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JOB-RELATED ACTIVITIES AND TRAINING NEEDS AS PERCEIVED BY TRAINING AND DEVELOPMENT PRACTITIONERS WITH RECOMMENDATIONS FOR AN ACADEMIC PROGRAM FOR EDUCATORS IN NON-SCHOOL SETTINGS

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A DISSERTATION SUBMITTED TO THE GRADUATE DIVISION OF THE UNIVERSITY OF HAWAII IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE DEGREE OF

DOCTOR OF EDUCATION

IN CURRICULUM AND INSTRUCTION

AUGUST 1984

By

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Most of all, I am sincerely grateful for the understanding, patience, and support provided by my parents and family. Thank you!
ABSTRACT

A questionnaire survey was employed to determine frequency and importance of 67 job-related activities and to identify current needs of an available population of training and development practitioners in order to formulate recommendations for academic offerings. Out of 194 questionnaires distributed, 142 were returned in usable form, giving a response rate of 73 percent.

Findings indicate that activities relating to the use of instructional techniques, to the assessment of needs, and to the evaluation of programs were highly impactful in the job of a training and development practitioner. An analysis of perceived needs showed that respondents desire new or additional training in computer-assisted instructional techniques, in needs analysis, in producing training materials, and in adult learning principles.

Factor analyses procedures produced 15 groupings: (1) counsel employees, (2) use trainer-led instructional techniques, (3) use learner-active instructional techniques, (4) use job/self instruction techniques, (5) conduct training and development activities, (6) develop programs, (7) determine appropriate training approach, (8) adapt packaged programs, (9) assess needs, (10) evaluate instructional services, (11) assess performance, (12) manage the training and development function, (13) manage outside consultants, (14) manage finances, and (15) keep
abreast of new developments.

Hypotheses were tested by the analysis of variance statistical technique; the Scheffe Multiple Comparisons Test was employed to determine differences between groups on each of three variables: specialization, years of experience in training and development, and highest level of education completed. Significant differences were found between the trainer/instructor/learning specialist category and the other two "specializations" (generalist and other) on factors 2, 5, 11, 14, and 15. Factors 10, 12, 13, and 15 made a significant impact in the job of respondents who completed graduate degrees, while factors 3, 10, 13, and 14 were impactful to a significant degree in the work of practitioners with three or more years in the training and development field.

Based on the findings, the systems approach to instructional development was recommended as a foundation for an academic program at the preservice level. At the inservice/post-baccalaureate level, experiences in educational administration procedures in non-school settings and on "cutting-edge" developments in the field were recommended.
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CHAPTER I

INTRODUCTION

The tremendous amount of social and technological change that has occurred over the last few decades is expected to continue at an accelerated rate in the future. Change has brought about a more complex society in which a more demanding populace seeks solutions to new and urgent problems. According to Edgar Schein, "the professions have always been the agent by which society dealt with its major problems". ¹ Although no one profession can single-handedly deal with the complexities of contemporary problems, education has played and will continue to assume a significant role in the efforts to enhance the quality of life. In order to fill this role successfully, however, the education profession must continue to change and evolve to effectively deal with new challenges and complexities which pervade a dynamic society.

In the minds of many people, the term "education" is synonymous with formal schooling. At least two noted educators have warned about such a restrictive conception of the term. Writing in the late 1920's, George Counts called for schools of education to "cultivate the entire field of education... (to) train the workers, study the

methods and processes, and contribute to the development of the programs and philosophies of all the major educational agencies".2

More recently, Lawrence Cremin wrote,

To be concerned solely with schools, given the educational world we are living in today, is to have a kind of fortress mentality in contending with a very fluid and dynamic situation. Education must be looked at whole, across the entire life span, and in all the situations and institutions in which it occurs.3

At institutions of higher learning, an increasingly comprehensive view of education is emerging. Within the last decade, numerous colleges and universities across the nation have begun to offer programs to prepare educators for non-school settings and many more schools currently have similar programs on their drawing boards.

Problem

The College of Education at the University of Hawaii at Manoa also recognizes its potential role in training educators to work in non-school organizations. Its Academic Development Plan III states,

Another group of prospective clients are those individuals who desire training for a diversity of non-school educational positions in public and

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2 George S. Counts, "What Is a School of Education?," Teachers College Record 30 (April 1929):649.

private business and professional situations. Examples of these are education coordinators and instructors for zoo and aquarium programs, community education coordinators, curriculum specialists for museum and academy programs, trainers for business and private industry, physical fitness coordinators, and coordinators of adult development programs. National trends, inquiries by community institutions, and DOE position statements regarding community education indicate a need for leadership training for such prospective personnel.

It is recognized that educators in non-school settings perform their duties in a wide variety of organizations, from community education centers to training and development departments. Due to the broadness of the non-school education field, this paper will focus on one major aspect, that of training and development.

Based on national trends, which indicate a growth of the training and development function of public and private organizations, an assumption is made that there will be an increasing need for qualified trainers in the State of Hawaii, especially on the island of Oahu, where most of the State's industrial, commercial, and public service activities occur.

Trainers are teachers who perform their duties in non-school settings. While there exists a well-established teacher education program at the University of Hawaii at

Manoa, there is no course of study which addresses the specific needs of potential and currently employed training and development practitioners. However, there is a serious interest among administrators and faculty of the College of Education in developing a program which will meet those needs.

What are the characteristics of currently employed training and development practitioners? What do training and development practitioners really do and how important are those activities to job success? What are their needs? These questions need answers before any attempt at program development can begin.

A logical first step in the planning process is a determination of the job-related tasks and needs of currently employed practitioners. John Middleton argues that "a task-oriented curriculum is more likely than others to be relevant to their learning needs and to incorporate teaching-learning methods appropriate for the skills to be developed".5

Theoretical Framework

In 1918, Franklin Bobbit proposed the idea of curriculum-making along scientific lines. This theory is based on the observation that human life is made up of numerous and varied activities which are specific and discoverable. The role of education, Bobbit contends, is to "discover the particulars" of life by a "program of analysis" in order to identify those competencies which men need. From these competencies, "numerous, definite, and particularized" objectives are developed and brought to attainment via a series of learning experiences.

From the above statement, assumptions for a new model of curriculum development—the technical model—emerged. The technical model presupposes that "nothing is real or meaningful unless it is observable and is susceptible to objective analysis;...that knowledge worth knowing is 'preparation for life's functions'; that life's tasks are reducible to their constituent parts; that learning represents a change in behavior and since behavior is demonstrative, learning is observable and meaningful in quantifiable terms". This model seems to be appropriate

7 Ibid.
for the current study since most job-related skills are observable.

Thus, the curriculum developer's first task, in determining "appropriate education" for a group of individuals, is to uncover by analytical survey "the total range of habits, skills, abilities, forms of thought, valuations, ambitions, etc., that its members need for the effective performance" of the various activities of life, including those which are work-related. W.W. Charters also found activities analysis to be of value in developing job training programs. He suggested four ways of conducting such an analysis: (1) introspection, (2) interviewing, (3) working on the job, and (4) questionnaire.10

Purpose

The purpose of this study is to determine job-related activities and training needs as perceived by currently employed training and development practitioners on Oahu in order to develop recommendations for an academic program for non-school educators which will be offered by the College of Education at the University of Hawaii at Manoa.

**Definition of Terms**

1. **Training** -- a systematic, intentional process of providing one or more employees with specific learning experiences in order to improve performance on the job.

2. **Development** -- a systematic, intentional process of preparing employees to "move with the organization as it develops, changes, and grows"\(^{11}\); it includes "efforts at building character, interpersonal skills, self-awareness, and other dimensions of personal growth and behavior"\(^{12}\).

3. **Training and development practitioner** -- a full-time employee of an organization whose primary responsibility is to administer, plan, implement, and/or evaluate the training and/or development of the members of the same organization.

4. **Activities** -- tasks which a trainer must perform in order to fulfill his/her job-related responsibilities.

5. **Job factor** -- group of related activities which showed a loading (factor to variable correlation) of 0.30 or higher on a factor analysis procedure.

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6. Impact score -- a combined value of frequency and importance responses per activity item per observation.

**Research Hypotheses**

The research hypotheses to be tested are as follows:

1. There is a difference among the training and development specializations in frequency and importance (impact) of clusters of related job activities (job factors) as perceived by practitioners.

2. The level of formal education completed by training and development practitioners makes a difference in impact of job factors.

3. There is a difference in impact of job factors between training and development practitioners with fewer than three years of experience and those with three or more years of experience.

**Setting**

In keeping with the dynamic nature of modern society, public and private organizations have developed extensive training and development programs in order to insure continuous employee effectiveness. According to Lewis Branscomb and Paul Gilmore,

> corporate motivations to educate and train include at least six elements: (1) to introduce new employees of newly appointed managers to the organization, style, and objectives of that
corporate community, and all managers to organizational changes; (2) to incorporate and diffuse rapid technical change, particularly that resulting from scientific and engineering innovations that are in their first embodiment of a proprietary character; (3) to sustain professional vitality, which includes both motivation and basic professional skills, to ensure personal professional growth and, importantly, career path flexibility; (4) to avoid the cost of travel and released time for training at outside institutions; (5) to exploit the increased motivation of on-the-job training which allows newly acquired skills to be immediately practiced; and (6) to fulfill legal and social responsibilities to expand employment and achievement opportunities for minorities and the disadvantaged.13

Among the organizations with extensive training activities is the Federal Government's Bureau of Training, which maintains responsibility for organizing training and development programs for federal workers. It reported that federal expenditures for training between 1973 and 1976 rose approximately 36.2 percent, from $174.4 million to $237.5 million. This increase is due primarily to a rise in the Consumer Price Index and increases in the numbers and salaries of training personnel. The number of full-time instructors increased from 2,403 to 2,744, a 14.19 percent growth, while the number of part-time personnel rose from 1,170 to 1,807, a 54.44 percent gain. Salaries were increased by 43.46 percent for full-time instructors.

and 103.54 percent for part-timers. In a more recent report, the U.S. Office of Personnel estimated that $276 million was spent on federal civilian employee training (excluding military and postal service training) in fiscal 1978.

Anthony Schwaller reminds us that business and industry have long supported educational endeavors, including financial donations, curriculum advice, and new program planning assistance to educational institutions, in addition to building their corporate education and training programs. A report of the Conference Board revealed that 610 firms, each employing at least 500 persons, spent over $2 billion in 1974-75 on training, with $400 million assigned to resources outside the companies and $1.6 billion to training internally. Of the estimated 4.3 million employees who participated in training and development, approximately 86 percent did so during company time. Forty-five thousand personnel devoted all or part of their time to carry out the programs.


Beverly McQuigg reported on a study done by Gilbert Black which revealed that American industry invested $1.2 billion in management evaluation and development in 1976. Sixty-two percent of the money went for in-house salaries and administrative costs, while 11 percent was spent on outside seminars and workshops. The balance, 22 percent, was divided among consultants, book and instructional materials, equipment and facilities, tuition refunds, and other expenses. Management development expenditures are expected to be over $2.2 billion in the year 1982.18

In another report, the American Society for Training and Development estimated in 1977 that technical training expenditure of business and industry falls between $30-40 billion per year.19 Other estimates range from a conservative $4 billion annual expenditure on employee training and development20 to over $100 billion annually on education and training, when all types of programs from apprenticeships to executive development are included.21

While estimates vary widely, the figures, nonetheless, are


large and seem to indicate a trend toward the allocation of more resources to the training and development function.

The importance of corporate education and training is exemplified by the commitment of several large companies to the education/training function. International Business Machines (IBM) is involved in innovative and more productive operations and therefore realizes the need to keep its employees and customers continually updated. In 1969, IBM hired 3,417 full-time and part-time faculty who offered 18,588,000 student contact hours of instruction. This is calculated to be equivalent to nearly 40,000 full-time students. The company is organized into several autonomous divisions, each with specific tasks and independent training programs. Most instructors are hired as marketing representatives or systems engineers and then are promoted to an education center. In 1978, a corporate task force was established to review the education activities at IBM. It judged the quality of classroom instruction as adequately meeting the company's needs.

It was not clear, however, whether the historic staffing patterns will be as successful in developing high-quality self-study programs. Thus it was recommended that "a professional staff be established to provide guidance in matters of instructional technology; such a staff has

already been established within IBM Europe.\(^2^3\) It was reported in mid-1978 that IBM expected to spend an estimated $500 million for training for that year alone.\(^2^4\)

American Telephone and Telegraph Company (AT&T) spends about $1 billion per year to train approximately one million employees. Because jobs are highly structured and personnel closely monitored, training classes are designed to teach employees only the specific information they need to carry out their jobs. The rapidity of change in the communications field mandates that employees receive continual training and retraining. AT&T generally relies on its own staff to teach most courses, although the use of outside consultants and college faculty is growing in the area of executive development.\(^2^5\)

The finance industry also has developed an extensive and elaborate education network which includes colleges and universities, national and state associations, ninety bankers' schools, and hundreds of local chapters and societies. The American Banking Association (ABA), through its American Institute of Banking (AIB), educates and


\(^2^4\) George Odiorne, quoted in Carol A. Carmichael, "Business Budgets Billions for Training," Chicago Tribune 2 July 1978, sec. 12, p. 27.

trains about 170,000 students each year locally via 400 chapters, 200 study groups, and three kinds of independent study programs. Approximately 3,500 bankers are trained as instructors. In addition to the AIB program, ABA sponsors fourteen schools dealing with specialized subjects for about 10,000 middle to senior managers each year. It also has over four hundred publications relating to all aspects of banking.26 Citicorp, parent company of Citibank, offers a training program which is less extensive but whose quality is on par with that of the better schools. Courses are generally taught by officers of the bank and outside consultants who are business school professors or who specialize in teaching courses for corporations.27

These are but a few of the numerous companies which have long realized the importance of education as a means to maintain their competitive positions. More and more, colleges and universities will find themselves competing with educational programs offered by industry. Many companies are offering college credit courses; IBM, Xerox, General Electric, and AT&T now offer bachelor's degrees, and the Arthur D. Little company will soon be awarding an


MBA in management. According to McQuigg, large industries have several reasons for doing their training in-house. First of all, such training is often more relevant than training done outside. Knowledge acquired in-house can be put into practice immediately. The training does not become obsolete before it can be used. Persons in charge of designing the training and development programs are close to the managers of the various departments within the company and know immediately what the needs are. In-house training is done by using in-house staff who either teach the courses themselves or train the line supervisors to administer the training to persons in their charge. If the training cannot be done by the in-house staff, consultants are hired.28

She goes on to say that the "continuing inability of traditional U.S. educational institutions to respond promptly to changing learning needs may explain better than any other factor the expanding role of corporations and profit-making schools in post-secondary education".29 From another perspective, Russell Doll speculates that "the increase in corporate education may be a response not only to problems in higher education but part of a slow historical change from an era of nationalism and the democratic evolution to an era of worldwide corporate management".30

29 Ibid.
A 1981 article in ASTD Hawaii Training reported that in spite of a recession during 1979-80, "the number of training positions open held constant and training budgets were increased". It is speculated that this tenacity and expansion of the training function is a response to an increased interest in lifelong learning by employees who hopefully seek advancements, to a growth of new apprenticeship programs, and to an increase in certification programs. Due to these developments and to the implementation of new organizational development techniques, it is predicted that "the training function will emerge as the primary concern throughout the '80s".

In recent months, classified advertisements for more than ten training and development positions have appeared in the major Honolulu daily newspapers. One assumes that this is just a fraction of the total number of positions which opened during this period but were not announced to the general public.

The rise of training, education, and personnel development as a corporate function may seem to be the answer to the present oversupply of classroom teachers. Both Sandy Pollack and Bill McKee paint optimistic

32 Ibid.
33 See Bill McKee, New Careers for Teachers (Chicago: Henry
pictures of opportunities that lie in the corporate world for former school teachers and education majors. However, upon closer examination, the transition is not as simple as one may expect.

First of all, industry's distinction between "training" and "education" must be made. Murray Phillips defines these terms as follows:

Training is primarily concerned with the improvement of immediate on-the-job performance... (and) normally refers only to the learner's current job.

Education encompasses all those activities which prepare an individual to function in a wide range of situations at some point in the future... (and) typically does not refer to a particular job.\(^3^4\)

Business and industry prefer "training" because "education" is considered too broad. The objective of training is to increase the value of employees which, in turn, contributes directly or indirectly to profits.\(^3^5\)

While industry is an outcomes, profit-oriented culture, education is viewed as an inquiry-oriented culture.\(^3^6\)

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Educators who wish to make the move are advised of the following differences between traditional teaching and training:

1. Training results are evaluated in terms of non-educational goals, such as maximizing profits; there is a greater degree of accountability for decisions made. In order to maintain credibility, trainers must show some relationship between their efforts and organizational productivity.

2. Trainers deal almost exclusively with adult learners; there are many differences between adult learning and learning of children and adolescents.

3. The motivation of workers who seek training may be based less on educational "curiosity" than on factors such as job security, promotions, and salary increases. Because trainees more readily can see the pay-offs of their efforts, they tend to be more motivated than students.

4. Trainers justify their efforts in terms of costs as well as effectiveness.

5. Trainers are more than instructional specialists and consultants; their on-the-job successes depend to a significant degree on their ability to work with subject-matter experts, provided by the organization, who may or may not be supportive of the trainers' efforts.

6. Trainers often design programs for thousands of workers,
spread over a wide geographical area.

7. Training courses tend to be considerably shorter than educational courses, with specific instructional intentions on overt performance-related skills as opposed to "higher level" learning.

8. Trainers work with teams in business whereas teachers are used to running their own shows in the classroom.

9. Teachers are unfamiliar with common business jargon and few possess usable business skills. 37

George Odiorne summed up the situation precisely when he wrote, "This means that the training profession will need more professionals with new and different skills from those that are found in public education." 38

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38 George Odiorne, quoted in Carol A. Carmichael, "Business Budgets Billions for Training," Chicago Tribune 2 July 1978, sec. 12, p. 27.
Significance of the Study

In response to the distinctions between classroom teachers and trainers and to a young and steadily growing training profession, numerous institutions of higher learning across the nation have developed programs to meet the specific and unique needs of training and development practitioners. The establishment of such programs has become one of the more rapidly growing areas of interest for colleges of education in recent years.

Included in the second edition of the ASTD Directory of Academic Programs in Training and Development/Human Resource Development are descriptions of more than 240 programs at more than 150 colleges and universities. Planners of the ASTD-sponsored conference for academicians involved with graduate and undergraduate programs in training and development were "greatly impressed at the rapid spread of interest among schools and practitioners" in the academic preparation of HRD practitioners. Correspondence with program directors at various colleges and universities also indicate that requests for information from other institutions which are interested in establishing such programs are numerous.

Since its inception in 1924, the College Of Education at the University of Hawaii at Manoa has concentrated its

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39 Elizabeth Olson to Pamela Kimura, 31 August 1981.
resources and efforts on the education, development, and training of classroom teachers. Now, with the increase of training and development positions and requests for "help" by some who fill those positions, the College realizes its expanded role to prepare training and development practitioners.

The results of this study, which identify job-related tasks and self-perceived needs of local training and development practitioners with recommendations for an academic program, would serve as a resource through which program development decisions may be made. Those decisions would ultimately provide educational and professional development opportunities for currently employed training and development practitioners in addition to those who wish to enter the field.

Limitations of the Study

1. The parameters which defined the population confine the generalizability of the findings to training and development practitioners who perform their duties on the island of Oahu.

2. The results of the study reflect current practices and needs which may change significantly in the future.

3. Some organizations employing full-time training and development practitioners may have been omitted if they were not listed as having 100 or more employees in the
Hawaii Business Directory or the Job Hunter's Guide to Hawaii, or if they were not represented in the American Society for Training and Development's Hawaii Chapter membership directories for 1981 and 1982.

4. The questionnaire is in no sense exhaustive of the tasks which training and development practitioners perform. However, it attempts to cover the activities which are common to those who hold a full-time position in this occupation.

5. This study was designed to identify activities and needs; a determination of competencies, which include knowledge, skills, and attitudes, is beyond its scope.

Summary

Social and technological changes, occurring at ever increasing rates, have created the need for continuous learning in the workplace. A burgeoning of the training and development function in both public and private organizations, coupled with the realization that the roles of trainers and classroom teachers differ considerably, has resulted in the expansion of programs in colleges of education throughout the nation to accommodate the specific needs of training and development practitioners. While there currently is no program at the University of Hawaii which prepares local trainers for their roles, there exists an interest in the College of Education in providing such
training in the near future. This study constitutes the initial step in the program development process: determining activities and training needs as perceived by currently employed training and development practitioners in order to formulate recommendations for an academic program.
CHAPTER II
REVIEW OF THE LITERATURE

Training and development, as an organized field of study, is relatively young. It is widely recognized by its practitioners and those who follow its development that the field is evolving and moving towards the attainment of professional status. This evolution has produced a growth of information on job factors (sets of related activities) and work-related activities, emerging trends, and academic preparation programs.

Knowledge of work-related activities and job factors provides curriculum developers with a relatively realistic basis upon which to build a preservice academic program. Insights into emerging trends in the field contribute to decisions about both preservice and inservice course offerings. Information on other academic programs is useful as a justification to incorporate into the curriculum certain topics and/or processes which cannot be gleaned from studies of activities, roles, and trends.

It is the purpose of this review of literature to report on the major studies and publications in each of these three areas. The findings of this review will be integrated with the findings of the current study in Chapter V, where recommendations for an academic program will be presented.
Job Factors and Work-Related Activities of Training and Development Practitioners

It is noted here that the terms, "activities", "tasks", "competencies", "functions", and "duties" were intended by the various writers to mean the same thing: specific activities performed in order to fulfill work-related responsibilities. Similarly, in most cases, the terms, "job factors", "roles", "areas of responsibility", and "activity areas" were employed to describe the same phenomenon: sets of activities which are similar enough to be grouped together. In reporting each study, this researcher chose to retain the same term utilized by each of the respective writers.

American Society for Training and Development Studies

The American Society for Training and Development (ASTD), currently the largest professional organization for training and development practitioners in the United States, has sponsored several studies on job-related roles, competencies, and tasks of its members since the mid 1900's.

In 1959, Harry S. Belman and John E. Bliek reported on a survey of the status and functions of training departments in business, industry, and government which dealt with the activities, relationships, and responsibilities of the head training position in selected organizations. The return rate of the 715 mailed
The analysis of responses to the survey item, "What Are Your Responsibilities?" revealed the following areas of responsibility, listed in descending order of importance.

**Development and Preparation of Programs:** develop training materials, assess training needs, formulate and recommend plans for employee development, conceive and prepare training programs, write training manuals.

**Administration of Training:** assist line management in budgeting training costs, maintain training records, formulate training procedure, member of foremen selection board, construct and administer personnel tests, maintain company library, make regular reports to management, train and supervise subordinate employees.

**Instruction Responsibilities:** provide group instructor service, train and develop discussion leaders, conduct training conferences, teach classes, coordinate training schedules, counsel in the use of training methods and techniques.

**Non-Training Activities - Unrelated:** administer safety programs, salary administration, writing job descriptions, administer insurance programs, perform special assignments as directed.

**Advisory Responsibilities:** advise on courses available outside of company, educational counseling to employees, counsel employees on self-development, act as consultant on training problems, advise and assist interested personnel on training matters.

**General Professional Activities:** stimulate participation in training, maintain contact with schools and colleges, keep informed on new training techniques, secure acceptance and use of training knowledge and materials.

**Non-Training Activities - Related:** serve, participate, talk at community meetings; serve on advisory committees, assist in
organization, planning, edit company publications, administer college relations activities and recruiting.

Training Evaluation: develop technical knowledge and skills standards, obtain ratings on apprentices and trainees, evaluate all training activities, follow up on performance of trainees, evaluate effectiveness of instruction.

The researchers suggested that these categories could serve as helpful sources for developing and preparing position descriptions and job specifications.

In a 1961 survey of training directors of the Cleveland area and their respective superiors, Erich E. Prien and David R. Powell sought to identify the job factors which both training directors and their superiors believe to be functions of the training directors' job and to determine the difference in emphasis placed on the job factors by the training director and his superior. The two identical questionnaires contained 125 items. The analysis of responses included a correlation matrix and an inverse factor analysis.

Results of the study showed considerable superior-subordinate agreement for job factors which involved training directly and disagreement on job factors which were indirectly related to training. The analytical

\textsuperscript{40} Harry S. Belman and John E. Bliek, "The Head of the Training Function," \textit{Journal of the American Society of Training Directors} 13 (February 1959):50.
approach to defining job factors was also supported; the following nine factors were identified by this analysis.

General Administrative Duties Related to Training

Preparation and Execution of Management Training Activities

Public Relations Aspect of the Training Director's Job

Planning Necessary for Effective Training

Stimulating Safety Behavior and Safety Consciousness

Personnel Administration and Supervision of Trainees

Personnel Activities Not Related to the Training Function

The Training Director's Responsibility, as a Member of the Management Team, to Promote the Company

The Evaluation of Trainees*1

Blake S. Root and R. Ray Roberts reported in 1966 on the results of a survey questionnaire which 92 percent of the 557 ASTD members completed and returned. The analysis showed that training directors in government need basically the same competencies as those in private industry, that, in general, the size of an organization has no significant effect on the competencies needed by the head of the training function, and that it is possible to develop a

list of competencies which encompass the basic knowledges and skills needed by all training directors. Examples of such common competencies are:

Management Competencies: relation of training programs to overall aims of management; objectives of the total training program; working with line management; obtaining organization support for the training function.

Training Competencies: basic philosophy of training; determining training need within the organization; defining the objectives of the training program; planning, organizing and coordinating training operations.

General Competencies: gaining respect and acceptance of oneself; effective speaking; effective writing; principles of human relations.42

The study showed that management and general competencies are as important as competencies in the field of training. It also pointed out the need for broad training competencies rather than specific training techniques.

In 1978, Patrick R. Pinto and James W. Walker reported results of a 121-item survey which was sent to 14,028 ASTD members. A 20 percent return was recorded. The questionnaire contained 92 activity items which were reduced by factor analysis to 14 areas of activity which, according to the authors, also represent training and

development roles. "Role" was defined as "a set of activities performed by an individual in fulfillment of the expectations imposed by professional standards of behavior or employer position requirements". The fourteen identified roles are:

- Needs analysis and diagnosis
- Determine appropriate training approach
- Program design and development
- Develop material resources
- Manage internal resources
- Manage external resources
- Conduct classroom training
- Job/performance-related training
- Individual development planning and counseling
- Group and organization development
- Training research
- Manage working relationships with managers
- Manage the training and development function
- Professional self-development

The plot of eigenvalues showed "breaks" at nine and fourteen factors. While Pinto and Walker chose to report

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\[ ^{44} \text{Ibid., pp. 5-6.} \]
on the fourteen factor solution, the Professional Development Committee of the ASTD preferred nine factors and grouped them into the following "activity areas":

1. Analyzing needs and evaluating results
2. Designing and developing training programs and materials
3. Delivering training and development programs and services
4. Advising and counseling
5. Managing training activities
6. Maintaining organization relationships
7. Doing research to advance the training field
8. Developing professional skills and expertise
9. Developing basic skills and knowledge

Murray G. Phillips suggested that the nine areas fit nicely under the three roles identified by Leonard Nadler: learning specialist - factors 1, 2, 3, and 7; consultant - factor 4; and administrator - factors 5 and 6. In addition, Phillips proposed an "activity" grouping entitled, "Personal and Professional Development" which encompasses factors 8 and 9.

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The fourteen-item Pinto and Walker model was utilized by Margaret Jean Hauser in 1980 to determine areas of need for continuing professional development among selected training specialists in Chicago. This questionnaire survey, mailed to 224 trainers, received a 66 percent response. A ranking of the fourteen items, in descending order of perceived need, was reported as:

- Professional self-development
- Training research
- Group and organizational development
- Manage the training and development function
- Needs analysis and diagnosis
- Job-related training
- Individual development planning and counseling
- Program design and development
- Manage relationships with managers
- Determine training procedures
- Manage internal resources
- Develop material resources
- Manage external resources
- Conduct classroom training.

In 1982, the United States Department of Agriculture

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Graduate School and the Metropolitan Washington, D.C. Chapter of ASTD co-sponsored a symposium of human resource development practitioners, employers, and providers of the local area. The participants identified numerous training and development functions and tasks which were summarized and categorized as follows:

**Technical aspects:** design, development, delivery, and evaluation of programs.

**Management:** being a good manager, able to understand and work within the organization's culture.

**Organization behavior and theory:** understand the working of the business and how training and development contributes to the organization's goals.\(^{49}\)

The latest and most comprehensive study conducted on roles and competencies of training and development practitioners was reported in June, 1983 by Patricia A. McLagan, director of the ASTD-sponsored study. Roles were determined by a sample of seventy field experts who judged a draft list of roles which was developed through a literature review and reviews by several groups and followed-up with three questionnaires completed by senior human resource practitioners. An analysis of data which were collected for the outputs and competencies part of the study further substantiated uniqueness of the functions and

competencies of the resulting fifteen roles. They are:

evaluator
group facilitator
individual development counselor
instructional writer
instructor
manager of training and development
marketer
media specialist
needs analyst
program administrator
program designer
strategist
task analyst
theorician
transfer agent

Competencies, defined in this study as "the knowledges and skills which are key to producing the critical outputs of the training and development field and its roles", were determined from the results of three rounds of questionnaires sent to experts representing each role. These role experts rated each competency in terms of criticality and level of expertise required. The following thirty-one competencies were judged "critical" by more than 60 percent of the role experts.

adult learning understanding
A/V skill
career development knowledge
competency identification skill
computer competence
cost-benefit analysis skill
counseling skill

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51 Ibid., p. 18.
Leonard Nadler, professor of education at The George Washington University and a prolific writer in the area of training and development, has been researching, for at least two decades, the professional development aspects of the training and development field. His 1962 study revealed that training directors perform the following kinds of tasks: (1) facilities and finance (obtain and control the budget as well as select, procure, and evaluate training equipment and supplies); (2) develop personnel (provide leadership and supervision to training staff and

\[ \text{Wadler Model} \]

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\[ 52 \text{ Ibid.} \]
others assigned to the training function); (3) training operations (determine needs, plan curriculum, conduct training, and evaluate); (4) maintain effective relationships (obtain and share information concerning training planned and accomplished).  

It was further determined that to accomplish the above tasks, the training director needs to know: (1) administration (general principles and practices, supervision of personnel, planning, coordination, and the general forces at work in our society); (2) education (curriculum development, instructional materials, instruction, and general philosophical positions in education); (3) measurement and evaluation (how to use data gathering techniques to determine the effectiveness of program); (4) human behavior (adults in work situations); (5) communications (the process as well as speaking, writing, reading, and listening effectively; (6) program of the agency (the objectives and particular work of the agency).  

Five years later, Nadler and Gordon L. Lippitt proposed that training and development departments or offices in modern organizations perform three major roles.


54 Ibid.
which they identified as Role No. 1: learning specialist and instructor; Role No. 2: administrator of training and development staff and programs; and Role No. 3: contributor to organizational problem solving.55

This proposal was further developed: in 1980, a model for professional development was presented. Also known as the "Nadler Model", this three-dimensional conceptualization provided a means for identifying training and development practitioners and their place in the field.

Activities and roles, comprising one dimension of the model, are listed as follows:

Learning Specialist

Facilitator of learning (works directly with the learner as an instructor, teacher, coach, counselor, or in conjunction with machine mediated instruction)

Curriculum builder (designs learning experiences through appropriate uses of adult learning theory and frequently with subject matter specialists)

Instructional strategies developer (develops the methods, techniques, materials, and devices to supplement the learning design)

Administrator

Development of human resource development (HRD) personnel (provides for the continuing professional growth of HRD staff)

Supervisor of HRD programs (performs the usual supervisory functions for programs being developed as well as those being conducted)

Maintainer of relations (provides for continuous communication with various groups and individuals, both internal and external to the organization)

Consultant

Advocate (recommends appropriate actions to management regarding HRD)

Expert (provides management with the range of choices from which they can make the necessary management decisions about HRD)

Stimulator (encourages management to explore various areas of HRD as a response to problems)

Change agent (assists management in identifying needed areas of change and provides assistance in planning for change)\(^56\)

Thomas Theodore\(^57\) tested the reality of the Nadler Model in 1977 and concluded that it does represent the occupational roles of the human resource developer. Additionally, at least three other investigators -- Jack Epstein, James Brewster, and Arthur Herold -- have found the model workable as it was employed in each of their research designs.


U.S. Civil Service Commission Study

From the results of a 1975 interview and questionnaire survey of federal employee development specialists, there emerged four roles of the training and development practitioner. The four roles identified are:

- **Learning Specialist** - concerned with designing, developing, conducting, and evaluating learning experiences.

- **Administrator** - concerned with arranging, coordinating, and maintaining the support services of the various training and employee development programs.

- **Program Manager** - concerned with setting policy, planning, controlling and managing the various training and employee development programs; individually or collectively.

- **Consultant** - concerned with research and development and providing management and employees with advice and assistance.\(^5^8\)

Ontario Study

The Ontario Society for Training and Development investigated the core competencies of trainers and published the results as a checklist or reference source to which training and development practitioners can compare their performance. First published under the title *Core Competencies of a Trainer* in 1976, the document was revised in 1979 to accommodate the various levels of proficiency.


This document identifies four training and development functions: instructor, designer, manager, and consultant. It also lists specific competencies under twelve general areas: administration, communications, course design, evaluation, group dynamics/process, instructional techniques, learning theory, manpower planning, person/organization interface, research and development, training equipment and materials, and training-needs analysis.\(^{59}\)

Doctoral Studies

Egberto Fernandez (1982) conducted a questionnaire survey in order to determine the relevance of selected competencies in preparing prospective training and development managers and to identify the means through which those competencies can be acquired. A 32 percent (82/214) return rate was reported. Forty-six of the 47 competency statements were identified as relevant to the effective performance of training and development managers. Competencies receiving the highest "relevant" rating (100

percent indicating the item is relevant) are:

Relates to people and builds an environment of trust, openness, and respect for the individual

Communicates effectively orally

Listens and observes carefully

Exhibits knowledge of learning principles

Uses principles and methods of management

Relates objectives of training and development programs with general aims of organization

Establishes working relationship with management through use of human relations principles

Exhibits problem solving abilities

Sets priorities and uses time efficiently

Develops solutions and specific responses to identified problems60

In general, competencies grouped under "Personal Characteristics" and "Administration" areas could be acquired best on the job; those categorized under "Instruction and Learning" were acquired most effectively at a university through degree or non-degree programs; and competencies under the "Consulting" area were about equally divided between university programs and on-the-job learning.61

60 Egberto J. Fernandez, "Competencies Needed by Training and Development Managers with Implications for Training Programs" (Ph.D. dissertation, Colorado State University, 1982), pp. 84-87.
From an 81 percent (85/105) return of a 33-item survey questionnaire, John Cox (1981) found that training and development practitioners of business organizations in North Carolina were involved in the following eight job roles: manage external training and development (T&D) resources, revise and develop T&D programs, manage T&D staff and related department functions, establish T&D priorities and objectives, counsel employees on career development, determine job-related T&D needs, engage in training research, and make formal presentations on T&D activities. These groupings were found to be in general agreement with the factor structures identified by Pinto and Walker in 1978.

In 1967, Loyce Clyde Gossage found, from a 30.6 percent (238/778) return of a questionnaire survey, that the most important duties an industrial training director performs are analyzing and evaluating present training methods, coordinating training activities of the company, and analyzing proposed training methods. The most important competencies which can be acquired in college are: ability to develop and supervise training programs, knowledge of education theories and practices, and ability

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61 Ibid., p. 89.

to communicate. Those which can be learned on the job are: implementing company policies, developing and supervising training programs to meet company needs, and determining training needs.

Gossage also determined that industrial training directors acquired their needed competencies on the job and that they were required to perform educational duties for which they have not received appropriate, organized instruction. Therefore, they preferred their successors to have earned at least a bachelor's degree in education or business, with general and specialized courses in education, business, communication, and psychology and to have had work experience in teaching or training. 63

Gerald Joseph Feldman (1976) studied the internal consulting role of training officers in selected city governments with a population of 50,000 or more via a questionnaire survey from which he received a 79 percent (55/70) return. Feldman found that over 90 percent of the respondents considered internal consulting to be a proper function of training officers, with the median training officer devoting 18 percent of worktime to that function. In descending order of frequency, internal consulting activities, as perceived by training officers, included:

providing technical advice and help on training matters; attempting to persuade management to adopt their views on a training issue or organizational problem; consulting on diagnostic, communication, or decision-making processes; assisting management in problem-solving; and helping plan or conduct an organization development effort.64

Kathryn Adams Ragsdale (1978) investigated the perceptions of administrators, directors of nursing, and trainers regarding the role of the trainer. The data were collected from interviews of individuals holding each of the three positions at nineteen long-term care facilities in Texas. No statistically significant differences in perception among the three groups were found.

Although the study revealed a need for further clarification and definition of the role of staff-development trainer, it also showed sufficient consensus in the following areas of function for the trainer: develop training and orientation, implement institutional goals, show skill in group facilitation of learning and management of educational activities, know adult learning methods and needs assessment, coordinate among departments, lead and teach, know needs of elderly persons, show evidence of ability in communications and organization, and work well

with people. Knowledge about behavioral sciences and skill at interpersonal communications were considered important.\textsuperscript{65}

Summary

Since the late 1950's, numerous studies on job-related roles, competencies, and work-related activities of training and development practitioners have been reported. While a number of significant ones are credited to the American Society for Training and Development, important contributions also have been made by Leonard Nadler, the U.S. Civil Service Commission, the Ontario Society for Training and Development, and several doctoral candidates. Although studies varied in degrees of comprehensiveness and specificity, research findings were generally similar with regard to major roles, activities, and competencies. The primary method employed to gather information was the mail questionnaire technique.

\textbf{Emerging Trends in Training and Development}

The growing importance of training as an organizational function, coupled with fast-paced changes which affect organizational procedures, mandates that providers of training be knowledgeable about emerging

\textsuperscript{65} Kathryn A. Ragsdale, "A Study of the Role of Staff Development Trainer in Organizations" (Ph.D. dissertation, North Texas State University, 1978).
trends and future developments. Educational programs for prospective and current training and development practitioners must incorporate these new developments immediately if they are to be useful. The recent literature offers some insight into emerging trends and areas of emphasis in training and development.

Malcolm Knowles (1978) projects four trends in the training and development field. First, there will be a shift away from the traditional knowledge and skill-transmission model of training toward a competency-development model by the mid-eighties. This means that the concept and theory of competency development will need to be incorporated into the philosophy of training and that trainers need to master the techniques of constructing competency models, of constructing and using criterion-referenced diagnostic instruments and performance-assessment instruments, and of designing and delivering competency-development learning resources.

The second trend relates to the needs, styles, and processes of adult learning. The role of trainer will change from that of prescriber, transmitter, and evaluator of learning to that of facilitator and resource for self-directed adult learners.

Thirdly, the delivery system for training programs will be more diversified and flexible in order to accommodate employees at times, in places, and at paces
convenient for them. This implies the development of highly individualized, hands-on learning experiences as well as the incorporation of learning resources and networks which are external to the organization.

Finally, importance will be placed on the development, rather than the control, of workers and on the quality of the total environment of the workplace. 66

Respondents to the ASTD survey which was conducted in 1978 (Pinto and Walker) identified some major trends affecting training and development practitioners. They indicated a general expansion of roles, which include career counseling and organizational development, and more administrative responsibilities such as conducting effective needs analyses and training evaluations. Skills in human relations and communications will become increasingly important as trainers strive to gain and maintain credibility with both managers and clients. Increased knowledge in the technical areas, especially computer technology and audio-visuals; in the behavioral sciences; and in legal and research developments were also mentioned as emerging requirements in the field. 67

Daniel L. Langen (1980) used the Delphi technique to


determine competencies which training directors of the future will be required to possess. The findings indicate competence in the following ten major areas: (1) individual and organization needs, (2) instructional technology, (3) general management skills, (4) formal education and training experience, (5) external training and education, (6) program design and development, (7) learning theory, (8) management of the training and development function, (9) technical training skills, and (10) organizational development.

Participants in a joint symposium of the Washington, D.C. Chapter of ASTD and the United States Department of Agriculture Graduate School addressed the question of needed changes in training and delivery systems for the 80's. They agreed that competency-based training is on the rise; that training and development approaches will take into larger consideration theories of adult learning, individual learning styles, and brain dominance; and that questions and issues of learning by computer have yet to be resolved.

In 1982, a study was conducted by the editors of

68 Daniel L. Langen, "The Training Director: Competencies for the Future" (Ph.D. dissertation, Texas A&M University, 1980).

Training/HRD on 58 professional trainers, 14 percent of the 400 who were originally contacted. Using the Delphi method, researchers sought to identify broad trends emerging over the next decade. Twenty-two percent of the respondents indicated a growing professionalism and increased organizational respect for the training function. Seventy percent cited the impact of new technologies in communication: microcomputer, teleconferencing, and videodisc technology.\textsuperscript{70}

Approximately ninety directors of training and development participated in a questionnaire survey on concerns of today's trainers. In response to the question, "What are the subjects needed for the 1980s and 1990s?", they suggested the following areas, which are listed in descending order of need: organizational development; team building; communications (interviewing, letter and report writing, conflict management, interpersonal skills and human relations); productivity improvements; adjusting to change (changes in work methods, changes in people and changes in careers); and cost controls (short- and long-term budgeting and financial planning).\textsuperscript{71}

According to Philip Harris and Dorothy Harris, the


global shift from the industrial to the information society has brought about organization-wide changes in work roles and relationships. Twelve trends which affect the training and development function were identified as: strategic planning, systems orientation, futuristic management, transformational management, decentralized human resource management, executive involvement, research orientation, human capital emphasis, creative approach to work patterns, organizational cultures, synergy and networking, and international expansion. 72

Summary

In short, the training and development practitioner can expect to assume an expanded role in organizational management. With the dawning of a fast-paced information society come dramatic changes which carry tremendous implications for the training and development function. Some emerging trends include more efficient communication and training delivery systems, heightened interests regarding employee development and needs, global networks, behavioral science applications, competency-based instruction, and systems planning processes.

Academic Preparation of Training and Development Practitioners

The ASTD Professional Development Committee reported in 1976 that the field of training and development is so interdisciplinary and has evolved largely from an empirical base rather than a strong academic discipline so the definition of a satisfactory set of basic and commonly accepted set of competencies and body of knowledge (and skills) has been difficult to achieve.73

This explains the wide variety of training and development academic program offerings found in the ASTD Directory of Academic Programs in T&D/HRD document.74

Participants at the Second Invitational Conference on the Academic Preparation in T&D/HRD viewed the broad range and interdisciplinary nature of the academic programs as the result of a "wide range of performance/behavioral changes needed in adults with whom the practitioners worked".75 This diversity was seen as an asset rather than a hinderance to students and schools.

According to Anthony J. Presina and Margaret E. Kerr,


"these differences may be indicative of varying definitions and/or philosophies of training and development; the program housing is generally indicative of the program orientation, which in turn usually dictates program content". Programs can be found in colleges, schools, or departments of business administration, communications, education, human services, instructional technology, organizational development, and public administration.

While some programs are geared for the experienced training and development practitioner whose immediate career option may require an advanced degree in an area of specialization, other programs are aimed at those who desire entry-level competencies. Needs and expectations of students who enroll in the two types of programs differ. Experienced practitioners generally seek new learnings which can be applied to their jobs; those who wish to enter the field require more generalized knowledge and skills.

In a study conducted by the New York Metropolitan Chapter of the ASTD to determine needs of new entrants to the training and development field, it was concluded that "a training and development program should follow the logic of how trainers' responsibilities grow in the real world in order to be relevant to the audience's needs".77

Four core courses, based on the developmental needs of new trainers, were suggested: (1) platform skills and leading training activities, (2) developing training materials, (3) designing training programs, and (4) analyzing needs and evaluating training programs. Those who are trying to break into the field have these additional needs: knowledge of terminology used in the field, information about the training field, skills for conducting adult training programs, knowledge of specific content areas and skills, and knowledge in how to make a career change.\(^7\)

Diane Gayeski, utilizing previously conducted research reports on roles and competencies of trainers, developed a core of content areas which includes:

Management
- Budgeting
- Public relations
- Planning, forecasting needs
- Economics
- Organizational psychology
- Personnel
- Facilities administration

Training/communications skills
- Use of media
- Platform skills
- Communication theory
- Learning theory
- Motivation
- Public speaking


\(^8\) Ibid., p. 22.
Interpersonal communication
Client relationships
Writing
Lesson development

Design and production of materials
Systems analysis
Objective development
Scripting
Media production

Selection and evaluation of training techniques
Advantages/disadvantages of presentation formats
Research design
Bibliographic tools
Instrument and testing designs
Content analysis
Criteria for selecting hardware/software
Cost-effectiveness analysis
Sources for consultants and content experts

A review of several undergraduate degree programs revealed that academic requirements are generally similar. They usually consist of a core of three to five education courses, additional electives in education, a cognate area, and an internship.

A representative undergraduate program can be found at Northeastern Illinois University. Called the Educational Studies Major, it was developed in the late 1970's to prepare adult educators for positions in non-school organizations.

After investigating a variety of sources, the program developers identified five major interrelated areas of importance. They are:

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In addition, a process for teaching these content areas was developed. This process requires students to reflect upon their experiences and content learning and to make plans either to analyze ongoing situations or to plan instructional situations reflective of what they have learned. The next step is feedback, leading to a return to experiences and content learning if feedback is negative or to an attainment of competency and a point of exit if feedback is positive.\(^{81}\)

Requirements for the B.A. degree in Educational Studies include:

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<th>Credit Hours</th>
<th>Natural Sciences and Mathematics</th>
<th>Behavioral and Social Sciences</th>
<th>Humanities</th>
<th>Educational Studies Core Courses</th>
<th>Educational Studies Electives</th>
<th>Internship</th>
<th>Additional Area of Concentration</th>
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\(^{81}\) Ibid., p. 49.

\(^{82}\) Northeastern Illinois University, "Bachelor of Arts in Educational Studies," Chicago. (Mimeographed.)
The program reflects the interdisciplinary nature of the field with its liberal number of electives and an additional area of concentration. A personalized program, based on the student's needs and goals, is developed in consultation with an advisor.

In a keynote address at the Northeastern Illinois University Educators in Non-School Settings 1981 Conference, Lawrence Cremin proposed that the education of educators include four components: (1) general culture, including the study of relationships among the fields of knowledge; (2) special scholarship in at least one teaching field in which one is an expert or has been an expert in the past; (3) professional knowledge, which includes policy studies, developmental studies, and pedagogical studies; and (4) technical skill, demonstrated via a rotating internship in a variety of educational settings.83 These recommendations have been incorporated into a graduate level program offered at Columbia University.

Other graduate programs tend to be more specialized, concentrating in specific areas of the training and development field. Some selected examples are described below.

At Brigham Young University, the emphasis is on

organizational communication. According to Wayne Pace, Communication is the most central of all human processes and plays the most important role in the total process of working with, managing and developing the capacities of the people in an organization... (Therefore) an understanding of individual, group and institutional communication may be the most crucial understandings for success in a human resource development career.84

In a graduate program which is offered by The George Washington University, the focus is on adult learning, supplemented by study in a related area such as business administration, public administration, health care, management science, organizational behavior, or international studies. Although three separate tracks--learning specialist, administrator, consultant--are available, an individualized program which reflects the professional goal of the student is developed in consultation with an advisor.85

The educational systems development programs at Michigan State University utilize systematic approaches as frameworks for preparing students to design and implement educational and training situations. Theoretical


foundations in general systems, learning, instruction, organization, communication, design, change, and evaluation are taught with emphasis on their relationship to development technology.86

The organization development program at George Williams College emphasizes organization-wide planned change, based on an assessment of the client organization as an open-ended social system. Program offerings include topics such as group dynamics, instrumentation, organizational assessment, career planning, conflict management, team building, stress management, consultancy, and group leadership.87

Summary

Due to the interdisciplinary nature of the field and to a consideration of student's professional goals, the academic preparation of training and development practitioners varies widely, especially at the graduate degree level where specialization is common. Areas of specialization range from adult education to organizational development. Undergraduate curricula tend to focus on

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instructional development and delivery skills, adult learning principles, and communication skills. Despite differences in content, almost all programs, both undergraduate and graduate, require an internship.
CHAPTER III

METHODOLOGY

The formulation of recommendations for a training and development academic program requires a realistic conception of job-related activities of current practitioners. Accurate descriptions of activities and their importance to the practitioner's job are essential in order to design a relevant program.

According to Earl Babbie, "surveys are frequently conducted for the purpose of making descriptive assertions about some population". This is supported by the number of recent studies conducted on activities and roles of training and development practitioners which utilize the mail questionnaire survey method for data collection (Pinto and Walker, 1978; Hauser, 1980; Cox, 1981; Fernandez, 1982).

Chapter 3 describes the procedures employed in the survey research of this study. Briefly, the questionnaire survey sought to identify frequency and importance of sixty-seven work-related activities of training and development practitioners. For greater manageability of information, and to improve the sample size/variable ratio

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for subsequent analyses, the number of activity variables was reduced by factor analysis. This procedure created groups of related activities, called "job factors" in this study, which were used in the tests of hypotheses.

Description of Population

The population for this study consisted of full-time training and development practitioners who are employed on the island of Oahu. For the purpose of this study, a "training and development practitioner" was defined as one whose primary job responsibility is to develop, conduct, evaluate, and/or coordinate his organization's training activities. This definition excluded supervisors/managers and personnel specialists who perform training functions occasionally, but not as a primary responsibility, and all external consultants.

A list of Oahu-situated organizations that employ 100 or more personnel was compiled from information found in the Hawaii Business Directory and the Job Hunter's Guide to Hawaii. Added to this list were organizations which are represented by current members of the American Society for Training and Development, Hawaii Chapter. From this


compilation, those organizations with known full-time training and development personnel were identified. The remaining organizations were called by phone to determine whether each employs at least one full-time training and development practitioner. Those giving positive responses were combined with the "known" group, thus creating a population of organizations which employ at least one training and development person. From 461 organizations, 92 indicated positively, or were identified outright, as employing at least one full-time training and development practitioner on Oahu.

Selection of Population

Introductory calls were made to the training director of each of the identified organizations to explain the purpose of the study and to request/confirm names and business addresses of their full-time trainers. Where training directors were unavailable, a trainer or a secretary was asked to provide the needed information. This resulted in a list of 200 names of full-time training and development practitioners on Oahu. Due to this relatively small number, the entire identified population constituted the sample for the survey phase of this study.

Development of Instrument

A mail survey questionnaire served as the instrument
for collecting data. Its design is largely a reflection of guidelines provided by Don Dillman.91

The first draft of the instrument was a modification of a questionnaire which was used in a 1978 mail survey conducted by the American Society for Training and Development (ASTD) of its entire membership.92 The 104-item, multiple-choice ASTD questionnaire is the result of a careful screening of an initial pool of over 1,000 items obtained primarily from instruments employed in previous studies of training and development roles and competencies and from a careful review of the ASTD Training and Development Handbook, second edition,93 and is believed to cover the training and development field thoroughly.

The questionnaire modifications for the current study involved the construction of separate scales for determining degree of importance and frequency of occurrence, and provided for an indication of need for additional training for each activity item. In addition, double-barreled statements were clarified, five items were


eliminated due to redundancy, four of the seven lowest-ranking items were deleted, and seven items were added.

The following items were deleted:

- Hire professionals to record cassettes.
- Administer tuition reimbursement program.
- Prepare artwork and copy for slides.
- Secure necessary copyrights or reprint permissions.

Activity items which were added include the following:

- Technique: audio
- Technique: visuals
- Technique: manuals, worksheets, and/or textbooks
- Technique: case studies
- Technique: demonstrations
- Technique: computer assisted instruction
- Evaluate outside consultants' performance.

Decisions about item deletions and additions were based upon the researcher's subjective opinion regarding an item's degree of specificity and its usefulness for determining academic program content.

The resulting modified-ASTD questionnaire, consisting of 102 activity items, was pretested by seven training and development practitioners and four professors. Results were clear; the instrument was too long.

The shortening of the questionnaire involved the use of a reduced Pinto and Walker model which was developed by
John Cox in 1981. From the 104-item Pinto and Walker model, Cox developed a 33-item instrument by retaining those items which showed a .50 or higher item loading and a .80 inter-item reliability for those items loading at least .50 on a given factor. In comparing the results of factor analyses conducted on each of the two models, Cox found "a high degree of agreement in the way items grouped or clustered across factor structures... (and) that following the application of the selection criteria to the results of the Pinto and Walker (1978) study, the resulting reduced model was congruent with responses from the Pinto and Walker (1978) study on the 33 items".

Although the Cox model was deemed adequate for determining general activities of training and development practitioners, more specific information on instructional processes and materials was needed for the current study in order to formulate statements regarding content of an education program for training trainers. This led to the development of a revised questionnaire for the current study which included 67 items: the Cox-identified 33 items and 34 additional items which were selected from the first draft of the instrument. The latter group of items

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95 Ibid., p. 98.
primarily consisted of instructional techniques and stages of the instructional development process. Item 8, "Adapt packaged programs to fit specific training needs", was added as a result of the first pretest.

A pretest of the shortened questionnaire resulted in minor revisions relating to clarity and design. The final instrument is included as Appendix B.

Collection of Data

On January 31, 1983, two hundred personally-addressed envelopes were delivered by the researcher or sent by first-class mail to each of the identified participants. Each envelope contained a numerically-marked questionnaire, an individually-addressed letter, and a postage-paid return envelope.

By February 18, approximately three weeks after the distribution, 101 questionnaires (50.5 percent) were returned. One follow-up telephone call was made to all non-respondents. This resulted in fifty additional returns, for a total response of 151, or 75.5 percent of the number sent. From this total, six were returned after inappropriate routing, resulting in a usable sample of 145 from a base of 194.

After the returned questionnaires were reviewed for completeness, it was found that two respondents failed to complete more than one page of activity items and that one
did not answer a single demographic item. The numbers and importance of items unanswered invalidated those three questionnaires. This left the researcher with 142 usable returns out of a possible 194 for an adjusted usable return rate of 73.2 percent.

This percentage of return is slightly higher than the 71 percent response rate which Dillman claims is average for those who used the Total Design Method in part. In addition, Babbie contends that as a rule of thumb for mail surveys, a response rate of 70 percent or more is considered "very good".

Coding of Data

Data for activity items were coded as follows:

Frequency Scale

4 = DA (daily)
3 = WK (weekly)
2 = MO (monthly)
1 = YR (yearly)
0 = NA (not applicable)

Importance Scale

4 = EI (extremely important)
3 = MI (moderately important)
2 = SI (slightly important)
1 = UN (unimportant)


Missing data were originally coded ".". However, this was changed to reflect the lowest assigned designations of the respective scales, "0" for the frequency scale and "1" for the importance scale, when it was discovered that the procedure for determining factor scores provided no value assignment to groups which contained one or more missing raw scores.

Dichotomous, categorical data ("need" category, "emerging trends" question, and sex designation) were coded "0" and "1". In item 55, "Which of the following best describes your T/D specialization?", "administrator" replaced "other" as code 6 since it was the only write-in specialization in the "other" category. Item 56, highest level of education completed, was recoded as follows:

1 = some high school  
2 = completed high school  
3 = some college  
4 = associate degree  
5 = bachelors degree  
6 = some graduate work  
7 = fifth-year certificate  
8 = masters degree  
9 = doctorate

Responses to open-ended items 59 (number of years as a training and development professional) and 60 (number of years in the present organization) were recorded as interval data.

Analysis of Data

The Time Sharing Option (TSO) computer system which
runs on the IBM 3081 computer at the University of Hawaii Computing Center was utilized for data storage and statistical analyses. The Statistical Analysis System (SAS) was employed for all statistical procedures.

The codes which were assigned to the categories comprising the frequency and importance scales also served as relative weights. Higher values were assigned to higher frequency and greater importance designations. This determination was based on the assumption that if a work-related activity occurs more often than others and/or if it is considered a highly necessary part of the job, then it should be given greater consideration in the training of practitioners.

Impact Scores

Both frequency and importance data were considered necessary in order to formulate recommendations for program development. This led to the generation of a combined score for each activity item per respondent by adding the respective frequency and importance values. The combined score, referred to as "impact score" in this study, ranged in value from 1 to 8. According to this method, an activity which is performed yearly and considered extremely important has the same impact score as an activity which is done daily but perceived as unimportant. They were considered equivalent for purposes of the current study. Table 1 illustrates relative equivalencies of varying
combinations of frequency/importance values.

Table 1
Matrix of Combined Frequency and Importance Values

<table>
<thead>
<tr>
<th>Importance</th>
<th>DA</th>
<th>WK</th>
<th>MO</th>
<th>YR</th>
<th>NA</th>
</tr>
</thead>
<tbody>
<tr>
<td>EI 4</td>
<td>8</td>
<td>7</td>
<td>6</td>
<td>5</td>
<td>4</td>
</tr>
<tr>
<td>MI 3</td>
<td>7</td>
<td>6</td>
<td>5</td>
<td>4</td>
<td>3</td>
</tr>
<tr>
<td>SI 2</td>
<td>6</td>
<td>5</td>
<td>4</td>
<td>3</td>
<td>2</td>
</tr>
<tr>
<td>UN 1</td>
<td>5</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
</tr>
</tbody>
</table>

DA = daily
WK = weekly
MO = monthly
YR = yearly
NA = not applicable

EI = extremely important
MI = moderately important
SI = slightly important
UN = unimportant

Frequencies and percentages were calculated for demographic data. Rank ordered lists of needs and of activity items, based on impact score means, were constructed.
Impact scores for the 67 activity items were analyzed by the factor analysis method. This statistical procedure enabled the researcher to determine the underlying pattern of relationships which exists in the data and, from this, to identify smaller, more manageable sets of components which account for those interrelationships. An assumption made at this point is that the contrived impact scores possess properties of an interval scale.

Factor Analysis

The initial step of a factor analysis procedure involves the preparation of a correlation matrix. A requirement for any correlational study is an adequate sample size, especially where large numbers of variables are involved. However, there are varying interpretations of "adequate sample size". For example, while Richard Brislin\textsuperscript{98} argues that a minimum sample should include ten times as many subjects as variables, Raymond Cattell\textsuperscript{99} suggests a four-to-one rule of thumb. Since the subjects-to-variables ratio for the current study was approximately 2:1, a method to reduce the number of activity variables was developed in order to minimize the possibility of

\begin{flushright}
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\end{flushright}
sampling error. First, each of the 67 activity items was categorized into one of six theoretical groups, covering the major activities of training and development practitioners. The six groups and related activity items with their corresponding identification numbers from the questionnaire are:

Counsel
1. Technique: coaching and/or counseling
29. Train others (managers, supervisors, program leaders, trainers, etc.) how to train
40. Counsel individuals on career development
41. Assist managers in implementing on-the-job training
44. Counsel with employees on T/D matters

Develop Training
2. Experiment with new T/D techniques (innovate or pilot test)
3. Evaluate alternative instructional methods
4. Develop T/D manuals and/or worksheets
5. Produce audio-visual materials
6. Develop other training materials besides audio-visuals and manuals
7. Evaluate packaged programs as to their applicability
8. Adapt packaged programs to fit specific training needs
15. Establish behavioral or learning objectives for programs
16. Determine program structure (length, number of participants, seating configurations, etc.)
17. Determine program content (topics)
18. Apply concepts of human development in designing programs and/or materials
19. Apply adult learning theory/instructional principles in developing program content and/or materials

Conduct Training
1a. Technique: lecture with or without media
1b. Technique: audio-visuals (e.g., film, audiotaape, videotape, charts, overhead projectuals, etc.)
1c. Technique: manuals, worksheets, and/or textbooks
1d. Technique: discussions
1e. Technique: role-playing
1f. Technique: case studies
1g. Technique: behavior modeling
1h. Technique: simulation and/or games
1i. Technique: demonstrations
1j. Technique: laboratory education and/or sensitivity training
1k. Technique: programmed texts and/or self instruction
1l. Technique: on-the-job training and/or job instruction training
1m. Technique: job rotation
1n. Technique: computer-assisted instruction
20. Conduct T/D activities
39. Use organizational development intervention techniques (e.g., team building, inter-group meetings, etc.)

Evaluate Training
10. Identify T/D needs
11. Analyze performance problems to determine any application to T/D solutions
12. Analyze job requirements (job descriptions, task analysis, observations, etc.)
13. Evaluate T/D needs to set program priorities
14. Project future needs
20. Identify and/or evaluate external T/D programs
24. Evaluate internal instructors/program resource persons
25. Obtain/hire external instructors/program resource persons
26. Evaluate external instructors/program resource persons
27. Assess participants' performance before and after training to measure training effects
28. Revise materials/programs based on evaluation feedback
34. Identify skills and/or knowledge requirements of jobs
42. Interpret data and/or statistics on T/D

Professional Development
46. Keep abreast of T/D activities in other organizations (e.g., competitors, other local firms, etc.)
47. Keep abreast of legislation related to T/D practices (e.g., EEO, Affirmative Action, OSHA, etc.)
49. Attend meetings, seminars, conferences and/or workshops on T/D
50. Arrange for participation in external T/D programs
51. Write reports relating to T/D
52. Write proposals for programs or projects
53. Write articles for periodicals and/or internal publications

Administration
9. Contract with outside vendors (purchase materials, etc.)
21. Maintain records of participation in T/D programs
23. Obtain/hire internal instructors/program resource persons
30. Evaluate proposals from outside consultants
31. Obtain (contract with) outside consultants
32. Evaluate outside consultants' performance
33. Establish and/or maintain a library of T/D resources
35. Organize and/or staff the T/D function or department
36. Make formal presentations/plans for T/D programs and/or projects
37. Prepare budgets for T/D programs and/or projects
38. Maintain information on T/D costs and/or benefits
45. Supervise the work of other training personnel
48. Administer tuition reimbursement program

The subject-to-variable ratio for the largest group, "Conduct Training", which included sixteen variables, was 9:1. The other five groups, containing between five and thirteen variables, fell within the ten-to-one ratio which was suggested by Brislin.100

The factor analysis procedure, involving three basic steps, was applied to each of the six categories. First, a correlation matrix of activity variables was generated. Second, the principal factor analysis method was used to explore data-reduction possibilities by creating a new set

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100 Brislin, Cross-Cultural Research Methods, p. 279.
of variables, based on correlations found in the first step. Third, the resulting factor matrices were rotated by the varimax method, producing simpler and more meaningful factor patterns.\(^{101}\) This procedure resulted in the identification of fifteen factors from the six theoretical groups.

The identified factors served as a basis for computing factor scores for each observation. For the purpose of this study, factor scores were calculated in order to determine correlations between the factors and demographic variables, which were not included in the initial factor analyses. Those factor analyses involved only activity item variables. Factor scores for each of the six categories were calculated separately, then merged into one data set. This created a matrix of 142 observations and their corresponding demographic data by 15 factors. Factor scores were adjusted for this study by multiplying each factor score by 10 and adding 50 to the product, following the procedure of William Cooley and Paul Lohnes.\(^{102}\) The adjusted factor scores were employed in the tests of


hypotheses reported below.

Analysis of variance, followed by the Scheffe Multiple Comparisons procedure, was used to test each of the following research hypotheses.

1. There is a difference among the training and development specializations in impact of job factors.

2. The level of formal education completed by training and development practitioners makes a difference in impact of job factors.

3. There is a difference in impact of job factors between training and development practitioners with fewer than three years of experience and those with three or more years of experience.

**Summary**

The mail questionnaire survey method was used to gather information on frequency and importance of sixty-seven job-related activities of full-time training and development practitioners. Out of 194 eligible participants, 142 (73.2 percent) responded.

Activity items were analyzed on the basis of impact scores, the combined value of frequency and importance responses. Frequencies and percentages were calculated for demographic data. Needs and activity impact score means were rank ordered. Job factors were identified via the factor analysis procedure and hypotheses were tested by the
analysis of variance method. Results of all analytical procedures are presented in Chapter IV.
CHAPTER IV
FINDINGS OF THE STUDY

This chapter presents the results of the questionnaire survey which was conducted on an available population of full-time training and development practitioners who are employed on the island of Oahu. Participants were instructed to indicate frequency, importance, and need for more training of sixty-seven job-related activity items, to answer questions of demographic nature, and to identify emerging trends in the field.

Characteristics of the Population

A frequency distribution was constructed for each of the six demographic items: specialization, education, age, sex, number of years in the training and development field, and number of years in the present organization. Tables 2 through 7 provide this information.
1. Training and Development Specialization

Findings which are reported in Table 2 indicate that the two most common specialization categories were trainer/instructor/learning specialist and generalist.

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Table 2

Frequency Distribution for Training and Development Specialization

<table>
<thead>
<tr>
<th>Specialization Category</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Trainer/instructor/learning specialist</td>
<td>63</td>
<td>45.0</td>
</tr>
<tr>
<td>Generalist</td>
<td>54</td>
<td>38.6</td>
</tr>
<tr>
<td>Organization development specialist</td>
<td>10</td>
<td>7.1</td>
</tr>
<tr>
<td>Administrator</td>
<td>8</td>
<td>5.7</td>
</tr>
<tr>
<td>Career development counselor</td>
<td>4</td>
<td>2.9</td>
</tr>
<tr>
<td>Media specialist</td>
<td>1</td>
<td>0.7</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>140</strong></td>
<td><strong>100.0</strong></td>
</tr>
</tbody>
</table>

**Missing cases = 2**
2. Highest Level of Education Completed

Table 3 shows that 72 percent of the respondents have earned at least a bachelor's degree including approximately 29 percent who hold a master's or a doctoral degree. The range of formal education extends from completion of high school to completion of doctoral requirements. Because all respondents completed high school, the category, "some high school", which appeared in the questionnaire, was eliminated.

<table>
<thead>
<tr>
<th>Educational Level</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Completed high school</td>
<td>13</td>
<td>9.2</td>
</tr>
<tr>
<td>Some college</td>
<td>25</td>
<td>17.6</td>
</tr>
<tr>
<td>Associate degree</td>
<td>2</td>
<td>1.4</td>
</tr>
<tr>
<td>Bachelor's degree</td>
<td>42</td>
<td>29.6</td>
</tr>
<tr>
<td>Some graduate work</td>
<td>18</td>
<td>12.7</td>
</tr>
<tr>
<td>Fifth-year certificate</td>
<td>1</td>
<td>0.7</td>
</tr>
<tr>
<td>Master's degree</td>
<td>38</td>
<td>26.8</td>
</tr>
<tr>
<td>Doctoral degree</td>
<td>3</td>
<td>2.1</td>
</tr>
<tr>
<td>Total</td>
<td>142</td>
<td>100.0</td>
</tr>
</tbody>
</table>

Missing cases = 0
3. Age

Approximately 73 percent of the training and development practitioners are between the ages of 25 and 45 years. While nearly 40 percent fell into the 25-34 years category, no respondent was younger than 25; nor was anyone 65 years or older.

Table 4
Frequency Distribution for Age

<table>
<thead>
<tr>
<th>Age Category</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>25-34 years</td>
<td>56</td>
<td>39.4</td>
</tr>
<tr>
<td>35-44 years</td>
<td>47</td>
<td>33.1</td>
</tr>
<tr>
<td>45-54 years</td>
<td>28</td>
<td>19.7</td>
</tr>
<tr>
<td>55-64 years</td>
<td>11</td>
<td>7.7</td>
</tr>
<tr>
<td>Total</td>
<td>142</td>
<td>99.9</td>
</tr>
</tbody>
</table>

Missing cases = 0
4. Sex

The two sexes were equally represented.

<table>
<thead>
<tr>
<th>Sex</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Female</td>
<td>71</td>
<td>50.0</td>
</tr>
<tr>
<td>Male</td>
<td>71</td>
<td>50.0</td>
</tr>
<tr>
<td>Total</td>
<td>142</td>
<td>100.0</td>
</tr>
</tbody>
</table>

Missing cases = 0
5. Years as a Training and Development Practitioner

Responses to the open-ended question, "How many years have you been a T/D professional?", were categorized into nine classes with intervals of three years. As Table 6 indicates, approximately one-third of the respondents have fewer than three years of experience in the field.

Table 6
Frequency Distribution for Years as a Training and Development Practitioner

<table>
<thead>
<tr>
<th>Years in Training and Development</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fewer than 3</td>
<td>43</td>
<td>31.4</td>
</tr>
<tr>
<td>3-5.9</td>
<td>34</td>
<td>24.8</td>
</tr>
<tr>
<td>6-8.9</td>
<td>19</td>
<td>13.9</td>
</tr>
<tr>
<td>9-11.9</td>
<td>13</td>
<td>9.5</td>
</tr>
<tr>
<td>12-14.9</td>
<td>10</td>
<td>7.3</td>
</tr>
<tr>
<td>15-17.9</td>
<td>8</td>
<td>5.8</td>
</tr>
<tr>
<td>18-20.9</td>
<td>6</td>
<td>4.4</td>
</tr>
<tr>
<td>21-23.9</td>
<td>1</td>
<td>0.7</td>
</tr>
<tr>
<td>24 or more</td>
<td>3</td>
<td>2.2</td>
</tr>
<tr>
<td>Total</td>
<td>137</td>
<td>100.0</td>
</tr>
</tbody>
</table>

Missing cases = 5
6. **Years in Present Organization**

Like the previous item, responses to this question were categorized into three-year intervals. Approximately half the respondents have been employed by the present organization fewer than six years.

<table>
<thead>
<tr>
<th>Years in Present Organization</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fewer than 3</td>
<td>34</td>
<td>24.3</td>
</tr>
<tr>
<td>3-5.9</td>
<td>35</td>
<td>25.0</td>
</tr>
<tr>
<td>6-8.9</td>
<td>17</td>
<td>12.1</td>
</tr>
<tr>
<td>9-11.9</td>
<td>12</td>
<td>8.6</td>
</tr>
<tr>
<td>12-14.9</td>
<td>17</td>
<td>12.1</td>
</tr>
<tr>
<td>15-17.9</td>
<td>6</td>
<td>4.3</td>
</tr>
<tr>
<td>18-20.9</td>
<td>8</td>
<td>5.7</td>
</tr>
<tr>
<td>21-23.9</td>
<td>4</td>
<td>2.9</td>
</tr>
<tr>
<td>24 or more</td>
<td>7</td>
<td>5.0</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>140</strong></td>
<td><strong>100.0</strong></td>
</tr>
</tbody>
</table>

*Missing cases = 2*
Job-Related Activities of Training and Development Practitioners

Activity items were ranked on the basis of impact score means. As Table 1 indicates, impact scores, the sums of frequency and importance data, range in value from 1 to 8; their means range in value from 2.7 to 6.6.

As shown in Table 8, the highest ranking items relate to delivery of training, followed by assessment activities. At the lower end of the scale are activities which involve outside consultants and a variety of isolated tasks.
Table 8

Rank Order of Activity Items by Impact Score Means

<table>
<thead>
<tr>
<th>Rank</th>
<th>Mean</th>
<th>Activity Item</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>6.551</td>
<td>1d  Technique: discussions</td>
</tr>
<tr>
<td>2</td>
<td>6.193</td>
<td>1c  Technique: manuals, worksheets, and/or textbooks</td>
</tr>
<tr>
<td>3</td>
<td>5.906</td>
<td>1b  Technique: audio-visuals</td>
</tr>
<tr>
<td>4</td>
<td>5.904</td>
<td>22  Conduct T/D activities</td>
</tr>
<tr>
<td>5</td>
<td>5.903</td>
<td>1m  Technique: on-the-job training and/or job instruction training</td>
</tr>
<tr>
<td>6</td>
<td>5.880</td>
<td>1l  Technique: coaching and/or counseling</td>
</tr>
<tr>
<td>7</td>
<td>5.575</td>
<td>1a  Technique: lecture with or without media</td>
</tr>
<tr>
<td>8</td>
<td>5.414</td>
<td>10  Identify T/D needs</td>
</tr>
<tr>
<td>9</td>
<td>5.376</td>
<td>11  Analyze performance problems to determine any application to T/D solutions</td>
</tr>
<tr>
<td>10</td>
<td>5.371</td>
<td>27  Assess participants' performance before and after training to measure training effects</td>
</tr>
<tr>
<td>11</td>
<td>5.362</td>
<td>21  Maintain records of participation in T/D programs</td>
</tr>
<tr>
<td>12</td>
<td>5.336</td>
<td>1i  Technique: demonstrations</td>
</tr>
<tr>
<td>13</td>
<td>5.260</td>
<td>28  Revise materials/programs based on evaluation feedback</td>
</tr>
<tr>
<td>14</td>
<td>5.163</td>
<td>13  Evaluate T/D needs to set program priorities</td>
</tr>
<tr>
<td>15</td>
<td>5.156</td>
<td>17  Determine program content (topics)</td>
</tr>
<tr>
<td>16</td>
<td>5.008</td>
<td>34  Identify skills and/or knowledge requirements of jobs</td>
</tr>
<tr>
<td>17</td>
<td>4.953</td>
<td>45  Supervise the work of other training personnel</td>
</tr>
</tbody>
</table>
### Table 8. (Continued)

Rank Order of Activity Items by Impact Score Means

<table>
<thead>
<tr>
<th>Rank</th>
<th>Mean</th>
<th>Activity Item</th>
</tr>
</thead>
<tbody>
<tr>
<td>18</td>
<td>4.911</td>
<td>Establish behavioral or learning objectives for programs</td>
</tr>
<tr>
<td>19</td>
<td>4.908</td>
<td>Technique: role-playing</td>
</tr>
<tr>
<td>20</td>
<td>4.872</td>
<td>Analyze job requirements (job descriptions, task analysis, observations, etc.)</td>
</tr>
<tr>
<td>21</td>
<td>4.870</td>
<td>Project future T/D needs</td>
</tr>
<tr>
<td>22</td>
<td>4.860</td>
<td>Establish and/or maintain a library of T/D resources</td>
</tr>
<tr>
<td>23</td>
<td>4.858</td>
<td>Apply adult learning theory/instructional principles in developing program content and/or materials</td>
</tr>
<tr>
<td>24</td>
<td>4.855</td>
<td>Counsel with employees on T/D matters</td>
</tr>
<tr>
<td>25</td>
<td>4.771</td>
<td>Determine program structure (length, number of participants, seating configurations, etc.)</td>
</tr>
<tr>
<td>26</td>
<td>4.748</td>
<td>Organize and/or staff the T/D function or department</td>
</tr>
<tr>
<td>27</td>
<td>4.723</td>
<td>Train others (managers, supervisors, program leaders, trainers, etc.) how to train</td>
</tr>
<tr>
<td>28</td>
<td>4.720</td>
<td>Assist managers in implementing on-the-job training</td>
</tr>
<tr>
<td>29</td>
<td>4.615</td>
<td>Apply concepts of human development in designing programs and/or materials</td>
</tr>
<tr>
<td>30</td>
<td>4.607</td>
<td>Evaluate internal instructors/program resource persons</td>
</tr>
<tr>
<td>31</td>
<td>4.585</td>
<td>Technique: simulation and/or games</td>
</tr>
<tr>
<td>32</td>
<td>4.563</td>
<td>Develop T/D manuals and/or worksheets</td>
</tr>
</tbody>
</table>
Table 8. (Continued)
Rank Order of Activity Items by Impact Score Means

<table>
<thead>
<tr>
<th>Rank</th>
<th>Mean</th>
<th>Activity Item</th>
</tr>
</thead>
<tbody>
<tr>
<td>33</td>
<td>4.546</td>
<td>36 Make formal presentation/plans for T/D programs and/or projects</td>
</tr>
<tr>
<td>34</td>
<td>4.525</td>
<td>1g Technique: behavior modeling</td>
</tr>
<tr>
<td>35</td>
<td>4.500</td>
<td>47 Keep abreast of legislation related to T/D practices (e.g., EEO, Affirmative Action, OSHA, etc.)</td>
</tr>
<tr>
<td>36</td>
<td>4.492</td>
<td>40 Counsel individuals on career development</td>
</tr>
<tr>
<td>37</td>
<td>4.450</td>
<td>49 Attend meetings, seminars, conferences and/or workshops on T/D</td>
</tr>
<tr>
<td>38</td>
<td>4.434</td>
<td>1k Technique: programmed texts and/or self instruction</td>
</tr>
<tr>
<td>39</td>
<td>4.418</td>
<td>3 Evaluate alternative instructional methods</td>
</tr>
<tr>
<td>40</td>
<td>4.378</td>
<td>46 Keep abreast of T/D activities in other organizations (e.g., competitors, other local firms, etc.)</td>
</tr>
<tr>
<td>41</td>
<td>4.374</td>
<td>1f Technique: case studies</td>
</tr>
<tr>
<td>42</td>
<td>4.355</td>
<td>5 Produce audio-visual materials</td>
</tr>
<tr>
<td>43</td>
<td>4.344</td>
<td>7 Evaluate packaged programs as to their applicability</td>
</tr>
<tr>
<td>44</td>
<td>4.292</td>
<td>38 Maintain information on T/D costs and/or benefits</td>
</tr>
<tr>
<td>45</td>
<td>4.286</td>
<td>51 Write reports relating to T/D</td>
</tr>
<tr>
<td>46</td>
<td>4.245</td>
<td>39 Use organizational development intervention techniques (e.g., team building, inter-group meetings, etc.)</td>
</tr>
<tr>
<td>47</td>
<td>4.234</td>
<td>6 Develop other training materials besides audio-visuals and manuals</td>
</tr>
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</table>
Table 8. (Continued)

Rank Order of Activity Items by Impact Score Means

<table>
<thead>
<tr>
<th>Rank</th>
<th>Mean</th>
<th>Activity Item</th>
</tr>
</thead>
<tbody>
<tr>
<td>48</td>
<td>4.227</td>
<td>Write proposals for programs or projects</td>
</tr>
<tr>
<td>49</td>
<td>4.168</td>
<td>Experiment with new T/D techniques (innovate or pilot test)</td>
</tr>
<tr>
<td>50</td>
<td>4.127</td>
<td>Interpret data and/or statistics of T/D</td>
</tr>
<tr>
<td>51</td>
<td>4.120</td>
<td>Adapt packaged programs to fit specific training needs</td>
</tr>
<tr>
<td>52</td>
<td>4.100</td>
<td>Obtain/hire instructors/program resource persons</td>
</tr>
<tr>
<td>53</td>
<td>3.983</td>
<td>Prepare budgets for T/D programs and/or projects</td>
</tr>
<tr>
<td>54</td>
<td>3.899</td>
<td>Evaluate external instructors/program resource persons</td>
</tr>
<tr>
<td>55</td>
<td>3.897</td>
<td>Identify and/or evaluate external T/D programs</td>
</tr>
<tr>
<td>56</td>
<td>3.791</td>
<td>Present data and/or statistics (e.g., tables, charts, etc.)</td>
</tr>
<tr>
<td>57</td>
<td>3.669</td>
<td>Arrange for participation in external T/D programs</td>
</tr>
<tr>
<td>58</td>
<td>3.628</td>
<td>Contract with outside vendors (purchase materials, etc.)</td>
</tr>
<tr>
<td>59</td>
<td>3.625</td>
<td>Obtain/hire external instructors/program resource persons</td>
</tr>
<tr>
<td>60</td>
<td>3.445</td>
<td>Technique: computer assisted instruction</td>
</tr>
<tr>
<td>61</td>
<td>3.439</td>
<td>Evaluate proposals from outside consultants</td>
</tr>
<tr>
<td>62</td>
<td>3.172</td>
<td>Evaluate outside consultants' performance</td>
</tr>
<tr>
<td>Rank</td>
<td>Mean</td>
<td>Activity Item</td>
</tr>
<tr>
<td>------</td>
<td>-------</td>
<td>---------------------------------------------------</td>
</tr>
<tr>
<td>63</td>
<td>3.108</td>
<td>Administer tuition reimbursement program</td>
</tr>
<tr>
<td>64</td>
<td>3.020</td>
<td>Obtain (contract with) outside consultants</td>
</tr>
<tr>
<td>65</td>
<td>3.019</td>
<td>Technique: laboratory education and/or sensitivity training</td>
</tr>
<tr>
<td>66</td>
<td>3.010</td>
<td>Technique: job rotation</td>
</tr>
<tr>
<td>67</td>
<td>2.724</td>
<td>Write articles for periodicals and/or internal publications</td>
</tr>
</tbody>
</table>
Job-Related Needs as Perceived by Training and Development Practitioners

A rank order of activity items for which respondents have indicated a need for new or additional training is presented in Table 9. The percent column shows percentages of respondents who circled the "x" on the questionnaire due to a felt need for more training in a particular activity.

The highest ranking needs of respondents relate to the use of new training and development techniques such as those which computer technology offers, to front-end analyses, to the production of training materials, and to an understanding of adult learning.
Table 9

Rank Order of Activity Items by Perceived Needs

<table>
<thead>
<tr>
<th>Rank</th>
<th>Activity Item</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>10. Technique: computer assisted instruction</td>
<td>45</td>
<td>31.7</td>
</tr>
<tr>
<td>2</td>
<td>3. Evaluate alternative instructional methods</td>
<td>36</td>
<td>25.4</td>
</tr>
<tr>
<td>3</td>
<td>11. Analyze performance problems to determine any application to T/D solutions</td>
<td>34</td>
<td>23.9</td>
</tr>
<tr>
<td>5</td>
<td>2. Experiment with new T/D techniques</td>
<td>33</td>
<td>23.2</td>
</tr>
<tr>
<td>11</td>
<td>11. Technique: coaching and/or counseling</td>
<td>33</td>
<td>23.2</td>
</tr>
<tr>
<td>7</td>
<td>19. Apply adult learning theory/instructional principles in developing program content and/or materials</td>
<td>30</td>
<td>21.1</td>
</tr>
<tr>
<td>10</td>
<td>Identify T/D needs</td>
<td>30</td>
<td>21.1</td>
</tr>
<tr>
<td>9</td>
<td>39. Use organizational development intervention techniques (e.g., team building, inter-group meetings, etc.)</td>
<td>29</td>
<td>20.4</td>
</tr>
<tr>
<td>12</td>
<td>Analyze job requirements (job descriptions, task analysis, observations, etc.)</td>
<td>29</td>
<td>20.4</td>
</tr>
<tr>
<td>11</td>
<td>4. Develop T/D manuals and/or worksheets</td>
<td>28</td>
<td>19.7</td>
</tr>
<tr>
<td>1k</td>
<td>1k. Technique: programmed texts and/or self instruction</td>
<td>28</td>
<td>19.7</td>
</tr>
<tr>
<td>1g</td>
<td>1g. Technique: behavior modeling</td>
<td>28</td>
<td>19.7</td>
</tr>
<tr>
<td>14</td>
<td>14. Project future T/D needs</td>
<td>27</td>
<td>19.0</td>
</tr>
</tbody>
</table>
Table 9. (Continued)
Rank Order of Activity Items by Perceived Needs

<table>
<thead>
<tr>
<th>Rank</th>
<th>Activity Item</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>27.</td>
<td>Assess participants' performance before and after training to measure training effects</td>
<td>27</td>
<td>19.0</td>
</tr>
<tr>
<td>16.</td>
<td>Apply concepts of human development in designing programs and/or materials</td>
<td>25</td>
<td>17.6</td>
</tr>
<tr>
<td>29.</td>
<td>Train others (managers, supervisors, program leaders, trainers, etc.) how to train</td>
<td>25</td>
<td>17.6</td>
</tr>
<tr>
<td>18.</td>
<td>Develop other training materials besides audio-visuals and manuals</td>
<td>25</td>
<td>17.6</td>
</tr>
<tr>
<td>1j.</td>
<td>Technique: laboratory education and/or sensitivity training</td>
<td>25</td>
<td>17.6</td>
</tr>
<tr>
<td>20.</td>
<td>Evaluate T/D needs to set program priorities</td>
<td>22</td>
<td>15.5</td>
</tr>
<tr>
<td>1h.</td>
<td>Technique: simulation and/or games</td>
<td>22</td>
<td>15.5</td>
</tr>
<tr>
<td>22.</td>
<td>Establish behavioral or learning objectives for programs</td>
<td>21</td>
<td>14.8</td>
</tr>
<tr>
<td>1b.</td>
<td>Technique: audio-visuals (e.g., film, audio tape, videotape, charts, overhead projectuals, etc.)</td>
<td>21</td>
<td>14.8</td>
</tr>
<tr>
<td>24.</td>
<td>Adapt packaged programs to fit specific training needs</td>
<td>20</td>
<td>14.1</td>
</tr>
<tr>
<td>52.</td>
<td>Write proposals for programs or projects</td>
<td>20</td>
<td>14.1</td>
</tr>
<tr>
<td>38.</td>
<td>Maintain information on T/D costs and/or benefits</td>
<td>20</td>
<td>14.1</td>
</tr>
</tbody>
</table>
Table 9. (Continued)
Rank Order of Activity Items by Perceived Needs

<table>
<thead>
<tr>
<th>Rank</th>
<th>Activity Item</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>1m.</td>
<td>Technique: on-the-job training and/or job instruction training</td>
<td>20</td>
<td>14.1</td>
</tr>
<tr>
<td>1e.</td>
<td>Technique: role-playing</td>
<td>18</td>
<td>14.1</td>
</tr>
<tr>
<td>29</td>
<td>37. Prepare budgets for T/D programs and/or projects</td>
<td>19</td>
<td>13.4</td>
</tr>
<tr>
<td>30</td>
<td>42. Interpret data and/or statistics on T/D</td>
<td>18</td>
<td>12.7</td>
</tr>
<tr>
<td>36</td>
<td>43. Make formal management presentation/plans for T/D programs and/or projects</td>
<td>18</td>
<td>12.7</td>
</tr>
<tr>
<td>7</td>
<td>47. Evaluate packaged programs as to their applicability</td>
<td>18</td>
<td>12.7</td>
</tr>
<tr>
<td>33</td>
<td>44. Present data and/or statistics (e.g., tables, charts, etc.)</td>
<td>17</td>
<td>12.0</td>
</tr>
<tr>
<td>32</td>
<td>22. Conduct T/D activities</td>
<td>17</td>
<td>12.0</td>
</tr>
<tr>
<td>33</td>
<td>33. Establish and/or maintain a library of T/D resources</td>
<td>17</td>
<td>12.0</td>
</tr>
<tr>
<td>36</td>
<td>1f. Technique: case studies</td>
<td>16</td>
<td>11.3</td>
</tr>
<tr>
<td>37</td>
<td>41. Assist managers in implementing on-the-job training</td>
<td>15</td>
<td>10.6</td>
</tr>
<tr>
<td>38</td>
<td>20. Identify and/or evaluate external T/D programs</td>
<td>15</td>
<td>10.6</td>
</tr>
<tr>
<td>34</td>
<td>40. Identify skills and/or knowledge requirements of jobs</td>
<td>15</td>
<td>10.6</td>
</tr>
<tr>
<td>40</td>
<td>17. Determine program content</td>
<td>14</td>
<td>9.9</td>
</tr>
<tr>
<td>41</td>
<td>47. Keep abreast of legislation related to T/D practices (e.g., EEO, Affirmative Action, OSHA, etc.)</td>
<td>13</td>
<td>9.2</td>
</tr>
</tbody>
</table>
Table 9. (Continued)
Rank Order of Activity Items by Perceived Needs

<table>
<thead>
<tr>
<th>Rank</th>
<th>Activity Item</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>40.</td>
<td>Counsel individuals on career development</td>
<td>13</td>
<td>9.2</td>
</tr>
<tr>
<td>16.</td>
<td>Determine program structure (length, number of participants, seating configurations, etc.)</td>
<td>13</td>
<td>9.2</td>
</tr>
<tr>
<td>44.</td>
<td>Write articles for periodicals and/or internal publications</td>
<td>12</td>
<td>8.5</td>
</tr>
<tr>
<td>51.</td>
<td>Write reports relating to T/D</td>
<td>12</td>
<td>8.5</td>
</tr>
<tr>
<td>46.</td>
<td>Keep abreast of T/D activities in other organizations (e.g., competitors, other local firms, etc.)</td>
<td>12</td>
<td>8.5</td>
</tr>
<tr>
<td>30.</td>
<td>Evaluate proposals from outside consultants</td>
<td>12</td>
<td>8.5</td>
</tr>
<tr>
<td>28.</td>
<td>Revise materials/programs based on evaluation feedback</td>
<td>12</td>
<td>8.5</td>
</tr>
<tr>
<td>26.</td>
<td>Evaluate external instructors/program resource persons</td>
<td>12</td>
<td>8.5</td>
</tr>
<tr>
<td>50.</td>
<td>44. Counsel employees on T/D matters</td>
<td>11</td>
<td>7.7</td>
</tr>
<tr>
<td>25.</td>
<td>Obtain/hire external instructors/program resource persons</td>
<td>11</td>
<td>7.7</td>
</tr>
<tr>
<td>1c.</td>
<td>Technique: manuals, worksheets, and/or textbooks</td>
<td>11</td>
<td>7.7</td>
</tr>
<tr>
<td>53.</td>
<td>49. Attend meetings, seminars, conferences and/or workshops on T/D</td>
<td>10</td>
<td>7.0</td>
</tr>
<tr>
<td>50.</td>
<td>Arrange for participation in external T/D programs</td>
<td>10</td>
<td>7.0</td>
</tr>
<tr>
<td>32.</td>
<td>Evaluate outside consultants' performance</td>
<td>10</td>
<td>7.0</td>
</tr>
</tbody>
</table>
Table 9. (Continued)
Rank Order of Activity Items by Perceived Needs

<table>
<thead>
<tr>
<th>Rank</th>
<th>Activity Item</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>9</td>
<td>Contract with outside vendors (purchase materials, etc.)</td>
<td>10</td>
<td>7.0</td>
</tr>
<tr>
<td>57</td>
<td>Supervise the work of other training personnel</td>
<td>9</td>
<td>6.3</td>
</tr>
<tr>
<td>24</td>
<td>Evaluate internal instructors/program resource persons</td>
<td>9</td>
<td>6.3</td>
</tr>
<tr>
<td>35</td>
<td>Organize and/or staff the T/D function or department</td>
<td>9</td>
<td>6.3</td>
</tr>
<tr>
<td>1a</td>
<td>Technique: lecture with or without media</td>
<td>9</td>
<td>6.3</td>
</tr>
<tr>
<td>1d</td>
<td>Technique: discussions</td>
<td>9</td>
<td>6.3</td>
</tr>
<tr>
<td>62</td>
<td>Administer tuition reimbursement program</td>
<td>8</td>
<td>5.6</td>
</tr>
<tr>
<td>31</td>
<td>Obtain (contract with) outside consultants</td>
<td>8</td>
<td>5.6</td>
</tr>
<tr>
<td>1l</td>
<td>Technique: demonstrations</td>
<td>8</td>
<td>5.6</td>
</tr>
<tr>
<td>65</td>
<td>Obtain/hire internal instructors/program resource persons</td>
<td>7</td>
<td>4.9</td>
</tr>
<tr>
<td>21</td>
<td>Maintain records of participation in T/D programs</td>
<td>7</td>
<td>4.9</td>
</tr>
<tr>
<td>1n</td>
<td>Technique: job rotation</td>
<td>7</td>
<td>4.9</td>
</tr>
</tbody>
</table>
Emerging Trends as Perceived by Training and Development Practitioners

Over 50 percent of the respondents indicated that computer technology, more effective evaluation of programs, and more effective needs assessments are emerging as important for training and development practitioners. A summary of responses is presented in Table 10.

Table 10
Frequency Distribution for Emerging Trends

<table>
<thead>
<tr>
<th>Emerging Trend</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Computer technology</td>
<td>113</td>
<td>79.6</td>
</tr>
<tr>
<td>More effective evaluation of programs</td>
<td>91</td>
<td>64.1</td>
</tr>
<tr>
<td>More effective needs assessments</td>
<td>85</td>
<td>59.9</td>
</tr>
<tr>
<td>More behavioral science knowledge</td>
<td>69</td>
<td>48.6</td>
</tr>
<tr>
<td>Growing professionalism</td>
<td>62</td>
<td>43.7</td>
</tr>
<tr>
<td>Videodisc technology</td>
<td>41</td>
<td>28.9</td>
</tr>
<tr>
<td>Teleconference, telecommunication</td>
<td>39</td>
<td>27.5</td>
</tr>
<tr>
<td>More knowledge of governmental regulations</td>
<td>20</td>
<td>14.1</td>
</tr>
</tbody>
</table>
Job Factors in Training and Development

The sixty-seven activity items were reduced in order to obtain a simplified pattern of their relationships, leading to greater manageability of information. The theoretical and statistical procedures which were employed to reduce the number of activity items were described in detail in the "Analysis of Data" section of Chapter III. The factor analysis statistical procedure, applied to each of the six theoretical groups, produced a total of fifteen factors: Counsel and Professional Development, one factor each; Develop Training, Evaluate Training, and Administration, three factors each; and Conduct Training, four factors. These resulting groups of related activities, referred to as "job factors" in this study, formed the basis for hypotheses testing.

In order to determine the correlation between the activity items and the factors, factor loadings, which range in value from -1.00 to +1.00, were calculated. Jae-On Kim and Charles W. Mueller contend that "factor loadings less than 0.30 are not substantial". Therefore, only those activity items which loaded 0.30 or more were retained for each factor. Factors were named on the basis of this researcher's interpretation of a common theme among

the highest loading items.

Because the factors for this study were generated from six separate factor analyses, eigenvalues, factor weights which are utilized to determine significance of factors, cannot be compared among the theoretical categories. This means that only those factors which comprise a particular theoretical category can be compared in terms of impact on the job. To emphasize this fact, factors were numbered from 1 to 6, representing the six theoretical categories which were factor-analyzed separately. Lower case alphabets were used to distinguish between the factors which belong to the same category; significance of factors within each category was reported in descending alphabetical order. For example, factors which comprise the "Develop Training" category were numbered "3" and the three factors which make up this category were given "a", "b", and "c" designations, listed in descending order of impact.

The theoretical categories, their related factors, and eigenvalues are reported in Table 11. The fifteen factors and their respective activity items which loaded 0.30 or higher are presented in Appendix C.
Table 11
Theoretical Categories, Related Job Factors and Eigenvalues

<table>
<thead>
<tr>
<th>Theoretical Categories</th>
<th>Job Factors</th>
<th>Eigenvalues</th>
</tr>
</thead>
<tbody>
<tr>
<td>Counsel</td>
<td>1 Counsel employees</td>
<td>2.36</td>
</tr>
<tr>
<td>Conduct Training</td>
<td>2a Use trainer-led instructional techniques</td>
<td>5.27</td>
</tr>
<tr>
<td></td>
<td>2b Use learner-active instructional techniques</td>
<td>1.44</td>
</tr>
<tr>
<td></td>
<td>2c Use job/self instruction techniques</td>
<td>1.25</td>
</tr>
<tr>
<td></td>
<td>2d Conduct training and development activities</td>
<td>1.11</td>
</tr>
<tr>
<td>Develop Training</td>
<td>3a Develop programs</td>
<td>4.46</td>
</tr>
<tr>
<td></td>
<td>3b Determine appropriate training approach</td>
<td>1.47</td>
</tr>
<tr>
<td></td>
<td>3c Adapt packaged programs</td>
<td>1.11</td>
</tr>
<tr>
<td>Evaluate Training</td>
<td>4a Assess needs</td>
<td>4.56</td>
</tr>
<tr>
<td></td>
<td>4b Evaluate instructional services</td>
<td>2.30</td>
</tr>
<tr>
<td></td>
<td>4c Assess performance</td>
<td>1.21</td>
</tr>
<tr>
<td>Administration</td>
<td>5a Manage the training and development function</td>
<td>5.25</td>
</tr>
<tr>
<td></td>
<td>5b Manage outside consultants</td>
<td>1.86</td>
</tr>
<tr>
<td></td>
<td>5c Manage finances</td>
<td>1.07</td>
</tr>
<tr>
<td>Professional Development</td>
<td>6 Keep abreast of new developments</td>
<td>2.88</td>
</tr>
</tbody>
</table>
Results of Testing Hypothesis One

Research Hypothesis One states that there is a difference among the training and development specializations in impact of job factors. As Table 2 shows, the two largest specialization categories are generalist (38.6 percent) and trainer/instructor/learning specialist (45 percent). Due to small numbers, the remaining categories were combined into one for purposes of statistical analysis. Named "other", this group comprised 16.4 percent of the total.

In testing Hypothesis One, the analysis of variance statistical procedure was used. In addition, Scheffe's Multiple Comparisons Test was applied to determine the extent of differences among the three specialization categories on each job factor.

The results, which are presented in Table 12, indicate significant differences at the .01 level between the "trainer/instructor/learning specialist" group and the other two groups, "generalist" and "other", on three job factors: using trainer-led instructional techniques, assessing performance, and managing finances. Significance at the same level was noted between "trainer/instructor/learning specialist" and "generalist" on factor 6, keeping abreast of new developments. At the .05 level, significant difference was found between "trainer/instructor/learning specialist" and "other" on factor 2d, conducting T/D
activities.

Although significance, .0225 and .0136, was recorded for assessing needs and evaluating instructional services, respectively, the Scheffe Test results did not show those differences between groups. While factors 2a (using trainer-led instructional techniques), 2d (conducting T/D activities), and 4c (assessing performance) showed a greater impact on the "trainer/instructor/learning specialist" group, factors 5c (managing finances) and 6 (keeping abreast of new developments) were more impactful on the "other" and "generalist" groups.
Table 12

Mean Differences Among Specializations: Analysis of Variance

<table>
<thead>
<tr>
<th>Job Factor</th>
<th>Other</th>
<th>Generalist</th>
<th>Instructor</th>
<th>Significance</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Counsel employees</td>
<td>52.12a</td>
<td>51.47b</td>
<td>48.18b</td>
<td>0.119a</td>
</tr>
<tr>
<td>2a Use trainer-led instructional techniques</td>
<td>45.858a</td>
<td>47.096a</td>
<td>50.049b</td>
<td>0.0001**</td>
</tr>
<tr>
<td>2b Use learner-active instructional techniques</td>
<td>42.206</td>
<td>49.995</td>
<td>50.35b</td>
<td>0.0472</td>
</tr>
<tr>
<td>2c Use job/self instruction techniques</td>
<td>47.730</td>
<td>51.359</td>
<td>50.193</td>
<td>0.3310</td>
</tr>
<tr>
<td>2d Conduct T/D activities</td>
<td>45.282a</td>
<td>49.694ab</td>
<td>51.984b</td>
<td>0.0228*</td>
</tr>
<tr>
<td>3a Develop program</td>
<td>47.625</td>
<td>48.842</td>
<td>51.331</td>
<td>0.2270</td>
</tr>
<tr>
<td>3b Determine appropriate training approach</td>
<td>48.011</td>
<td>48.896</td>
<td>51.849</td>
<td>0.1572</td>
</tr>
<tr>
<td>3c Adapt packaged programs</td>
<td>47.69b</td>
<td>50.425</td>
<td>50.742</td>
<td>0.4439</td>
</tr>
<tr>
<td>4a Assess needs</td>
<td>47.696</td>
<td>52.805</td>
<td>48.328</td>
<td>0.0225</td>
</tr>
<tr>
<td>4b Evaluate instructional services</td>
<td>52.598</td>
<td>52.110</td>
<td>47.336</td>
<td>0.0136</td>
</tr>
<tr>
<td>4c Assess performance</td>
<td>44.767a</td>
<td>47.841a</td>
<td>53.882b</td>
<td>0.0001**</td>
</tr>
<tr>
<td>5a Manage the T/D function</td>
<td>48.844</td>
<td>51.630</td>
<td>49.304</td>
<td>0.4280</td>
</tr>
<tr>
<td>5b Manage outside consultants</td>
<td>50.202</td>
<td>52.223</td>
<td>48.341</td>
<td>0.1111</td>
</tr>
<tr>
<td>5c Manage finances</td>
<td>54.081a</td>
<td>52.695a</td>
<td>46.460b</td>
<td>0.0003**</td>
</tr>
<tr>
<td>6 Keep abreast of new developments</td>
<td>50.507ab</td>
<td>53.448a</td>
<td>46.895b</td>
<td>0.0016**</td>
</tr>
</tbody>
</table>

* Significant at .05 level
** Significant at .01 level

Lower case letters denote results of Scheffe Range Testing; different letters reflect significant differences between groups.
Results of Testing Hypothesis Two

Research Hypothesis Two states that the level of formal education completed by training and development practitioners makes a difference in impact of job factors. The eight education levels which appear in Table 3 were categorized into four groups. The first three levels, "completed high school", "some college", and "associate degree" were combined and renamed "less than bachelor". This group comprised 28 percent of the respondents. The level "bachelor's degree" (30 percent) remained the same. The next two levels, "some graduate work" and "fifth-year certificate", were combined and called "post-bachelor". Thirteen percent of the respondents fell into this, the third, category. Representing 29 percent of the respondents and comprising the fourth category, named "graduate degree", were master and doctoral degree holders.

Hypothesis Two was tested by the analysis of variance statistical procedure and the Scheffe's Multiple Comparisons Test of Means. Results of the analysis are presented in Table 13. It shows significant differences at the .01 level between the first two groups ("less than bachelor" and "bachelor's degree") and the latter two groups ("post-bachelor" and "graduate degree") on two factors: evaluating instructional services and keeping abreast of new developments; and differences at the same level between college degree holders and non-college degree holders.
holders on factors 5a and 5b, managing the T/D function and managing outside consultants, respectively. A .05 significance is indicated on factor 5c, managing finances, primarily between "bachelor's degree" and "post-bachelor".

Although a significance of .0356 was reported for factor 3c, adapting packaged programs, the Scheffe's Multiple Comparisons Test results did not show differences between groups. In general, the impact of all factors which showed differences in the Scheffe's Multiple Comparisons Test was greatest on the groups with higher levels of formal education completed.
### Table 13

#### Mean Differences Among Levels of Education Completed: Analysis of Variance

<table>
<thead>
<tr>
<th>Job Factor</th>
<th>Less than Bachelor Degree</th>
<th>Bachelor Degree</th>
<th>Post-Bachelor Degree</th>
<th>Significance</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Control employees</td>
<td>49.572</td>
<td>49.262</td>
<td>53.984</td>
<td>49.327</td>
</tr>
<tr>
<td>2a Use trainer-led instructional techniques</td>
<td>52.626</td>
<td>49.610</td>
<td>49.689</td>
<td>47.982</td>
</tr>
<tr>
<td>2b Use learner-active instructional techniques</td>
<td>49.236</td>
<td>49.076</td>
<td>53.938</td>
<td>49.869</td>
</tr>
<tr>
<td>2c Use job/self instruction techniques</td>
<td>50.251</td>
<td>51.708</td>
<td>51.805</td>
<td>47.168</td>
</tr>
<tr>
<td>2d Conduct T/D activities</td>
<td>50.678</td>
<td>50.309</td>
<td>48.233</td>
<td>49.841</td>
</tr>
<tr>
<td>3a Develop programs</td>
<td>48.296</td>
<td>50.328</td>
<td>50.006</td>
<td>51.328</td>
</tr>
<tr>
<td>3b Determine appropriate training approach</td>
<td>49.095</td>
<td>49.211</td>
<td>49.040</td>
<td>51.951</td>
</tr>
<tr>
<td>3c Adapt packaged programs</td>
<td>52.327</td>
<td>49.110</td>
<td>53.484</td>
<td>47.027</td>
</tr>
<tr>
<td>4a Assess needs</td>
<td>50.669</td>
<td>51.362</td>
<td>48.945</td>
<td>48.441</td>
</tr>
<tr>
<td>4b Evaluate instructional services</td>
<td>45.211c</td>
<td>48.044bc</td>
<td>55.804a</td>
<td>53.986ab</td>
</tr>
<tr>
<td>4c Assess performance</td>
<td>51.182</td>
<td>49.581</td>
<td>51.604</td>
<td>48.532</td>
</tr>
<tr>
<td>5a Manage the T/D function</td>
<td>44.979b</td>
<td>51.846a</td>
<td>51.053ab</td>
<td>52.520a</td>
</tr>
<tr>
<td>5b Manage outside consultants</td>
<td>46.513b</td>
<td>47.962ab</td>
<td>53.910a</td>
<td>53.678a</td>
</tr>
<tr>
<td>5c Manage finances</td>
<td>48.905ab</td>
<td>47.184b</td>
<td>54.963a</td>
<td>51.653ab</td>
</tr>
<tr>
<td>6 Keep abreast of new developments</td>
<td>46.687c</td>
<td>47.462bc</td>
<td>54.854a</td>
<td>53.582ab</td>
</tr>
</tbody>
</table>

* Significant at .05 level
** Significant at .01 level

Lower case letters denote results of Scheffe range testing; different letters reflect significant differences between groups.
Results of Testing Hypothesis Three

Research Hypothesis Three states that there is a difference in impact of job factors between training and development practitioners with fewer than three years of experience and those with three or more years of experience. According to Table 6, 31.4 percent of the respondents reported fewer than three years of experience as a training and development practitioner, while 68.6 percent claimed three years or more of experience in the field.

Results of the analysis of variance and Scheffe's Multiple Comparisons Test of Means are reported in Table 14. This table shows that .01 significance was found between the "fewer than three years" experience group and the "three or more years" experience group on three factors: using learner-active instructional techniques, evaluating instructional services, and managing finances. A significant difference at the .05 level was found on factor 5b, managing outside consultants. The four factors which showed significant differences were more impactful on the "three or more years" experience group.
Table 14

Mean Differences Between Years of Experience in the Field:
Analysis of Variance

<table>
<thead>
<tr>
<th>Job Factor</th>
<th>Fewer than 3 years</th>
<th>3 or more years</th>
<th>Significance</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Counsel employees</td>
<td>49.712</td>
<td>50.147</td>
<td>0.8072</td>
</tr>
<tr>
<td>2a Use trainer-led instructional techniques</td>
<td>49.902</td>
<td>50.050</td>
<td>0.9337</td>
</tr>
<tr>
<td>2b Use learner-active instructional techniques</td>
<td>46.941</td>
<td>51.562</td>
<td>0.0087**</td>
</tr>
<tr>
<td>2c Use job/self instruction techniques</td>
<td>51.412</td>
<td>49.279</td>
<td>0.2304</td>
</tr>
<tr>
<td>2d Conduct T/D activities</td>
<td>51.071</td>
<td>49.453</td>
<td>0.3635</td>
</tr>
<tr>
<td>3a Develop programs</td>
<td>48.640</td>
<td>50.694</td>
<td>0.2483</td>
</tr>
<tr>
<td>3b Determine appropriate training approach</td>
<td>48.331</td>
<td>50.852</td>
<td>0.1560</td>
</tr>
<tr>
<td>3c Adapt packaged programs</td>
<td>50.389</td>
<td>49.802</td>
<td>0.7419</td>
</tr>
<tr>
<td>4a Assess needs</td>
<td>51.264</td>
<td>49.354</td>
<td>0.2833</td>
</tr>
<tr>
<td>4b Evaluate instructional services</td>
<td>47.028</td>
<td>51.518</td>
<td>0.0109**</td>
</tr>
<tr>
<td>4c Assess performance</td>
<td>49.608</td>
<td>50.200</td>
<td>0.7401</td>
</tr>
<tr>
<td>5a Manage the T/D function</td>
<td>49.853</td>
<td>50.075</td>
<td>0.9009</td>
</tr>
<tr>
<td>5b Manage outside consultants</td>
<td>47.485</td>
<td>51.284</td>
<td>0.0317*</td>
</tr>
<tr>
<td>5c Manage finances</td>
<td>46.911</td>
<td>51.577</td>
<td>0.0081**</td>
</tr>
<tr>
<td>6 Keep abreast of new developments</td>
<td>47.708</td>
<td>51.170</td>
<td>0.0507</td>
</tr>
</tbody>
</table>

* Significant at .05 level
** Significant at .01 level
Summary

Results of the questionnaire survey of training and development practitioners indicate that at least 70 percent: (1) consider themselves generalists or trainers/instructors/learning specialists, (2) hold at least a bachelor's degree, (3) are 45 years or younger in age, (4) have been in the training and development field fewer than nine years, and (5) have been with the present organization fewer than twelve years. The numbers of male and female practitioners are equal.

Respondents concern themselves most with assessment and delivery of training activities and would like new or additional training in the same areas, specifically in new training techniques and analysis of needs. Computer technology and more effective needs assessments and program evaluations were marked as emerging trends in more than half the returns.

Fifteen job factors, sets of related activities, were identified and employed in the tests of hypotheses. Significant differences were found between the trainer/instructor/learning specialist group and the other two categories on five job factors: using trainer-led instructional techniques, conducting training and development activities, assessing performance, managing finances, and keeping abreast of new developments. The first three factors showed a greater impact on the
trainer/instructor/learning specialist category while the impact of the latter two factors was greater for the generalist and other specializations. The impact of administration and professional development factors was greatest on those who have completed higher levels of formal education. The three or more years of experience group differed significantly from and scored higher than the fewer than three years group on the following job factors: using learner-active instructional techniques, evaluating instructional services, managing outside consultants, and managing finances.
CHAPTER V
DISCUSSION, RECOMMENDATIONS, AND SUMMARY

The findings of the study, which were reported in the previous chapter, provide insights into the characteristics, activities, and needs of training and development practitioners on Oahu. The review of the literature, as reported in Chapter II, presents similar information from national sources. Together, they form the basis for recommendations relating to the development of possible preservice and inservice/post-baccalaureate trainer education programs in the College of Education at the University of Hawaii at Manoa.

Discussion and Recommendations for a Preservice Trainer Education Program

It is assumed that students who are enrolled in a preservice education program are preparing to enter a profession/occupation for which they have little or no experience and limited understanding of the position's duties and responsibilities. Thus, it is incumbent upon those who develop and implement the preservice education program to insure that each student is aware, at least, of the entire spectrum of work-related activities of practicing professionals through an orientation course.

Students must also be prepared to carry out, with
relative success, entry-level assignments which are most important and/or frequently performed. According to Table 8, the areas which showed high impact in the job of current training and development practitioners are: (1) methods and techniques, (2) evaluation and needs assessment, and (3) program/material development.

1. Methods and Techniques

Activities which make the greatest impact on currently employed training and development practitioners are those which relate to the use of methods and techniques for conducting training and development sessions. As Table 8 indicates, the specific techniques which showed an impact score mean of 5 or higher are: discussions; manuals, worksheets, and/or textbooks; audio-visuals; on-the-job training and/or job instruction training; coaching and/or counseling; lecture; and demonstrations. According to Table 1, a mean score of 5 or more indicates that an activity is at least either extremely important and performed yearly, moderately important and performed monthly, slightly important and done weekly, or unimportant and done daily.

These activities of greatest impact relate to the "conduct training" theoretical category which is comprised of four factors: (1) use trainer-led instructional techniques, (2) use learner-active instructional techniques, (3) use job/self instructional techniques, and
(4) conduct training and development activities, and to the "counsel" category which is made up of one factor, counsel employees.

Due to the frequency of occurrence and/or importance of specified instructional techniques which comprise each of the factors, one or more methodology courses are recommended. While techniques which showed major impact must be emphasized in those courses, other methods which were less significant must also be included in order to provide students with a wide repertoire of methodology skills from which to choose.

Since the findings in Table 11 indicate a greater impact of "conduct training and development activities" (factor 2d) and "trainer-led instructional techniques" (factor 2a) on the instructor specialization, those who wish to pursue this course of study should pay particular attention to those techniques while learning other methods as well.

Although the computer-assisted instructional technique ranked sixtieth on the "impact" analysis (Table 8), it placed first as a perceived need (Table 9) and was indicated as an emerging trend by 79.6 percent of the respondents (Table 10). This emerging technique, computer technology as applied to instruction, should be an essential part of any trainer-preparation course of study.

A fundamental skill underlies specialized knowledge
and skills in the delivery of training programs. That skill is facilitation of learning. Although only one report\textsuperscript{104} mentioned it as being important, it is commonly understood that facilitation skills are a desirable characteristic of adult educators.

The major techniques which comprise factor 2a, use trainer-led instructional techniques, were found to carry the most impact. Although this is a currently common practice, it may change since Malcolm Knowles has projected a shift away from the traditional knowledge and skill-transmission model toward a competency-development model.\textsuperscript{105} This projection merits watching since timely modifications must be made as new developments are introduced into the field.

2. Evaluation and Needs Assessment

The area of evaluation ranks second as having an impact on the professional life of training and development practitioners. Evaluation activities with an impact score mean of 4.9 or more include front-end analyses, such as assessments of current and future needs, evaluation of needs, identification and analysis of job requirements, and

\textsuperscript{104} Kathryn A. Ragsdale, "A Study of the Role of Staff Development Trainer in Organizations" (Ph.D. dissertation, North Texas State University, 1978).

analyses of performance problems, which are useful in determining appropriate training and/or development programs. It also includes performance assessments to determine effects of training and the use of feedback information to make proper revisions for more effective programs and materials.

The major activities of the "assess needs" and the "assess performance" factors ranked within the top twenty activities which were perceived as "needed" by training and development practitioners (Table 9). In addition, "more effective evaluation of programs" and "more effective needs assessments" were indicated as emerging trends by 64 and 60 percent of the respondents, respectively (Table 10).

Knowledge and skills in the above-mentioned areas of evaluation are important for job success in the training and development field now and in the near future; their inclusion in a train-the-trainer program is highly recommended. These activities are reflected in job factors 4a and 4c, assess needs and assess performance, respectively. Since a significant impact was found for job factor 4c, assess performance, for the instructor specialty area (Table 11), students who wish to focus on this specialization may elect to pursue learnings in performance assessment in greater depth.

3. Program/Material Development

Knowledge and skills in the development of programs
and materials are also necessary, especially in the areas of determining program content, establishing objectives, applying adult learning principles, determining program structure, applying concepts of human development, and developing training and development manuals and/or worksheets. Impact score means of at least 4.5 were recorded for these activities, which are encompassed under factor 3a, develop programs.

Additionally, a need for more training was indicated by at least 17 percent of the respondents on almost all activities which comprise factor 3b, determine appropriate training approach. The activities in this factor grouping for which at least 20 percent of the respondents indicated a need are: evaluate alternative instructional methods, produce audio-visual materials, experiment with new training and development techniques, and apply adult learning principles. It is recommended that considerable attention be given to factor 3b activities in a program to train trainers since current practitioners perceive a need for more training in these areas.

So far, discussion has focused on the delivery of training, the development of training programs and materials, and the evaluation and front-end assessment of training programs. The literature review shows that these areas were suggested as core courses or areas of importance by the New York Metropolitan Chapter of the American
Society for Training and Development,\textsuperscript{106} by the Northeastern Illinois University Educational Studies Program,\textsuperscript{107} and by Diane Gayeski,\textsuperscript{108} who utilized previously reported research on roles and competencies of trainers to develop a core of content areas.

These areas--assessing needs, developing materials and programs, conducting training, and evaluating programs along with feedback and revision--comprise the major components of the systems approach to instructional development, sometimes referred to as "instructional technology". Both the Harrises\textsuperscript{109} and Langen\textsuperscript{110} consider skills in using this approach an emerging requirement. Due to their strong showing in the results of this study, the previously mentioned components of the systems approach are highly recommended as requirements in a preservice program.

\begin{itemize}
  \item \textsuperscript{109} Philip R. Harris and Dorothy L. Harris, "Twelve Trends You and Your CEO Should Be Monitoring," \textit{Training and Development Journal} 37 (October 1983):63-69.
  \item \textsuperscript{110} Daniel Lee Langen, "The Training Director: Competencies for the Future," (Ph.D. dissertation, Texas A&M University, 1980).
\end{itemize}
It is essential that one or more courses in each of the four component areas be offered and that these courses be carefully coordinated in order to maximize the interrelationship of the areas to each other and to the whole instructional development process. This is based on the concept of synergy which states that the total effect of coordinated and cooperating components is greater than the sum of the components taken independently. This means that the program requirements which are developed to support the components must be in place in time for the first graduating student to have completed them all.

The four components and related topics are presented below. The topics represent activities which showed at least a 4.5 impact score mean (Table 8) or for which at least 20 percent of the respondents indicated a need for more training (Table 9). Indeed, they are essential areas, however, the program must also include other topics which were not gleaned from the results of this study, but are considered basic parts of each component.

**Needs Assessment Component**

Identification of training and development needs

Projection of future needs

Prioritization of needs

Analysis of job requirements

Analysis of performance problems
**Program/Material Development Component**

Development of learning objectives
Determination of program structure
Determination of program content
Application of adult learning principles
Application of human development concepts
Evaluation of alternative instructional methods
Development of manuals and/or worksheets
Production of audio-visual materials
Experimentation with new techniques

**Training Delivery Component**

Discussion
Manuals, worksheets, and/or textbooks
Audio-visuals
On-the-job training and/or job instruction training
Coaching and/or counseling
Demonstrations
Role-playing
Simulation and/or games
Behavior modeling
Computer-assisted instruction
Organizational development intervention techniques
Facilitation of learning
**Evaluation Component**

Assessment of participants' performance
Revision of materials/program
Evaluation of internal instructors

A review of numerous preservice training-related academic programs which are offered across the United States revealed that almost all require an internship as the culminating experience. Because the internship seems to be the key experience in which a synthesis of all acquired competencies is required and because this researcher has heard many positive comments regarding the value of this experience from directors of similar programs at mainland colleges and universities, a recommendation is made to include an internship as a major requirement of the program.

In addition, behavioral science knowledge was indicated by nearly 49 percent of the respondents as an emerging trend and reported by Ragsdale\(^{111}\) as important. Thus, it merits watching for possible inclusion in the program at a later date, but for now, it may be considered a viable cognate area. Other cognate area suggestions include human relations and communications, which

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Ragsdale, Fernandez, Clement, and Olivas claim are vital for current and future training and development practitioners.

It has become apparent that the range of skills needed for on-the-job success requires an interdisciplinary, interdepartmental program. This revelation implies the establishment of a college-sponsored program with a coordinator to be housed in the College Dean's office.

In sum, a preservice trainer education program should include an orientation to education in non-school settings for students in their first year of studies. Following this, learning experiences covering the components of the systems approach to instructional development and courses in an appropriate cognate area should be completed by the next to the last semester. This will provide each student with maximum preparation for a challenging and successful internship during the last semester.

A possible program of studies for training and

\[------------------------------------------\]

\[112\] Ibid.


development undergraduate majors is presented below.

1. General education core: liberal arts courses for pre-education majors
2. Professional education core: social, psychological, and curriculum foundation courses
3. Non-school education orientation and instructional development components:
   a. Orientation to education in non-school settings
   b. Needs assessment component
   c. Program/material development component
   d. Training delivery component
   e. Evaluation component
4. Cognate area: courses in a related field
5. Internship with seminar for interns

The general education core and professional education core were derived from current College of Education requirements. The latter three areas were recommended as a result of the present study.

Activities which relate to evaluation of instructional services (factor 4b), to administration (factors 5a, 5b, 5c), and to professional development (factor 6) are generally more impactful in the job of individuals with post-baccalaureate training (Table 12) and those who have been in the training and development field for at least three years (Table 13). An awareness or overview of the
activities which comprise these factors could be introduced to preservice students but in-depth treatment is best reserved for the inservice/post-baccalaureate level which will be discussed next.

**Discussion and Recommendations for an Inservice/Post-Baccalaureate Trainer Education Program**

As reported in Chapter II, the New York Metropolitan Chapter of the American Society for Training and Development advised that "a training and development program should follow the logic of how trainers' responsibilities grow in the real world in order to be relevant to the audience's needs".\(^{116}\) If this advice is to be heeded, then learning experiences relative to evaluation of instructional services (factor 4b), administration (factors 5a, 5b, 5c), and professional development (factor 6) may be more relevant when introduced in-depth at the inservice/post-baccalaureate level since indications are that activities which are related to these areas carry a greater impact in jobs of practitioners with higher degrees (Table 12) and those who have been in the training and development field longer (Table 13).

Therefore, a post-baccalaureate program with

foundations in administration of training programs in non-school organizations is recommended. Based on the results of the current study, learning experiences in the following areas are highly advised:

- Training and development personnel administration; specifically the hiring, supervising, and evaluating of outside consultants, and internal and external instructors/program resource persons.

- General management; especially in organizing the training and development function and maintaining information and records.

- Financial management; focusing on maintaining financial information, preparing budgets, and negotiating contracts relating to the procurement of resources.

- Comprehensive planning; including long-, intermediate-, and short-range planning; emphasizing the planning and presentation of proposals for training and development programs; and keeping abreast of related legislation, of developments in other organizations, and of innovations in the field as they arise.

For programs at the inservice level, learning experiences which address current needs and emerging trends are essential in order to upgrade the skills and knowledge of those who are in the field. This can be done by establishing a part-time, rotating lectureship position to be filled by outstanding professionals who are in
continuing employment with another organization and who are invited to teach current topics on a temporary, one semester basis.

Continual assessment of needs and trends and the timely dissemination of such information are imperative to the survival of any academic program in training and development. The program coordinator and professors who teach the courses must be in close touch with local practitioners and other sources at the forefront of the profession.

Currently, the greatest need and a very visible trend is the use of computer technology to deliver instructional programs. Implications of this for the trainer are enormous: from training employees to accept this new, and sometimes frightening, technology to developing software for the specific needs of the organization.

**Recommendations for Further Action**

1. This study focused on one type of adult educator, an instructor who is hired by an organization to work primarily with the employees of the same organization. Another type of adult educator is employed by an organization to serve its clients or customers, or the general public. A study of the activities and needs of the latter group is in order if an academic program for preparing adult educators in general is being considered.
2. Continual assessments of needs and emerging trends in the field are highly recommended. Timely additions, deletions, and modifications of program requirements and offerings are essential in order to meet changing needs.

An on-going advisory committee with rotating membership of practitioners who represent the range of training and development specializations and types of organizations can provide fast, timely, and relatively reliable information about changes in the field which may carry implications for program modifications. A corollary of this is that the University's process for effecting program changes must also be fast, efficient, and reliable in order that appropriate modifications can be made when they are still relevant, and with minimal disruption. This requires tremendous program flexibility and administrative flexibility.

3. As the training and development field expands, specializations which were considered "other" in this study may begin to grow to the extent that a study of their unique requirements would be warranted and findings incorporated into one or more specialized program tracks.

The same is true for free-lance practitioners, better known as external consultants. Because the definition of "training and development practitioner", as it was employed in this research, excluded outside consultants, a separate study of their job-related activities and training needs is
recommended at a time when indicators show a growing need for a specialized academic course of study in this area.

4. Due to the differences between classroom teaching and training and development functions, and to the wide range of possible organizations in which a trainer may be employed, academic advising which is specific to training and development should be instituted. Advisors must be able to bring together the needs and goals of individual students with what is happening in the real world in order to suggest a relevant program of study.

5. The level of generality and type of data (activities and needs) obtained and the statistical procedures utilized in this study allow this researcher to recommend: (1) "themes" for a preservice program and for an inservice/post-baccalaureate program, (2) four components within the preservice program "theme", and (3) topics of importance for each of the four instructional development components and for the post-baccalaureate program. Because the development of specifics, such as course outlines and objectives, number of credits, and significance and sequence of courses, cannot be derived from the results of this study alone, a task force (or task forces), comprised of professionals with expertise in one or more of the recommended components or topics, should be formed. This would provide a more reliable basis for decisions regarding the above-mentioned specifics.
Summary

National figures and local position announcements show a growth in the training and development function of public and private organizations. This trend, along with a realization that the roles of those who instruct organization employees and those who teach children and adolescents differ considerably, has created a need for more professionals who are specifically trained for positions in training and development.

In response to this, institutions of higher education throughout the nation have begun to offer programs which are designed to meet the needs of currently employed training and development practitioners and to prepare those who wish to enter the field. Likewise, the College of Education at the University of Hawaii at Manoa is interested in developing an academic program to meet local needs in this emerging field.

The purpose of this study was to determine job-related activities and training needs as perceived by full-time training and development practitioners in order to formulate recommendations for an academic program. This activities analysis approach is based on the technical model of curriculum development.

The survey research involved the use of a questionnaire which sought to identify frequency of
occurrence, importance to the job, and need for new or additional training of sixty-seven work-related activities of training and development practitioners. The questionnaires were personally delivered or mailed to an available population of currently-employed, full-time training and development practitioners on Oahu. Out of a possible 194 responses, 142 were received in usable form, giving a usable return rate of 73.2 percent.

Frequency distributions of population characteristics showed an equal representation of the sexes and a relatively young group of practitioners, where approximately 73 percent were below the age of 45 years. The highest level of education attained ranged from completion of high school to possession of a doctoral degree, with 72 percent having attained at least a bachelor's degree and 29 percent holding a graduate degree. Nearly one-third of the respondents have been in the training and development field fewer than three years and almost half have been with the present organization fewer than six years. Forty-five percent considered themselves to be trainer/instructor/learning specialists while thirty-nine percent described themselves as being generalists.

Based on the assumption that both frequency and importance data are necessary for developing recommendations for an academic program, the scores of both scales were combined by adding the frequency and importance
values for each item per respondent. This contrived value was referred to as "impact score".

A ranking of impact score means showed that activities relating to methods and techniques of delivering instruction, needs assessments, and evaluation of programs were highly impactful in the job of a training and development practitioner. An analysis of perceived needs revealed that trainers would like new or additional training in the use of the computer as an instructional tool, in needs analysis, in the production of training materials, and in adult learning principles. Computer technology, more effective needs assessments, and more effective program evaluations were considered emerging trends by more than half the respondents.

Factor analyses of activities resulted in the identification of fifteen groupings from the original sixty-seven items. The fifteen job factors were identified as:

Counsel employees
Use trainer-led instructional techniques
Use learner-active instructional techniques
Use job/self instruction techniques
Conduct training and development activities
Develop programs
Determine appropriate training approach
Adapt packaged programs
Assess needs
Evaluate instructional services
Assess performance
Manage the training and development function
Manage outside consultants
Manage finances
Keep abreast of new developments

Tests of hypotheses showed significant differences between the trainer/instructor/learning specialist category and the other two specializations on the following job factors: using trainer-led instructional techniques, conducting training and development activities, assessing performance, managing finances, and keeping abreast of new developments. While the first three factors showed a greater impact on the trainer/instructor/learning specialist category, the latter two factors were more impactful for generalists and others.

Five factors—evaluating instructional services, managing the training and development function, managing outside consultants, managing finances, and keeping abreast of new developments—made a significant impact in the job of respondents who have completed graduate degrees. Those with three or more years in the training and development field differed from their less experienced colleagues on four factors: using learner-active instructional techniques, managing outside consultants, managing
finances, and evaluating instructional services. A greater impact of all four factors was recorded for the group with more years of experience.

The findings served as a basis for recommendations for preservice and inservice/post-baccalaureate academic programs. At the preservice level, the process of instructional development, based on the systems approach, was recommended. This process includes skills in needs assessment, program/material development, training methods and delivery, program/material evaluation, feedback utilization, and program/material revision. Knowledge of adult learning principles and facilitation skills also were suggested as important. In addition, an orientation to education in non-school settings, an internship, and cognate areas were recommended.

An inservice/post-baccalaureate program with an emphasis on administration and professional development was recommended since those factors made a significant impact in the job of more experienced and/or higher educated trainers. A focus on administration of education in non-school settings with emphasis in training and development personnel administration, general management, financial management, and comprehensive planning, along with continuous updating on new developments in the training and development field were recommended.
APPENDIX A

COVER LETTER
January 28, 1983

Mr. John Doe
Director of Training
XYZ Corporation
9999 King Street
Honolulu, Hawaii 96800

Dear Mr. Doe:

As a doctoral student in education, I have become very much aware of the growth and potential of the training and development profession both nationally and locally. Over the past two years, I have met personally and corresponded with a number of college and university leaders from across the mainland who have begun to offer degree programs and coursework specifically to train trainers. They tell me that other institutions of higher education are planning to establish similar programs.

The College of Education at the University of Hawaii is currently exploring the possibility of offering a program to meet the needs of Hawaii's trainers. So far, its contacts with local training and development professionals have been encouraging. In order to proceed on firm ground, however, the College needs a detailed picture of trainers' activities and needs. As a professional in the field, your input is extremely valuable. Your response to the enclosed questionnaire will be appreciated very much. The ten to twenty minutes necessary to complete the survey are very important, for your contribution will help determine what services eventually will be provided to you and your colleagues.

The questionnaire is marked on the cover at the upper right corner. The sole purpose for this identifying number is to follow up on nonrespondents. Please be assured of complete confidentiality; neither your name nor the name of your organization will be placed on the questionnaire, nor will it be used in the report.

I will be most happy to answer any questions you might have. Please feel free to call me at 999-9999. Thank you for your consideration and professional assistance. I look forward to hearing from you by February 14, 1983.

Sincerely,

Pamela Kimura
Doctoral Candidate

Encl: questionnaire
return envelope

AN EQUAL OPPORTUNITY EMPLOYER
WHAT DO YOU DO AS A TRAINING AND DEVELOPMENT PROFESSIONAL?

A survey to determine activities and needs of training and development professionals to better serve this growing profession in Hawaii

Please answer all the questions. If you wish to comment on any question or qualify your answers, please use a separate sheet of paper.

Return this questionnaire to:
Pamala Kimura
College of Education
University of Hawaii
1776 University Avenue
Honolulu, Hawaii 96822
What part does each of the following activities play in your job as a training and/or development (hereafter referred to as T/D) professional? After each activity item are three columns: FREQUENCY, IMPORTANCE, and NEED.

FREQUENCY indicates how often the activity occurs.
DA means daily; doing it every day
WK means weekly; doing it from once to several times per week
MO means monthly; doing it from once to several times per month
YR means yearly; doing it several times per year or less
NA means not applicable; it is not done at all

IMPORTANCE indicates how necessary the activity is to your work.
EI means extremely important
MI means moderately important
SI means slightly important
UN means unimportant

NEED indicates whether you need new or additional training in the activity.

<table>
<thead>
<tr>
<th>Activity Items</th>
<th>FREQUENCY</th>
<th>IMPORTANCE</th>
<th>NEED</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Use the following methods or techniques:</td>
<td>Circle ONE answer per statement</td>
<td>Circle ONE answer per statement</td>
<td>Circle X only if you need training</td>
</tr>
<tr>
<td>a. lecture with or without media</td>
<td>DA WK MO YR NA</td>
<td>EI MI SI UN</td>
<td>X</td>
</tr>
<tr>
<td>b. audio-visuals (e.g., film, audio tape, videotape, charts, overhead projectuals, etc.)</td>
<td>DA WK MO YR NA</td>
<td>EI MI SI UN</td>
<td>X</td>
</tr>
<tr>
<td>c. manuals, worksheets, and/or textbooks</td>
<td>DA WK MO YR NA</td>
<td>EI MI SI UN</td>
<td>X</td>
</tr>
<tr>
<td>d. discussions</td>
<td>DA WK MO YR NA</td>
<td>EI MI SI UN</td>
<td>X</td>
</tr>
<tr>
<td>e. role-playing.</td>
<td>DA WK MO YR NA</td>
<td>EI MI SI UN</td>
<td>X</td>
</tr>
<tr>
<td>f. case studies.</td>
<td>DA WK MO YR NA</td>
<td>EI MI SI UN</td>
<td>X</td>
</tr>
<tr>
<td>g. behavior modeling</td>
<td>DA WK MO YR NA</td>
<td>EI MI SI UN</td>
<td>X</td>
</tr>
<tr>
<td>h. simulation and/or games</td>
<td>DA WK MO YR NA</td>
<td>EI MI SI UN</td>
<td>X</td>
</tr>
<tr>
<td>i. demonstrations</td>
<td>DA WK MO YR NA</td>
<td>EI MI SI UN</td>
<td>X</td>
</tr>
<tr>
<td>j. laboratory education and/or sensitivity training</td>
<td>DA WK MO YR NA</td>
<td>EI MI SI UN</td>
<td>X</td>
</tr>
<tr>
<td></td>
<td>FREQUENCY</td>
<td>IMPORTANCE</td>
<td>NEED</td>
</tr>
<tr>
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<tr>
<td>k. programmed texts and/or self instruction.</td>
<td>DA WK NO YR NA</td>
<td>EI HI SI UN</td>
<td>X</td>
</tr>
<tr>
<td>1. coaching and/or counseling.</td>
<td>DA WK NO YR NA</td>
<td>EI HI SI UN</td>
<td>X</td>
</tr>
<tr>
<td>m. on-the-job training and/or job instruction training</td>
<td>DA WK NO YR NA</td>
<td>EI HI SI UN</td>
<td>X</td>
</tr>
<tr>
<td>n. job rotation.</td>
<td>DA WK NO YR NA</td>
<td>EI HI SI UN</td>
<td>X</td>
</tr>
<tr>
<td>o. computer assisted instruction</td>
<td>DA WK NO YR NA</td>
<td>EI HI SI UN</td>
<td>X</td>
</tr>
<tr>
<td>p. other--specify</td>
<td>DA WK NO YR NA</td>
<td>EI HI SI UN</td>
<td>X</td>
</tr>
<tr>
<td>2. Experiment with new T/D techniques (innovate or pilot test)</td>
<td>DA WK NO YR NA</td>
<td>EI HI SI UN</td>
<td>X</td>
</tr>
<tr>
<td>3. Evaluate alternative instructional methods</td>
<td>DA WK NO YR NA</td>
<td>EI HI SI UN</td>
<td>X</td>
</tr>
<tr>
<td>4. Develop T/D manuals and/or worksheets.</td>
<td>DA WK NO YR NA</td>
<td>EI HI SI UN</td>
<td>X</td>
</tr>
<tr>
<td>5. Produce audio-visual materials</td>
<td>DA WK NO YR NA</td>
<td>EI HI SI UN</td>
<td>X</td>
</tr>
<tr>
<td>6. Develop other training materials besides audio-visuals and manuals</td>
<td>DA WK NO YR NA</td>
<td>EI HI SI UN</td>
<td>X</td>
</tr>
<tr>
<td>7. Evaluate packaged programs as to their applicability</td>
<td>DA WK NO YR NA</td>
<td>EI HI SI UN</td>
<td>X</td>
</tr>
<tr>
<td>8. Adapt packaged programs to fit specific training needs</td>
<td>DA WK NO YR NA</td>
<td>EI HI SI UN</td>
<td>X</td>
</tr>
<tr>
<td>9. Contract with outside vendors (purchase materials, etc.)</td>
<td>DA WK NO YR NA</td>
<td>EI HI SI UN</td>
<td>X</td>
</tr>
<tr>
<td>10. Identify T/D needs</td>
<td>DA WK NO YR NA</td>
<td>EI HI SI UN</td>
<td>X</td>
</tr>
<tr>
<td>11. Analyze performance problems to determine any application to T/D solutions</td>
<td>DA WK NO YR NA</td>
<td>EI HI SI UN</td>
<td>X</td>
</tr>
<tr>
<td>12. Analyze job requirements (job descriptions, task analysis, observations, etc.)</td>
<td>DA WK NO YR NA</td>
<td>EI HI SI UN</td>
<td>X</td>
</tr>
<tr>
<td>13. Evaluate T/D needs as to set program priorities</td>
<td>DA WK NO YR NA</td>
<td>EI HI SI UN</td>
<td>X</td>
</tr>
<tr>
<td>14. Project future T/D needs</td>
<td>DA WK NO YR NA</td>
<td>EI HI SI UN</td>
<td>X</td>
</tr>
<tr>
<td>15. Establish behavioral or learning objectives for programs</td>
<td>DA WK NO YR NA</td>
<td>EI HI SI UN</td>
<td>X</td>
</tr>
<tr>
<td>16. Determine program structure (length, number of participants, seating configurations, etc.)</td>
<td>DA WK NO YR NA</td>
<td>EI HI SI UN</td>
<td>X</td>
</tr>
<tr>
<td></td>
<td>FREQUENCY</td>
<td>IMPORTANCE</td>
<td>NEED</td>
</tr>
<tr>
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</tr>
<tr>
<td>17. Determine program content (topics)</td>
<td>DA WK MO YR NA</td>
<td>HI MI SI UN</td>
<td>X</td>
</tr>
<tr>
<td>18. Apply concepts of human development in designing programs and/or materials</td>
<td>DA WK MO YR NA</td>
<td>HI MI SI UN</td>
<td>X</td>
</tr>
<tr>
<td>19. Apply adult learning theory/instructional principles in developing program content and/or materials</td>
<td>DA WK MO YR NA</td>
<td>HI MI SI UN</td>
<td>X</td>
</tr>
<tr>
<td>20. Identify and/or evaluate external T/D programs</td>
<td>DA WK MO YR NA</td>
<td>HI MI SI UN</td>
<td>X</td>
</tr>
<tr>
<td>21. Maintain records of participation in T/D programs</td>
<td>DA WK MO YR NA</td>
<td>HI MI SI UN</td>
<td>X</td>
</tr>
<tr>
<td>22. Conduct T/D activities</td>
<td>DA WK MO YR NA</td>
<td>HI MI SI UN</td>
<td>X</td>
</tr>
<tr>
<td>23. Obtain/hire internal instructors/program resource persons</td>
<td>DA WK MO YR NA</td>
<td>HI MI SI UN</td>
<td>X</td>
</tr>
<tr>
<td>24. Evaluate internal instructors/program resource persons</td>
<td>DA WK MO YR NA</td>
<td>HI MI SI UN</td>
<td>X</td>
</tr>
<tr>
<td>25. Obtain/hire external instructors/program resource persons</td>
<td>DA WK MO YR NA</td>
<td>HI MI SI UN</td>
<td>X</td>
</tr>
<tr>
<td>26. Evaluate external instructors/program resource persons</td>
<td>DA WK MO YR NA</td>
<td>HI MI SI UN</td>
<td>X</td>
</tr>
<tr>
<td>27. Assess participants' performance before and after training to measure training effects</td>
<td>DA WK MO YR NA</td>
<td>HI MI SI UN</td>
<td>X</td>
</tr>
<tr>
<td>28. Revise materials/programs based on evaluation feedback</td>
<td>DA WK MO YR NA</td>
<td>HI MI SI UN</td>
<td>X</td>
</tr>
<tr>
<td>29. Train others (managers, supervisors, program leaders, trainers, etc.) how to train</td>
<td>DA WK MO YR NA</td>
<td>HI MI SI UN</td>
<td>X</td>
</tr>
<tr>
<td>30. Evaluate proposals from outside consultants</td>
<td>DA WK MO YR NA</td>
<td>HI MI SI UN</td>
<td>X</td>
</tr>
<tr>
<td>31. Obtain (contract with) outside consultants</td>
<td>DA WK MO YR NA</td>
<td>HI MI SI UN</td>
<td>X</td>
</tr>
<tr>
<td>32. Evaluate outside consultants' performance</td>
<td>DA WK MO YR NA</td>
<td>HI MI SI UN</td>
<td>X</td>
</tr>
<tr>
<td>33. Establish and/or maintain a library of T/D resources</td>
<td>DA WK MO YR NA</td>
<td>HI MI SI UN</td>
<td>X</td>
</tr>
<tr>
<td>34. Identify skills and/or knowledge requirements of jobs</td>
<td>DA WK MO YR NA</td>
<td>HI MI SI UN</td>
<td>X</td>
</tr>
<tr>
<td>35. Organize and/or staff the T/D function or department</td>
<td>DA WK MO YR NA</td>
<td>HI MI SI UN</td>
<td>X</td>
</tr>
<tr>
<td>36. Make formal management presentation/plans for T/D programs and/or projects</td>
<td>DA WK MO YR NA</td>
<td>HI MI SI UN</td>
<td>X</td>
</tr>
<tr>
<td></td>
<td>FREQUENCY</td>
<td>IMPORTANCE</td>
<td>NEED</td>
</tr>
<tr>
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</tr>
<tr>
<td>37. Prepare budgets for T/D programs and/or projects</td>
<td>DA WK MO YR NA</td>
<td>HI MI SI UN</td>
<td>X</td>
</tr>
<tr>
<td>38. Maintain information on T/D costs and/or benefits.</td>
<td>DA WK MO YR NA</td>
<td>HI MI SI UN</td>
<td>X</td>
</tr>
<tr>
<td>39. Use organizational development intervention techniques (e.g., team building, inter-group meetings, etc.)</td>
<td>DA WK MO YR NA</td>
<td>HI MI SI UN</td>
<td>X</td>
</tr>
<tr>
<td>40. Counsel individuals on career development.</td>
<td>DA WK MO YR NA</td>
<td>HI MI SI UN</td>
<td>X</td>
</tr>
<tr>
<td>41. Assist managers in implementing on-the-job training.</td>
<td>DA WK MO YR NA</td>
<td>HI MI SI UN</td>
<td>X</td>
</tr>
<tr>
<td>42. Interpret data and/or statistics on T/D.</td>
<td>DA WK MO YR NA</td>
<td>HI MI SI UN</td>
<td>X</td>
</tr>
<tr>
<td>43. Present data and/or statistics (e.g., tables, charts, etc.).</td>
<td>DA WK MO YR NA</td>
<td>HI MI SI UN</td>
<td>X</td>
</tr>
<tr>
<td>44. Counsel with employees on T/D matters.</td>
<td>DA WK MO YR NA</td>
<td>HI MI SI UN</td>
<td>X</td>
</tr>
<tr>
<td>45. Supervise the work of other training personnel.</td>
<td>DA WK MO YR NA</td>
<td>HI MI SI UN</td>
<td>X</td>
</tr>
<tr>
<td>46. Keep abreast of T/D activities in other organizations (e.g., competitors, other local firms, etc.)</td>
<td>DA WK MO YR NA</td>
<td>HI MI SI UN</td>
<td>X</td>
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<td>47. Keep abreast of legislation related to T/D practices (e.g., EEO, Affirmative Action, OSHA, etc.)</td>
<td>DA WK MO YR NA</td>
<td>HI MI SI UN</td>
<td>X</td>
</tr>
<tr>
<td>48. Administer tuition reimbursement program.</td>
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<td>HI MI SI UN</td>
<td>X</td>
</tr>
<tr>
<td>49. Attend meetings, seminars, conferences and/or workshops on T/D.</td>
<td>DA WK MO YR NA</td>
<td>HI MI SI UN</td>
<td>X</td>
</tr>
<tr>
<td>50. Arrange for participation in external T/D programs.</td>
<td>DA WK MO YR NA</td>
<td>HI MI SI UN</td>
<td>X</td>
</tr>
<tr>
<td>51. Write reports relating to T/D.</td>
<td>DA WK MO YR NA</td>
<td>HI MI SI UN</td>
<td>X</td>
</tr>
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<td>52. Write proposals for programs or projects.</td>
<td>DA WK MO YR NA</td>
<td>HI MI SI UN</td>
<td>X</td>
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<td>53. Write articles for periodicals and/or internal publications.</td>
<td>DA WK MO YR NA</td>
<td>HI MI SI UN</td>
<td>X</td>
</tr>
<tr>
<td>54. Other--specify_______________________________</td>
<td>DA WK MO YR NA</td>
<td>HI MI SI UN</td>
<td>X</td>
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<tr>
<td></td>
<td>DA WK MO YR NA</td>
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<td>X</td>
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<td>DA WK MO YR NA</td>
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<td>X</td>
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<tr>
<td></td>
<td>DA WK MO YR NA</td>
<td>HI MI SI UN</td>
<td>X</td>
</tr>
</tbody>
</table>
55. Which of the following best describes your T/D specialization? (Circle ONE choice.)

1 GENERALIST
2 TRAINER/INSTRUCTOR/LEARNING SPECIALIST
3 CAREER DEVELOPMENT COUNSELOR
4 ORGANIZATION DEVELOPMENT
5 MEDIA SPECIALIST
6 OTHER—SPECIFY

56. What is the highest level of education that you have completed? (Circle ONE choice.)

1 SOME HIGH SCHOOL
2 COMPLETED HIGH SCHOOL
3 SOME COLLEGE
4 COMPLETED COLLEGE—SPECIFY DEGREE AND MAJOR
5 SOME GRADUATE WORK—SPECIFY MAJOR
6 COMPLETED GRADUATE WORK—SPECIFY DEGREE AND MAJOR

57. What is your age? (Circle ONE choice.)

1 UNDER 25 YEARS
2 25-34 YEARS
3 35-44 YEARS
4 45-54 YEARS
5 55-64 YEARS
6 65 YEARS OR OVER

58. What is your sex?

1 FEMALE
2 MALE

59. How many years have you been a T/D professional? _______YEARS

60. How many years have you been in your present organization? _______YEARS

61. Which of the following do you feel are emerging as important for T/D professionals? (Circle all that apply and/or write in other new knowledge, skills, attitudes.)

1 COMPUTER TECHNOLOGY
2 TELECONFERENCE, TELECOMMUNICATION
3 MORE BEHAVIORAL SCIENCE KNOWLEDGE
4 MORE EFFECTIVE NEEDS ASSESSMENTS
5 MORE KNOWLEDGE OF GOVERNMENTAL REGULATIONS
6 MORE EFFECTIVE EVALUATION OF PROGRAMS
7 GROWING PROFESSIONALISM
8 VIDEODISC TECHNOLOGY
9 OTHER—SPECIFY

If there is anything else you would like to write about what you do, please use a separate sheet for that purpose. Your contribution to this survey is sincerely appreciated.

THANK YOU
APPENDIX C

JOB FACTORS AND RESPECTIVE ACTIVITY ITEMS
Factor 1: Counsel employees

<table>
<thead>
<tr>
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<th>Activity Item</th>
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<tbody>
<tr>
<td>.76</td>
<td>40 Counsel individuals on career development</td>
</tr>
<tr>
<td>.71</td>
<td>44 Counsel with employees on T/D matters</td>
</tr>
<tr>
<td>.68</td>
<td>41 Assist managers in implementing on-the-job training</td>
</tr>
<tr>
<td>.64</td>
<td>11 Technique: coaching and/or counseling</td>
</tr>
<tr>
<td>.63</td>
<td>29 Train others (managers, program leaders, trainers, etc.) how to train</td>
</tr>
</tbody>
</table>

Factor 2a. Use trainer-led instructional techniques

<table>
<thead>
<tr>
<th>Loading</th>
<th>Activity Item</th>
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</thead>
<tbody>
<tr>
<td>.85</td>
<td>1c Technique: manuals, worksheets, and/or textbooks</td>
</tr>
<tr>
<td>.77</td>
<td>1d Technique: discussions</td>
</tr>
<tr>
<td>.73</td>
<td>1b Technique: audio-visuals (e.g., film, audio tape, videocassette, overhead projectuals, charts, etc.) Us/ Us</td>
</tr>
<tr>
<td>.62</td>
<td>1a Technique: lecture with or without media</td>
</tr>
<tr>
<td>.56</td>
<td>1i Technique: demonstrations</td>
</tr>
<tr>
<td>.53</td>
<td>1h Technique: simulation and/or games</td>
</tr>
<tr>
<td>.47</td>
<td>1e Technique: role-playing</td>
</tr>
<tr>
<td>.34</td>
<td>1g Technique: behavior modeling</td>
</tr>
</tbody>
</table>
**Factor 2b: Use learner-active instructional techniques**

<table>
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<tr>
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<th>Activity Item</th>
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</thead>
<tbody>
<tr>
<td>.73</td>
<td>1g Technique: behavior modeling</td>
</tr>
<tr>
<td>.68</td>
<td>1f Technique: case studies</td>
</tr>
<tr>
<td>.63</td>
<td>1e Technique: role-playing</td>
</tr>
<tr>
<td>.60</td>
<td>39 Use organizational development intervention techniques (e.g., team building, intergroup meetings, etc.)</td>
</tr>
<tr>
<td>.50</td>
<td>1h Technique: simulation and/or games</td>
</tr>
<tr>
<td>.47</td>
<td>1j Technique: laboratory education and/or sensitivity training</td>
</tr>
</tbody>
</table>

**Factor 2c: Use job/self instructional techniques**

<table>
<thead>
<tr>
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<tbody>
<tr>
<td>.72</td>
<td>1n Technique: job rotation</td>
</tr>
<tr>
<td>.67</td>
<td>1m Technique: on-the-job training and/or job instruction training</td>
</tr>
<tr>
<td>.62</td>
<td>1o Technique: computer assisted instruction</td>
</tr>
<tr>
<td>.52</td>
<td>1k Technique: programmed texts and/or self instruction</td>
</tr>
</tbody>
</table>
Factor 2d: Conduct training and development activities

<table>
<thead>
<tr>
<th>Loading</th>
<th>Activity Item</th>
</tr>
</thead>
<tbody>
<tr>
<td>.75</td>
<td>22 Conduct T/D activities</td>
</tr>
<tr>
<td>.40</td>
<td>1j Technique: laboratory education and/or sensitivity training</td>
</tr>
<tr>
<td>.38</td>
<td>1k Technique: programmed texts and/or self instruction</td>
</tr>
<tr>
<td>-.36</td>
<td>1o Technique: computer assisted instruction</td>
</tr>
</tbody>
</table>

Factor 3a: Develop programs

<table>
<thead>
<tr>
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<th>Activity Item</th>
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</thead>
<tbody>
<tr>
<td>.78</td>
<td>17 Determine program content</td>
</tr>
<tr>
<td>.77</td>
<td>16 Determine program structure (length, number of participants, seating configurations, etc.)</td>
</tr>
<tr>
<td>.67</td>
<td>19 Apply adult learning theory/instructional principles in developing program content and/or materials</td>
</tr>
<tr>
<td>.66</td>
<td>15 Establish behavioral or learning objectives for programs</td>
</tr>
<tr>
<td>.62</td>
<td>18 Apply concepts of human development in designing programs and/or materials</td>
</tr>
<tr>
<td>.39</td>
<td>4 Develop T/D manuals and/or worksheets</td>
</tr>
</tbody>
</table>
### Factor 3b: Determine appropriate training approach

<table>
<thead>
<tr>
<th>Loading</th>
<th>Activity Item</th>
</tr>
</thead>
<tbody>
<tr>
<td>.82</td>
<td>2 Experiment with new T/D techniques (innovate or pilot test)</td>
</tr>
<tr>
<td>.70</td>
<td>3 Evaluate alternative instructional methods</td>
</tr>
<tr>
<td>.49</td>
<td>5 Produce audio-visual materials</td>
</tr>
<tr>
<td>.48</td>
<td>6 Develop training materials besides audio-visuals and manuals</td>
</tr>
<tr>
<td>.46</td>
<td>19 Apply adult learning theory/instructional principles in developing program content and/or materials</td>
</tr>
<tr>
<td>.45</td>
<td>4 Develop T/D manuals and/or worksheets</td>
</tr>
<tr>
<td>.44</td>
<td>18 Apply concepts of human development in designing programs and/or materials</td>
</tr>
<tr>
<td>.35</td>
<td>15 Establish behavioral or learning objectives for programs</td>
</tr>
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</table>

### Factor 3c: Adapt packaged programs

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<tr>
<th>Loading</th>
<th>Activity Item</th>
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</thead>
<tbody>
<tr>
<td>.84</td>
<td>8 Adapt packaged programs to fit specific training needs</td>
</tr>
<tr>
<td>.83</td>
<td>7 Evaluate packaged programs as to their applicability</td>
</tr>
<tr>
<td>.32</td>
<td>6 Develop other training materials besides audio-visuals and manuals</td>
</tr>
</tbody>
</table>
### Factor 4a: Assess needs

<table>
<thead>
<tr>
<th>Loading</th>
<th>Activity Item</th>
</tr>
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<tbody>
<tr>
<td>.81</td>
<td>14 Project future T/D needs</td>
</tr>
<tr>
<td>.81</td>
<td>13 Evaluate T/D needs to set program priorities</td>
</tr>
<tr>
<td>.77</td>
<td>12 Analyze job requirements (job descriptions, task analysis, observations, etc.)</td>
</tr>
<tr>
<td>.74</td>
<td>11 Analyze performance problems to determine any application to T/D solutions</td>
</tr>
<tr>
<td>.68</td>
<td>10 Identify T/D needs</td>
</tr>
<tr>
<td>.43</td>
<td>42 Interpret data and/or statistics on T/D</td>
</tr>
<tr>
<td>.39</td>
<td>34 Identify skills and/or knowledge requirements of jobs</td>
</tr>
<tr>
<td>.34</td>
<td>20 Identify and/or evaluate external T/D programs</td>
</tr>
<tr>
<td>.33</td>
<td>24 Evaluate internal instructors/program resource persons</td>
</tr>
</tbody>
</table>

### Factor 4b: Evaluate instructional services

<table>
<thead>
<tr>
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<th>Activity Item</th>
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</thead>
<tbody>
<tr>
<td>.91</td>
<td>26 Evaluate external instructors/program resource persons</td>
</tr>
<tr>
<td>.89</td>
<td>25 Obtain/hire external instructors/program resource persons</td>
</tr>
<tr>
<td>.66</td>
<td>24 Evaluate internal instructors/program resource persons</td>
</tr>
<tr>
<td>.44</td>
<td>42 Interpret data and/or statistics on T/D</td>
</tr>
<tr>
<td>.42</td>
<td>20 Identify and/or evaluate external T/D programs</td>
</tr>
</tbody>
</table>
Factor 4c: Assess performance

<table>
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<tr>
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<th>Activity Item</th>
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<tbody>
<tr>
<td>.88</td>
<td>27 Assess participants' performance before and after training to measure training effects</td>
</tr>
<tr>
<td>.87</td>
<td>28 Revise materials/programs based on evaluation feedback</td>
</tr>
<tr>
<td>.45</td>
<td>34 Identify skills and/or knowledge requirements of jobs</td>
</tr>
<tr>
<td>.30</td>
<td>11 Analyze performance problems to determine any application to T/D solutions</td>
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</tbody>
</table>

Factor 5a: Manage the training and development function

<table>
<thead>
<tr>
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</thead>
<tbody>
<tr>
<td>.83</td>
<td>35 Organize and/or staff the T/D function or department</td>
</tr>
<tr>
<td>.77</td>
<td>36 Make formal management presentations/plans for T/D programs and/or projects</td>
</tr>
<tr>
<td>.62</td>
<td>45 Supervise the work of other training personnel</td>
</tr>
<tr>
<td>.59</td>
<td>23 Obtain/hire internal instructors/program resource persons</td>
</tr>
<tr>
<td>.59</td>
<td>21 Maintain records of participation in T/D programs</td>
</tr>
<tr>
<td>.55</td>
<td>33 Establish and/or maintain a library of T/D resources</td>
</tr>
<tr>
<td>.53</td>
<td>37 Prepare budgets for T/D programs and/or projects</td>
</tr>
<tr>
<td>.52</td>
<td>43 Present data and/or statistics (e.g., tables, charts, etc.)</td>
</tr>
<tr>
<td>.49</td>
<td>38 Maintain information on T/D costs and/or benefits</td>
</tr>
</tbody>
</table>
### Factor 5b: Manage outside consultants

<table>
<thead>
<tr>
<th>Loading</th>
<th>Activity Item</th>
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</thead>
<tbody>
<tr>
<td>.89</td>
<td>31 Obtain (contract with) outside consultants</td>
</tr>
<tr>
<td>.86</td>
<td>23 Evaluate outside consultants' performance</td>
</tr>
<tr>
<td>.79</td>
<td>30 Evaluate proposals from outside consultants</td>
</tr>
<tr>
<td>.42</td>
<td>23 Obtain/hire internal instructors/program resource persons</td>
</tr>
</tbody>
</table>

### Factor 5c: Manage finances

<table>
<thead>
<tr>
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</thead>
<tbody>
<tr>
<td>.69</td>
<td>38 Maintain information on T/D costs and/or benefits</td>
</tr>
<tr>
<td>.68</td>
<td>9 Contract with outside vendors (purchase materials, etc.)</td>
</tr>
<tr>
<td>.60</td>
<td>37 Prepare budgets for T/D programs and/or projects</td>
</tr>
<tr>
<td>.60</td>
<td>48 Administer tuition reimbursement program</td>
</tr>
<tr>
<td>.40</td>
<td>33 Establish and/or maintain a library of T/D resources</td>
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<tr>
<td>Loading</td>
<td>Activity Item</td>
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<td>.73</td>
<td>Keep abreast of T/D activities in other organizations (e.g., competitors, other local firms, etc.)</td>
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<td>Write proposals for programs or projects</td>
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<td>Arrange for participation in external T/D programs</td>
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</tr>
<tr>
<td>.45</td>
<td>Write articles for periodicals and/or internal publications</td>
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BIBLIOGRAPHY


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