionnaire distributed to selected faculty and students at eighteen single-campus Virginia community colleges, and quantitative measures frequently used as comparative indicators of program quality. The questionnaire, in two almost identical versions, one for students and one for faculty, was developed from Evaluative Criteria (4th edition, 1969), published by the National Study of Secondary School Evaluation, and consisted of six groups of five questions, each group related to a single quantitative measure, plus one additional overall evaluation question. The question groups and their corresponding quantitative measures were:

<u>Quantitative Evaluation Measures (Provided by Library/LRC Directors)</u>	<u>Qualitative Evaluation Measures (Faculty/Student Questionnaire Scores)</u>
1. Funds spent per student on the learning resource program	1. Financial Support Score (Questions 1 - 5)
2. Number of titles in the book collection per student	2. Book Collection Score (Questions 6 - 10)
3. Number of titles in the media collection per student	3. Audiovisual Services (Questions 11 - 15)
4. Number of items circulated per student	4. Readers' Services Score (Questions 16 - 20)

5. Number of square feet in the Library/LRC per student	5. Space Availability Score (Questions 21 - 25)
6. Number of headcount students per staff member	6. Staffing Profile Score (Questions 26 - 30)

Scores were calculated for each of the six five-question categories, for overall evaluation question thirty-one, and for the composite of thirty questions from faculty (N = 264) and student (N = 827) returns and ranked by college. Each of the six quantitative measures were also ranked by college. Twelve null hypotheses, six for faculty and six for students were tested using Spearman rank order coefficients (R) at the .05 level to determine the statistical relationship between the scores as the dependent variables, and their respective quantitative measures as the independent variables. As a secondary analysis Pearson correlation coefficients (r) were also calculated between all paired sets.

Research findings: No overall relationship was found to exist between quantitative and qualitative variables. However significant correlations were found to exist between: Circulation measures and faculty overall question thirty-one (R = .513, r = .511); circulation measures and faculty composite scores (R = .511, r = .579); faculty readers' services category and circulation measures (r = .500); book collection measures and student book collection scores (R = .541); space measures and faculty space adequacy scores (R = .684); space measures and student space adequacy scores (R = .632).