

DOCUMENT RESUME

ED 053 095

SP 005 144

TITLE Basic Guidelines for Media and Technology in Teacher Education.

INSTITUTION Association for Educational Communications and Technology, Washington, D.C.

PUB DATE 71

NOTE 15p.

AVAILABLE FROM NEA, 1201 Sixteenth St., N.W., Washington, D.C. 20036 (Stock No. 071-02742; \$1.25)

EDRS PRICE MF-\$0.65 HC Not Available from EDRS.

DESCRIPTORS *Accreditation (Institutions), Administrator Guides, *Audiovisual Aids, *Guidelines, *Instructional Materials, *Teacher Education, Technological Advancement

ABSTRACT

These guidelines have been prepared to assist the faculty and administration of colleges and universities to more realistically incorporate media and technology into their programs. It is intended to accompany and amplify the standards for the accreditation of teacher education prepared by the American Association of Colleges for Teacher Education. The concerns, developments, and plans for the application of newer media and materials and modern technologically-assisted instruction of teacher education programs are detailed. A brief summary of the development of instructional materials and media is included in order to relate their importance to the teacher education program, and within this context it is possible to develop guidelines more directly identified with the standards as adopted in January 1970. Comments are not necessarily appropriate to each of the standards, and therefore guidelines are not presented for every numbered standard, but to maintain a close relationship, the numbering system used with the standards is also used for the guidelines. A short bibliography is included. (Author/MBM)

ED053095

Basic Guidelines for Media and Technology in Teacher Education

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Prepared by the
Teacher Education
and the PEMS Committees
of AECT to accompany the
American Association of
Colleges for Teacher Education's
*Standards for the Accreditation
of Teacher Education.*

Special Acknowledgments:
Clarence O. Bergeson, State
University College, Geneseo, N.Y.;
and Donald P. Ely, Syracuse
University.

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April 1971



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Editorial & Production: C.A. Bruce

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Introduction

Basic Guidelines for Media and Technology in Teacher Education has been prepared to assist the faculty and administration of colleges and universities to more realistically incorporate media and technology into their programs. It is intended to accompany and amplify the new *Standards for the Accreditation of Teacher Education* prepared by the American Association of Colleges for Teacher Education (AACTE), and to fulfill the need for the kind of guidelines referred to in Standard 1.4 of the NCATE *Standards*.

Basic Guidelines will help institutions to appraise their programs and to prepare for visits by the National Council for Accreditation of Teacher Education. It spells out in some depth the concerns, developments and plans for the application of newer media and materials and modern technologically-assisted instruction to teacher education programs.

A brief summary of the development of instructional materials and media is included in order to relate their importance to the teacher education program. Within this context, it is possible to develop guidelines more directly identified with the *Standards* as adopted in January 1970. A short bibliography is also included, for those who may wish to pursue the subject in depth.

At the turn of the century a number of technological inventions and developments were made that gave man new, and in some cases more efficient, means of communication. At the time, however, many of these inventions were considered nothing more than toys. The first two decades of the century brought further technological developments that caused these "toys" to be considered more seriously. In the 1920s, the motion picture passed through the stage of being a mere curiosity and became a serious medium, paralleling live theater. Its usefulness and influence on learning was explored. This educational research continued into the 1930s, when additional projects—concerning teaching by radio—were begun. Within 20 years both film and radio became pervasive communication systems, providing both entertainment and information to the average citizen.

The advent of World War II created many demands for new, skilled manpower. Modern media—

more conventionally referred to as audiovisual aids or materials—took a prominent place in educational systems attempting to fill such needs, and much research centered on the use of these materials in a wide variety of teaching and learning situations. Media were among the innovations that made possible the changes and growth in the industrial complex that were so essential to the defense of the western world.

After the war, schools and industry alike attempted to settle back into old, familiar methods of operation. Within a few years, however, the increase in birth rate and public school enrollment forced a re-evaluation of the older and slower approaches to learning. Again, media—still called audiovisual materials—were implemented, this time to upgrade the curricula of the public schools.

With the late 1940s and early 1950s came considerable experimentation with television as an instructional tool. Industry was also expanding, and began to develop its own in-house educational systems. Simultaneously, a search was begun for more efficient and effective means by which such education could be accomplished. Among the strategies and tactics adopted was the increased use of "audiovisual instructional materials." Finally, in the 1960s investigations were begun into the use of media with more sophisticated planning and course-development—programed instruction, computer-facilitated instruction, and the application of a systems approach to education.

Historic development has implications that reach beyond the actual events themselves. This is equally true of the developments of modern technology responsible for an increasing number of new media. Such developments have redirected the energies of many people, causing today's society to be much broader and richer than was ever contemplated in the early 1900s.

Prior to the Twentieth Century, the only formal means of widespread communication was the printing press. The technological developments which have since come about have provided man with many different modes of expression, enabling ideas, concepts and things learned from experience to be conveyed in ways and with elements never before possible. The unique means of expression that were made possible by each new medium have added new dimensions in which man can apply his cre-

ative talents. For example, the photographic and cinematographic media have now become accepted as legitimate avenues for creative work in the arts, and television has provided new means for creating views of society.

Still photography, motion picture photography, television, and the computer have proved to be excellent data-gathering instruments for varied academic endeavors. Historians consider film coverage of public events to be important primary documentation. Psychologists now use film and computers to control experiences and to collect data on a wide variety of problems in human behavior. Medical researchers employ both color photography and color television in their studies. In fact, modern scholars would be hard put to maintain a position of leadership in their favored fields of investigation without the assistance from media that present day technology makes possible. Further, the future of man's understanding of the universe and his pursuit of greater knowledge about himself depend upon even more sophisticated applications of these instruments.

Media can and should play an invaluable role in the preparation of professional educators. Teaching and communication, though not synonymous, are related. Much of what the teacher does involves communication. From the spoken word—whether a part of giving directions or the vehicle of student discussion—to the viewing of the real world, directly or by means of some technological invention, communication permeates instructional activities.

Modern media and technology, though not the exclusive ingredients in learning, are communication aids—an integral part of almost every learning experience. The data for scholarship reside more and more in these means. The scholarly experiences that the student must have can often be afforded

only through them. The young scholar, the college student, is a deprived scholar without access to these learning tools.

It is imperative, then, that the scholar—whether teacher or student—have at his disposal all that modern technology can provide. The newer media and technologies have a crucial role to play in any teacher education program—General Studies Component and Professional Studies Component alike—if that program hopes to meet the needs of our dynamic, sophisticated world.

It is within this context that the *Basic Guidelines* have been developed. No effort has been made to be totally comprehensive in relation to the application of modern media to all instruction that may occur within institutions of higher education. Instead, these guidelines have been developed to follow, where appropriate, the *NCATE Standards*. It is hoped that this approach will be of greater assistance to those who are involved in redeveloping teacher education programs, and particularly to those who are about to receive accreditation visits.

Comments about instructional media, materials and technology are not necessarily appropriate to each of the standards, and therefore guidelines are not presented for every numbered standard. It was felt, however, that a close relationship ought to be maintained between *Basic Guidelines*, *Standards*, and questions published for the evaluation teams. To accomplish this, the numbering system used with the *Standards* is also used here.

At certain points, more than one guideline is appropriate to a given standard. In such cases, the number of the appropriate standard is suffixed by additional numbers as needed.

Part I: Basic Teacher Education Programs

1. Curricula for Basic Programs

1.1 Design of Curricula

No media guidelines have been developed for this standard.

1.2 The General Studies Component

The area of symbolics of information includes not only the linguistic forms traditionally a part of academic life—highly important as these obviously are—but also the nonlinguistic media of motion pictures, still pictures, and various graphic types of symbolism. These, too, are important to the teacher who is going to deal with children who are products of a modern environment permeated by the use of such media. The pervasive nature of these media encompasses and influences the social, political and scientific aspects of modern life.

As practitioners in the area of communications, and as persons who must select media, teachers need not only an occupational proficiency in all media of communications, but also a firm foundation in the basic studies of these areas. Responsibility for such a foundation rests with the institution's program for general education.

Guideline: The General Studies Component should provide the teacher education program with a general foundation for the literate use of the modern media of communications—linguistic as well as nonlinguistic.

- 1.2.1 Are all modern media studied as a part of the communication tools needed by the student—books, newspapers, magazines, photographs, motion pictures, television, radio, and recordings?
- 1.2.2 Do students have an opportunity to learn in the areas of general studies through the quality application of a variety of media and technology as a part of the various teaching methods used?
- 1.2.3 Are newer media packages obtained as documentaries of significant social and political issues in the General Studies Component?
- 1.2.4 Are both linguistic and nonlinguistic media used as primary documentation for scholarly pursuits—e.g., in the areas of history, sociology and the sciences?

1.3 The Professional Studies Component

1.3.1 Content for the Teaching Specialty. No media guidelines have been developed for this standard.

1.3.2 Humanistic and Behavioral Studies. No media guidelines have been developed for this standard.

1.3.3 Teaching and Learning Theory with Laboratory and Clinical Experience. Teachers need basic communication skills in order to perform their professional tasks. An understanding of the learner's reception of all that he senses in his world, and particularly his reception of communicated messages, is basic to furthering learning. It therefore becomes a crucial aspect of the study of teaching, as well as being an important part of learning theory.

At the same time, modern media and technology provide the teacher education faculty with opportunities for a variety of laboratory and clinical experiences. Situations can be recorded on audiotape, videotape and/or Super 8mm film. Teaching models can be accumulated that cover almost every aspect of the teacher education program, allowing teacher and students to use these experiences with as much flexibility as each learner's condition requires.

In a similar manner, diagnosis of teaching situations and self-analysis in both clinical and laboratory experiences is possible with a minimum of cost and effort. Controlled circumstances for both diagnosis and analysis have only become possible, in many instances, as a result of technological innovations.

Of the many areas studied by the prospective teacher, certainly the use of media in the classroom requires an awareness of the basic educational research underlying its selection and use. Unlike many practices in the educational establishment, these developments are recent enough to have been under close scrutiny by researchers from their inception. Therefore, the teacher has the opportunity to benefit from the findings. And the teacher education program ought to be aware of such research and expect its students' activities to be based on the results.

In other words, the skill of the teacher trainee is enhanced by the use of media and technology in the teacher education program, and the use of media by the faculty becomes a model for the greater

understanding of teaching opportunities by the student. This, together with a more formal approach to problems and processes involved in the use of media and technology as a part of the study of teaching forms an essential segment of the total Professional Studies Component of any teacher education program.

1.3.3.1 Guideline: *The study of teaching and learning theory includes a basic understanding of all modern media and technology, and of the process of communications, as related to learning and the instructional task.*

- 1.3.3.1a Are specific provisions made to study the theoretical basis for the use of media in teaching and learning situations?
- 1.3.3.1b What provisions have been made for the study of communications problems that might be met by teacher trainees when they enter the classroom?
- 1.3.3.1c Is investigation of the basis for the applications of all modern materials and media—e.g., graphic symbolism, motion pictures, photographs, television, radio, recordings, simulated conditions, and realia—considered a regular part of the study of teaching and learning theory?
- 1.3.3.1d Is the development of configurations of materials and media application—e.g., display techniques, simulation systems, observational arrangements—by students considered a part of the study of teaching and learning theory?
- 1.3.3.1e Is the study of a systems approach to the development of learning experiences that uses newer media and technology included in the study of teaching and learning theory?
- 1.3.3.1f Are specific provisions made for the study of theories underlying the use of self-instructional procedures incorporating modern media?
- 1.3.3.1g Have specific provisions been made for the study of the proper integration of media into the overall teaching curriculum that are appropriate to the student's professional interests?
- 1.3.3.1h Is the study of the theory and practice relevant to the use of media in the classroom a part of the program of all prospective teachers?

1.3.3.2 Guideline: *The systematic use of newer media and technology should be a part of the teacher trainee's experience as he approaches the study of teaching and learning theory.*

- 1.3.3.2a In what ways do students become fa-

miliar with and evaluate specific media packages appropriate to their areas of instruction?

- 1.3.3.2b What practices and procedures are used to help students analyze models of teaching and learning under actual and media-assisted conditions?
- 1.3.3.2c What opportunities do students have to use newer media and technology in their study of teaching and learning theory—e.g., graphic materials in their projects, films in their investigations, filmstrips in their reports, and videotape recordings of their discussions?
- 1.3.3.2d Are the following accessible and available to the teacher trainee for his laboratory experiences: commercially-produced materials that are adequately cataloged; locally-produced materials; production services; equipment consultation services; recent research on the psychological aspects of the use of these materials?
- 1.3.3.2e Is there evidence in program syllabuses that use of modern media has been planned as an integral component of the teacher education curriculum?

1.3.3.3 Guideline: *Newer media and technology can particularly serve the clinical needs of the Professional Studies Component of modern teacher education programs.*

- 1.3.3.3a What provision is made for a wide variety of instructional technologies appropriate to various learning problems and teaching styles and applied to different modes of learning as a part of the individual student's clinical experiences?
- 1.3.3.3b In what ways are modern media used to provide prospective teachers with simulated teaching situations?
- 1.3.3.3c How are media used to evaluate the effectiveness of the clinical experience aspect of the Professional Studies Component?
- 1.3.3.3d Are mediated clinical teaching situations used with all prospective teachers?
- 1.3.3.3e How are students helped to use technological resources in preparing for and carrying out clinical experiences?

1.3.3.4 Guideline: *Research and development in the area of newer media and technology should be reflected in the teacher education program.*

1.3.3.4a In what ways does the prescribed teacher education program embody research findings having to do with such modern media as motion pictures, television, still pictures, audio recordings, programmed instruction, and systems of mediated instruction?

1.3.3.4b Is developmental research being done at the institution that will make the use of newer media a quality contribution to learning situations?

1.3.3.4c Are there continuing opportunities for faculty members to become aware of recent research and development in the area of media and technology?

1.3.3.4d Do members of the institution engage in research which has to do with the use of media in classroom situations?

1.3.3.4e To what degree are research findings about newer media a part of the program required of teacher trainees?

1.3.4 Practicum. As indicated by the standard on the practicum, the internship is the trial period during which theories are tried in a classroom and a school, under conditions of substantial responsibility and in control of the full range of teaching duties. This full range should include, among other things, responsibilities for the incorporation of all media into the teaching situation. It is, therefore, appropriate that students have available those media and technologies needed to make these teaching duties compatible with previous preparation in the laboratory and clinical components of their program.

Guideline: Direct, substantial participation in teaching should include realistic opportunities to use modern media and technology, under personnel qualified to help develop quality application of such materials.

1.3.4a Does the institution select collaborating schools for internships that have the necessary services to provide the wide variety of media generally available to teachers?

1.3.4b Is supervision of the practicum carried on by personnel who also understand the role and use of modern media in the classroom?

1.3.4c Does the institution make contributions to offset any shortcomings that cooperating schools may have in their ability to service the internship teacher with the kinds of media, equipment and technology needed?

1.3.4d Is it possible for every prospective teacher to have an opportunity to assume full responsibility for including media in the classes he is teaching?

1.4 Use of Guidelines Developed by National Learned Societies and Professional Associations
These guidelines fulfill this requirement.

1.5 Control of Basic Programs

No media guidelines have been developed for this standard.

2. Faculty for Basic Programs

2.1 Competence and Utilization of Faculty

Quality teacher education should be comparable to the multi-media society in which both faculty and students find themselves. Concern for the faculty's ability to use all types of media in the program grows naturally out of a concern that future teachers are prepared to use such media, and that they have full opportunity to incorporate them in their teaching practice. How these competencies have been achieved by faculty members is not as important as the presence of such abilities.

Guideline: Teachers in the Professional Studies Component should be aware of the usefulness of modern media and technology for their own teaching.

2.1.1 Are teachers in the Professional Studies Component appropriately prepared to use modern media in their instructional tasks?

2.1.2 Among those who conduct the Professional Studies Component, are there teachers who are highly competent in the use of the various media?

2.2 Faculty Involvement with Schools

The need for faculty members to be informed about current and relevant problems of the schools applies equally to problems of instructional resources.

At the same time, the teacher education faculty should be able to provide professional assistance to such institutions through help in devising and improving the instructional resource programs of the schools in its vicinity.

Guideline: Members of the teacher education faculty should provide assistance to elementary and secondary schools as they incorporate newer media and technology into their school programs.

2.2.1 In what ways have members of the faculty for teacher education been involved with elementary and secondary schools in ef-

forts to improve the quality and use of newer media?

- 2.2.2 In what ways are the teacher education faculty's special strengths in the use of newer media and technology reflected in the services offered to nearby schools?

2.3 Conditions for Faculty Service

The introduction of modern technology into the educational program of any institution broadens the potential for quality experiences, and at the same time increases the responsibility of faculty members for devising appropriate experiences which will make full use of all of these opportunities. It therefore becomes essential that faculty members have available to them those conditions necessary for planning and carrying out such responsibilities. At the same time, modern technology has made the area of media and technology a highly dynamic and changing one. Faculty members must keep abreast of the latest developments, as well as recent research indicating when technology should or should not be used.

Providing all of the instructional materials needed for a quality program in teacher education is a task far larger than the average faculty member is able to perform by himself. This is particularly true in those areas closely related to modern technology and in the benefits which have accrued from it in the form of instructional materials. Therefore, it becomes appropriate to have specialized support services, above and beyond the more conventional types of production services listed later under Materials and Instructional Media Center.

Many materials are devised immediately by faculty members, and can be translated directly into usable instructional materials—simple overhead and photographic transparencies, duplicated materials, direct low-quality audio and video recordings, etc. However, a source of supplies and some form of clerical assistance is required.

2.3.1 Guideline: *The institution, in providing working conditions and in assigning loads (all services rendered) to each faculty member, should recognize the need to prepare and plan for those materials that can be developed as a result of modern media and technology, and the systems of instruction appropriate to their use.*

- 2.3.1a Does a plan provide staff members with identifiable faculty load time to redevelop course curricula and initiate modern techniques, including the use of newer media, into their part of the teacher education program?
- 2.3.1b To what extent and in what ways are faculty members encouraged in such Professional Studies Component redevelopment?

- 2.3.1c What long-range programs exist which will help faculty to become familiar with newer media for redeveloping their Professional Studies Component experiences (either in the summer or during the academic year)?

2.3.2 Guideline: *The faculty for teacher education needs certain essential support services (supplies and clerical personnel) related to the modern developments, technological systems, and equipment.*

- 2.3.2a In what ways can faculty members have instructional materials such as transparencies, films, slides, audiotapes, and videotapes reproduced so that they may be used in the classroom?
- 2.3.2b Are support personnel available who can take instructional materials developed by faculty members—duplicated materials and the like—and reproduce them for classroom purposes?
- 2.3.2c Are supplies such as raw stock for transparencies, fresh film, unused audiotapes and videotapes, and display materials available to the faculty members?

2.4 Part-Time Faculty

No media guidelines have been developed for this standard.

3. Students in Basic Programs

3.1 Admission to Basic Programs

No media guidelines have been developed for this standard.

3.2 Retention of Students in Basic Programs

No media guidelines have been developed for this standard.

3.3 Counseling and Advising for Students in Basic Programs

No media guidelines have been developed for this standard.

3.4 Student Participation in Program Evaluation and Development

No media guidelines have been developed for this standard.

4. Resources and Facilities for Basic Programs

4.1 Library

No media guidelines have been developed for this standard.

4.2 Materials and Instructional Media Center

As indicated in the Introduction to *Basic Guidelines*, as well as in the preamble to Standard 4.2, equipment and resource materials supporting teaching have improved markedly over the last two decades. Coincidentally, the use of a wide variety of media and technology has become a common characteristic of everyday life, particularly in the more affluent and advanced technological nations.

It therefore becomes imperative that these modern technologies in teaching be applied to the teacher education program. Important to the success of this application is the presence of some type of instructional media and technology service for the teacher education program, whether part of an institution-wide center, or directed specifically at this program.

4.2.1 Guideline: *Materials, instructional media services, and technology are needed to assist all aspects of the Professional Studies Component as well as the General Studies Component (both faculty and students).*

- 4.2.1a Is there a reasonable balance maintained between the various aspects of the media and technology program? (The avoidance of fad approaches to a specific medium or new technological development, or the excessive emphasis of any particular innovation?)
- 4.2.1b Are services and personnel available to help the members of the faculty who handle the General Studies Component in the area of media and technological systems?
- 4.2.1c Do faculty members who deal with the General Studies Component use equipment and materials available from such a center?
- 4.2.1d Do records of the media and technology center reflect both the financial and operational support of the teacher education program?
- 4.2.1e Does a complete range of equipment services support all faculty members contributing to the teacher education program?
- 4.2.1f Is the media center able to obtain the kinds of materials which faculty members feel are important to their educational offerings?
- 4.2.1g What services related to instructional media and technology (such as films, filmstrips, realia, audio and videotapes, transparencies, three-dimensional teach-

ing materials, programed learning materials, computer programs, and closed-circuit television) are available to students in their work in the Professional Studies Component of the program?

4.2.2 Guideline: *Professional consultation services should help the teacher education faculty in their efforts to make modern media and technology an efficient part of their work with the students.*

- 4.2.2a Are professional and instructional media personnel who operate in the center available to the faculty for developing and redeveloping the learning experiences needed for the Professional Studies Component?
- 4.2.2b Are staff members of the media and technology center assigned time to work with faculty on curriculum and instructional improvement tasks?
- 4.2.2c Is it convenient for members of the faculty to use professional media personnel to help develop materials and redevelop courses in the Professional Studies Component?
- 4.2.2d Do the lines of responsibility provided by the institution for control of the media center involve this center in the basic curricular and instructional operation of the institution?
- 4.2.2e Are specialized media personnel, whose competencies are in the areas of graphics, television and photography, available to faculty and students?
- 4.2.2f Are the specialists in media and technology professionally prepared on a level commensurate with the faculty in the teacher education program?
- 4.2.2g Are instructional communications and technology personnel who service the education faculty members professionally competent in teacher education and in the use of media for such programs?
- 4.2.2h Does the budget of the institution allow (in the media center's budget or otherwise) funds for adequately redeveloping courses to properly use newer media and technology without undue strain on the normal departmental budgets?

4.2.3 Guideline: *Both the teacher education faculty and their students need to be familiar with a wide variety of materials derived as a result of modern media and technology.*

- 4.2.3a Are a wide variety of instructional media and technology packages available (i.e., films, filmstrips, realia, audio and videotapes, transparencies, programed instruction materials, and closed-circuit television segments) which are indicative of the wide array that teachers can use in their classrooms once they are in the field?
- 4.2.3b Does the program make use of television and film to present teaching models and exemplify instructional situations?
- 4.2.3c Are modern media, such as photography and television, used as methods for the student to review his own activities and analyze his way of operating?
- 4.2.3d Are modern media and technology, such as films, slides, realia, transparencies, computers, and television, used as means for individualizing the instruction of students in the program?
- 4.2.3e Is there an array of equipment and materials available which would be appropriate for use at each of the different grade levels for which teachers are being prepared?
- 4.2.3f What modern instructional media and technology are used to make it possible for the teacher education program to reach a wide variety of students having common needs?
- 4.2.3g Can faculty and staff obtain equipment, materials and other services needed to produce instructional materials—e.g., making their own slides, developing their own audio and/or videotape recordings, and preparing their own computer-facilitated instructional tasks?

4.3 Physical Facilities and Other Resources

The physical facilities do not necessarily determine the quality of a program. However, it should be understood that modern media have minimums which can prevent the use of technological advancements. It also should be noted that the number of possibilities for the use of media in older facilities may be limited. The question is whether or not efforts have been made to make modern technology an appropriate part of all facets of the teacher education program.

Guideline: The institution should plan for the development of physical facilities which allow the teacher education program (faculty and students) to fully use modern developments in media, materials and technology.

- 4.3.1 Is adequate space available for both students and faculty to plan, prepare, examine, evaluate, and demonstrate materials for this program?
- 4.3.2 Were professional media personnel consulted in planning space and facilities presently available for the total program?
- 4.3.3 What facilities exist which will serve a variety of instructional grouping patterns, including space for use by individuals and small and large groups, and for a variety of activities including simulation, micro-teaching and automated instruction?
- 4.3.4 Does the institution currently seek out and apply the results of educational research in the planning of facilities for teacher education?
- 4.3.5 Are learning spaces used for the program planned in such a way as to anticipate the use of a variety of modes and materials, including the acceptance of electronic equipment and distribution systems presently needed by newer media and technology?
- 4.3.6 To what degree does the institution consider the adequacy of facilities for the use of newer media in choosing schools where the practicum aspect of the Professional Studies Component is going to take place?
- 4.3.7 To what extent are appropriate facilities available for the utilization of media in the elective courses and required portions of the General Education Sequence?

5. Evaluation, Program Review, and Planning

5.1 Evaluation of Graduates

Since modern technology has provided the means of communication as well as the storage and retrieval of information in a wide variety of media, the graduates of the teacher education program should be able to show competencies in the use of these media and technologies as well as a basic literacy in the media codes which have become such an important part of modern living.

Guideline: Evidence collected about the quality of teachers prepared by the program should include an assessment of their ability to understand the uses of newer media and technology.

- 5.1.1 In what ways have the graduating teachers been evaluated as to their ability to

plan for the efficient use of all of the various types of newer media?

5.1.2 How has the multi-media literacy of the graduating teacher been assessed?

5.1.3 Has the institution used newer media in its evaluation instruments of the teachers it has prepared?

5.1.4 What records are kept that would allow analysis of the extent to which the teaching performances of students relative to the use of modern media are consistent with the theory of using such media in the classroom, as taught in the earlier part of the program?

5.1.5 What nonlinguistic procedures are used to evaluate effectiveness of instruction in the Professional Studies Component aspects of the program?

5.2 Use of Evaluation Results to Improve Basic Programs

No media guidelines have been developed for this standard.

5.3 Long-Range Planning

The long-range plans provided for the development of the program must take into consideration the large number of changes inherent in the technological developments of present-day society. This is particularly true in relation to technological developments dealing with media and communications. Exactly what the future may bring is difficult to determine. However, many developments such as the variety of mass communications, and the application of computer technology, provide numerous opportunities for more efficient program

development and utilization.

Guideline: The institution has, in its long-range plans for the development of the teacher education program, a consideration of the growing effect of technological developments in media and communications on such programs, both in the college and in the schools that will receive the products of the college.

5.3.1 What elements of long-range plans dealing with teacher education foresee changes which will better prepare students to take advantage of technological advancements in the coming decade?

5.3.2 How will long-range plans meet the increased opportunities for students to have a wide variety of materials and media at their disposal, as well as more individually-prescribed experiences provided by electronic distribution, projection and sound systems, and technologically-simulated conditions?

5.3.3 What significant changes in teacher education are planned to take advantage of such technological opportunities as the computer, with its ability to provide the student with wide varieties of opportunities in materials and media?

5.3.4 Have any standards been developed which can be applied to plans for new facilities, assuring that they will accommodate modern media and will include interconnection between these learning spaces and centralized distribution centers for audio, video and computer-facilitated learning experiences?

Part II: Advanced Programs

G-1. Curricula for Advanced Programs

G-1.1 Design of Curricula

No media guidelines have been developed for this standard.

G-1.2 Content of Curricula

The content of professional programs is designed to develop the basic and specialized competencies required by media professionals. Programs should permit candidates to achieve competencies through formal courses, internship experiences, self-instruction, and independent study in the following areas:

- *Utilization.* Applying media in the instructional setting to bring about specified changes in learners.
- *Production.* Translating design specifications into learning products.
- *Administration.* Organizing and supervising the various functions relating to the development and use of educational media, including the maintenance of logistical support services.
- *Instructional Design and Curriculum Development.* Analyzing instructional objectives for the purpose of developing instructional systems specifications including learner outcomes, subject matter content, teaching strategies, and evaluation. Developing cost/effectiveness relationships for functions relating to the development and use of media.
- *Research and Theory.* Generating and testing theory and methodology appropriate to instructional technology using standard research designs.
- *Education and Training.* Gathering and diffusing information from various sources to all personnel; instructing manpower involved in any of the functions related to development and use of media.

G-1.3 Research in Advanced Curricula

No media guidelines have been developed for this standard.

G-1.4 Individualization of Programs of Study

No media guidelines have been developed for this standard.

G-1.5 Use of Guidelines Developed by National Learned Societies and Professional Associations

These guidelines fulfill this requirement.

G-1.6 Quality Controls

G-1.6.1 Graduate Credit. No media guidelines have been developed for this standard.

G-1.6.2 Graduate Level Courses. No media guidelines have been developed for this standard.

G-1.6.3 Residence Study. No media guidelines have been developed for this standard.

G-1.7 Control of Advanced Programs

No media guidelines have been developed for this standard.

G-2. Faculty for Advanced Programs

A graduate faculty in educational media and technology should represent a balance of training and experience in the content areas of the instructional program. If individual faculty members hold dual responsibilities (e.g., research and service) at least half-time should be spent in the academic program. There should be evidence of scholarly productivity for each faculty member. Scholarly productivity in the field is broadly defined as research, publications, media productions (film, TV programs, filmstrips, recordings), and consultations terminating in specific products.

G-2.1 Preparation of Faculty

No media guidelines have been developed for this standard.

G-2.2 Composition of Faculty for Doctoral Degree Programs

No media guidelines have been developed for this standard.

G-2.3 Conditions for Faculty Service

No media guidelines have been developed for this standard.

G-2.4 Part-Time Faculty

No media guidelines have been developed for this standard.

G-3. Students in Advanced Programs

No media guidelines have been developed for this section. (See G-3, *Standards*.)

G-4. Resources and Facilities for Advanced Programs

The unique nature of educational media and technology requires the availability of special laboratories and resources to graduate students and faculty. The resources should be available at all times for independent study, group work, and formal instruction.

G-4.1 Library

Guideline: There should be evidence of a comprehensive collection of books, periodicals and other media relating to the field. The collection should include all content areas within the program, and should be available in one central location or no more than two locations. Materials for the production of products should be readily available with associated equipment, while books and other materials for use in formal courses should be immediately available at campus supply stores.

G-4.2 Physical Facilities and Other Resources

Guideline: The institution provides facilities and other resources essential to the unique instructional

and research activities of a program in instructional technology.

G-4.2.1 is there space for individual graduate students to work on a variety of projects? Are an adequate number of classrooms and seminar rooms equipped with a full complement of audiovisual equipment which is dedicated to and controlled by the academic program? Are there specialized laboratories for instructional purposes (studio, darkroom, graphics workshop)?

G-4.2.2 Is an adequate amount of audiovisual equipment available for graduate students and faculty? Is production equipment (e.g., cameras, reproduction units, tape recorders) readily accessible to individuals in the program? (Specialized equipment such as computers and TV studio cameras can be available on a shared basis.)

G-4.2.3 Are the media support personnel (photographers, artists, technicians) of the institution available to faculty and graduate students for consultation?

G-5. Evaluation, Program Review, and Planning

No media guidelines have been developed for this section. (See G-5, *Standards*.)

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