# Some Questions Facing Academic Programs in Instructional Technology and Some Means for Answering Them

**Robert A. Reiser**
*Department of Educational Research, Development and Foundations*
*Florida State University*
*Tallahassee, FL 32306*

What are some of the serious questions facing academic programs in instructional technology, and how can communication among the programs be improved so as to help answer those questions? These were the issues that were focused upon by one of the groups (hereinafter referred to as the "curriculum group") at the UCIDT conference in Bloomington.

The curriculum group consisted of 15 faculty members representing one dozen academic programs in instructional technology. The nature of these programs was quite diverse. Some of the programs only offered master's degrees, others offered both masters and doctoral degrees. Some of the programs were quite large, having well over 100 students, while other programs were rather small, having less than one-third that number. The number of faculty in the programs also varied greatly, with at least two programs having more than ten faculty members, and several programs having three or less. The programs also differed with respect to the specialty areas they emphasized, with some focusing primarily on media production skills and others focusing on instructional development skills.

Many of the questions raised by the members of the curriculum group surely have been raised before. In addition, it is likely that the group failed to raise some of the important questions facing academic programs in the field. Nonetheless, the conference provided the group members with a unique opportunity to share their questions and concerns with others and to begin to develop a communication network that will, perhaps, help provide answers to some of those questions.

During its meetings, the curriculum group discussed numerous questions and proposed a variety of ways of fostering discussions about those questions. It would be quite difficult to describe all the issues that were raised and I have not attempted to do so. Instead, I have tried to identify the major topic areas that cover most of the questions that were discussed. Within each of these topic areas, I have attempted to describe most, but not all, of the issues that were raised and I have tried to present many of the group's suggestions for fostering discussion of these issues. In other words, while this paper is not intended to serve as a complete report of the activities of the curriculum group, I believe it touches upon most of the important points the group discussed.

There were five topic areas around which most of the group's discussions centered. These topic areas were: (a) the skills and knowledges taught in instructional technology programs, (b) the impact new technology has had on programs, (c) the influence the job market for graduates has had on programs, (d) the role of the programs in teacher training, and (e) the means by which instruction in the programs is delivered. These topics are discussed in the next five sections of this paper.

## Skills and Knowledge Taught

Many of the issues discussed in the curriculum group were related to a basic question discussed by the group. This question was, "What skills and knowledge should be taught to students in instructional technology programs?" Surely, faculty members in every instructional technology program have grappled with this question and have arrived at some answer, even if the answer was only a tentative one. However, the answers that have been arrived at certainly have varied across programs, with these variations perhaps being most pronounced when one compares programs that train students for different specialty areas within the field. The AECT Task Force on Definition and Terminology (1977) aptly described this situation: "The field of educational technology is so broad in concept as to defy a single set of certification standards for all practitioners or a single training program for those practitioners (p. 101)."

Discussions among members of the curriculum group at the conference revealed that even among programs training students in the same specialty area, there are differences in the skills and knowledge being taught. This situation had been previously noted by Silber (1982), who conducted an in-depth study of nine graduate programs in instructional development.

Over the past few years, there have been several attempts to identify the competencies that professionals in the various specialty areas in the field should possess (e.g., "Competencies for . . . production specialists," 1980; Task Force on ID Certification, 1981). However, there have not been any attempts to identify the extent to which programs in the field have adjusted their course offerings in light of the competency lists that have been produced. One of the recommendations the curriculum group put forth was that a survey of the graduate programs should be conducted in order to ascertain what actions, if any, the programs had taken in light of the publication of these lists. Another recommendation, which is currently being acted upon, was that someone should prepare an annotated bibliography of the various competency lists that describe the skills professionals in the field of instructional technology should possess.

Besides the general question of what skills and knowledge should be taught in instructional technology programs, there arose a series of related questions. These questions included: (a) at what level(s) (undergraduate, masters, doctoral), and for which specialty areas, should a particular skill be taught? and

(b) for which group(s) of students should a particular skill be considered essential? It was suggested that a survey of the programs in instructional technology could be conducted to see how they had dealt with these questions. This survey would differ from previous surveys of graduate programs (e.g., Johnson, 1981) in that it would focus on the skills taught in the programs rather than on the courses the programs offer.

It was also suggested that symposia at various professional conferences should focus on the competencies taught in the various graduate programs in the field. One such symposium has been scheduled for the 1986 AECT conference.

## The Impact of New Technologies

Another issue the curriculum group focused upon was the effect of "new" hardware technologies, such as the microcomputer, on the skills and knowledge taught in instructional technology programs. The question raised was whether programs in instructional technology adjust their curricula in light of technological advances, and if so, how? Do the programs attempt to relate the principles of the field to the new technology, allowing the principles to be the guiding force behind the curriculum? Or do the programs allow advances in hardware technology to drive the direction the curriculum takes? For example, as the interest in computers in education increases, do some instructional technology programs become, in essence, programs in computer science?

In addition to examining the impact new technologies may have on programs in instructional technology, the curriculum group also felt it was important to consider how instructional technologists can influence the development, dissemination, and use of these technologies. The opinion was expressed that much of the hardware that schools and businesses purchase are not appropriate to those organizations' needs, and much of the instructional software that is being produced is of poor quality. It was felt that some of these problems might be alleviated if instructional technologists became more involved in the development and evaluation of new hardware and software. While the curriculum group did not discuss strategies for greater involvement, some have been proposed (e.g., Komoski, 1984; Pitts, 1982).

## The Influence of the Marketplace

In addition to being affected by new technologies, programs in instructional technology have been influenced by the marketplace; that is, by the types of organizations hiring graduates of such programs. Many members of the curriculum group noted that as compared with just a few years ago, more of their students were taking jobs in business and industry and fewer were taking jobs in the public schools and academia. How do the skills required of instructional technologists in these various settings differ? And what implications do these differences have with regard to the skills and knowledge taught in instructional technology programs?

tions for which their graduates work, several members of the curriculum group noted that very few of their graduates take positions in the public schools. This observation led the group into a discussion of how programs in instructional technology can have a greater influence on the public schools. Since another group at the conference focused exclusively on this issue, the curriculum group limited its discussion to the roles programs in instructional technology might play in the training of preservice and inservice teachers.

Many of the members of the group felt that programs in instructional technology do not play a large enough role in the training of preservice teachers. It was felt that many of these prospective teachers, when they complete their college training, possess very limited knowledge about the field of instructional technology, and possess even fewer skills in that area. This lack of knowledge and skills not only relates to media production and utilization, which occasionally are part of the undergraduate teacher training curriculum, but also relates to the areas of instructional development and individualized instruction, areas in which many students fail to receive any training. What knowledge and skills in these areas should preservice teachers possess, and how can programs in instructional technology gain a greater role in preservice teacher training? These were among the questions related to preservice teacher training that the group felt should be answered.

Several members of the curriculum group also expressed the opinion that graduate programs in instructional technology should make a greater effort to reach inservice teachers. It was felt that few teachers enter graduate degree programs in instructional technology, and many of those who do enter leave the teaching profession after they complete their graduate training. How can the skills associated with the field of in-

## What skills and knowledge should be taught to students in instructional technology programs?

Although it has been indicated that industry and academia present two very different environments for the instructional technologist (Diamond & Durzo, 1981; Wallington, 1980), several authors have stated that the skills needed by instructional technologists in those two settings may be quite similar (Nitsos, 1981; Rosenberg, 1980; Sullivan, 1984). Have the various graduate programs examined this issue? If so, what have they found? And how have they adapted their curricula in light of these findings? For example, at Florida State University, there are two tracks in the doctoral program in Instructional Systems. One track, designed for students who will be seeking a job in academia, focuses heavily on research skills. The other track, geared for those students who will be seeking employment in business and industry, places greater emphasis on the management of the instructional development process. Have other programs in instructional technology also developed different degree tracks in light of the different job aspirations of their students? What types of skills are focused upon in these tracks? It was suggested that a survey examining these issues be sent out to the graduate programs.

## The Role of Instructional Technology Programs in Teacher Training

In discussing the types of organiza-

structional technology be imparted to inservice teachers, and if those skills are successfully passed on, what can be done to encourage those teachers to stay in public education, where the monetary rewards for having such skills are often less than in business and industry?

## Delivering Instruction

The curriculum group also raised a number of questions related to how instruction is presented in the various instructional technology programs. The central question in this area was "What effective teaching methods and training techniques can be used to help insure that students in instructional technology programs acquire the skills and knowledge they will need?" In order to help answer this question, it was suggested that a series of symposia at professional conferences should be organized, with each symposium focusing on a specific skill. Participants in each symposium would be faculty members from various programs, who would describe the techniques used in their programs to teach a specific skill. For example, one symposium might focus on successful techniques that have been used to teach students in instructional development how to interview subject matter experts.

It would also be valuable to identify the print and non-print resources used in the programs to help teach various skills. Some preliminary work in this area was done by Reiser (1980). In addition, an extensive list of resources related to each of sixteen instructional development skills has been compiled by Bratton (1983). Several texts in the instructional development field (e.g., Briggs & Wager, 1981; Dick & Carey, 1985) also provide lists of references related to many instructional development skills.

Many of the programs in instructional technology require students to participate in an internship. The nature of the internship and the way it is managed was another concern expressed by several members of the curriculum group. Many were concerned about the relative merits of on-campus versus off-campus internships, the way in which off-campus internships are managed, and the degree to which internships provide students with the professional and practical experience they will need in order to get a good job and succeed at it. It was decided that conference symposia focusing on how graduate programs have set up and managed their internship programs should be organized so that many of these issues can be discussed.

Several members of the curriculum group also expressed concern that the principles of instructional technology were not being used by those individuals responsible for teaching those principles. That is, many felt that the media and instructional methods usually associated with the field are rarely used by the people teaching within the field. In addition, it was felt that many of the people teaching in the field do not employ the instructional development principles they advocate. It was suggested that in order to see whether these perceptions were correct, a survey should be sent to the faculty in various instructional technology programs asking them to identify how, and to what extent, the principles and techniques of the field are employed in their courses.

> Many members felt that programs in ID do not play a large enough role in the training of preservice teachers.

## Conclusion

As the foregoing discussion indicates, the curriculum group at the conference raised a wide variety of questions about the nature of academic programs in the field of instructional technology. It was not the intent of the group to offer answers to those questions; however, the group did suggest some means by which the questions could be answered. Many of these suggestions involved the use of surveys and conference symposia.

If all of the surveys proposed by members of the curriculum group were undertaken in the next few years, members of the academic programs in instructional technology would be inundated with requests for information. Under such circumstances, it is unlikely that the quantity or quality of the responses to any of the surveys would be satisfactory. Therefore, some members of the curriculum group suggested that the various topics that might be dealt with in surveys should be identified and prioritized, and that a tentative schedule for administering the surveys should be developed. One of the members of the curriculum group is currently working on this task.

Perhaps the first survey that will be administered will deal with the topic of symposia! The number of symposia proposed by the members of the curriculum group was quite large. In order to identify those symposium topics that would be of interest to the greatest number of programs, and in order to identify those program faculty that would like to participate in specific symposia, a survey is currently being prepared.

In addition to surveys and symposia, the curriculum group also suggested several other means of fostering communication among programs in instructional technology. Those suggestions that are currently being acted upon include establishing an electronic bulletin board network among academic programs in the field, using computers to conduct a small survey at the 1986 AECT conference, and using professional publications, such as this journal, to inform professionals in the field about the actions taken with regard to the various suggestions described in this paper. It is hoped that through activities such as these, communication among academic programs in instructional technology can be increased and that many of the questions facing the programs can be answered.

### References


AECT Task Force on Definition and Terminology (1977). *Educational technology: Definition and glossary of terms.* Washington, D.C.: AECT.

Bratton, B. (1983). Instructional/training design competencies and sources of information about them. DID/AECT Occasional Paper.

Briggs, L.J., & Wager, W.W. (1981). *Handbook of procedures for the design of instruction.* (2nd ed.). Englewood Cliffs, NJ: Educational Technology.

Competencies for materials design and production specialists (1980). *Instructional Innovator, 25,*(9), 30-31.

Diamond, R.M., & Durzo, J.J. (1981). Barriers to academe. *Instructional Innovator, 26(1), 14-15.*

Dick, W., & Carey, L. (1985). *The systematic design of instruction* (2nd ed.). Glenview, IL: Scott, Foresman.

Johnson, J.K. (Ed.). (1981). *Masters curricula in educational communications and technology: A descriptive directory*. Syracuse: ERIC Clearinghouse on Information Resources.

Komoski, P.K. (1984). Educational computing: The burden of insuring quality. *Phi Delta Kappan, 66*, 244-248.

Nitsos, J.L. (1981). Industry versus education: A head-to-head comparison. *Instructional Innovator, 26(1), 16-17.*

Pitts, M.R. (1982, March). *R&D's contribution to technology's use in the schools: A view from the schools*. Paper presented at the meeting of the American Educational Research Association, New York City.

Reiser, R.A. (1980). Survey of textbooks used in graduate courses in instructional development: Preliminary findings. *Division for Instructional Development Newsletter, 10(3), 14-15.*

Rosenberg, M.J. (1980). Preparing training specialists for business, industry, and government: Opportunities for education. *Educational Technology, 20*(10), 33-37.

Silber, K.H. (1982). An analysis of university training programs for instructional developers. *Journal of Instructional Development, 6*(1), 15-28.

Sullivan, R.F. (1984). A profile of the instructional developer in higher education and in business. *Journal of Instructional Development, 7*(2), 14-19.

Task Force on ID Certification (1981). Competencies for the instructional/training development professional. *Journal of Instructional Development, 5*(1), 14-15.

Wallington, C.J. (1980). We live in two different worlds: A reaction to Patton's article. *Journal of Instructional Development, 3*(3), 28-29.