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ABSTRACT

The main purpose of this study was to determine the need for pedagogical training as perceived by practicing instructors and academic administrators in two postsecondary technical and vocational institutes. To collect the needed data an instrument was developed to elicit opinions on (1) the importance and need of certain skills and knowledges to an instructor, (2) the helpfulness of suggested inservice and supervisory activities in the improvement of instruction, and (3) the best methods for developing practical teaching skills in the beginning instructor. Statistical analysis revealed that: (1) Competencies important to an instructor include communication skills, school management, and the development and maintenance of discipline, (2) Inservice and supervisory activities helpful in improving teaching include demonstrations of teaching methods, practice teaching with video-tapes, and observation of fellow instructors, (3) The most effective methods for developing practical teaching skills in a new instructor are a period of internship, student teaching, or practice teaching sessions, and (4) The perceived need for pedagogical training is influenced by such factors as work area, staff position, and technical qualifications. This M.A. thesis was presented to the University of Alberta. (Author/JS)

THE UNIVERSITY OF ALBERTA

A STUDY OF THE NEED FOR PEDAGOGICAL TRAINING AS PERCEIVED BY THE STAFF OF THE ALBERTA INSTITUTES OF TECHNOLOGY

BY

RICHARD EVERATT WROOT

A THESIS

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FACULTY OF GRADUATE STUDIES

The undersigned certify that they have read, and recommend to the Faculty of Graduate Studies for acceptance, a thesis entitled "A Study of the Need for Pedagogical Training as Perceived by the Staff of the Alberta Institutes of Technology" submitted by Richard Everatt Wroot in partial fulfilment of the requirements for the degree of Master of Education.

Supervisor

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ABSTRACT

The study was designed to determine the need for pedagogical training as perceived by practicing instructors and academic administrators in post-secondary technical and vocational education. The research was carried out in the two Alberta institutes of technology.

An instrument was developed to elicit opinions on: the importance and need of certain skills and knowledges to an instructor, the helpfulness of suggested inservice and supervisory activities in the improvement of instruction, and the best methods for developing practical teaching skills in the beginning instructor.

Statistical procedures used to analyze the data included frequency counts and percentages of responses by total and by seven personal and situational data variables. Chi-square was calculated on contingency tables comparing frequencies of group choices for each Likert-type item and was used as a means of directing attention to possible differences.

The results of the study revealed:

1. Competencies which were seen to be important and of value to an instructor were, communication skills, classroom, lab, and shop organization and management, testing and evaluation techniques, and the development and maintenance of discipline in class.

2. Inservice and supervisory activities and techniques seen to be most helpful in improving teaching effectiveness were; the provision of sources of expert guidance and advice on teaching problems, demonstrations of teaching methods and techniques, practice teaching with video-tapes, and observation of fellow instructors teaching. A recognized "good" instructor, the director of instruction, and the section head were considered to be best able to provide certain supervisory services.

3. The most effective methods for developing practical teaching skills in a new instructor were seen to be: a period of internship, a period of student teaching, or practice teaching sessions.

4. The perceived need for pedagogical training was found to be influenced by such factors as: work area, staff position, teacher training possessed, technical qualifications, and the institution.

Implications for the development of instructor training programs were made.

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Finally, the author wishes to acknowledge the assistance of his wife Brenda without whose understanding and consideration the study would never have been completed.

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INTRODUCTION

With recent and rapidly increasing demand by industry for highly skilled technicians, business and tradesmen, many schools and institutions have been established to meet this need. Glendenning (1967:29) pointed out that in the six years since 1961, 596 vocational high schools, 39 institutes of technology and 163 trade and occupational centers had been constructed in Canada and that many more were in the planning and building stages.

During the period 1961 to 1968 enrollment in the Alberta institutes of technology rose from 5,393 to 14,459 day-time students, an increase of 170 percent. In comparison, the increase of students in the provincial school systems during the same period was 33 percent. This large number of students attending the two institutes received training in some 85 different occupations. In 1968, there were 10,672 adults taking evening and part-time courses for training, retraining, upgrading, and improvement in the two institutes alone (Department of Education, 1962, 101-108: Department of Education, 1969: 97-117). At the present time plans are being prepared to expand the facilities further to

accommodate more students (Government of Alberta, 1970: 13-14).

Such rapid development has imposed, and is continuing to impose, tremendous demands on these institutions to provide well trained and qualified staff to teach in many areas. Not only must each staff member have the technical knowledge and practical experience in his particular field but also the ability to teach, to develop curricula -- perhaps in subjects never taught before, to update established ones, and to set up evaluation schemes for students.

While there may be people who are well qualified in their particular specialty and who are interested in teaching, the question arises, how well qualified are these people in the field of teaching? Public schools in Alberta offering vocational subjects at the secondary level require their teachers to hold provincial teaching certificates. However, many institutions providing post-secondary academic, technical, business, and trade training do not require such qualifications of their staff.

Is deep knowledge of a subject field all that is required to be able to teach at the post-secondary level? If some teaching skills are required, can they be identified? If so, how can they best be developed in the instructor? Is the teacher training given to public school teachers relevant to instructors who are dealing mainly with

adults and teaching at different levels?

STATEMENT OF THE PROBLEM

The purpose of this study was to determine the needs in pedagogical training as perceived by the practicing instructors and their administrators in the institutes of technology in Alberta.* More specifically, this study attempted to obtain answers to the following questions:

(1) What knowledges and skills required of a teacher are seen by the staff to be most important and need to be developed in the preparation of instructors?

(2) What types of inservice and supervisory practices or procedures are seen to be most helpful in improving teaching effectiveness?

(3) How are the practical skills of teaching seen to be most effectively developed in the beginning instructor?

(4) What is the relationship of position, occupational experience, general education, or other background of the instructor, to the perceived need for professional preparation?

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*Those institutions were the Southern Alberta Institute of Technology, Calgary and the Northern Alberta Institute of Technology, Edmonton.

SIGNIFICANCE OF THE STUDY

As industrial society becomes more technical so the process of training men and women to work in it becomes more complex. This complexity in turn, requires larger commitments in terms of facilities, equipment, personnel, and time. Thus it is of utmost importance that the instruction be both effective and efficient in order to provide maximum benefit to the student, the taxpayer and to industry.

It was hoped that the study could: (1) indicate specific skills and knowledges which should be possessed by an instructor; (2) provide guidance for the development of more appropriate training programs; (3) identify areas of teacher training which require particular emphasis as well as those which may be little value; (4) point up supervisory practices and techniques which may be more effective in improving instruction, (5) indicate how practical teaching skills may best be developed, and (6) determine if position, experience, field and other background of the instructor influences the perceived need for pedagogical training.

The results of this study could be of value to the Department of Education in the development of a provincial technical instructor training program. The Alberta Colleges Commission may find that the results of this project are

pertinent to the professional development of Community and Junior College staff. The information generated will be directly useful to the Alberta institutes of technology in facilitating the search for useful areas of endeavour for pre-service, inservice, and professional development of their instructional staff.

DELIMITATIONS

This descriptive study of the perceived need for teacher training for instructors in post-secondary education was limited to a survey of the full-time instructional staff, and the academic administrative staff of the two Alberta Institutes of Technology. The instructional staff included: Instructors, Senior Instructors, and Section Heads, while the academic staff included: the Presidents and Vice-Presidents, Academic and Divisional Directors, and Department Heads.

Part-time staff are employed to some degree by both institutions but because their involvement was generally limited to evening school or special summer courses they were not surveyed in this study.

In order to teach, the first requirement is an adequate subject matter knowledge (French, 1966:30; Gordon and Whitfield, 1967:36). For the purpose of this study a suitable subject matter knowledge was assumed, and focus made only on the perceived needs for pedagogical training.

DEFINITIONS

Institute of Technology

An institute of technology is an educational institution providing education and training in technical, industrial, vocational, business, and art fields beyond the level of high school vocational programs and outside the scope of the university.

Academic Administrator

An academic administrator is any person on the staff of the institute who is employed primarily to administer the instructional program. For the purpose of this study the definition was limited to one whose major role was to facilitate the instructional function. Included were the Presidents, and Vice-presidents, Academic and Divisional Directors, and Department Heads. Clerical, maintenance, and custodial personnel were excluded.

Instructor

An instructor is any person on the staff who is employed primarily to teach. For the purpose of this study the definition was extended to include student-service-personnel -- those staff members whose major role is to provide direct guidance, help and advice to students in other than formal classroom situations. Examples are: physical education staff, counselors, and librarians.

ORGANIZATION OF THE THESIS

Chapter 1 states the problem, the importance of the study, delimitations and necessary definitions. The remainder of the thesis is organized as follows. Chapter 2 provides a review of the literature while Chapter 3 indicates the research procedures and describes the sample. Chapter 4 is an analysis of the data concerning competencies required of an instructor. Chapter 5 provides an analysis of the responses to questions on the value of certain in-service activities and techniques. The concluding chapter, Chapter 6, summarizes the findings of the study and presents some implications for practice and recommendations for further research.

REFERENCES -- CHAPTER 1

Department of Education. 1962. Fifty-sixth Annual Report of the Department of Education of the Province of Alberta 1961. Edmonton: Queens Printer.

Department of Education. 1969. Sixty-third Annual Report of the Department of Education of the Province of Alberta 1968. Edmonton: Queens Printer.

French, H. W. 1966. "Instructional Staff Development," Technical and Vocational Education in Canada, 9:26-34.

Glendenning, D. 1967. "Does Vocational Teaching Appeal to You," Technical and Vocational Education in Canada, 11:29, Spring.

Gordon, Shirley B. and Raymond P. Whitfield. 1967. "A Foremat for Teacher Preparation," Junior College Journal, 37(5):26-28.

Government of Alberta. 1970. "Post Secondary Education Until 1972: An Alberta Policy Statement." Edmonton, Government of Alberta. Mimeographed.

Chapter 2

REVIEW OF THE LITERATURE

This chapter presents a review of the literature on teacher preparation for post-secondary institutions pertinent to this study.

NEED FOR TRAINING TO TEACH

In the Report of the National, Technical and Vocational Advisory Council (1965:25-26) the comment was made that, in Canada, emphasis in technical and vocational training had shifted from providing new facilities to ensuring an adequate supply of teachers. Consequently, the search for suitable curricula for training instructors now had priority.

Both French (1966:27) and Williams (1967:8) in discussing instructional staff development pointed out that important though good facilities and equipment were their worth was closely linked to the quality of the instruction.

> The vast sums of money which you [Canada] have spent in this magnificant effort to provide vocational education is poured into the sand unless successful efforts are made to select and develop to the full the instructional staff. No premises or equipment can offset the handicap of an ineffective teaching staff (French, 1966:27).

Taylor (1967:6) saw the growing shortage of qualified teachers as the most serious deterrent to the continued improvement and expansion of vocational and technical

education. "A teacher education program is of vital importance as vocational and technical education will only be as good as those who teach it."

With the growing complexity of industrial society and the increasing costs to provide training to fit men and women into that society, instruction must be both effective and efficient. Smith (1968:243) pointed out that if efficiency is to be the measure of an educational institution then instruction must be the prime concern in considering the best and most efficient methods of learning. If the students are the prime concern, then good instruction must be provided to ensure that they are helped to learn more with optimal skill and efficiency.

In a paper on current developments in the preparation of technical teachers Arnold (1967a:61-65) observed that technical teachers have been and are continually being recruited directly from industry, business or professions. Although they may make good teachers they have been largely left alone to identify teachable content, plan lessons, select methods, evaluate, and do the many other things required in education.

DEVELOPMENT OF PROGRAMS

The Conference on Preparation of Junior College Teachers (American Council on Education, 1954:11-13) recommended that a well trained teacher should have the

following qualifications:

(1) A clear cut conception of the philosophy and background of these institutions, their relationship to the whole educational structure, and especially their place in the community.

(2) An understanding of human growth and development and of the special problems of age groups enrolled.

(3) Adequate skill in curriculum construction, evaluation, and other areas related to the arts and science of instruction in these institutes.

(4) Adequate supervised teaching experience -- at least a quarter or semester -- in the type of teaching in which they are planning to engage.

(5) A clearly balanced appreciation of both the occupational and general educational services of these institutes.

(6) For occupational instructors, occupational competencies -- which includes practical experience -- with the recognition of this practical occupational experience.

Jarvie (1956:221-2), Hillway (1958:193-194), and Koos (1960:309-317) had similar proposals. Both Jarvie and Koos emphasized that the practice teaching should be done in the college, not in high school or in university.

Developing a rationale for junior college teacher preparation, Cohen (1967:21-25) saw four major problems in devising suitable programs: (1) the very diversity of the institutional function, from the broad goals of general education to the narrow goals of learning particular tasks in a specific work situation; (2) the diversity of people who wish to teach with their very different backgrounds and

personalities; (3) the ranges in certification requirements and differential preparation from master's degrees to journeyman papers, or from years of training to years of experience depending on the nature of the teaching task to be performed, and (4) differences in college operation and in their requirements for a teacher, the criteria for an effective teacher never having been established.

Facing these difficulties Cohen proposed a rationale for teacher preparation which is applicable to any program:

> If a rational for guiding programmes of Junior College teacher preparation is to be developed it must be found in the process of instruction, the one concern which affects all teachers, all administrators and all students in every Junior College. Teaching and learning overrides all supplementary goals and functions, broad and narrow. Whatever else the instructor is expected to do, whoever he may be, he must, above all, teach.

Discussing preparation for college teaching, Herge (1965:64) pointed out that the content of pedagogical training and the length of training deemed necessary vary as much or more than do the types of institutions and courses presented, but that most Junior Colleges suggest that one or two semesters of professional training at the master's level is necessary. Thornton (1965:142), proposed that the same length of time be required for the occupational instructor as for the academic instructor and that this training should include the same elements. These were: educational psychology; student characteristics; principles

of learning; guidance and counseling; history, purpose, status, and problems of the Junior College; methods and techniques of teaching and evaluating; and a period of internship.

Harris (Community Colleges, 1966:74) at a seminar on the Community Colleges of Canada, commented that the community colleges form a distinct educational area. They are neither an extension of the public and secondary schools, nor were they a university. Teaching was different from secondary schools in that the students were not seeking direction, were motivated, and discipline ought not to be a problem. Teaching at the university was much more theoretical and based on active research which was not required for teaching in the community college.

In the same seminar Gwillian (Community Colleges, 1966:78) agreed that teacher training for community colleges was different from either secondary or university teaching but pointed out that the teacher may well be concerned with people who have had little education. Thus the challenge for the teacher was to be able to attract, motivate, and communicate fully. Taylor (1968:2) took the same view:

> Education is called upon to solve more and more complex social problems. At the same time, with increasing expenditure education must become more accountable. There must be a great change in teacher education programs.

At a workshop at Eastern Washington State College (Gordon and Whitfield, 1967:27) an attempt was made to

identify the type of preparation required for community college teachers. Historically the teachers for such colleges have been hired with little or no preparation for the unique duties and challenges of community college instruction. With respect to knowledges and skills needed for effective teaching performance, the consensus at this workshop was that top priority must be given to subject matter knowledge -- not only in depth but in breadth. However, far more than subject matter mastery was necessary in order to teach successfully. "Subject matter competence is essential but of little educational value unless it can be transmitted appropriately to the learner." Four items were held to be necessary for instructional competence: (1) command of a range of instructional techniques and familiarity with various media; (2) ability to communicate effectively with student and colleagues; (3) skill to cope with learning problems of the students with a wide variety of educational competencies and interests; and (4) an understanding of the learning and teaching processes, and ability to motivate students.

Arnold (1967:62), Logan (1967:35), ... Swayze (1969: 11) suggested that teacher preparation for post-secondary technical education required special types of preparation, very different from the preparation of vocational high school teachers. Differences were seen in the more specific aspects of such teaching. There was more concern in the technical

school with mathematical and scientific bases of occupations, more concern with the adult learner who must function in a broader more sophisticated communication spectrum, more concern with a higher range of student ability, with a greater need for subject matter knowledge, and with a greater dependence on technical advances. Arnold (1967:64) pointed out that inspite of this; for a very large number of post-secondary technical instructors, preparation programs for vocational high school teachers were the only form of training available to them.

The National Vocational and Technical Teacher Education Seminar (Hensel, 1968) on the Professional Component of Vocational and Technical Teacher Education, and Differential Staffing pointed out that various types of teachers were required to present a broad spectrum of occupational programs. The seminar particularly stressed the need for maximum utilization of staff potential by exploiting the particular talents of instructors to best advantage.

In examining the preparation of technical and vocational teachers, Glendenning (1964:9) found three elements common to all, regardless of the teaching level or field: (1) a sound general academic and technical background, (2) competence in a teaching area, and (3) pedagogical skills and knowledges. Pedagogical skills and knowledges are developed by the provision of professional courses in human

growth and development, occupational analysis and course organization, history of education, principles and problems of vocational education, teaching methods, and organization and management of labs and shops. Such courses should be followed by student teaching, or better, internship, to provide opportunity for the consolidation of role discipline and method. To provide the most effective patterns for teacher education, Glendenning advocated that these should be planned programs, having identifiable levels or steps and including general education, subject competence upgrading, and professional education. Such teacher training he felt should be provided by both preservice and inservice programs.

A search of the literature revealed little or no consensus as to the duration or the standards for the training of teachers in post-secondary education. Most teacher preparation programs for the secondary level include considerable time in developing subject matter competence. Hence a person with technical knowledge and practical experience needs only to develop the skills and knowledges of teaching.

In England, training to teach in technical colleges consists of a nine-month course. However, due to the shortage of teachers such training is not compulsory before undertaking to teach and it may be completed as an inservice program. Bailey (1967:433-435) described how such a plan

works. The staff member is able to take the full course during the second year on staff; or take one or two terms each year; or, take a day release program. In the Report of the Technical Teacher Training Courses Panel of the West Midlands Advisory Council for Further Education (1966:133-142) a survey showed that fifty-nine percent of the instructural staff had taken the full course in one form or other. The preferred way was by a sandwich course, the second choice by day release.

When demand or emergency requires the quick induction of a new teacher, courses as short as a week have been found to be of value (Wenrick, 1967:45). Cockrum (1966) and Wick and Kavanaugh (1967) have developed short courses for "spot preparation" in pedagogical training to give "basic teaching techniques for the instructor who must begin his assignment with a minimum preparation" (Wick and Kavanaugh, 1967:3). These courses were developed with the understanding that further training is required which can be developed as an inservice project.

RESEARCH

A review of the literature indicated that little research has been done in the field of post-secondary technical teacher preparation. Reviewing the research in vocational and technical teacher education, Moss (1967: 26) wrote:

> With some exception of course little has been done which materially contributes to the development of a science of teacher education. We need a system of verified principles which will permit us to understand and control the teacher education process. At present we are still operating programs primarily on the basis of tradition, "conventional" wisdom, and personal experience. This does not imply that the current teacher education practices are necessarily bad, only that we do not really know their worth and that we cannot be reasonably confident about judging suggested means for improving present practice.

Courtney (1965) carried out a study to evaluate the effectiveness of the teacher education program at Stout State University, Wisconsin and to determine the requirements of vocational teachers in the field. His sample was secondary school teachers in home economics and industrial education. The findings showed that the respondents' requirements were mainly in teaching techniques and methods, student motivation and testing and evaluating. Of least value were the history of education, the role of the teacher in guidance, and the roles of the school.

Following this study Courtney (1967) proposed a work to determine the core of professional knowledges and skills required in training programs for vocational teachers.

> The problems related to the training of teachers have common threads extending throughout the broad spectrum of disciplines included within the scope of training.

The concept of commonality among vocational programs had been advanced by several researchers including Woerdehoff (1960:62-64) who developed common elements during an analysis

of trends and concepts of vocational education. The common concerns of the composite of such programs has also been reflected in the National Society for the Study of Education, Sixty-fourth Yearbook entitled Vocational Education (Barlow, 1965) which was devoted almost entirely to elements of interest to all vocational areas.

Taylor (1968:24-26) outlined a project to be undertaken by the Center for Research and Leadership Development in Vocational and Technical Education, Ohio, to be completed by 1971, in which the center will be analyzing the pedagogical areas of vocational teacher education to determine which teacher skills, knowledges, and attitudes are commonly (or uniquely) needed by teachers in the various vocational service areas.

SUMMARY

The review of the literature reveals little research into the pedgagogical needs in post-secondary technical and vocational education. Most of the literature and studies were found to be concerned with the opinions and preferences of administrators and educationalists as to what should be provided in teacher training. Staff of the technical and vocational institutes are frequently expected to avail themselves of the same training and facilities as public school teachers with little regard for different subject matters, types of students, and role of the school or the role of

instruction.

That there is a need for such programs is well evident in the literature, but it is by no means clear what these programs should be composed of. Two main researches were cited which directed attention toward this problem: (1) Courtney (1965), by questioning occupational instructors who have had some teacher training and were cut in the field; and (2) Taylor (1968), by analysis of the vocational teaching act to determine what skills, knowledges, and aptitudes were commonly needed.

The present study was directed to a similar end: to try and determine these common pedagogical needs and at the same time the study attempted to ascertain how these could best be met. It attempted to do this by a survey of practicing instructors and administrators in established institutions. The respondents represented a wide background of subject matter competencies, and occupational skills. Moreover they did not possess a common pedagogical training; some had no pedagogical training and others had graduate teacher training.

REFERENCES -- CHAPTER 2

American Association of Junior Colleges. 1969. In-service Training for Two-year College Faculty and Staff. Washington, D.C.

American Council on Education. 1954. Conference on the Preparation of Junior College Teachers Proceedings. Washington, D.C.

Arnold, Joseph P. 1967. "Current Development in the Professional Preparation of Technical Teachers," Vocational and Technical Teacher Education, National Seminar Proceedings, eds. Neal Vivian, and Hoffman, Ken E. Center for Vocational and Technical Education. Columbus, Ohio State University.

Bailey, D. 1967. "In-service Training: A Staff Development Programme," Technical Education, 4:433-435, October.

Barlow, Melvin L. (ed.). 1965. Vocational [illegible]tion. Sixty-fourth Yearbook, N.S.S.E. Chicago, Univ[illegible]ty of Chicago Press.

Cockrum, James L. 1966. The Preparation of [illegible]cupational Instructors: A Suggested Course Guide. [illegible]ffice of Education, Washington, D.C.

Cohen, Arthur M. 1967. "Teacher Preparation: [illegible]ationale and Practice," Junior College Journal, 37(5) [illegible]-25.

Community Colleges 1966, National Seminar on the Community College in Canada. Toronto: Canadian Ass[illegible]tion for Adult Education.

Courtney, E. Wayne. 1965. Implications for the Training of Teachers - Professional Education Prepa[illegible]n and Requirements. The Graduate School Memo[illegible]: Stout State University, Wisconsin.

Courtney, E. Wayne. 1967. The Identifica[illegible]nd Comparison of the Common Professional Training N[illegible]and Require-ments for Teachers of Vocational Educ[illegible] Phase I The Instrument. The Graduate School Menom[illegible]tout St..te University, Wisconsin.

French, H. W. 1966. "Instructional Staff [illegible]pment," Technical and Vocational Education i[illegible]a, 9:26-34.

Glendenning, Don. 1964. "Technical and Vocational Teacher Education for the Years Ahead," Technical and Vocational Education in Canada. 2(3):9-11.

Gordon, Shirley B. and Raymond P. Whitfield. 1967. "A Format for Teacher Preparation," Junior College Journal. 37(5):26-28.

Hensel, James W., Garry R. Brice, ed. 1968. The Second Annual National Vocational and Technical Teacher Education Seminar Proceedings. Chicago: Center for Vocational and Technical Education, Columbus, Ohio State University.

Herge, Henry C. 1965. The College Teacher. New York: Center for Applied Research in Education Inc.

Hillway, Tyrus. 1958. The American Two Year College. New York: Harper Brothers.

Jarvie, L. L. 1956. "Making Teaching More Effective," in The Public Junior College, ed. Lamar Johnson, Fifty-fifth Yearbook of the National Society for the Study of Education, Part 1. Chicago, University of Chicago Press.

Koos, Leonard V. 1960. "Preparation for Community College Teaching," Journal of Higher Education, 31:244-247, June.

Logan, William. 1967. "The Pursuit of Excellence in Vocational Teacher Preparation," Vocational and Technical Teacher Education, National Seminar Proceedings, eds. Vivian Neal and Ken E. Hoffman. Center for Vocational and Technical Education, Columbus, Ohio State University.

Moss, Jerome. 1967. Review of Research in Vocational and Technical Teacher Education. Minnesota Research Coordinating Unit in Occupational Education, Minnesota: University of Minnesota.

Report of the National Technical and Vocational Training Advisory Council. 1965. Technical and Vocational Education in Canada. 8:25-26.

Report of the Technical Teacher Training Courses Panel of the West Midlands Advisory Council for Further Education. 1966. "In-service Technical Teacher Training," Vocational Aspect, 18(39):133-142.

Smith, Denis C. 1968. "The Preparation of College Teachers: Towards a Rationale for Instruction," Canadian Education and Research Digest, 8:230-244.

Swayze, Robert M. 1969. "Characteristics of Instructors in Manitoba Vocational Institutes." Unpublished Master's thesis, University of Alberta, Edmonton.

Taylor, Robert E. 1967. "Purpose and Objectives of the Seminar," Vocational and Technical Teacher Education, National Seminar Proceedings, eds. Vivian Neal and Ken E. Hoffman. Center for Vocational and Technical Education, Columbus, Ohio State University.

Taylor, Robert E. 1968. "Vocational and Technical Education: Concerns, concepts and commitments," The Second Annual National Vocational and Technical Teacher Education Seminar Proceedings. Chicago: Center for Vocational and Technical Education, eds. James Hensel and Garry Brice. Columbus: Ohio State University.

Thornton, James W. 1966. The Community Junior College. 2nd Ed. New York: John Wiley & Sons Inc.

Wenrick, R. 1967. "Preparation of Vocational Teachers," Vocational and Technical Teacher Education, National Seminar Proceedings, eds. Vivian Neal and Ken E. Hoffman. Center for Vocational and Technical Education, Columbus, Ohio State University.

Wick, S. K., and W. A. Kavanaugh. 1967. An Introduction to Teaching in Vocational and Technical Education, a Pre-Service Teacher Training Course for Potential Vocational Teachers in Minnesota Final Report. St. Paul, Minnesota State Dept. of Vocational Education.

Williams, John G. 1967. "Goals in Technical Education," Unpublished Master's thesis, University of Alberta, Edmonton.

Woerdehoff, Frank J., Norbert J. Nelson, and John K. Coster. 1960. Vocational Education in Public Schools as Related to Social Economic and Technical Trends, No. 1, The Analysis of Trends and Concepts. Studies in Education, No. 1, Lafeyette, Indiana, Purdue University Division of Education.

Chapter 3

METHODOLOGY AND DESCRIPTION OF THE SAMPLE

This chapter describes the instrument, the methods which were employed in the data collection, and an explanation of the procedures which were used in processing the data. The chapter concludes with a discussion of the nature of the sample from which the data were obtained and presents a description of the respondents, thus providing a background for the analysis to follow in Chapters 4 and 5.

INSTRUMENTATION

The data used in this study were obtained through the use of a questionnaire. Since no suitable instrument was found, construction of a special questionnaire was necessary. A copy appears in the Appendix.

Sources of Questionnaire Items

Items used in the questionnaire were formulated on the basis of concepts derived from the literature in this field, and by authorities in supervision and teacher training. Courtney (1967) was particularly helpful in the construction of items pertaining to skills and knowledges required of an instructor. Items relating to inservice training and supervisory practice were formulated by reference to material by Neagley and Evans (1964), Harris

(1963) and Ziolkowski (1965). In addition, academic administrators from the two institutions were asked to suggest items for inclusion in the questionnaire which were of special interest to them.

Format

Factors considered in planning the format were that the questionnaire should be simple to complete and that data should be easily transferable onto cards for computer processing. Three types of question format were used. The first, calling for personal background information, required check marks in appropriate categories. The second, seeking the opinions of respondents on suggested needs in instructor training, required responses on a Likert-type scale. The third, at the end of each of the three main sections of the questionnaire, were open-ended type questions provided to obtain individual viewpoints. The questionnaire was designed for presentation to both administrators and instructors.

The instrument was composed of four sections to obtain data on: (1) personal and occupational details, (2) pedagogical skills and knowledges perceived to be needed, (3) perceptions of the value of inservice and supervisory activities, and (4) perceptions of best training methods to develop teaching skills.

Revision of the Questionnaire

In addition to suggesting items to be included in the questionnaire, the administrators and selected instructors from both institutions were asked to make suggestions for the improvement and clarification of the items. Further, the suitability of the items and format were submitted to the evaluation and criticism of a seminar group consisting of graduate students in the Department of Educational Administration at the University of Alberta. Finally, a pilot study was conducted in a select group of instructors and administrators at the Northern Alberta Institute of Technology.

DATA COLLECTION

The numbers of staff eligible to be included in the survey as indicated under Delimitations, were ascertained, and an appropriate number of questionnaires were forwarded to each institution and handed out to Divisional and Academic Directors who organized the further distribution, collection and return.

To maintain anonymity, no personal identification of any kind was called for on any of the questionnaires and each respondent was provided with an envelope in which the completed questionnaire was to be sealed before it was returned.

The survey was carried out during the month of

March 1970.

TREATMENT OF THE DATA

Processing of the Questionnaires

Responses to every question of every questionnaire were examined. Numerical codings were used to indicate "did not answer"; needed particularly in question 35. A decision of best fit was made where respondents had added information for clarification. The open-ended questions were classified and tabulated by hand.

Processing of Data

The data from each questionnaire were transferred to data cards which were then processed by a computer. The program Statistical Package for Social Sciences (SPSS) was used to give frequencies and percentages by total and by seven personal data items for the forty-five question. Chi-square was calculated on contingency tables comparing frequencies of group choices for each Likert-type item. The five response categories in the Likert-type scale were, on occasion, collapsed to three categories to consolidate the data presented. Personal and situational data variable categories were also reduced by combination where this could be validly carried out. For instance in item 2, staff position, the six categories were on occasion, reduced to two, Administrators and Instructors. The null hypothesis,

that there is no difference between the distribution of frequencies, was rejected at the .05 level of significance. It should be noted that in this descriptive study chi-square was used mainly as a means of directing attention to possible differences and not as the only criterion for significance.

DESCRIPTION OF THE SAMPLE

The study was limited to a survey of the full-time instructional staff and the academic administrative staff of the two Alberta institutes of technology. The instructional staff consisted of: Instructors, Senior Instructors and Section Heads. The administrative staff comprised the Presidents and Vice-Presidents, Academic and Divisional Directors, and Department Heads. Part-time instructional staff as well as clerical, maintenance, and custodial personnel were excluded.

Population and Sample

The total number of eligible staff members at the two institutions was 810, composed of 430 positions at N.A.I.T. and 380 at S.A.I.T. In the survey 533 usable replies were received which represents a sixty-six percent response. Of these 322 were received from N.A.I.T., a seventy-five percent response, and 211 from S.A.I.T., a fifty-five percent response (Table 3.1).

Table 3.1

Questionnaire Returns by Institution

	S.A.I.T.	N.A.I.T.	Total
Number of eligible staff	380	430	810
Number of Returns	211 (55.5%)	322 (74.8%)	533 (65.8%)
Percentage of total returns	(39.6%)	(60.4%)	

Seventy-six percent of the Administrators, Department Heads and above, and sixty-five percent of the Instructors, Section Heads and below, completed the questionnaires (Table 3.2).

Table 3.2

Questionnaire Returns by Staff Position

	Administrators (Dept. Heads, and above)	Instructors (Section Heads and below)	Total
Number of eligible staff	50	760	810
Number of Returns	38 (76.0%)	495 (65.1%)	533 (65.8%)
Percentage of total returns (533)	(7.0%)	(93.0%)	

Some respondents experienced difficulty in choosing the answer of best fit in the Major Work Area question and, as a result, this item may not have presented precisely the information intended. This difficulty was due, in part, to differences of terminology and organizational structure in the two institutes. For instance, instructors in such fields as Communication Arts, Math-Physics, and Academic Studies, provide service courses to several areas making it difficult for them to state a major work area.

Respondents giving Technology as their major area of work represented sixty-eight percent of the eligible staff in that section, Business Education respondents, seventy-four percent, Vocational and Apprenticeship were the lowest with fifty-eight percent, Student Services seventy-four percent, Arts and Applied Arts ninety-six percent and Fully Administrative one hundred percent (Table 3.3).

The very high response in the Arts and Applied Arts section would seem to indicate that perhaps a few instructors in Communication Arts considered this as Applied Arts rather than relating it to the service courses being provided to specific areas, thus giving the inflated value. Similarly, in the Fully Administrative classification, a few respondents may have checked Administration as their major work whereas, this administration may have been concerned with a specific field.

From these returns it was noted that Technology area

Table 3.3

Questionnaire Returns by Major Work Area

	Technology	Business Education	Vocational and Apprenticeship	Arts and Applied Arts	Student Services	Administration	Total
Number of eligible staff	366	96	286	28	17	15	810
Number of Returns	239 (68.0%)	71 (74.0%)	167 (58.4%)	27 (96.4%)	14 (73.7%)	15 (100%)	533 (65.8%)
Percentage of total Returns (533)	44.8%	13.2%	31.3%	5.1%	2.6%	2.8%	

provided nearly forty-five percent of the total number of respondents, Vocational and Apprenticeship thirty-one percent, and Business Education thirteen percent.

Staff Positions

Table 3.4 shows that of the 533 respondents seven percent were administrators and ninety-three percent instructors.

Table 3.4

Distribution of Respondents by Institution and Position

Staff Position	N.A.I.T.	S.A.I.T.	Total
1) Assistant Director and above	8 (2.5%)	9 (4.3%)	17 (3.2%)
2) Department Head	10 (3.1%)	11 (5.2%)	21 (3.9%)
3) Section Head	25 (7.7%)	13 (6.2%)	38 (7.1%)
4) Senior Instructor	47 (14.6%)	32 (15.2%)	79 (14.8%)
5) Instructor	225 (69.7%)	144 (68.2%)	368 (69.0%)
6) Student Services	7 (2.6%)	2 (0.9%)	10 (1.9%)
Total	332	211	533

Note: Percentages in the tables may not total 100 percent due to the rounding of numbers.

Examination of the percentages of respondent positions in N.A.I.T. and S.A.I.T. indicates that there was very little difference between them except in the proportions of

Assistant Directors and above and Department Heads. These two categories accounted for 5.6 percent of staff positions at N.A.I.T. and 9.5 percent at S.A.I.T.

Major Work Area

The data in Table 3.5 shows that there were some differences in the distribution of respondents by work areas in the two institutes. At N.A.I.T. nearly 28 percent of the respondents were concerned with Apprenticeship courses whereas at S.A.I.T. only 20 percent were in this area. N.A.I.T. has no Division of Department of Art which accounts for the low percentage compared with S.A.I.T.

Academic Education

Table 3.6 indicates that the greatest percentage (28 percent) of staff with any one academic attainment occurs in the category, Bachelors Degree. The second highest percentage (19.9 percent) have Grade 12 or equivalent completed. Combination of categories (1) and (2) showed that 31.0 percent of the staff responding have less than university education. The percentage of staff with less than one degree is 50.1.

Table 3.5

Distribution of Respondents by Institution and Work Area

Work Area	N.A.I.T.	S.A.I.T.	Total
1) Technology	138 (42.7%)	110 (47.9%)	239 (44.8%)
2) Business Education	50 (15.8%)	21 (10.0%)	71 (13.3%)
3) Vocational or Trade	23 (7.1%)	13 (6.2%)	26 (6.8%)
4) Apprenticeship	89 (27.6%)	42 (19.9%)	131 (24.6%)
5) Arts	1 (0.3%)	17 (8.1%)	18 (3.4%)
6) Applied Arts	3 (0.9%)	6 (2.8%)	9 (1.7%)
7) Student Services	12 (3.7%)	2 (0.9%)	14 (2.6%)
8) None of the Above Fully Administrative	6 (1.9%)	9 (4.3%)	15 (2.8%)
Total	322	211	533

Note: Percentages in the tables may not total 100 percent due to the rounding of numbers.

Table 3.6

Distribution of Respondents by Institution and Academic Education

Academic Education	N.A.I.T.	S.A.I.T.	Total
1) Less than Grade 12 or equivalent completed	39 (12.1%)	20 (9.5%)	59 (11.1%)
2) Grade 12 or equivalent completed	56 (17.3%)	50 (23.7%)	106 (19.9%)
3) University, less than a degree	65 (20.1%)	37 (17.5%)	102 (19.1%)
4) Bachelor's Degree	92 (28.8%)	57 (27.0%)	149 (28.0%)
5) Two Bachelor's Degrees	29 (9.0%)	18 (8.5%)	47 (8.8%)
6) Master's Degree	37 (11.5%)	29 (13.7%)	66 (12.4%)
7) Doctoral Degree	4 (1.2%)	0 (0.0%)	4 (0.8%)
Total	322	211	533

Teacher Training

No formal teacher training is required of prospective staff prior to instructing in the institutes. However, whenever possible, new staff take up their positions at the beginning of August and are provided with a four week intensive program of teacher training and orientation. An institute certificate is awarded for the successful completion of this course. Those people coming on staff too late to attend the course are required to take it the following year.

For some 55 percent of the responding staff, this course was the only teacher training possessed. The forty people (7.5 percent) who reported that they had no training were, in the main, instructors who were not able to take the pre-session course, although three of them were not instructors but administrators who were in the Assistant Director and Above category. Staff with Alberta teaching certificates make up 9.8 percent of the respondents and staff with a Bachelor's degree in education constituted 11.3 percent. It may be assumed that the latter also have an Alberta teaching certificate. A number of the staff (10.9 percent) were taking university education courses but had not yet obtained a teaching certificate (Table 3.7).

Of the Administrators, three (7.9 percent) had no pedagogical training; 50.0 percent had taken the four week institute course; and, 2.6 percent had other non-university teaching certification, 15.8 percent held Alberta teaching certificates and another 15.8 percent had B.Ed. degrees (Table 3.8).

Table 3.7

Distribution of Respondents by Institution and Teacher Training

Teacher Training	N.A.I.T.	S.A.I.T.	Total
1) None	26 (8.0%)	14 (6.6%)	40 (7.5%)
2) Institute Inservice Training Certificate	177 (55.1%)	119 (56.4%)	296 (55.5%)
3) Other, Non-University, Teaching Certificate	12 (3.7%)	8 (3.8%)	20 (3.8%)
4) University Education Courses -- less than an Alberta Teaching Certificate	33 (10.2%)	25 (11.8%)	58 (10.9%)
5) Alberta Teaching Certificate	33 (10.2%)	19 (9.0%)	52 (9.8%)
6) Bachelor of Education Degree	38 (11.8%)	22 (10.4%)	60 (11.3%)
7) Master of Education Degree	3 (0.9%)	4 (1.9%)	7 (1.3%)
Total	322	210	533

Table 3.8

Distribution of Respondents by Position and Teacher Training

Teacher Training	Position		Total
	Administrator	Instructor	
1) None	3 (7.9%)	37 (7.5%)	40 (7.5%)
2) Institute in-service training certificate	19 (50.0%)	277 (56.0%)	296 (55.5%)
3) Other, non-university teaching certificate	1 (2.6%)	19 (3.6%)	20 (3.8%)
4) University education courses, less than an Alberta teaching certificate	2 (5.2%)	56 (11.3%)	58 (10.9%)
5) Alberta teaching certificate	6 (15.8%)	46 (9.3%)	52 (9.8%)
6) Bachelor of Education degree	6 (15.8%)	54 (10.9%)	60 (11.3%)
7) Master of Education degree	1 (2.6%)	6 (1.2%)	7 (1.3%)
Total	38 (7.1%)	495 (92.9%)	533 (100.0%)

Years Instructed in the Present Institute

Table 3.9 shows that 51.3 percent of the staff had instructed in the present institute for three years or less, and of these, 20.3 percent had taught for less than one year. There was very little difference between the two institutes up to the four to six year level. However, at this level N.A.I.T. had 32.8 percent of respondents whereas S.A.I.T. had only 16.1 percent. This may be explained by the fact that N.A.I.T. was opened only seven years ago and experienced a very rapid expansion of staff at this time.

Table 3.9

Distribution of Respondents by Institution and Years Instructed at Present Institute

Number of Years Instructing in Present Institution	N.A.I.T.	S.A.I.T.	Total
1) Less than one year*	66 (20.7%)	42 (19.9%)	108 (20.3%)
2) 1 to 3 years	103 (31.9%)	62 (29.4%)	165 (31.0%)
3) 4 to 6 years	106 (32.8%)	34 (16.1%)	140 (26.3%)
4) 7 to 9 years	46 (14.2%)	32 (15.2%)	78 (14.6%)
5) 10 years or more	1 (0.3%)	41 (19.4%)	42 (7.9%)
Total	322	211	533

*The present year is counted as less than one.

Technical Qualifications

The major trade or technical qualification, other than practical experience, ranged from a one-year post-secondary certificate to a doctoral degree. Journeyman papers were the major qualification for 21.6 percent of the respondents while another 27.9 percent had a one, two, or three-year post-secondary certificate of diploma. If it is accepted that membership in a professional association requires qualifications equivalent to a degree, then 50 percent of the staff had one degree or better (Table 3.10).

Table 3.10

Distribution of Respondents by Institution and Technical Qualifications

Major Trade or Technical Qualifications	N.A.I.T.	S.A.I.T.	Total
1) Journeyman Papers	73 (22.6%)	42 (17.9%)	115 (21.6%)
2) One Year Post-Secondary Certificate	8 (2.5%)	7 (3.3%)	15 (2.8%)
3) Two or Three Year Post-Secondary Diploma	76 (23.5%)	58 (27.5%)	134 (25.1%)
4) Bachelor's Degree	82 (25.7%)	47 (22.3%)	129 (24.2%)
5) Membership in a Professional Association	49 (15.2%)	33 (15.6%)	82 (15.4%)
6) Master's Degree	32 (9.9%)	24 (11.4%)	56 (10.5%)
7) Doctoral Degree	2 (0.6%)	0 (0.0)	2 (0.4%)
Total	322	211	533

SUMMARY

This chapter has described the development of the questionnaire, method of data collection, procedures used in processing the data, and a description of the sample.

Due to the comparatively low return obtained (66 percent) and the nature of the survey no generalizations can be made with reference to those who did not respond. The lowest rate of return was in the apprentice training area. On the whole there were few differences in the proportions of respondents from N.A.I.T. and S.A.I.T. in each of the categories examined.

I. Academic Education it was noted that just less than one-third of the staff surveyed had no university education and that half the staff had less than a degree.

A four-week teacher-training program was the only preparation to teach for 55.5 percent of the staff while another 7.5 percent had no teacher training. Approximately 10 percent of the staff had Alberta teaching certificates and a further 11 percent possessed a bachelor of education degree.

REFERENCES -- CHAPTER 3

Arnold, Joseph P. 1967. "Current Development in the Professional Preparation of Technical Teachers," Vocational and Technical Teacher Education, National Seminar Proceedings, eds. Vivian Neal and Ken E. Hoffman. Center for Vocational and Technical Education. Columbus, Ohio State University.

Courtney, E. Wayne. 1967. The Identification and Comparison of the Common Professional Training Needs and Requirements for Teachers of Vocational Education. Phase I The Instrument. The Graduate School Menomonic: Stout State University, Wisconsin.

Harris, Ben M. 1963. Supervisory Behavior in Education. Englewood Cliffs, N.J.: Prentice-Hall, Incorporated.

Neagley, Ross L. and N. Dean Evans. 1964. Handbook for Effective Supervision of Instruction. Englewood Cliffs, N.J.: Prentice-Hall Incorporated.

Ziolkowski, Erwin Harold. 1965. "A Study of Practices Employed by High School Principals in the Supervision of Instruction." Unpublished Master's Thesis, University of Alberta, Edmonton.

Chapter 4

ANALYSIS OF DATA: SKILLS AND KNOWLEDGES OF VALUE TO AN INSTRUCTOR

Chapters 4 and 5 are concerned with the presentation and discussion of the data, and each chapter will deal with a different aspect of the survey.

Chapter 4 examines the data regarding the importance and value of certain pedagogical skills and knowledges to an instructor in post-secondary technical and vocational education.

This data is examined under the following headings:

Skills and Knowledges of Importance and Value (Tables 4.1 - 4.25)

Skills and Knowledges of Most Value to a Beginning Instructor (Tables 4.26 - 4.28)

Skills and Knowledges of Least Value to a Beginning Instructor (Tables 4.29 - 4.30)

Skills and Knowledges Respondents Felt Most in Need of (Tables 4.31 - 4.32)

Skills and Knowledges Suggested by Respondents (Tables 4.33 - 4.34)

Summary

SKILL AND KNOWLEDGE ITEMS OF IMPORTANCE AND VALUE

A list of pedagogical skills and knowledges was presented and the question posed was: What is your opinion

of the importance and value of each to an instructor in technical and vocational education? Opinions were indicated by circling the appropriate number. The numbers denoted: 1. Very Necessary, 2. Necessary, 3. Helpful, 4. Little Use, and 5. No Use. The frequency and percentage of the responses to these twenty items are presented in Table 4.1.

Item 13: Skills in Classroom, Lab and Shop Organization and Management

In this item 274 respondents (51.4 percent) felt skill in classroom, lab and shop organization and management was very necessary, 161 or 30.4 percent deemed it necessary and 59 or 11.1 percent thought it would be useful. The combination of categories (1) and (2): Very Necessary and Necessary, and of categories (4) and (5): Little Use and No Use, revealed that 81.8 percent considered this skill as at least necessary while only 7.1 percent thought it of little or no use. Examination of responses to this item grouped by personal data variables showned no significant differences.

Item 14: Skills in the Development, Selection and Use of Audio-Visual Aids

Skills in the development, selection and use of audio-visual aids was seen by 52.2 percent to be necessary or very necessary, by 40.5 percent as, helpful, and by 7.3 percent as, little or no use. No significant differences were found between the responses grouped by personal variables.

Table 4.1

Responses to Items 13-32: Skills and Knowledges of Importance and Value to an Instructor

Item	Very Necessary	Necessary	Useful	Little Use	No Use
SKILLS IN:	1	2	3	4	5
13) Classroom, Lab, and Shop Organization and Management	274 (51.4%)	162 (30.4%)	59 (11.1%)	23 (4.3%)	15 (2.8%)
14) Development, Selection and Use of Audio-Visual Aids	95 (17.8%)	183 (34.3%)	216 (40.5%)	32 (6.0%)	1 (1.3%)
15) Curriculum Development and Implementation *	176 (33.0%)	192 (36.0%)	114 (21.4%)	37 (6.9%)	14 (2.6%)
16) Testing and Evaluation Techniques	225 (42.2%)	215 (40.3%)	67 (12.6%)	12 (2.3%)	14 (2.6%)
17) Development of Educational Objectives *	200 (37.5%)	163 (30.6%)	122 (22.9%)	30 (5.6%)	18 (3.4%)
18) Selection and Use of Appropriate Teaching Methods *	210 (39.4%)	196 (36.8%)	96 (18.0%)	18 (3.4%)	13 (2.4%)
19) Preparation and Use of Subject Outlines	148 (27.8%)	198 (37.1%)	144 (27.1%)	26 (4.9%)	17 (3.2%)
20) Diagnosis of Learning and Teaching Problems *	144 (27.0%)	179 (36.6%)	156 (29.3%)	39 (7.3%)	15 (2.8%)

Table 4.1 (Continued)

Item		Very Necessary	Necessary	Useful	Little Use	No Use
21) Use of Teaching Techniques	*	136 (25.5%)	219 (41.1%)	132 (24.8%)	33 (6.2%)	13 (2.4%)
22) Preparation and Use of Daily Lesson Plans	*	110 (20.6%)	150 (28.1%)	159 (29.8%)	73 (13.7%)	41 (7.7%)
23) Development and Maintenance of Discipline in class	*	196 (37.3%)	187 (35.1%)	106 (19.9%)	27 (5.1%)	14 (2.6%)
24) Communication		387 (72.6%)	95 (17.8%)	30 (5.6%)	11 (2.1%)	10 (1.9%)
KNOWLEDGE OF:						
25) Principals and Theories of Learning and Forgetting	*	87 (16.3%)	157 (29.5%)	213 (40.0%)	58 (10.9%)	18 (3.4%)
26) Human Growth and Development	*	61 (11.4%)	116 (21.8%)	209 (39.2%)	104 (19.5%)	43 (8.1%)
27) History and Philosophy of Vocational Education	*	24 (4.5%)	50 (9.4%)	107 (35.1%)	161 (30.2%)	111 (20.8%)
28) Role of Motivation in Education		157 (29.5%)	190 (35.6%)	139 (26.1%)	32 (6.0%)	14 (2.6%)
29) Sociology of Education	*	35 (6.6%)	84 (15.8%)	214 (40.2%)	133 (25.0%)	67 (12.6%)

Table 4.1 (Concluded)

Item	Very Necessary	Necessary	Useful	Little Use	No Use
30) Role of the Instructor as a Counselor *	55 (10.3%)	133 (25.0%)	230 (43.2%)	78 (14.6%)	37 (6.9%)
31) Psychology of Adult Education *	61 (11.4%)	152 (28.5%)	202 (37.9%)	78 (14.6%)	40 (7.5%)
32) Programmed Learning Techniques *	44 (8.3%)	107 (20.1%)	255 (47.8%)	84 (15.8%)	42 (7.9%)

*These items show significant differences in responses when grouped by personal variables, see Tables 4.2 - 4.24.

Item 15: Skills in Curriculum Development and Implementation

Sixty-nine percent of the respondents felt skill in curriculum development and implementation to be necessary or very necessary, 21.4 percent, helpful, and 9.6 percent, of little or no use. Examination of this item in terms of responses of the personal data groups revealed a significant difference with a probability of .04. Of the staff at S.A.I.T., 74.9 percent indicated that this skill was necessary or very necessary and only 6.2 percent that it was of little or no use. N.A.I.T. respondents placed less emphasis on the item, 65.2 percent judging it necessary or very necessary and 11.8 percent judging it little or no use (Table 4.2).

Table 4.2

Responses to Item 15: "Skills in Curriculum Development and Implementation," Grouped by Institution

Institution	Very Necessary and Necessary (1,2)	Helpful (3)	Little and no Use (4,5)	Total
1) S.A.I.T.	158 (74.9%)	40 (19.0%)	13 (6.2%)	211 (39.6%)
2) N.A.I.T.	210 (65.2%)	74 (23.0%)	38 (11.8%)	322 (60.4%)
Total	368 (69.0%)	114 (21.4%)	51 (9.6%)	533 (100.0%)

Chi-square = 6.93 Probability = .04

Item 16: Skills in Testing and Evaluation Techniques

Skills in testing and evaluation techniques was considered very necessary by 42.2 percent, necessary by 40.3 percent, and helpful by 12.6 percent with only 3.9 percent deeming it of little or no use (Table 4.1, page 45). There appeared to be a consensus on this item since no significant differences of opinion were revealed among the respondents when grouped by personal data variables.

Item 17: Skills in the Development of Educational Objectives

Skills in the development of educational objectives are considered in the literature to be an important factor in good teaching. Of the respondents in this study 37.5 percent thought it to be very necessary, 30.6 percent necessary, and 22.9 percent, helpful (Table 4.1, page 45). The only significant differences in response were found when the staff were grouped into those with university education courses and those with other than university teacher training or no such training. The latter group saw less need (as necessary or very necessary) for this skill than did the former (Table 4.3).

Table 4.3

Responses to Item 17: "Skills in the Development of Educational Objectives," Grouped by Pedagogical Training

Pedagogical Training	Very Necessary and Necessary (1,2)	Helpful (3)	Little and No Use (4,5)	Total
(1,2,3)				
No Training and non-university training	230 (64.6%)	92 (25.8%)	34 (9.6%)	365 (66.8%)
(4,5,6,7,8)				
University training	133 (75.1%)	30 (16.9%)	14 (7.9%)	177 (33.2%)
Total	363 (68.1%)	122 (22.9%)	48 (9.0%)	533 (100.0%)

Chi-square = 6.36 Probability = .04

Item 18: Skills in The Selection and Use of Appropriate Teaching Methods

The selection and use of appropriate teaching methods is another skill considered in the literature to be of major concern for effective teaching. In this study 76.2 percent of the respondents felt this skill was necessary or very necessary, 18.0 percent, helpful and only 5.8 percent, of little or no use. Here, also, there was a significant difference, with a chi-square probability of .008, between the responses based on university and other than university pedagogical training. Those with non-university training or no training gave less emphasis to this item with 72.8 percent

responding that this skill was necessary or very necessary while 83.1 percent of the group with university teacher training responded in the same categories (Table 4.4).

Table 4.4

Responses to Item Item 18: "Skills in the Selection and Use of Appropriate Teaching Methods," Grouped by Pedagogical Training

Pedagogical Training	Very Necessary and Necessary (1,2)	Helpful (3)	Little and No Use (4,5)	Total
(1,2,3)				
No training and non-university training	259 (72.8%)	77 (21.6%)	20 (5.6%)	356 (66.8%)
(4,5,6,7,8)				
University training	147 (83.1%)	19 (10.7%)	11 (6.2%)	177 (33.2%)
Total	406 (76.2%)	96 (18.0%)	31 (5.8%)	533 (100.0%)

Chi-square = 9.51 Probability = .008

Item 19: Skill in The Preparation and Use of Subject Outlines

Here 64.9 percent of the respondents felt that skill in the preparation and use of subject outlines was necessary or very necessary, 27.1 percent, helpful, and 8.1 percent, of little or no use. There were no significant differences between group responses.

Item 20: Skills in the Diagnosis of Learning and Teaching Problems

Skill in diagnosis of learning and teaching problems was thought to be very necessary by 27.0 percent of respondents, necessary by 33.6 percent, helpful by 29.3 percent, and little or no use by 10.1 percent (Table 4.1, page 45). A difference with a chi-square probability of .005 was found when respondents were grouped by combined staff positions. Eighty-four percent of the Administrators group considered this skill as necessary or very necessary, 5.3 percent, helpful, and 10.5 percent, little or no use. In the Instructors group however, only 58.8 percent felt it necessary or very necessary, 31.1 percent, helpful, and 10.1 percent, of little or no use (Table 4.5).

Table 4.5

Responses to Item 20: "Skills in the Diagnosis of Learning and Teaching Problems," Grouped by Staff Positions

Staff Position	Very Necessary and Necessary (1,2)	Helpful (3)	Little and No Use (4,5)	Total
(1,2)				
Administrators	32 (84.2%)	2 (5.3%)	4 (10.5%)	38 (7.1%)
(3,4,5,6)				
Instructors	291 (58.8%)	154 (31.1%)	50 (10.1%)	495 (92.9%)
Total	323 (60.6%)	156 (29.3%)	54 (10.1%)	533 (100.0%)

Chi-square = 11.8 Probability = .005

Looking at the full range of position categories it is interesting to note that, of the Assistant Directors and Above category, 88.8 percent deemed it necessary or very necessary. In the Instructor categories, the highest value placed on this item was by Student Services personnel with 90 percent rating skill in the diagnosis of learning problems, necessary or very necessary. The lowest value was indicated by the Section Heads, only 50.0 percent selecting the same categories (Table 4.6).

Table 4.6

Responses to Item 20: "Skills in the Diagnosis of Learning and Teaching Problems," Grouped by Staff Position (All Categories)

Staff Position	Very Necessary and Necessary (1,2)	Helpful (3)	Little and No Use (4,5)	Total
1) Assistant Director and above	15 (88.2%)	0 (0.0%)	2 (11.8%)	17 (3.2%)
2) Department Head	17 (81.0%)	2 (9.5%)	2 (9.5%)	21 (3.9%)
3) Section Head	19 (50.0%)	14 (36.8%)	5 (13.2%)	38 (7.1%)
4) Senior Instructor	57 (72.2%)	17 (21.5%)	5 (6.3%)	79 (14.8%)
5) Instructor	206 (56.0%)	122 (32.7%)	40 (10.9%)	368 (69.0%)
6) Student Services Personnel	9 (90.0%)	1 (10.0%)	0 (0.0%)	10 (1.9%)
Total	323 (60.6%)	156 (29.3%)	54 (10.1%)	533 (100.0%)

Item 21: Skills in the Use of Teaching Techniques

The exact meaning of skills in the Use of Teaching Techniques appeared to be unclear to some respondents. A number wrote in the questionnaire that this was the same as item 18, or as item 14 or as item 13. A total of 66.6 percent considered this skill necessary or very necessary, 24.8 percent, helpful, and 8.6 percent, little or no use. A significant difference in response was found between the group with university teacher training and those without this type of training (Table 4.7). Those with university pedagogical training responded 74.6 percent that skills in the use of teaching techniques was necessary or very necessary, and 18.6 percent, that they were helpful, while the staff with non-university training or no training responded 62.6 percent and 27.8 percent respectively. No other significant differences were found.

Item 22: Skills in the Preparation and Use of Daily Lesson Plans

Skills in the preparation and use of lesson plans are emphasized in the literature as necessary for the development of good lessons. Twenty percent of the respondents thought it very necessary, 28.1 percent, necessary, 29.8 percent, helpful, and 21.4 percent, of little or no use (Table 4.1, page 45).

Table 4.7

Responses to Item 21: "Skills in the Use of Teaching Techniques," Grouped by Pedagogical Training

Pedagogical Training	Very Necessary and Necessary (1,2)	Helpful (3)	Little and No Use (4,5)	Total
(1,2,3)				
No training and non-university training	223 (62.6%)	99 (27.8%)	34 (9.6%)	356 (66.8%)
(4,5,6,7,8)				
University training	132 (74.6%)	33 (18.6%)	12 (6.8%)	177 (33.2%)
Total	355 (66.6%)	132 (24.8%)	46 (8.6%)	533 (100.0%)

Chi-square = 7.6 Probability = .024

Significant differences were found in the responses to this item based on staff position, work area, and academic education. Looking first at staff position, 68.4 percent of the administrators, (Department Heads and above) saw this skill as necessary or very necessary, 13.2 percent as helpful and 18.4 percent as little or no use. The instructors (Section Heads and down) placed less emphasis on the need for this skill responding 47.3, 31.1 and 21.6 percent in each category respectively (Table 4.8).

Table 4.8

Responses to Item 22: "Skills in the Preparation and Use of Daily Lesson Plans," Grouped by Staff Position

Staff Position	Very Necessary and Necessary (1,2)	Helpful (3)	Little and No Use (4,5)	Total
(1,2)				
Administrators	26 (68.4%)	5 (13.2%)	7 (18.4%)	38 (7.1%)
(3,4,5,6)				
Instructors	234 (47.3%)	154 (31.1%)	107 (21.6%)	495 (92.9%)
Total	260 (48.8%)	159 (29.8%)	114 (21.4%)	533 (100.0%)

Chi-square = 7.22 Probability = .03

When the responses were grouped by work area, the fully Administrative staff response was high with 73.3 percent in the necessary and very necessary categories. The next highest was the staff in the Vocational and Apprenticeship training areas with 64.7 percent in the same categories. The lowest were those in the Technology area, who responded 37.7 percent, necessary and very necessary, 33.5 percent, helpful, and 28.9 percent, little or no use (Table 4.9).

Table 4.9

Responses to Item 22: "Skills in the Preparation and Use of Daily Lesson Plans," Grouped by Work Area

Work Area	Very Necessary and Necessary (1,2)	Helpful (3)	Little and No Use (4,5)	Total
1) Technology	90 (37.7%)	80 (33.5%)	69 (28.9%)	232 (44.8%)
2) Business Education	32 (45.1%)	25 (35.2%)	14 (19.7%)	71 (17.3%)
3,4) Vocational and Apprentice-ship	108 (64.7%)	36 (21.6%)	23 (13.8%)	167 (31.3%)
5,6) Arts and Applied Arts	12 (44.4%)	10 (37.0%)	5 (18.5%)	27 (5.1%)
7) Student Services	7 (50.0%)	6 (42.9%)	1 (7.1%)	14 (2.6%)
8) Administrative	11 (73.3%)	2 (13.3%)	2 (13.3%)	15 (2.8%)
Total	260 (48.8%)	159 (29.8%)	114 (21.4%)	533 (100.0%)

Chi-square = 37.85 Probability = less than .001.

In the two groups formed by respondents with a Grade 12 or less education and respondents with university education the former saw more need for this skill, their responses being 61.8, 27.3, and 10.9 percent. Those with university education responded 42.9, 31.0 and 26.1 percent (Table 4.10).

No significant differences were found in the responses based on pedagogical training.

Table 4.10

Responses to Item 22: "Skills in the Preparation and Use of Daily Lesson Plans," Grouped by Academic Education

Academic Education	Very Necessary and Necessary (1,2)	Helpful (3)	Little and No Use (4,5)	Total
(1,2)				
Grade 12 or less completed	102 (61.8%)	45 (27.3%)	18 (10.9%)	165 (31.0%)
(3,4,5,6,7)				
University	158 (42.9%)	114 (31.0%)	96 (26.1%)	368 (69.0%)
Total	260 (48.8%)	159 (29.8%)	114 (21.4%)	533 (100.0%)

Chi-square = 21.12 Probability = less than .001

Item 23: "Skills in the Development and Maintenance of Discipline in Class

Approximately equal numbers responded Very Necessary and Necessary to the need for skill in the development and maintenance of discipline in class, for a total of 72.4 percent, while 19.9 percent responded, Helpful, and 7.7 percent, Little Use or No use.

Differences in responses were noted in grouping by academic education and by pedagogical training. In both these groups those with the lower qualifications considered the skill more important. Staff with no training or non-university teacher-training responded 75.6, 18.3 and 6.2

percent in the three categories, Necessary and Very Necessary, Helpful, and Little or No Use, while staff with university teacher training responded 66.1, 23.2, and 10.7 percent (Table 4.11). The difference was even more pronounced when the staff was grouped by academic education. Here, those with Grade 12 or less completed responded 84.2, 13.3, and 2.4 percent in the three categories; and those with university education responded 67.1, 22.8, and 10.1 percent (Table 4.12).

Table 4.11

Responses to Item 23: "Skills in the Development and Maintenance of Discipline in Class," Grouped by Pedagogical Training

Pedagogical Training	Very Necessary and Necessary (1,2)	Helpful (3)	Little and No Use (4,5)	Total
(1,2,3)				
No training and non-university training	269 (75.6%)	65 (18.3%)	22 (6.2%)	356 (66.8%)
(4,5,6,7,8)				
University training	117 (66.1%)	41 (23.2%)	19 (10.7%)	177 (33.2%)
Total	386 (72.4%)	106 (19.9%)	41 (7.7%)	533 (100.0%)

Chi-square = 6.08 Probability = .048

Table 4.12

Responses to Item 23: "Skills in the Development and Maintenance of Discipline in Class," Grouped by Academic Education

Academic Education	Very Necessary and Necessary (1,2)	Helpful (3)	Little and No Use (4,5)	Total
(1,2) Grade 12 or less completed	139 (84.2%)	22 (13.3%)	4 (2.4%)	165 (31.0%)
(3,4,5,6,7) University education	247 (67.1%)	84 (22.8%)	37 (10.1%)	368 (69.0%)
Total	386 (72.4%)	106 (19.7%)	41 (7.7%)	533 (100.0%)

Chi-square = 18.4 Probability = less than .001

Item 24: Skills in Communication

There was a general consensus as to the importance of communication skills to an instructor. The total staff response was 90.4 percent deeming such skills necessary or very necessary, 5.6 percent, helpful, and 3.9 percent, of little or no use. There were no significant differences among the groups formed on personal data.

Item 25: Knowledge of Principles and Theories of Learning and Forgetting

Knowledge of Principles and Theories of Learning and Forgetting; the first of the eight knowledge items, had a

response of 45.8 percent considering it necessary or very necessary, 40.0 percent, helpful, and 14.3 percent, little or no use. Grouping the sample by technical qualifications revealed a significant difference in the value placed on this item. Those with other-than university technical qualifications responded 51.1 percent, 34.8 percent, and 14.0 percent for the three categories. Staff with university training qualifications saw less need for this knowledge, responding 40.8 percent, 45.3 percent, and 13.9 percent (Table 4.13).

Table 4.13

Responses to Item 25: "Knowledge of Principles and Theories of Learning and Forgetting," Grouped by Technical Qualifications

Technical Qualifications	Very Necessary and Necessary (1,2)	Helpful (3)	Little and No Use (4,5)	Total
(1,2,3)				
Other than university qualifications	135 (51.1%)	92 (34.8%)	37 (14.0%)	264 (49.5%)
(4,5,6)				
University	109 (40.8%)	121 (45.3%)	39 (13.9%)	269 (50.5%)
Total	244 (45.8%)	213 (40.0%)	76 (14.3%)	533 (100.0%)

Chi-square = 6.7 Probability = .03

Item 26: Knowledge of Human Growth and Development

A knowledge of human growth and development was not held to be very important by the sample as a whole. Only 11.4 percent felt it was very necessary, 21.8 percent, necessary, 39.2 percent, helpful and 27.6 percent, little or no use (Table 4.1, page 45).

Breaking the sample responses into groups based on situational and personal data revealed significant differences by work areas. Of all the work area groups, Arts and Applied Arts and Student Services personnel rated knowledge of human growth and development most highly; 51.9 and 78.6 percent respectively responding in the combined Necessary and Very Necessary categories. At the other end of the scale, Vocational and Apprenticeship staff regarded this knowledge of least value with only 24.9 percent responding in the same categories (Table 4.14).

Differences in the perceived value of this knowledge to an instructor were noted when the respondents were grouped by the level of teacher training possessed. Staff with no training and other-than university pedagogical training valued this item less (30.3 percent, necessary or very necessary) than did staff with university teacher training (39.0 percent, necessary or very necessary) (Table 4.15).

Table 4.14

Responses to Item 26: "Knowledge of Human Growth and Development," Grouped by Work Area

Work Area	Very Necessary and Necessary (1,2)	Helpful (3)	Little and No Use (4,5)	Total
1) Technology	68 (28.5%)	104 (43.5%)	67 (28.0%)	239 (44.8%)
2) Business Education	28 (39.4%)	24 (33.8%)	19 (26.8%)	71 (17.3%)
3,4) Vocation-an/Apprentice-ship	50 (24.9%)	63 (37.7%)	54 (32.3%)	167 (31.3%)
5,6) Arts/Applied Arts	14 (51.9%)	8 (29.6%)	5 (18.5%)	27 (5.1%)
7) Student Services	11 (78.6%)	3 (21.4%)	0 (0.0%)	14 (2.6%)
8) Adminis-trative	6 (40.0%)	7 (46.7%)	2 (13.3%)	15 (2.8%)
Total	177 (33.2%)	209 (39.2%)	147 (27.6%)	533 (100.0%)

Chi-square = 25.6 Probability = .006

Table 4.15

Responses to Item 26: "Knowledge of Human Growth and Development," Grouped by Pedagogical Training

Pedagogical Training	Very Necessary and Necessary (1,2)	Helpful (3)	Little and No Use (4,5)	Total
(1,2,3)				
No training and non-university training	108 (30.3%)	135 (37.9%)	113 (31.7%)	356 (66.8%)
(4,5,6,7,8)				
University training	69 (39.0%)	74 (41.8%)	34 (19.2%)	177 (33.2%)
Total	177 (33.2%)	209 (39.2%)	147 (27.6%)	533 (100.0%)

Chi-square = 9.85 Probability = .009

Item 27: Knowledge of the History and Philosophy of Vocational Education

Knowledge of the history and philosophy of vocational education was not deemed important by the sample. Only 13.9 percent felt it was necessary or very necessary, while 51.0 percent thought it of little or no use.

Some differences in weighting were found on grouping the sample. Administrators and instructors differed in their judgement (chi-square probability .008), with the administrators responding 57.9 percent that such knowledge was helpful and 31.6 percent that it was little or no use. The instructors reversed these proportions with 33.3

percent considering knowledge of history and philosophy of vocational education helpful and 52.5 percent as little or no use (Table 4.16).

Table 4.16

Responses to Item 27: "Knowledge of the History and Philosophy of Vocational Education," Grouped by Staff Position

Staff Position	Very Necessary and Necessary (1,2)	Helpful (3)	Little and No Use (4,5)	Total
(1,2)				
Administrators	4 (10.5%)	22 (57.9%)	12 (31.6%)	38 (7.1%)
(3,4,5,6,7,8)				
Instructors	70 (14.1%)	165 (33.3%)	260 (52.5%)	495 (92.9%)
Total	74 (13.9%)	187 (35.1%)	272 (51.0%)	533 (100.0%)

Chi-square = 9.43 Probability = .001

Grouped by pedagogical training those with, other-than university or no teacher training, rated it less important than did those with university training; 10 percent of the former and 20.9 percent of the latter feeling that such knowledge was of least necessary (Table 4.17).

Table 4.17

Responses to Item 27: "Knowledge of the History and Philosophy of Vocational Education," Grouped by Pedagogical Training

Pedagogical Training	Very Necessary and Necessary (1,2)	Helpful (3)	Little and No Use (4,5)	Total
(1,2,3)				
No training and non-university training	37 (10.4%)	125 (35.1%)	194 (54.5%)	356 (66.8%)
(4,5,6,7,8)				
University training	37 (20.9%)	62 (35.0%)	78 (44.1%)	177 (33.2%)
Total	74 (13.9%)	187 (35.1%)	272 (51.0%)	533 (100.0%)

Chi-square = 11.93 Probability = .005

Item 28: Knowledge of the Role of Motivation in Education

There was a consensus regarding the value of a knowledge of the role of motivation in education to an instructor. No significant differences were found among any of the groups examined, and all showed little variation from the opinion of the whole sample, 65.1 percent feeling it necessary or very necessary, 26.1 percent helpful, and 8.8 percent little or no use (Table 4.1, page 45).

Item 29: Knowledge of the Sociology of Education

Only 6.6 percent felt that a knowledge of the

sociology of education was very necessary to an instructor with another 15.8 percent valuing it as necessary. It was considered by 40.2 percent to be helpful and by 37.5 percent to be of little or no use.

When the respondents were grouped by work area significant differences of opinion were noted. Over 40 percent of the Technology and Business Education staff and only 7.1 percent of the Student Services staff responded that a knowledge of the sociology of education was of little or no use to an instructor (Table 4.18).

Table 4.18

Responses to Item 29: "Knowledge of the Sociology of Education," Grouped by Work Area

Work Area	Very Necessary and Necessary (1,2)	Helpful (3)	Little and No Use (4,5)	Total
1) Technology	44 (18.4%)	88 (36.8%)	107 (44.8%)	239 (44.8%)
2) Business Education	20 (28.2%)	21 (29.6%)	30 (42.3%)	71 (13.3%)
3,4) Vocational/ Apprenticeship	39 (23.4%)	75 (44.9%)	53 (31.7%)	167 (31.3%)
5,6) Arts/Applied Arts	10 (37.0%)	11 (40.7%)	6 (22.2%)	27 (5.1%)
7) Student Services	4 (28.6%)	9 (64.3%)	1 (7.1%)	14 (2.6%)
8) Administration	2 (13.3%)	10 (66.7%)	3 (20.0%)	15 (2.8%)
Total	119 (22.3%)	214 (40.2%)	200 (37.5%)	533 (100.0%)

Chi-square = 26.1 Probability = .007

Staff members with other-than university or no teacher training rated the value of a knowledge of the sociology of education to an instructor lower (17.4 percent deeming it necessary or very necessary and 41.3 percent, little or no use) than did those with university teacher training (32.2 percent feeling it necessary or very necessary and only 29.9 percent, little or no use (Table 4.19).

Table 4.19

Responses to Item 29: "Knowledge of the Sociology of Education," Grouped by Pedagogical Training

Pedagogical Training	Very Necessary and Necessary (1,2)	Helpful (3)	Little and No Use (4,5)	Total
(1,2,3) No training and non-university training	62 (17.4%)	147 (41.3%)	147 (41.3%)	356 (66.8%)
(4,5,6,7,8) University training	57 (32.2%)	67 (37.9%)	53 (29.9%)	177 (33.2%)
Total	119 (22.3%)	214 (40.2%)	200 (37.5%)	533 (100.0%)

Chi-square = 15.98 Probability = less than .001

Item 30: Knowledge of the Role of the Instructor as a Counselor

An understanding of the role of the instructor as a

counselor was considered as necessary or very necessary by 35.3 percent, helpful by 43.2 percent and little or no use by 21.6 percent of the total sample. By groups, however, there were several major differences of opinion. Comparing the institutes, the differences had a chi-square probability of less than .001 with S.A.I.T. seeing a much greater need for this knowledge than N.A.I.T., the proportions being 44.1 percent responding *Necessary* or *Very Necessary* by S.A.I.T. and 29.5 percent by N.A.I.T. (Table 4.20).

Table 4.20

Responses to Item 30: "Knowledge of the Role of the Instructor as a Counselor," Grouped by Institution

Institution	Very Necessary and Necessary (1,2)	Helpful (3)	Little and No Use (4,5)	Total
1) S.A.I.T.	93 (44.1%)	89 (42.2%)	29 (13.7%)	211 (39.6%)
2) N.A.I.T.	95 (29.5%)	141 (43.8%)	86 (26.7%)	322 (60.4%)
Total	188 (35.3%)	230 (43.2%)	115 (21.6%)	533 (100.0%)

Chi-square = 17.7 Probability = less than .001

Staff position also reflected differences in opinion, with Administrators seeing more need for a knowledge of the role of the instructor as a counselor than the Instructors. The percentages in the Necessary/Very

Necessary category were 57.9 and 33.5 percent respectively (Table 4.21).

Table 4.21

Responses to Item 30: "Knowledge of the Role of the Instructor as a Counselor," Grouped by Staff Position

Staff Position	Very Necessary and Necessary (1,2)	Helpful (3)	Little and No Use (4,5)	Total
(1,2)				
Administrator	22 (57.9%)	13 (34.2%)	3 (7.9%)	38 (7.1%)
(3,4,5,6)				
Instructor	166 (35.5%)	217 (43.8%)	112 (22.6%)	495 (92.9%)
Total	188 (35.3%)	230 (43.2%)	115 (21.6%)	533 (100.0%)

Chi-square = 10.24 Probability = .007

Item 31: Knowledge of the Psychology of Adult Education

Of the whole sample 40.0 percent felt that knowledge of the psychology of adult education was necessary or very necessary with 37.9 percent responding, helpful and 22.1 percent, of little or no use. Staff in the Technology area saw little need for this knowledge with 33.1 percent judging it necessary or very necessary. Business Education and the Vocational/Apprenticeship areas gave it more importance (43.3 and 42.5 percent respectively). Arts/Applied Arts

and Student Services accorded it even more weight, 55.6 and 71.4 percent respectively responding in the combined necessary categories (Table 4.22).

Table 4.22

Responses to Item 31: "Knowledge of Psychology of Adult Education," Grouped by Work Area

Work Area	Very Necessary and Necessary (1,2)	Helpful (3)	Little and No Use (4,5)	Total
1) Technology	79 (33.1%)	94 (39.3%)	66 (27.6%)	239 (44.8%)
2) Business Education	31 (43.7%)	26 (36.6%)	14 (14.7%)	71 (13.3%)
3,4) Vocational/ Apprentice-ship	71 (42.5%)	68 (40.7%)	28 (16.8%)	167 (31.3%)
5,6) Arts/Applied Arts	15 (55.6%)	5 (18.5%)	7 (25.9%)	27 (5.1%)
7) Student Services	10 (71.4%)	3 (21.4%)	1 (7.1%)	14 (2.6%)
8) Adminis-trative	7 (46.7%)	6 (40.0%)	2 (13.3%)	15 (2.8%)
Total	213 (40.0%)	202 (37.9%)	118 (22.1%)	533 (100.0%)

Chi-square = 20.6 Probability = .03

Pedagogical training appeared to create some differences (chi-square probability less than .001) with 34.4 percent of those with no or non-university training deeming it necessary or very necessary and 53.1 percent of those with university training choosing the same category (Table 4.23).

Table 4.23

Responses to Item 31: "Knowledge of the Psychology of Adult Education," Grouped by Pedagogical Training

Pedagogical Training	Very Necessary and Necessary (1,2)	Helpful (3)	Little and No Use (4,5)	Total
(1,2,3)				
No training and non-university training	119 (33.4%)	145 (40.7%)	92 (25.8%)	356 (66.8%)
(4,5,6,7,8)				
University training	94 (53.1%)	57 (32.2%)	26 (14.7%)	177 (33.2%)
Total	213 (40.0%)	202 (37.0%)	118 (22.1%)	533 (100.0%)

Chi-square = 20.37 Probability = less than .001

Item 32: Knowledge of Programmed Learning Techniques

A knowledge of programmed learning techniques received 28.3 percent response as Necessary or Very Necessary, 47.8 percent as Helpful and 23.8 percent as Little or No Use. The only differences of opinions on this item occurred by staff position. Here, proportionately more administrators felt that this knowledge was necessary or very necessary, (44.7 percent), than did the instructors of whom 27.1 percent responded in the same categories (Table 4.24).

Table 4.24

Responses to Item 32: "Knowledge of Programmed Learning Techniques," Grouped by Staff Position

Staff Position	Very Necessary and Necessary (1,2)	Helpful (3)	Little and No Use (4,5)	Total
(1,2)				
Administrators	17 (44.7%)	16 (42.1%)	5 (13.2%)	38 (7.1%)
(3,4,5,6,7)				
Instructors	134 (27.1%)	239 (48.3%)	122 (24.6%)	445 (92.9%)
Total	151 (28.3%)	255 (47.8%)	127 (23.8%)	533 (100.0%)

Chi-square = 6.1 Probability = .05

Relative Value Placed on the Skills and Knowledge

Table 4.25 lists the items in order of frequency. Two main orders can be obtained, one based on the frequency of the Very Necessary category indicating the items of most importance and the second based on a combination of the necessary and very necessary categories showing perhaps a more general need. While differing orders are obtained using each of these methods, only one item moves more than two positions from one list to the other. Item 24, Skill in Communication, was deemed the most necessary by a considerable margin having 21 percent higher response than the next item in the "very necessary"

Table 4.25

Relative Values Placed on the Listed Skills and Kr vledge Items 13 to 32

Very Necessary			Necessary and Very Necessary		
Percentage	Frequency	Item	Item	Frequency	Percentage
72.6	387	24	24	482	90.4
51.4	274	13	16	440	82.6
42.2	225	16	13	432	81.8
39.4	210	18	18	406	76.2
37.5	200	17	23	286	72.4
37.3	199	23	15	368	69.0
33.0	176	15	17	363	68.1
29.5	157	*28	21	355	66.6
27.8	148	19	28*	347	65.1
27.0	144	20	19	346	64.9
25.5	136	21	20	323	60.6
20.6	110	22	14	278	52.2
17.8	95	14	22	260	48.8
16.3	87	*25	25*	244	45.8
11.4	61	*26	31*	213	40.0
11.4	61	*31	30*	188	35.3
10.3	55	*30	26*	177	33.2
8.3	44	*32	32*	151	28.3
6.6	35	*29	29*	119	22.3
4.5	24	*27	27*	74	13.9

*"Knowledge" items

ordering and gaining 90 percent of the total frequency in the combined category. Next were items 13 and 16 (Skills in; classroom, Lab and Shop Organization and Management, and Testing and Evaluation Techniques) both of which had over 80 percent of the combined category. Skills in the selection and use of appropriate teaching methods, and development and maintenance of discipline in the class were next with over 70 percent of the combined frequencies.

All the items which got more than 50 percent of the response in the combined category, except one, were the "skill" items in the questionnaire. The exception was item 28--Knowledge of the Role of Motivation in Education, which obtained 65 percent. The "knowledge" items were all placed at the least necessary end of the list. The only skill item to get below 50 percent of the response was Skill in the Preparation and Use of Daily Lesson Plans.

SKILLS AND KNOWLEDGES OF MOST VALUE TO A BEGINNING INSTRUCTOR

Question number 33 asked the respondents to select from the list of skills and knowledges the four items felt to be most valuable to a beginning instructor, listed in order of importance.

Table 4.26 presents the three items receiving the highest frequency of response in each of the four choices. Most valuable skills and knowledges, the first choice, were,

Table 4.26

Responses to Item 33: Skills and Knowledges Deemed Most Value to a Beginning Instructor*

Order of Importance	Item Number	Frequency	Percentage**	
1st	13	140	26.3	
	24	82	14.5	
	17	46	8.6	
				50.3
2nd	18	76	14.3	
	16	61	11.4	
	13	46	8.6	
				34.3
3rd	16	70	13.1	
	24	57	10.7	
	18	51	9.6	
				33.4
4th	24	60	11.3	
	16	55	10.3	
	23	48	9.0	
				30.6

*Three items with highest frequencies for each category reported.

** Percentages calculated on responses to each choice.

skills in; classroom, lab. and shop organization and management, communication, and the development of educational objectives. Second most valuable were skills in; the selection and use of appropriate teaching methods, testing and evaluation techniques, and classroom lab. and shop organization and management. In the third position of importance the three items with highest frequencies were repeats of those selected in first and second position, skills in testing and evaluating techniques having the highest response, followed by skill in communication and then skills in the selection and use of appropriate teaching methods. In the fourth position of importance came once again skill in communication, and testing and evaluating techniques, with a new item, skill in the development and maintenance of discipline in class.

When the responses to this question were accumulated, that is, without regard for order of importance, then the skills and knowledges of most value to a beginning instructor were skills in: communication, with 44.9 percent of the response; classroom, lab., and shop organization and management, with 43.9 percent; testing and evaluation techniques with 35.7 percent; and the development of educational objectives with 25.7 percent. Introduced at this level were two new items not included when ordered by importance. They were, a knowledge of the role of motivation in education and skill in the preparation and

use of daily lesson plans, both with 25.4 percent response. Following these was skill in the development and maintenance of discipline in class (Table 4.26). Note was made that the first five items and their order are identical with the list based on the "Very Necessary" category in Table 4.27.

Table 4.27

Accumulated Responses to Item 33: Skills and Knowledges Deemed Most Value to a Beginning Instructor*

Item No.	Frequency	Percentage**
24	239	44.9
13	231	43.9
16	223	41.7
18	190	35.7
17	137	25.7
28	135	25.4
22	134	24.7
23	128	24.0
21	120	22.5
19	109	20.4

N for each item = 533
* Only highest frequencies reported
** Percentages calculated by item

Some differences were observed between the responses to this item based on grouping by personal data. Table 4.28 showed the three highest response percentages for the items selected as most important and second most important to a beginning instructor by personal variables. In the first choice listing of skills and knowledges most valuable to a beginning instructor, the largest response for item 13; skill in Classroom, Lab., and Shop Organization and Management, was from the Vocational/Apprenticeship area staff (35.3 percent). The smallest response was from Student Services staff (7.1 percent). These response percentages were reversed with item 24; Skill in Communication, with the highest response percentage, 35.7, coming from Student Services staff and the lowest, 9.0 percent, from Vocational/Apprenticeship staff. It was also observed that S.A.I.T. had a higher response percentage to all the items, both first and second choice, then had N.A.I.T.

SKILLS AND KNOWLEDGES OF LEAST VALUE TO A BEGINNING INSTRUCTOR

This question asked the respondent to select the four items which, in his opinion, were of least value to a beginning instructor. Though there were no directions in the questionnaire to do so the respondents may have selected the items in order of least importance. Table 4.29

Table 4.28

Response Percentages to Item 33: "Skills and Knowledges Most Valuable to a Beginning Instructor," Grouped by Personal Data Variables

Personal Variables	1st Choice			2nd Choice		
	Item			Item		
	13	24	17	18	16	13
Institution						
S.A.I.T.	31.3	17.1	12.3	15.3	12.8	10.9
N.A.I.T.	23.0	14.3	6.2	13.7	10.6	7.1
Position						
Administrators	21.1	13.2	13.2	5.3	10.5	7.9
Instructors	26.7	15.6	8.3	14.9	11.5	8.7
Work Area						
Technology	26.4	16.3	7.5	13.0	11.3	10.9
Business Education	12.7	16.9	7.0	12.7	11.3	11.2
Vocational/Apprentice	35.3	9.0	7.8	17.4	13.2	8.4
Arts and App. Arts	18.5	29.6	22.2	11.3	0.0	3.7
Student Services	7.1	35.7	7.1	14.3	14.3	14.3
Administrative	20.0	22.0	20.0	13.3	13.3	0.0
Academic Education						
Grade XII or less completed	32.1	9.1	6.1	14.5	15.2	9.1
University	23.6	18.2	9.8	14.1	9.8	8.4

gives the frequencies and percentages of the items chosen based upon the four choices. A knowledge of the history and philosophy of vocational education had the highest percentage response for the first choice (24.8 percent with a knowledge of human growth and development second (14.1 percent) and a knowledge sociology of education (12.2 percent) third. These three items again got the highest response in the second and third choice, the only difference being in the actual order. The fourth choice introduced two new items. A knowledge of programmed learning techniques was first with a 17.3 percent response, knowledge of the psychology of adult education with an 11.1 percent response, tied with a knowledge of the sociology of education for second. In third place was knowledge of human growth and development.

When the accumulated responses were recorded, with no reference to order of priority, the same "knowledge" items were found, with history and philosophy of vocational education at the top with a total response of 71.3 percent, followed by sociology of education with 64.0 percent, then human growth and development with 48.0 percent. The order was seen to change as "the role of the instructor as a counselor" was inserted, with 34.1 percent. Following were the psychology of adult education (33.2 percent) and programmed learning techniques (31.0 percent), and the principles and theories of learning and forgetting (17.2

Table 4.29

Four Skills and Knowledges Deemed of Least Value to a Beginning Instructor*

Choice	Item Number	Frequency	Percentage**	
1st	27	132	24.8	
	26	75	14.1	
	29	65	12.2	
				51.1
2nd	29	120	22.5	
	27	112	21.0	
	26	60	11.3	
				54.8
3rd	29	97	18.2	
	27	87	16.3	
	26	69	12.9	
				47.4
4th	32	92	17.3	
	31			
	29	59	11.1	
	26	57	10.7	
				39.1

* The three items with the highest frequency reported for each category.

** Percentages are based on responses to each choice not on total response.

percent). Note should be made that all of these are "knowledge" items. The only one not included is item 28, Knowledge of the Role of Motivation in Education (Table 4.30). This rating of least value applied to the knowledge items confirms the most value rating given all the "skill" items in the previous question.

Table 4.30

Accumulated Responses to Item 34: Skills and Knowledges Deemed of Least Value to a Beginning Instructor*

Item No.	Frequency	Percentage**
27	360	71.3
29	341	64.0
26	261	48.0
30	183	34.1
31	177	33.2
32	165	31.0
25	92	17.2
15	89	14.9
17	46	8.7
14	45	8.4

N for each item = 533
* Only highest frequencies reported
**Percentages calculated by item

SKILLS AND KNOWLEDGES THE RESPONDENTS FELT MOST IN NEED OF

The question, "Which four of the listed skills and knowledge do you feel yourself to be most in need of?" has implications of order though none was intended. Only 4.3 percent of those surveyed did not list any needs in the first of the four choices. The most frequently selected in the first option was communication skills with 13.7 percent. Skill in the use of testing and evaluation techniques was second and skill in the development and use of audio-visual aids was third. In the second option; skill in diagnosis of learning and teaching problems was first with 8.4 percent, skill in the use of testing and evaluation techniques was second, and knowledge of the role of motivation in education was third. Just over 12 percent did not list any needs in this option. The third choice showed knowledge of the role of motivation first, with 7.1 percent response, and knowledge of the psychology of adult education and of the diagnosis of learning and teaching problems tied for second. The "no response" to this choice was 18.2 percent, almost equal to the total frequency of the other choices for this option. In the fourth option, a knowledge of the psychology of adult learning and of programmed learning techniques, had frequencies of 9.2 and 7.1 percent respectively. The "no

response" frequency here was 24.2 percent (Table 4.31).

Table 4.31

Responses by Choice to Item 35: Skills and Knowledges the Respondent Felt Most in Need Of*

Choice	Item Number	Frequency	Percentage**	
1	24	73	13.7	
	16	55	10.3	
	14	48	9.0	
	No felt need	23	4.3	
				37.3
2	20	45	8.4	
	16	40	7.5	
	28	38	7.1	
	No felt need	66	12.4	
				35.4
3	28	38	7.1	
	31) 20)	36	6.8	
	30	29	5.4	
	No felt need	97	18.2	
				37.5
4	31	49	9.2	
	32	38	7.1	
	30) 20)	29	5.4	
	No felt need	129	24.2	
				45.9

* The three items with the highest frequency reported for each category

** Percentages calculated on each choice

The accumulated frequencies of all items listed in response to the question are shown in Table 4.32. In this list skill in communication has the highest response with 28.3 percent. Here there was no separation of skill and knowledge items, a need for each being recognized. An examination of the responses showed no major differences when grouped by personal variables.

Table 4.32

Accumulated Responses to Item 35: Skills and Knowledges the Respondent Felt Most in Need Of*

Item	Frequency	Percentage**
No felt need	315	59.1
24	151	28.3
28	150	28.1
16	144	27.0
20	140	26.2
31	125	24.6
18	105	19.8
15	103	19.4
30	100	18.7
14	97	18.2
32	88	16.5

* Only highest frequencies reported
** Percentage calculated by item

SKILLS AND KNOWLEDGES SUGGESTED BY THE RESPONDENTS

In order to provide some freedom of response an open-ended question was introduced. The respondent was asked to suggest any further skills and knowledges which would be of value to an instructor. Space was provided for these suggestions to be rated on the same five-point scale used for the other items.

In the survey, 417 respondents or 78.2 percent, availed themselves of this opportunity (Table 4.33). Of particular interest was the fact that 341 of these, almost 82 percent, made at least one mention in one form or another of subject matter competence, upgrading, and practical or technical skills. This was in spite of the covering letter to the questionnaire which stated explicitly that the survey was researching only teacher training (see Appendix). In addition, at the beginning of each relevant section of the questionnaire, there was a "note" to the effect that subject matter competence and skills were assumed. This would seem to be an indication of the great importance that subject matter competence has for the staff of these institutions.

A large number of responses, (182*), were suggestions

*Percentages cannot be meaningfully reported as each respondent had opportunity to make a number of suggestions.

Table 4.33

Summary of Responses to Item 36: "Skills and Knowledges of Value Suggested by Respondents"

	S.A.I.T.	N.A.I.T.	Total
N	211	322	533
Some Response	147 (69.4%)	270 (83.9%)	417 (78.2%)
Suggestions similar to items in the list	103	82	182**
Subject matter competence and upgrading	121	220	341**
Valid responses*	112	95	207**
Non Valid responses	8	20	38**

* See Table 4.34 for these responses
** Percentages cannot be meaningfully reported as each respondent had opportunity to make a number of suggestions.

similar to those already in the list. For example, developing examination questions, the use of television, public speaking, and developing student interest, all of which may be subsumed under the various items which were provided. Thirty-eight responses were not considered to be valid suggestions: for instance, business management, natural ability to teach, and stock-taking were listed, as well as such items as courses in politics, development of a sense of humor, and psychology of administrative motivation.

The valid responses to this item, 207 in all, were carefully examined and, where possible, grouped under a

common title for ease of reporting (Table 4.34). Human relations (these words being used in most of the responses), including responses such as "social interactions" and "social relations", had the highest response with 39, followed by leadership skills, 38, and sensitivity training, 26. In this last item the term sensitivity training was used in each response. While this may perhaps be interpreted as a means of understanding oneself the items included in the fifth classification "understanding oneself" appeared to have a different connotation and hence was kept separate. Had they been included, the combined response would have equalled that of the first item, human relations.

From an examination of the table, comparatively few of the skills and knowledges listed had specific pedagogic connotations. Most of the items, rather than purely teaching skills, were oriented toward sociology or social psychology and self-improvement. Only six of the twenty headings could be considered as directly involving teaching per se. Due to the need to classify responses no attempt was made to compare the items by personal variables, though it is interesting to note that there were more valid responses from S.A.I.T. than from N.A.I.T. even though the latter had a higher percentage of questionnaires returned. No use was made of the rating categories as most of the respondents rated their suggestions as very necessary.

Table 4.34

Classified Responses to Item 36: "Skills and Knowledges Suggested by Respondents"

Response Classification	S.A.I.T.	N.A.I.T.	Total
Human relations	23	16	39
Leadership skills	18	20	38
Sensitivity training	15	11	26
Problem solving	10	9	19
Understanding oneself	6	7	13
Improved academic education	4	6	10
Small group theory	6	3	9
Conducting discussion groups	5	4	9
Objectives of technical education	4	4	8
Understanding Institute policy	3	4	7
Memory training	3	2	5
Role of the instructor	2	3	5
Effective use of time	3	0	3
Interest in students	2	1	3
Rapid reading skills	1	2	3
Listening skills	2	1	3
Remedial teaching	2	1	3
Use of the library	1	1	2
Record keeping	1	0	1
Professional attitude	1	0	1
Total	112	95	207

SUMMARY

In this chapter an analysis has been made of the opinions of the respondents concerning pedagogical competencies of importance to an instructor in post-secondary technical and vocational education.

The most valuable of these was seen to be the development of communication skills which received a total response of 90 percent as being very necessary or necessary. Second was the use of testing and evaluation techniques with 83 percent response in the same categories. Very closely following, and in some areas having [illegible]rity, was skill in classroom, lab. and shop organization and management. The heavy emphasis on this skill was particularly interesting having as it did precedence over other more traditional pedagogical requirements such as skills in; the use of appropriate teaching methods (76 percent), the development and maintenance of discipline in the class (72 percent), curriculum development (69 percent) and the development of educational objectives (68 percent). Knowledge of the role of motivation in education followed with 65 percent response as necessary or very necessary. This was the most highly [illegible] of all the "knowledge" items and the only one to get [illegible] percent of the response in the combined "necessary" categories. Skills in the preparation and use of subject

outlines came next with 64 percent followed by diagnosis of learning and teaching problems (61 percent), use of audio-visual aids (52 percent) and lesson plans (49 percent). The items following these, each with less than fifty percent of the response as necessary or very necessary, were all "knowledge" items. Leading these was knowledge of the principles and theories of learning and forgetting with 49 percent, followed by the psychology of adult education (40 percent) and the role of the instructor as a counselor (35 percent). Least valued of all the items were knowledge of: programmed learning techniques (28 percent), the sociology of education (22 percent) and the history and philosophy of vocational education (14 percent in the combined "necessary" categories).

Grouping the responses by personal variables revealed some differences in value placed on thirteen of the twenty items. Several trends based on responses in the combined "necessary" categories, were noted in the analysis.

1. Those respondents with university teacher training felt more necessity for skills in: developing educational objectives, the use of teaching techniques, the use of teaching methods, and knowledge of; human growth and development, the psychology of adult education, and the sociology of education than did those with no training or other than university teacher training. On the other hand, the latter deemed skill in the development

and maintenance of discipline in class more necessary than did the former.

2. When respondents were grouped by technical qualification the staff with journeyman papers or technical diplomas saw a greater need for skill in the preparation and use of lesson plans, knowledge of theories of learning and forgetting and skill in the development and maintenance of discipline in class than did staff who had university technical preparation.

3. Groups based in staff position revealed that the Administrators saw a greater need for several items than did the Instructors. Greater value was accorded to skills in; the preparation and use of lesson plans (88 to 47 percent respectively), and the diagnosis of learning teaching problems, and knowledge of; human growth and development, the role of the instructor as a counselor, and programmed learning techniques.

4. Work area grouping produced differences in evaluation of such items as skills in the preparation and use of lesson plans, and knowledge of the sociology of education, and of the psychology of adult education. Administrative and Vocational Apprenticeship staff valued lesson planning skills most (73 to 65 percent respectively) with Technology staff valuing it least (38 percent). Arts/ Applied Arts and Student Services staff valued knowledge of the sociology of education and of the psychology of adult

education most highly with the Technology staff valuing them the least.

The ranking of items of most value to a beginning instructor produced a similar ordering to that obtained in the first section, the main difference being that classroom, lab., and shop organization and management gained precedence over communication skills as the most frequently mentioned item. Very closely following were testing and evaluation techniques, the use of appropriate teaching methods, and the development of educational objectives. Skill items were deemed of more value to a beginning instructor than were the knowledge items, with the latter leading the list of items of least value to a beginning instructor. A difference of opinion of the value of skills in classroom, lab., and shop organization and management was observed among the work areas, with Business Education and Student Services staff choosing it least frequently and Vocational/Apprenticeship most frequently.

Responses to the question, "Which skills and knowledges do you feel yourself to be most in need of?" revealed that communication skill ranked the highest, being selected by 28.3 percent of the respondents. Almost equal was knowledge of the role of motivation with 28.1 percent, followed by skills in testing and evaluation techniques and in the diagnosis of learning and teaching

problems. There was not the emphasis on the need for skill items as shown previously, the "knowledge" items being fairly well distributed. Fifty-nine percent of those surveyed did not express any need. No significant differences were found among choices when the sample was grouped by personal variables.

In the final section, asking for suggestions of other competencies of use to an instructor, there were 341 responses concerned with subject matter skills although the survey was not examining this area. There were 207 suggestions given which were similar to those items included in the list. Of the 207 valid responses, after being classified under twenty general headings, the most frequently mentioned were human relations (39 times), leadership skills (38 times), sensitivity training (26 times), and problem solving (19 times). Only six of the twenty classification headings bore any direct pedagogical connotations and most of the items were concerned with self development.

Chapter 5

ANALYSIS OF THE DATA: INSERVICE ACTIVITIES

In the preceding chapter an examination was made of the data concerned with the skills and knowledges of value to an instructor. Chapter 5 continues the analysis of data, the discussion being centered on the second section of the questionnaire, which was aimed at eliciting opinions as to the value of certain inservice and supervisory activities and techniques in helping to improve the quality and efficiency of instruction. The data is analyzed under the following headings:

Inservice Activities and Techniques
Tables 5.1 - 5.28)

Supervision (Tables 5.29 - 5.32)

Training Methods (Tables 5.33 - 5.40)

Summary

INSERVICE ACTIVITIES AND TECHNIQUES

This portion of the questionnaire was composed of a list of fourteen possible inservice training activities and techniques. The respondent was asked to appraise them for their value in helping to improve the quality and effectiveness of instruction. Opinions were indicated by circling the appropriate number. The numbers denoted: 1, Very Helpful, 2. Helpful, 3. Some Help, 4. Little Help,

and 5. No Help. Frequencies and percentages of responses are presented in Table 5.1.

Concluding this section was an open-ended question asking the respondents to suggest further inservice activities which could be added to the list.

Item 37: The Provision of Sources of Expert Guidance and Advice on Instructional Problems

Frequencies and percentages of responses to this item are shown in Table 5.1. Of the 533 respondents, 402 or 75.4 percent felt that the provision of sources of expert guidance and advice would be helpful or very helpful, 16.3 percent thought it of some help while 8.3 percent judged it of little or no help. When respondents were grouped according to work area, some differences in opinions were evident. While Business Education, Vocational/ Apprenticeship, Student Services and Administrative staff rated item 37 highly, each group responding approximately 80 percent for the combined helpful and very helpful categories, the Technology and the Arts staff gave it a lesser value, 68 and 61 percent respectively (Table 5.2, page 100).

Staff with Grade XII education or less valued this item more (84.8 percent) than those with a university education (71.7 percent) (Table 5.3, page 101).

Table 5.1

Responses to Items 37-50: Value of Inservice Training Activities in Helping to Improve Instruction

Item	Very Helpful	Helpful	Some Help	Little Help	No Help
37. The Provision of sources or expert guidance and advice on * instructional problems	206 (38.6%)	196 (38.8%)	87 (16.3%)	27 (5.1%)	17 (3.2%)
38. Demonstrations of teaching * methods and techniques	191 (35.8%)	193 (36.2%)	108 (20.3%)	27 (5.1%)	14 (2.6%)
39. The provision of practice teaching sessions using video tape and playback	175 (32.8%)	173 (32.5%)	131 (24.6%)	34 (6.4%)	20 (3.8%)
40. Departmental meetings and semi-* nars on instructional problems	119 (22.3%)	182 (34.1%)	143 (26.8%)	57 (10.7%)	32 (6.0%)
41. The opportunity for instructors to observe fellow instructors conducting classes and labs.	121 (22.7%)	203 (38.1%)	141 (26.5%)	47 (8.8%)	21 (3.9%)
42. Observation of instruction for the purpose of making recommendations and offering advice for* its improvement	107 (20.1%)	197 (37.0%)	162 (30.4%)	51 (9.6%)	16 (3.0%)
43. Periodic evaluations and ratings* of instruction and instructors	75 (14.1%)	159 (29.8%)	166 (13.1%)	76 (14.3%)	57 (10.7%)
44. Evaluation of instruction and * instructors by students	88 (16.5%)	138 (25.9%)	178 (33.4%)	85 (15.9%)	44 (8.3%)

Table 5.1 (Concluded)

Item		Very Helpful	Helpful	Some Help	Little Help	No Help
45. Provision of continuing in-service training programs by institute staff	*	118 (22.1%)	152 (28.5%)	147 (27.6%)	74 (13.9%)	42 (7.9%)
46. Provision of continuing in-service training programs by university staff	*	76 (14.3%)	113 (21.2%)	144 (27.0%)	110 (20.6%)	90 (16.9%)
47. Making the completion of a certain minimum of inservice courses (beyond those in the preservice session training program) a requirement for pay increments	*	60 (11.3%)	114 (21.4%)	125 (23.5%)	103 (14.3%)	131 (24.6%)
48. Completion of specified institute inservice training courses (beyond those in the pre-session training program) recognized for pay grade purposes as are university courses	*	90 (16.9%)	124 (23.3%)	146 (27.4%)	80 (15.0%)	93 (17.4%)
49. The provision of salary increases or bonuses for outstanding instructors	*	144 (27.0%)	136 (25.5%)	94 (17.6%)	70 (13.1%)	89 (16.7%)
50. The introduction of special university education courses for instructors in post-secondary institutes	*	195 (36.6%)	124 (23.3%)	93 (17.4%)	59 (11.1%)	62 (11.6%)

N = 533

* These items showed significant differences in responses when grouped by personal data variables (see Tables 5.2 - 5.25).

Table 5.2

Responses to Item 37: "Provision of Sources of Expert Guidance and Advice on Instructional Problems," Grouped by Work Area

Work Area	Very Helpful and Helpful (1,2)	Some Help (3)	Little and no Help (4,5)	Total
1) Technology	164 (68.6%)	49 (20.5%)	26 (10.9%)	239 (44.8%)
2) Business Education	58 (81.7%)	12 (16.9%)	1 (1.4%)	71 (13.3%)
3,4) Vocational/Apprenticeship	138 (92.6%)	20 (12.0%)	9 (5.4%)	167 (31.3%)
5,6) Arts/ Applied Arts	19 (70.4%)	1 (3.7%)	7 (25.9%)	27 (5.1%)
7) Student Services	11 (78.6%)	2 (14.3%)	1 (7.1%)	14 (2.6%)
8) Administrative	12 (80.0%)	3 (20.0%)	0 (0.0%)	15 (2.8%)
Total	402 (75.4%)	87 (16.3%)	44 (8.3%)	533 (100.0%)

Chi-square = 34.4 Probability = less than .001

Table 5.3

Responses to Item 37: "Provision of Sources of Expert Guidance and Advice on Instructional Problems," Grouped by Academic Education

Academic Education	Very Helpful and Helpful (1,2)	Some Help (3)	Little and no Help (4,5)	Total
(1,2)				
Grade XII or less completed	140 (84.8%)	17 (10.3%)	8 (4.8%)	165 (31.0%)
(3,4,5,6)				
University education	267 (71.2%)	70 (19.0%)	36 (9.8%)	368 (69.0%)
Total	402 (75.4%)	87 (16.3%)	44 (8.3%)	533 (100.0%)

Chi-square = 11.5 Probability = .006

Item 38: Demonstrations of Teaching Methods and Techniques

The provision of demonstrations of various teaching methods and techniques was considered by 72.0 percent of the sample to be helpful or very helpful with only 7.7 percent deeming it little or no help.

The Arts/Applied Arts staff accorded demonstrations of teaching methods least value, (51.9 percent) and Vocational/Apprenticeship staff the greatest (80.2 percent) in the combined helpful, very helpful categories. A separation of the eighteen respondents in Arts from the nine in the Applied Arts revealed that the Arts staff had

the lowest opinion of this item with 38.9 percent rating it as little or no help. The Applied Arts staff, however, considered it fairly helpful with 66.7 percent responding in the combined helpful categories and 22.2 percent in the little or no help classification (Table 5.4).

Table 5.4

Responses to Item 38: "Demonstrations of Teaching Methods and Techniques," Grouped by Work Area

Work Area	Very Helpful and Helpful (1,2)	Some Help (3)	Little and no Help (4,5)	Total
1) Technology	163 (68.2%)	53 (22.2%)	23 (9.6%)	239 (44.8%)
2) Business Education	53 (74.6%)	16 (22.5%)	2 (2.8%)	71 (13.3%)
3,4) Vocational/ Apprenticeship	134 (80.2%)	27 (16.2%)	6 (3.6%)	167 (31.2%)
5) Arts	8 (44.4%)	3 (16.7%)	7 (38.9%)	18 (3.4%)
6) Applied Arts	6 (66.7%)	1 (11.1%)	2 (22.2%)	9 (1.7%)
7) Student Services	10 (71.4%)	3 (21.4%)	1 (7.1%)	14 (2.6%)
8) Administrative	10 (66.7%)	5 (33.3%)	0 (0.0%)	15 (2.8%)
Total	384 (72.0%)	108 (20.3%)	41 (7.7%)	533 (100.0%)

Item 39: The Provision of Practice Teaching Sessions Using Video-tapes and Playback

Of the 533 respondents 65.3 percent thought that the provision of practice teaching sessions using video-tapes would be helpful in improving instruction while 10.1 percent thought it little or no use. No significant differences developed because of the personal variables although the lowest value was again found in the Arts/ Applied Arts area.

Item 40: Departmental Meetings and Seminars on Instructional Problems

This item, one of the most commonly cited inservice activities for the public school systems, was rated as very helpful by 22.3 percent of the respondents, helpful by 34.1 percent, of some help by 26.8 percent, and little or no use by 16.7 percent (Table 5.1, page 98).

For the Administrators, (department heads and above) 78.9 percent considered this type of activity as helpful or very helpful whereas of the Instructors only 54.7 percent placed it in the same categories (Table 5.5).

Item 41: Opportunity for Instructors to Observe Fellow Instructors Conducting Classes and Labs

The value placed on the opportunity to observe fellow instructors teaching varied again by work area. While the general response was 60.8 percent helpful or better and 12.8 percent little or no use, only 40.7 percent

Table 5.5

Responses to Item 40: "Departmental Meetings and Seminars on Instructional Problems," Grouped by Staff Position

Staff Position	Very Helpful and Helpful (1,2)	Some Help (3)	Little and no Help (4,5)	Total
(1,2)				
Administrators	30 (78.9%)	5 (13.2%)	3 (7.9%)	38 (7.1%)
(3,4,5,6)				
Instructors	271 (54.7%)	138 (27.9%)	86 (17.4%)	495 (92.9%)
Total	301 (56.5%)	143 (26.8%)	89 (16.7%)	533 (100.0%)

Chi-square = 8.1 Probability = .02

of the Arts/Applied Arts deemed such opportunity helpful or very helpful and 25.9 percent, little or no use. Highest response in the helpful and better category was from the Vocational/Apprenticeship staff with 71.3 percent (Table 5.6).

Item 42: Observations of Instruction for the Purpose of Making Recommendations and Offering Advice for Its Improvement

Observation of instruction to offer advice for its improvement, a traditional activity of supervision, was not valued highly by the respondents as a means of improving the quality of instruction. Only 20.1 percent regarded it very helpful, 37.0 percent, helpful, 30.4

Table 5.6

Responses to Item 41: "Opportunity for Instructors to Observe Fellow Instructors Conducting Classes and Labs," Grouped by Work Area

Work Area	Very Helpful and Helpful (1,2)	Some Help (3)	Little and no Help (4,5)	Total
1) Technology	133 (55.6%)	75 (31.4%)	31 (13.0%)	239 (44.8%)
2) Business Education	46 (64.8%)	20 (28.2%)	5 (7.0%)	71 (13.3%)
3,4) Vocational/ Apprenticeship	119 (71.3%)	27 (16.2%)	21 (12.6%)	67 (31.3%)
5,6) Arts/ Applied Arts	11 (40.7%)	9 (33.3%)	7 (25.9%)	27 (5.1%)
7) Students Services	8 (57.1%)	3 (21.4%)	3 (21.4%)	14 (2.6%)
8) Administrative	7 (46.7%)	7 (46.7%)	1 (6.7%)	15 (2.8%)
Total	324 (60.8%)	141 (26.5%)	68 (12.8%)	533 (100.0%)

Chi-square = 25.2 Probability = .004

percent some help and 12.6 percent little or no help (Table 5.1, page 98). The Administrators rated it more highly (76.3 percent) than did the Instructors (57.0 percent) (Table 5.7). Further, the staff with no teacher training and other-than university teacher training rated it more highly (61.2 percent) than did staff who had university pedagogical training (48.6 percent) (Table 5.8).

Table 5.7

Responses to Item 42: "Observations of Instruction for the Purpose of Making Recommendations and Offering Advice for Its Improvement," Grouped by Staff Position

Staff Position	Very Helpful and Helpful (1,2)	Some Help (3)	Little and no Help (4,5)	Total
(1,2)				
Administrator	29 (76.3%)	7 (18.4%)	2 (5.3%)	38 (7.1%)
(3,4,5,6)				
Instructor	275 (55.6%)	155 (31.3%)	65 (13.1%)	495 (92.9%)
Total	304 (57.0%)	162 (30.4%)	67 (12.6%)	533 (100.0%)

Chi-square = 6.33 Probability = .04

Table 5.8

Responses to Item 42: "Observations of Instruction for the Purpose of Making Recommendations and Offering Advice for Its Improvement," Grouped by Pedagogical Training

Pedagogical Training	Very Helpful and Helpful (1,2)	Some Help (3)	Little and no Help (4,5)	Total
(1,2,3)				
No training and non-university training	218 (61.2%)	101 (26.4%)	37 (10.4%)	356 (66.8%)
(4,5,6,7,8)				
University training	86 (48.6%)	61 (34.5%)	30 (16.9%)	177 (33.2%)
Total	304 (57.0%)	162 (30.4%)	67 (12.6%)	533 (100.0%)

Chi-square = 8.8 Probability = .01

Item 43: Periodic Evaluations and Ratings of Instruction and Instructors

Evaluation and rating of instruction and instructors was not highly regarded by the respondents, with only 14.1 percent rating it very helpful and 29.8 percent as helpful. Thirty-one percent saw it as some help and 25.0 percent felt it little or no use. The Administrators saw such evaluation as more valuable that did the Instructors, helpful or better responses being 63.2 and 42.4 percent respectively (Table 5.9). As in the previous item, those with no training or other-than university teacher training regarded evaluation and rating as more helpful (46.1 percent) than did the staff with university teaching courses (39.5 percent). An even greater difference was seen in their evaluation in the Little and No Use category. Here, the non-university and university-trained staff responded 21.1 and 38.8 percent respectively (Table 5.10).

Item 44: Evaluation of the Instruction and Instructors by the Students

Evaluation of instructors and program by the students received similar responses to those for the previous item, with 16.5 percent considering student evaluation very helpful, 25.9 percent helpful, 33.4 percent some help, and 24.2 percent of little or no use (Table 5.1, page 98).

Differences were found when the respondents were grouped by work areas and by teaching experience in the

Table 5.9

Responses to Item 43: "Periodic Evaluations and Ratings of Instruction and Instructors," Grouped by Staff Position

Staff Position	Very Helpful and Helpful (1,2)	Some Help (3)	Little and no Help (4,5)	Total
(1,2)				
Administrators	24 (63.2%)	8 (21.1%)	6 (15.8%)	38 (7.1%)
(3,4,5,6)				
Instructors	210 (42.4%)	158 (31.9%)	127 (25.7%)	445 (92.9%)
Total	234 (43.9%)	166 (31.1%)	129 (25.7%)	533 (100.0%)

Chi-square = 6.2 Probability = .05

Table 5.10

Responses to Item 43: "Periodic Evaluations and Ratings of Instruction and Instructors," Grouped by Pedagogical Training

Pedagogical Training	Very Helpful and Helpful (1,2)	Some Help (3)	Little and no Help (4,5)	Total
(1,2)				
No training and non-university training	164 (46.1%)	117 (32.9%)	75 (21.1%)	356 (66.8%)
(3,4,5,6,7,8)				
University training	70 (39.5%)	49 (27.7%)	58 (38.8%)	177 (33.2%)
Total	234 (43.9%)	166 (31.1%)	133 (25.0%)	533 (100.0%)

Chi-square = 8.7 Probability = .01

institute. In the former grouping, the Arts and Applied Arts staff had the least regard for student evaluation responding 18.5 percent helpful or better, and 51.9 percent of little or no use. Technology gave the highest value to such evaluation with 48.1 and 20.1 percent in the same categories (Table 5.11).

Table 5.11

Responses to Item 44: "Evaluation of Instruction and Instructors by Students," Grouped by Work Area

Work Area	Very Helpful and Helpful (1,2)	Some Help (3)	Little and no Help (4,5)	Total
1) Technology	115 (48.1%)	76 (31.8%)	48 (20.1%)	239 (44.8%)
2) Business Education	28 (39.4%)	31 (43.7%)	12 (16.9%)	71 (13.3%)
3,4) Vocational/ Apprenticeship	66 (39.5%)	51 (30.5%)	50 (24.9%)	167 (31.3%)
5,6) Arts/ Applied Arts	5 (18.5%)	8 (29.6%)	14 (51.9%)	27 (5.1%)
7) Student Services	6 (42.9%)	5 (35.7%)	3 (21.4%)	14 (2.6%
8) Administrative	6 (40.0%)	7 (46.7%)	2 (13.3%)	15 (2.8%)
Total	266 (42.4%)	178 (33.4%)	129 (24.2%)	533 (100.0%)

Chi-square = 24.5 Probability = .008

Classifying the respondents by number of years they had taught in the institutes revealed a clear trend from the highest value (51.9 percent as helpful or better) given by those with less than one year teaching and the lowest value (33.3 percent as helpful or better) given by instructors with over ten years teaching experience in the institute (Table 5.12).

Table 5.12

Responses to Item 44: "Evaluation of Instruction and Instructors by Students," Grouped by Institute Teaching Experience

Institute Teaching Experience	Very Helpful and Helpful (1,2)	Some Help (3)	Little and no Help (4,5)	Total
1) Less than 1 year	56 (51.9%)	35 (32.4%)	17 (15.7%)	108 (20.3%)
2) 1 to 3 years	76 (46.1%)	52 (31.5%)	37 (22.4%)	165 (31.0%)
3) 4 to 6 years	53 (37.9%)	53 (37.9%)	34 (24.3%)	140 (26.3%)
4) 7 to 9 years	27 (34.6%)	26 (33.3%)	25 (32.1%)	76 (14.6%)
5) 10 years or more	14 (33.3%)	12 (28.6%)	16 (38.1%)	42 (7.9%)
Total	226 (42.4%)	178 (33.4%)	129 (24.2%)	533 (100.0%)

Chi-square = 15.5 Probability = .05

Item 45: Provision of Continuing Inservice Training Programs by the Institute Staff

This item, together with number 46, was aimed at determining the perceived usefulness of a continuing in-service program and also who should instruct such a program. Of all the respondents, 50.9 percent thought continuing inservice training by institute staff to be helpful or better, 27.6 percent, some help, and 21.8 percent of little or no help. The Administrators considered such a program to be more helpful than did the Instructors, the results being 73.7 percent helpful or better for the former and 48.9 percent helpful or better for the latter (Table 5.13).

Table 5.13

Responses to Item 45: "Provision of Continuing Inservice Training Programs by Institute Staff," Grouped by Staff Position

Staff Position	Very Helpful and Helpful (1,2)	Some Help (3)	Little and no Help (4,5)	Total
(1,2)				
Administrators	28 (73.7%)	5 (13.2%)	5 (13.2%)	38 (7.1%)
(3,4,5,6)				
Instructors	242 (49.9%)	142 (28.7%)	111 (22.4%)	495 (92.9%)
Total	270 (50.7%)	147 (27.6%)	116 (21.8%)	533 (100.0%)

Chi-square = 8.8 Probability = .01

Using the amount of teacher training as a basis for grouping the respondents, those with no training and other-than university training saw slightly more value in inservice programs by institute staff (54.2 percent helpful or better) than did those with some university pedagogy (43.5 percent helpful or better) (Table 5.14).

Table 5.14

Responses to Item 45: "Provision of Continuing Inservice Training Programs by Institute Staff," Grouped by Pedagogical Training

Pedagogical Training	Very Helpful and Helpful (1,2)	Some Help (3)	Little and no Help (4,5)	Total
(1,2,3)				
No Training and non-university training	193 (54.2%)	94 (26.4%)	69 (16.4%)	356 (66.8%)
(4,5,6,7)				
University training	77 (43.5%)	53 (29.9%)	47 (26.6%)	177 (33.2%)
Total	270 (50.7%)	147 (27.6%)	116 (21.8%)	533 (100.0%)

Chi-square = 6.0 Probability = .01

Examination of responses grouped by work area showed that inservice training courses presented by institute staff were considered to be helpful or better by 86.7 percent of the Administrative staff, by 64.3 percent of Student Services, by 61.7 percent of Vocational/Apprenticeship, by

47.9 percent of Business Education, by 43.1 percent of Technology, and by 29.6 percent of Arts/Applied Arts (Table 5.15).

Table 5.15

Responses to Item 45: "Provision of Continuing Inservice Training Programs by Institute Staff," Grouped by Work Area

Work Area	Very Helpful and Helpful (1,2)	Some Help (3)	Little and no Help (4,5)	Total
1) Technology	103 (41.3%)	81 (33.9%)	55 (23.0%)	239 (49.8%)
2) Business Education	34 (47.9%)	19 (26.8%)	18 (25.4%)	71 (13.3%)
3,4) Vocational/ Apprenticeship	103 (61.7%)	39 (23.4%)	25 (15.0%)	167 (31.3%)
5,6) Arts/ Applied Arts	8 (29.6%)	4 (14.8%)	15 (55.6%)	27 (5.1%)
7) Student Services	9 (64.3%)	2 (14.3%)	3 (21.4%)	14 (2.6%)
8) Administrative	13 (86.7%)	2 (13.3%)	0 (0.0%)	15 (2.8%)
Total	270 (50.7%)	147 (27.6%)	116 (21.8%)	533 (100.0%)

Chi-square = 43.2 Probability = less than .001

Item 46: The Provision of Inservice Training Programs by University Staff

The value of inservice training programs provided by university staff, rather than by institute staff, was perceived to be lower with only 35.5 percent of the respondents feeling it to be helpful or better, and 37.5 percent judging it of little use.

Comparison was made of the responses from item 45 with those from item 46 based on grouping by staff position (Tables 5.13 and 5.16), by pedagogical training (Tables 5.14 and 5.17), and by work area (Tables 5.15 and 5.18).

Table 5.16

Responses to Item 46: "Provision of Continuing Inservice Training by University Staff," Grouped by Staff Position

Staff Position	Very Helpful and Helpful (1,2)	Some Help (3)	Little and no Help (4,5)	Total
(1,2)				
Administrators	9 (23.7%)	13 (34.2%)	16 (42.1%)	38 (7.1%)
(3,4,5,6)				
Instructors	180 (36.4%)	131 (26.5%)	184 (37.2%)	495 (92.9%)
Total	189 (35.5%)	144 (27.0%)	200 (37.5%)	533 (100.0%)

Chi-square = 2.6 Probability = .26

Table 5.17

Responses to Item 46: "Provision of Continuing Inservice Training Courses by University Staff," Grouped by Pedagogical Training

Pedagogical Training	Very Helpful and Helpful (1,2)	Some Help (3)	Little and no Help (4,5)	Total
(1,2,3)				
No training and non-university training	114 (32.0%)	98 (27.5%)	144 (40.4%)	356 (66.8%)
(4,5,6,7)				
University training	75 (42.4%)	46 (26.0%)	56 (31.6%)	177 (33.2%)
Total	189 (35.5%)	144 (27.0%)	200 (37.5%)	533 (100.0%)

Chi-square = 6.12 Probability = .05

Staff position grouping revealed that the Administrators' evaluation of continuing inservice programs provided by institute staff (73.7 percent helpful or better) was reduced to 23.7 percent helpful or very helpful, for a program presented by university staff. The Instructors rating was also reduced but not to the same extent (49.9 percent to 35.5 percent).

Respondents with no training or other-than university teacher training indicated a lower opinion of courses provided by university staff (32.0 percent) than of courses provided by institute staff (59.2 percent).

Table 5.18

Responses to Item 46: "Provision of Continuing Inservice Training Programs by University Staff," Grouped by work Area

Work Area	Very Helpful and Helpful (1,2)	Some Help (3)	Little and no Help (4,5)	Total
(1) Technology	90 (37.7%)	66 (27.6%)	83 (34.7%)	239 (48.8%)
(2) Business Education	27 (38.0%)	15 (21.1%)	29 (40.8%)	71 (13.3%)
(3,4) Vocational/ Apprenticeship	51 (30.5%)	48 (28.7%)	68 (40.7%)	167 (31.3%)
(5,6) Arts/ Applied Arts	6 (22.2%)	5 (18.5%)	16 (59.3%)	27 (5.1%)
(7) Student Services	10 (71.4%)	4 (28.6%)	0 (0.0%)	14 (2.6%)
(8) Administrative	5 (33.3%)	6 (40.0%)	4 (26.7%)	15 (2.8%)
Total	189 (35.5%)	164 (27.0%)	200 (37.5%)	533 (100.0%)

Chi-square = 22.1 Probability = .02

For respondents with university teacher-training the perceived value of such courses presented by institute or university staff was approximately the same.

In the various work areas, there was a general drop in perceived value (only Student Services rating increased). Major reductions were noted in the Administrative staff responses (from 86.7 percent to 33.3 percent helpful or very helpful) and in the Vocational/Apprenticeship staff

responses (from 61.7 percent to 30.5 percent helpful or very helpful).

Item 47: Making the Completion of a Certain Minimum of Inservice Courses (Beyond those in the Pre-session Training Program) a Requirement for Pay Increments

This item, together with items 48 and 49, examined differing approaches to the monetary recognition of pedagogical training or skill. Item 47 suggested that certain pedagogical training courses be a prerequisite to pay increments.

Responses indicated that such a requirement was not regarded as being very helpful to the improvement of instruction, only 11.3 percent putting it in this category with 21.4 percent rating it helpful while 43.9 percent saw it as little or no help. The Vocational/Apprenticeship staff rated making completion of certain courses a requirement for pay increments most highly (46.1 percent as helpful or better and 29.9 percent as little or no help); Arts/Applied Arts staff accorded it the least value, (18.5 percent helpful or better and 59.3 percent of little or no help).

When the staff were grouped by technical qualifications there were major differences of opinion. Of those with other-than university technical training 42.4 percent responded that the completion of certain pedagogical courses be a prerequisite to pay increments would be helpful or very

helpful while only 23.2 percent of those with university qualifications responded in the same categories (Table 5.20).

Table 5.19

Responses to Item 47: "Making the Completion of a Certain Minimum of Inservice Courses (beyond those in the pre-session Training Program) a Requirement for Pay Increments," Grouped by Work Area

Work Area	Very Helpful and Helpful (1,2)	Some Help (3)	Little and no Help (4,5)	Total
(1) Technology	63 (26.4%)	54 (22.6%)	122 (51.0%)	239 (44.8%)
(2) Business Education	20 (28.2%)	15 (21.1%)	36 (50.7%)	71 (13.3%)
(3,4) Vocational/ Apprenticeship	77 (46.1%)	40 (24.0%)	50 (29.9%)	167 (31.3%)
(5,6) Arts/ Applied Arts	5 (18.5%)	6 (22.7%)	16 (59.3%)	27 (5.1%)
(7) Student Services	6 (42.9%)	3 (21.4%)	5 (25.7%)	14 (2.6%)
(8) Administrative	3 (20.0%)	7 (46.7%)	5 (33.3%)	15 (2.8%)
Total	174 (32.6%)	125 (23.5%)	134 (43.9%)	533 (100.0%)

Chi-square = 32.3 Probability = less than .001

Table 5.20

Responses to Item 47: "Making the Completion of a Certain Minimum of Inservice Courses (beyond those in the Pre-session Training Program) a Requirement for Pay Increments," Grouped by Technical Qualifications

Technical Qualifications	Very Helpful and Helpful (1,2)	Some Help (3)	Little and no Help (4,5)	Total
(1,2,3)				
Other than university qualifications	112 (42.4%)	59 (22.3%)	93 (35.2%)	264 (49.5%)
(4,5,6)				
University and Professional qualifications	62 (23.2%)	66 (24.7%)	139 (52.1%)	267 (50.5%)
Total	174 (32.6%)	125 (23.5%)	234 (43.9%)	533 (100.0%)

Chi-square - 24.6 Probability = less than .001

Item 48: Completion of Specified Institute Inservice Training Courses (beyond those in the Pre-session Training Program) Recognized for Pay Grade Purposes as are University Education Courses

A slightly higher value was placed on the recognition of certain institute inservice courses for pay grade purposes than on the previous item with 40.2 percent of the respondents deeming it helpful or very helpful and only 32.5 percent regarding it as little or no use. As with item 47 differences were noted in responses grouped by work area and technical qualification. Table 5.21 shows the responses by work area.

In each of these areas, there was an increase in the percentage of Helpful or Very Helpful responses and a corresponding decrease in the Little or No Value responses. Arts/Applied Arts staff still placed the lowest value on this item (22.2 percent, helpful or better). Vocational/ Apprenticeship staff rated recognition of institute in-service courses for pay grade purposes most highly, with 53.9 percent helpful or better.

Table 5.21

Responses to Item 48: "Completion of Specified Institute Inservice Training Courses (beyond those in the Pre-session Training Program) Recognized for Pay Grade Purposes as are University Education Courses," Grouped by Work Area

Work Area	Very Helpful and Helpful (1,2)	Some Help (3)	Little and no Help (4,5)	Total
(1) Technology	33 (34.7%)	61 (25.5%)	95 (39.7%)	239 (44.8%)
(2) Business Education	24 (33.8%)	17 (23.9%)	30 (42.3%)	71 (17.3%)
(3,4) Vocational/ Apprenticeship	90 (53.9%)	47 (28.1%)	30 (18.0%)	167 (31.3%)
(5,6) Arts/ Applied Arts	6 (22.2%)	7 (25.9%)	14 (51.9%)	27 (5.1%)
(7) Student Services	7 (50.0%)	5 (35.7%)	2 (14.3%)	14 (2.6%)
(8) Administrative	4 (26.7%)	9 (60.0%)	2 (13.3%)	15 (2.8%)
Total	214 (40.2%)	146 (27.4%)	173 (32.5%)	533 (100.0%)

Chi-square = 43.4 Probability = less than .001

Similar results were found when grouping respondents by technical training. There was a general increase in indicated value, with staff possessing other than university training rating it higher (Table 5.22).

Table 5.22

Responses to Item 48: "Completion of Specified Institute Inservice Courses (beyond those in the Pre-session Training Program) Recognized for Pay Grade Purposes," Grouped by Technical Qualifications

Technical Qualifications	Very Helpful and Helpful (1,2)	Some Help (3)	Little and no Help (4,5)	Total
(1,2,3)				
Other than university qualifications	140 (53.0%)	69 (26.1%)	55 (20.8%)	264 (49.5%)
(4,5,6)				
University and Professional qualifications	74 (27.7%)	77 (28.8%)	118 (44.6%)	268 (50.5%)
Total	214 (40.2%)	146 (27.4%)	173 (32.5%)	533 (100.0%)

Chi-square = 46.6 Probability = less than .001

Item 49: Provision of Salary Increases or Bonuses for Outstanding Instructors

The idea of a form of merit pay to help to improve the quality of instruction received a response of 52.2 percent helpful or very helpful. Thirty percent felt that it was of little or no help. Merit pay was seen as being

more helpful than either the requirement of courses for pay increments or the recognition of such courses for pay grade purposes.

No significant differences were observed between the responses from staff in the various work areas, indicating a considerable change of value in some sections. It is interesting to note that the Arts/Applied Arts staff, which gave the lowest evaluation to the two previous items, valued merit pay more highly than any other staff group (Table 5.23).

Table 5.23

Responses to Item 49: "Provision of Salary Increases or Bonuses for Outstanding Instructors," Grouped by Work Area

Work Area	Very Helpful and Helpful (1,2)	Some Help (3)	Little and no Help (4,5)	Total
1) Technology	127 (53.1%)	38 (15.9%)	74 (31.0%)	239 (44.8%)
2) Business Education	35 (49.3%)	14 (19.7%)	22 (31.0%)	71 (13.3%)
(3,4) Vocational/ Apprenticeship	86 (57.9%)	34 (20.4%)	47 (28.1%)	167 (31.3%)
(5,6) Arts/ Applied Arts	17 (63.0%)	0 (0.0%)	10 (37.0%)	27 (5.1%)
7) Student Services	8 (57.1%)	2 (14.3%)	4 (28.6%)	14 (2.6%)
8) Administrative	7 (46.7%)	6 (40.0%)	2 (13.3%)	15 (2.8%)
Total	280 (52.5%)	94 (17.6%)	159 (29.8%)	533 (100.0%)

Chi-square = 13.4 Probability = .2

Values given by staff with other-than university technical qualifications and by those with university qualifications were reversed with this item. Those with university technical training valued merit pay more highly, (helpful or very helpful, 56.2 percent), than did those with other than university technical training (49.2 percent, helpful or very helpful) (Table 5.24).

Table 5.24

Responses to Item 49: "Provision of Salary Increases or Bonuses for Outstanding Instructors," Grouped by Technical Qualification

Technical Qualification	Very Helpful and Helpful (1,2)	Some Help (3)	Little and no Help (4,5)	Total
(1,2,3)				
Other than university qualifications	130 (49.2%)	56 (21.2%)	78 (29.5%)	264 (49.5%)
(4,5,6,7)				
University and Professional Qualifications	150 (56.2%)	38 (14.2%)	81 (30.6%)	269 (50.3%)
Total	280 (52.5%)	94 (17.6%)	159 (29.8%)	533 (100.0%)

Chi-square = 4.9 Probability = .08

Item 50: Introduction of Special University Education Courses for Instructors in Post-Secondary Institutions

The introduction of special university education courses for instructors in post-secondary education was seen to be helpful in improving instruction by 59.8 percent of the respondents and of little or no use by 22.7 percent.

The only major differences observed, occurred when the respondents were grouped by amount of teacher-training possessed. This item was rated as helpful or very helpful by 71.8 percent of the staff who possessed some university pedagogical training while it was rated helpful or very helpful by only 53.9 percent of those with no teacher training or non-university training.

Table 5.25

Responses to Item 50: "Introduction of Special University Education Courses for Instructors in Post-Secondary Institutions," Grouped by Pedagogical Training

Pedagogical Training (1,2,3)	Very Helpful and Helpful (1,2)	Some Help (3)	Little and no Help (4,5)	Total
No training and non-university training (4,5,6,7,8)	192 (53.9%)	72 (20.2%)	92 (25.8%)	356 (66.8%)
University training	127 (71.8%)	21 (11.9%)	29 (16.4%)	177 (33.2%)
Total	319 (59.8%)	93 (17.4%)	121 (22.7%)	533 (100.0%)

Chi-square = 15.7 Probability = less than .001

Relative Values Placed on the Listed Inservice Activities and Techniques, Items 37 to 50

The relative values placed on the listed inservice activities and techniques are shown in Table 5.26. Two main orders can be obtained, one based upon the frequency of response in the Very Helpful category, and the second based on a combination of the frequencies in the Very Helpful and Helpful categories which show, perhaps, a more general value. From these two orderings it can be seen that only four of the fourteen items retain the same position in both lists, while another four vary their order three positions from one list to the other.

Item 37, the provision of sources of expert guidance and advice has the highest frequency in both lists. Second in the combined Helpful and Very Helpful categories was item 38, the provision of demonstrations of teaching methods and techniques, with item 39, the provision of practice teaching using video-tapes in third place. Fourth is item 41, the opportunity to observe fellow instructors, and fifth, item 50, the introduction of special university education courses for instructors in post-secondary institutions. There was less than 16 percent difference in response between the fifth and first choices.

Examination of the ordering of responses in the Very Helpful category showed that the second position was held by item 50 (which was fifth in the "combined category" list)

followed by item 38, item 39 and in fifth place item 49, salary increases or bonuses for outstanding instructors. Of the first five positions, four of the five items are common to both lists.

Table 5.26

Relative Values Placed on the Listed Inservice Activities and Techniques Items 37 to 50

Very Helpful			Very Helpful and Helpful		
Percentage	Frequency	Item	Item	Frequency	Percentage
38.6	206	37	37	402	75.4
36.6	195	50	38	384	72.0
35.8	191	38	39	348	65.3
32.8	175	39	41	324	60.3
27.0	144	49	50	319	59.8
22.7	121	41	42	304	57.0
22.3	119	40	40	301	56.5
22.0	118	45	49	280	52.5
20.1	107	42	45	270	50.7
16.9	90	48	43	234	43.7
16.5	88	44	44	226	42.4
14.3	76	46	48	214	40.7
14.1	75	43	46	189	35.5
11.3	60	47	47	174	32.6

Item 51

This item was an open-ended question asking the respondents to list further inservice activities and techniques which they felt could be added to those provided. Space was available for the respondent to rate their suggestions on the same five-point scale used to rate the previous items.

Of the possible 533 questionnaires returned, 201 or 37.7 percent made some comment about this item (Table 5.27). Again, subject matter competence was the most frequent suggestion. Most of the 122 comments were concerned with the provision of courses for upgrading, the opportunity to return to industry and attend industrial seminars, release time to contact industry, and the provision of technical experts from industry and research to speak and lecture on their specialties.

Table 5.27

Frequencies of Responses to Item 51, Inservice Activities and Techniques Suggested by Respondents

	S.A.I.T.	N.A.I.T.	Total
N	211	322	533
Some response	94	107	201
	(44.5%)	(33.3%)	(37.7%)
Subject matter upgrading	52	70	122**
Suggestions similar to items listed	26	30	56**
Valid comments*	32	28	60**
Non-valid comments	9	13	22**

* See Table 5.26 for these responses
** Percentages cannot be meaningfully reported as each respondent had opportunity to make a number of suggestions.

There were fifty-six suggestions which were similar to those already contained in the list: for example, opportunity to see teaching methods in other departments; instruction in audio-visual techniques; help with problem students; increased pay for taking inservice courses.

A few of the responses (22) were not considered valid suggestions. For instance, communication skills, testing and evaluation, institute policy, and human relations would more properly be termed skills and knowledges, and suggestions such as; longer holidays, and observation and evaluation of administrators.

The sixty valid suggestions in this question, were classified under eleven headings for ease of reporting (Table 5.28). "The reimbursement of course fees on completion" received the highest response being suggested nine times. This was followed by "visits to other institutes", (8) and "review of pre-session training program at the end of the year" (8). The use of team-teaching was mentioned seven times. Notes were made by three respondents that team teaching should be used for its teacher-training value rather than for other attributes it is reputed to have.

SUPERVISION

This portion of the questionnaire was directed toward determining which staff members could best provide a number

Table 5.28

Classified Responses to Item 51, Inservice Activities and Techniques Suggested by Respondents

Response Classification	S.A.I.T.	N.A.I.T.	Total
Reimbursement of course fees on completion	4	5	9
Visits to other institutions	4	4	8
Review of pre-session training program at the end of year	5	3	8
Use of team teaching	4	3	7
One year pre-service training	4	3	7
Exchange instructors with other institutes	3	2	5
Regular department meetings of N.A.I.T. and S.A.I.T.	2	3	5
More practical teacher training	2	2	4
Seminars between unrelated departments and divisions	2	1	3
Conferences with students	1	2	3
Instructor "think ins"	1	0	1
Total	32	28	60

of services. These services, four in number, are traditional supervisory activities: (1) providing guidance and advice on instructional problems; (2) demonstrating teaching methods and techniques; (3) classroom visitations to offer advice, and (4) periodic evaluations and ratings of the instructors.

The respondent was asked to select from a list the person he felt could best provide each of the services. The list was composed of: (1) Director of Instruction; (2) Department Head; (3) Section Head; (4) a Recognized "Good Instructor", and (5) All of These. The frequency and percentage of responses as to the best person to provide each of the supervision services are shown in Table 5.29. Tables 5.30 to 5.32 show the differences in responses when the respondents were grouped by personal data variables.

Examination of the returned questionnaires revealed that this list was limiting to the respondents. Other responses should have been included; such as, none of these, and combinations, 1, 2 and 3, or 3 and 4. When the data were being processed these extra categories were included. The list was then composed of:

1. Director of Instruction
2. Department Head
3. Section Head
4. A recognized "good instructor"

5. All of these

6. 1, 2, and 3 together

7. None of these

8. 3 and 4 together.

It must be kept in mind, however, that very few of the respondents would think of circling combinations of numbers or of writing in "none of these" and that, therefore, severe limitations were placed on the possible choice of answers to this section. Table 5.29 presents the frequency and percentage of responses to items 52 to 55.

Item 52: Provide Guidance and Advice on Instructional Problems

The recognized "good instructor" was chosen by 27.6 percent of the respondents as the best person to provide guidance and advice on instructional problems. Next, with 20.3 percent, was "all of these", meaning the director of instruction, department head, section head and the good instructor together. Third, with 19.7 percent, was the director of instruction, and fourth, with 17.4 percent, the section head.

Variations of responses were noted when the respondents were grouped according to personal variables. For instance, while N.A.I.T. followed the order of preference shown by the full sample, S.A.I.T., chose the director of instruction second (22.3 percent) and "all of these" third (19.9 percent). When the sample was grouped

Table 5.29

Responses to the Question: Which Staff Member Could Best Provide the Listed Supervisory Services?

Item	Div. of Inst. (1)	Dept. Head (2)	Sect. Head (3)	"Good Inst." (4)	All of these (5)	1,2 and 3 (6)	None of these (7)	3 and 4 (8)
52. Provide guidance and advice on instructional problems	105 (19.7%)	64 (12.0%)	93 (17.4%)	147 (27.6%)	108 (20.3%)	10 (1.9%)	2 (0.4%)	4 (0.8%)
53. Giving demonstrations of teaching methods and techniques	79 (14.8%)	23 (4.3%)	45 (8.4%)	323 (60.6%)	54 (10.1%)	4 (0.8%)	1 (0.2%)	4 (0.8%)
54. Visit classrooms and labs to make recommendations and offer advice	97 (18.2%)	76 (14.3%)	135 (25.3%)	123 (23.1%)	67 (12.6%)	27 (5.1%)	2 (0.4%)	6 (1.1%)
55. Make periodic evaluations and ratings of instruction and instructor	91 (17.1%)	124 (23.3%)	163 (30.6%)	71 (13.3%)	47 (8.8%)	26 (4.9%)	9 (1.7%)	1 (0.3%)

by staff position, the Administrators responded 23.7 percent both for the director of instruction and the department head, with "all of these" receiving 21.1 percent. The Instructors' preference was, first, the "good instructor", second "all of these", and third the director of instruction (Table 5.30). An examination of each position category showed that the Directors' (Assistant Directors and above) first choice was the director of instruction; the Department Heads' first choice was the department head; the Section Heads' choice was section had and the Instructors choice was the "good instructor". Grouping the respondents by work areas showed that both Technology and Business Education staff chose the "good instructor" first. Technology's second choice was the section head followed by "all of these" whereas Business Education's second choice was director of instruction and third, the section head. Vocational/Apprenticeship's first choice was "all of these" followed by the director of instruction and then the "good instructor". Arts/ Applied Arts were the only staff to choose the director of instruction first. Their second and third choices were section head and department head respectively.

Table 5.30

Responses to Item 52: "Who Should Provide Guidance and Advice on Instructional Problems," Grouped by Institution, Staff Position and Work Area

	Dir. of Inst. (1)	Dept. Head (2)	Sect. Head (3)	"Good Inst." (4)	All of these (5)	Other (6,7,8)	Total
Institution:							
(1) S.A.I.T.	47 (22.3%)	25 (11.8%)	34 (16.1%)	61 (28.9%)	40 (19.0%)	4 (1.9%)	211 (39.6%)
(2) N.A.I.T.	58 (18.3%)	39 (12.1%)	59 (18.3%)	86 (26.7%)	68 (21.1%)	12 (3.7%)	322 (66.0%)
Total	105 (19.7%)	64 (12.0%)	93 (14.4%)	147 (27.6%)	108 (20.3%)	16 (3.1%)	533 (100.0%)
Staff Position:							
(1,2) Administrator	9 (23.7%)	9 (23.7%)	5 (13.2%)	5 (13.2%)	8 (21.1%)	2 (5.3%)	38 (7.1%)
(3,4,5,6) Instructor	96 (19.3%)	55 (11.1%)	88 (17.8%)	142 (28.7%)	100 (20.0%)	14 (2.8%)	495 (92.9%)
Total	105 (19.7%)	64 (12.0%)	93 (17.4%)	147 (27.6%)	108 (20.3%)	16 (3.1%)	533 (100.0%)

Table 5.30 (Concluded)

	Dir. of Inst. (1)	Dept. Head (2)	Sect. Head (3)	"Good Inst." (4)	All of these (5)	Other (6,7,8)	Total
Work Area:							
(1) Technology	32 (13.4%)	26 (10.9%)	47 (14.7%)	84 (35.1%)	42 (17.6%)	8 (3.4%)	239 (44.8%)
(2) Business Education	15 (21.1%)	5 (7.0%)	14 (19.7%)	23 (32.4%)	13 (18.3%)	1 (1.4%)	71 (13.3%)
(3,4) Vocational/ Apprenticeship	40 (24.0%)	24 (14.4%)	23 (13.8%)	33 (19.8%)	41 (24.6%)	6 (3.6%)	167 (13.3%)
(5,6) Arts/ Applied Arts	9 (33.3%)	5 (18.5%)	7 (25.9%)	3 (11.1%)	2 (7.4%)	1 (3.7%)	27 (5.1%)
(7) Student Services	5 (35.7%)	1 (7.1%)	1 (7.1%)	1 (7.1%)	6 (42.9%)	0 (0.0%)	14 (2.6%)
(8) Administration	4 (26.7%)	3 (20.0%)	1 (6.7%)	3 (20.0%)	4 (26.7%)	0 (0.0%)	15 (2.8%)
Total	105 (19.7%)	64 (12.0%)	93 (17.4%)	147 (27.6%)	108 (20.3%)	16 (3.1%)	533 (100.0%)

Item 53: Give Demonstrations of Teaching Methods and Techniques

The staff member most frequently chosen to provide demonstrations of teaching methods and techniques was the "good instructor" with 60.6 percent of the total response. Second was the director of instruction with 14.8 percent followed by "all of these" with 10.1 percent (Table 5.29, page 131). This order of preference was evident in every case when the respondents were grouped by the personal variables.

Item 54: Visit Classrooms and Labs to Make Recommendations and Offer Advice on the Improvement of Instruction

The respondents made no clear first choice of the best person to visit classrooms and labs to make recommendations and advise on the improvement of instruction. The section head was selected most frequently (25.3 percent), closely followed by the "good instructor" (23.1 percent) and the director of instruction (18.2 percent) (Table 5.29). Only slight differences were observed in the choices when the staff responses were grouped by personal variables. S.A.I.T.'s first choice was distributed equally between the director of instruction and a "good instructor", each with 20.9 percent, with section head following with 19.4 percent and department head with 17.5 percent. N.A.I.T.'s choices were the same as those of the whole sample. The Administrators' first choice was the section head (31.6

percent), with department head next (18.4 percent) and the combination 1, 2 and 3 (director of instruction, department head and section head) as third. The Instructor group chose the "good instructor" most frequently (28.7 percent), followed by "all of these" (20.2 percent) and director of instruction (19.4 percent) (Table 5.31).

Item 55: Make Periodic Evaluations and Ratings of the Instruction and Instructor

The respondents' first choice of a person to carry out evaluations and ratings was the section head who received 30.6 percent of the total response. The department head was the next preference with 23.3 percent and then the director of instruction with 17.1 percent (Table 5 29). This order of preference was found in most of the groupings by personal data. A comparison of responses from the two institutions, however, revealed that S.A.I.T. placed the director of instruction first (23.7 percent) with section head and department head equal (21.8 percent) and "good instructor" third (15.2 percent). N.A.I.T.'s order of choice was the same as that of the whole sample: section head (36.3 percent), department head (24.2 percent), and director of instruction and a "good instructor" tied for third (12.7 percent).

The Administrators gave first choice to the department head (31.6 percent), second to the section head (28.9 percent), and third to the director of instruction

Table 5.31

Responses to Item 54: "Who Should Visit Classroom and Labs to Make Recommendations and Offer Advice," Grouped by Institution and Staff Position

	Dir. of Inst. (1)	Dept. Head (2)	Sect. Head (3)	"Good Inst." (4)	All of these (5)	Other (6,7,8)	Total
Institution:							
(1) S.A.I.T.	44 (20.9%)	37 (17.5%)	41 (19.4%)	44 (20.9%)	34 (16.1%)	11 (5.2%)	211 (39.6%)
(2) N.A.I.T.	53 (16.5%)	39 (12.1%)	94 (29.2%)	79 (24.5%)	33 (10.2%)	24 (7.8%)	322 (60.4%)
Total	97 (18.2%)	76 (14.3%)	135 (25.3%)	123 (23.1%)	67 (12.6%)	35 (6.6%)	533 (100.0%0
Staff Position:							
(1,2) Administrators	6 (15.8%)	7 (18.4%)	12 (31.6%)	1 (2.6%)	5 (13.2%)	7 (18.4%)	38 (7.1%)
(3.4.5.6) Instructor	91 (18.4%)	69 (13.9%)	123 (24.8%)	122 (24.6%)	62 (12.5%)	28 (9.2%)	495 (92.9%)
Total	97 (18.2%)	76 (14.3%)	135 (25.3%)	123 (23.1%)	67 (12.6%)	35 (6.6%)	533 (100.0%)

(18.4 percent). The Instructors' order of preference was section head (30.7 percent), department head (22.6 percent), and director of instruction (17.0 percent) (Table 5.32).

TRAINING METHODS

In this, the final section of the questionnaire, an attempt was made to determine the opinions of the institutes' staff members on the most effective way to help the beginning instructor develop the practical skills of a competent teacher. First, there were five suggested techniques for teaching skill development. The respondents were asked to rate each of these on its effectiveness. Rating was done on a five-point scale: 1. Very Helpful, 2. Helpful, 3. Some Help, 4. Little Help, and 5. No Help. Second, a comparative evaluation was sought by asking which of these five items was felt to be the most helpful. Finally, an open-ended question was provided, asking for suggestions of other ways in which such teaching skills could be developed. The frequency and percentage of response to each of the five items are given in Table 5.33. Tables 5.34 to 5.39 show differences in responses when the respondents are grouped by personal variables. Table 5.40 gives the responses and order of value of the five items from question 61 (which of the listed training methods would be most helpful in developing teaching skills). Tables

Table 5.32

Responses to Item 55: "Make Periodic Evaluations and Ratings of the Instruction and Instructor," Grouped by Institution and Staff Position

	Div. of Inst. (1)	Dept. Head (2)	Sect. Head (3)	"Good Inst." (4)	All of these (5)	Other (6,7,8)	Total
Institution:							
(1) S.A.I.T.	50 (23.7%)	46 (21.8%)	46 (21.8%)	32 (15.2%)	26 (12.3%)	11 (5.2%)	211 (39.6%)
(2) N.A.I.T.	41 (12.7%)	78 (24.2%)	117 (36.3%)	39 (12.1%)	21 (6.5%)	26 (8.1%)	322 (60.4%)
Total	91 (17.1%)	124 (23.3%)	163 (30.6%)	71 (13.3%)	47 (8.8%)	37 (7.0%)	533 (100.0%)
Staff Position:							
(1,2) Administrator	7 (18.4%)	12 (31.6%)	11 (28.9%)	1 (2.6%)	2 (5.3%)	5 (13.2%)	38 (7.1%)
(3,4,5,6) Instructor	84 (17.0%)	112 (22.6%)	152 (30.7%)	70 (14.1%)	45 (9.1%)	32 (6.4%)	495 (92.9%)
Total	91 (17.1%)	124 (23.3%)	163 (30.6%)	71 (13.3%)	47 (8.8%)	37 (7.0%)	533 (100.0%)

5.41 and 5.42 show the responses to item 62 (asking for suggestions how to develop practical teaching skills).

Item 56: Give the New Instructor Classes and Courses to Teach and Advice Only When He Asks for It

Giving the new instructor classes and courses to teach and advice when asked for, as a method of developing teaching skills was not considered too effective. Fifty-two percent of the respondents regarded it as little or no use. Only 10.1 percent thought it would be very helpful, 14.1 percent deemed it helpful, 23.5 percent, of some help (Table 5.33).

N.A.I.T. considered this method to be more helpful than did S.A.I.T. (Table 5.34). N.A.I.T.'s staff responded 28 percent, helpful or better and 46.2 percent, little or no use, while S.A.I.T. responded 18.5 and 60.7 percent in the same categories (Table 5.34).

Grouping by staff position also produced some differences in evaluation. Here, the Administrators responded only 7.9 percent, helpful or very helpful, and 71.1 percent, little or no use. The Instructors responded 25.5 percent, helpful or very helpful and 50.5 percent, little or no use (Table 5.35).

Item 57: Provision of Practice Teaching Opportunities for the Instructor Before He is Assigned to Instruct Classes

The provision of opportunities to practice teach were

Table 5.33

Responses to: How Effective are the Listed Training Methods in Developing Teaching Skills in a Beginning Instructor?

Item	Very Helpful (1)	Helpful (2)	Some Help (3)	Little Help (4)	No Help (5)
56. Give the new instructor classes and courses to teach and advice only when he asks for it	54 (10.1%)	75 (14.1%)	127 (23.8%)	154 (28.9%)	123 (23.1%)
57. Provide practice teaching opportunities for the instructor before he is assigned to instruct classes	224 (42.0%)	144 (27.0%)	110 (20.6%)	36 (6.8%)	19 (3.6%)
58. Provide for regular daily consultation with a senior member concerning instruction and preparation	88 (16.5%)	165 (31.0%)	154 (28.9%)	74 (13.9%)	52 (7.8%)
59. Provide the beginning instructor with a short (four week) period of "student teaching" in which he helps to teach the classes of an experienced instructor under his observation and advice	189 (37.1%)	161 (30.2%)	110 (20.6%)	43 (8.1%)	21 (3.9%)

Table 5.33 (Concluded)

Item	Very Helpful (1)	Helpful (2)	Some Help (3)	Little Help (4)	No Help (5)
60. Require each new instructor to serve a period as an intern or apprentice, with a reduced teaching load and working in close cooperation with and under the supervision of, an expert instructor	239 (44.8%)	133 (25.0%)	94 (17.6%)	42 (7.9%)	25 (4.7%)

Table 5.34

Responses to Item 56: "Give the New Instructor Classes and Courses to Teach and Advice Only When he Asks for It," Grouped by Institution

Institution	Very Helpful and Helpful (1,2)	Some Help (3)	Little and no Help (4,5)	Total
(1) S.A.I.T.	39 (18.5%)	44 (20.9%)	128 (60.7%)	211 (39.6%)
(2) N.A.I.T.	90 (28.0%)	83 (25.8%)	149 (46.3%)	322 (60.4%)
Total	129 (24.2%)	127 (23.8%)	277 (52.0%)	533 (100.0%)

Chi-square = 11.1 Probability = .006

Table 5.35

Responses to Item 56: "Give the New Instructor Classes and Courses to Teach and Advice Only When he Asks for It," Grouped by Staff Position

Staff Position	Very Helpful and Helpful (1,2)	Some Help (3)	Little and no Help (4,5)	Total
(1,2) Administrators	3 (7.9%)	6 (21.1%)	27 (71.1%)	38 (7.1%)
(3,4,5,6) Instructors	126 (25.5%)	119 (24.0%)	250 (50.5%)	495 (92.9%)
Total	129 (24.2%)	127 (23.8%)	277 (52.0%)	533 (100.0%)

Chi-square = 7.5 Probability = .03

valued more highly as a method of developing teaching skills than was the previous method. Sixty-nine percent of the respondents felt that practice teaching would be very helpful or helpful while only 10.3 percent thought it little or no use.

There seemed to be a consensus among the various groups in the sample. In the work areas, Arts/Applied Arts staff held this item in lowest esteem, yet 59.3 percent considered it very helpful or helpful. N.A.I.T. valued the method less than did S.A.I.T. responding 65.8 percent to S.A.I.T.'s 73.9 percent in the Very Helpful/Helpful category (Table 5.36).

Table 5.36

Responses to Item 57: "Provide Practice Teaching Opportunities for the Instructor Before he is Assigned to Instruct Classes," Grouped by Institution

Institution	Very Helpful and Helpful (1,2)	Some Help (3)	Little and no Help (4,5)	Total
(1) S.A.I.T.	156 (73.9%)	31 (14.7%)	24 (11.4%)	211 (39.6%)
(2) N.A.I.T.	212 (65.8%)	79 (24.5%)	31 (9.6%)	322 (60.4%)
Total	386 (69.0%)	110 (20.6%)	55 (10.3%)	533 (100.0%)

Chi-square = 7.6 Probability = .03

Item 58: Provide for Regular Daily Consultation with a Senior Staff Member Concerning Instruction and Preparation

Forty-seven percent of the respondents felt that the provision for regular daily consultation with a senior staff member concerning instruction and preparation would be helpful or very helpful; 28.9 percent thought it, some help and 23.6 percent, little or no help (Table 5.33, page 142).

Examination of the responses grouped by work area showed that the Vocational/Apprenticeship staff placed the highest value on this method (57.5 percent in the combined helpful categories). Next came Student Services, Administrative, and Business Education. Following these were Technology (41.4 percent in the combined helpful category) and Arts/Applied Arts (29.6 percent) (Table 5.37).

Item 59: Provide the Beginning Instructor with a Short (Four Week) Period of Student Teaching

The frequencies and percentages of responses as to the effectiveness of student-teaching for developing teaching skills are shown in Table 5.33. Of the 533 respondents 359 or 67.4 percent considered that such an experience would be very helpful or helpful. There were 110 (20.6 percent) who thought it would be of some help while 64 (12 percent) deemed it of little or no help.

Administrative and Student Services staff regarded student teaching most highly rating it 86.7 percent and 85.7

Table 5.37

Responses to Item 58: "Provide for Regular Daily Consultation with a Senior Staff Member Concerning Instruction and Preparation," Grouped by Work Area

Work Area	Very Helpful and Helpful (1,2)	Some Help (3)	Little and no Help (4,5)	Total
1) Technology	99 (41.4%)	65 (27.2%)	75 (31.4%)	239 (44.8%)
2) Business Education	34 (47.9%)	21 (29.6%)	16 (22.5%)	71 (13.3%)
3,4) Vocational/ Apprenticeship	96 (57.5%)	47 (28.1%)	24 (14.4%)	167 (31.3%)
5,6) Arts/ Applied Arts	8 (29.6%)	12 (44.4%)	7 (25.9%)	27 (5.1%)
7) Student Services	8 (57.1%)	3 (21.4%)	3 (21.4%)	14 (2.6%)
8) Administrators	8 (53.3%)	6 (40.0%)	1 (6.7%)	15 (2.8%)
Total	253 (47.5%)	154 (28.9%)	126 (23.6%)	533 (100.0%)

Chi-square = 25.1 Probability = .007

percent, helpful or better respectively. In the same category Vocational/Apprenticeship staff rated it 77.8, Technology 64.0 percent, Business Education 57.7 percent, and Arts/Applied Arts 37.0 percent (Table 5.38).

Table 5.38

Responses to Item 59: "Provide the Beginning Instructor With a Short (Four Week) Period of Student Teaching," Grouped by Work Area

Work Area	Very Helpful and Helpful (1,2)	Some Help (3)	Little and no Help (4,5)	Total
1) Technology	153 (64.0%)	50 (20.9%)	36 (15.1%)	239 (44.8%)
2) Business Education	41 (57.7%)	23 (32.4%)	7 (9.9%)	71 (13.3%)
3,4) Vocational/ Apprenticeship	130 (77.8%)	26 (15.6%)	11 (6.6%)	167 (31.3%)
5,6) Arts/ Applied Arts	10 (37.0%)	7 (25.9%)	10 (37.0%)	27 (5.1%)
7) Student Services	12 (85.7%)	2 (14.3%)	0 (0.0%)	14 (2.6%)
8) Administration	13 (86.7%)	2 (13.3%)	0 (0.0%)	15 (2.8%)
Total	359 (67.4%)	110 (20.6%)	64 (12.0%)	533 (100.0%)

Chi-square = 41.0 Probability = less than .001

Item 60: Require Each New Instructor to Serve a Period as an Intern

Serving a period of time as an intern was seen to be the most helpful of all the listed methods of developing practical teaching skills. The responses were 44.8 percent in the Very Helpful category, 25 percent, Helpful, 17.6 percent, Some Help, and 12.6 percent, Little or No Help (Table 5.33, page 142).

The variations in evaluation for student teaching

(Table 5.38) noted in the work areas were observed again with item 60, though the range of variance was less. Arts/Applied Arts were again the lowest in their evaluation.

Examination of Table 5.33 (page 142) showed that the individual items rated as very helpful were, in order of frequency of response, internship (Item 60) with 44.8 percent, practice teaching (Item 57) with 42.0 percent and student teaching (Item 59) 37.1 percent. This order persisted when the Very Helpful and Helpful categories were combined although in the combination the difference between the first and second choice was reduced to less than 1 percent.

Item 61

This question specifically asked the respondent which one of the previous five items (56 to 60 would be the most helpful in developing practical teaching skills in a beginning instructor. The frequency and percentage of the responses are shown in Table 5.39.

Item 60, a period of internship, received more than double the number of responses than Item 59, a period of student teaching, received. A fairly close third was Item 57, practice teaching.

This order of choice was followed quite consistently by the various groups although two, the Administrative and the Technology staff did reverse the order of the second

and third choices.

Table 5.39

Responses to Item 61: Which of the Five Training Methods do You Feel Would be the Most Helpful in Developing Practical Teaching Skills?

Item	Frequency	Percentage
56. Give the new instructor classes and courses to teach and advice when he asks for it	77	3.2
57. Opportunity to practice teach before being assigned to instruct regular classes	91	17.1
58. Provide for regular daily consultation with a senior staff member concerning instruction	46	8.6
59. Provide a period on student teaching	115	21.6
60. Require the new instructor to serve a period as an intern	264	49.5
Total	533	100.0

Item 62

This item was an open-ended question asking for further suggestions of ways to develop practical teaching skills in a beginning instructor. Table 5.39 shows the response frequencies to this question. There were 164 respondents (30.4 percent) who made some comment.

Table 5.40

Frequency of Responses to Item 62: Training Methods Suggested by Respondents*

	S.A.I.T.	N.A.I.T.	Total
N	211	322	533
Some response	7[illegible] (33.2%)	94 (29.2%)	164 (30.4%)
Subject matter skills	22	30	52**
Suggestions similar to items listed	40	52	92**
Valid comments	9	13	22**
Non valid comments	7	10	17**

* See Table 5.39 for these responses.
** Percentages cannot be meaningfully reported as each respondent had opportunity to make a number of suggestions.

Proportionately fewer suggestions were concerned with developing subject matter skills than in the previous open-ended questions. The suggestions emphasized that instructors should have practical experience in industry prior to being hired to teach. A large number of suggestions (92) were similar to those listed, some saying the same thing, others varying the length of time specified in the listed items -- for instance, weekly consultation rather than daily (item 58), and student teaching for a longer period (i.e. twelve weeks, to fit in with the institutes' quarter system) or for a shorter period of one or two weeks.

There were seventeen suggestions considered as non-valid; that is, they did not answer the question posed. Examples include: require pre-employment teaching experience, courses in how to teach, communication skills, only hire natural born teachers and fire the incompetents at the end of the year.

Table 5.41 shows the twenty-two valid comments which were classified under five headings. The suggestion most frequently made was the use of video-taping to make recordings of actual classroom presentations and a subsequent analysis of these presentations. All but three of these responses made particular mention of the fact that such recordings must be of regular scheduled classes and not "special performances". Team-teaching, mentioned five times, was the second most frequent suggestion. One of the respondents pointed out that team-teaching combined all the training methods suggested into an organized whole. A reduced teaching load in the first year was suggested by four respondents, the opportunity to repeat lessons taught was mentioned three times and, making available the course materials from the previous instructor, suggested once.

SUMMARY

In this chapter an analysis has been made of the opinions of the respondents concerning the helpfulness of inservice activities and techniques in improving the

Table 5.41

Classified Responses to Item 62: Training Methods Suggested by Respondents

Response Classification	S.A.I.T.	N.A.I.T.	Total
Make video tapes of actual class instruction for analysis of the teaching	3	6	9
Teach teaching	2	3	5
Reduced teaching load in the first year	2	2	4
Opportunity to teach the same lesson to several classes	1	2	3
Provide all course materials from previous instructor	1	0	1
Total	9	13	22

effectiveness of instruction. The first part of this section of the questionnaire consisted of a list of fourteen inservice practices, and the respondents were asked to evaluate these as to their helpfulness in improving instruction. The practices or techniques receiving most responses in the Helpful/Very Helpful categories were, in order, the provision of sources of expert guidance and advice on instructional problems; demonstrations of teaching methods and techniques; the provision of practice teaching using video tapes and playback; the opportunity to observe fellow instructors conducting classes and labs; and the introduction of special university education

courses for instruction in post-secondary institutions. The least valued practices were: making the completion of a certain minimum of inservice courses a requirement for pay increments; periodic evaluations and ratings of instruction and instructor; evaluation of the instruction and instructor by students; and the provision of continuing inservice training by university staff.

Grouping the responses by personal variables revealed some differences in thirteen of the fourteen items. Trends were not so easily discernable as they were in the "skills and knowledges" section of the questionnaire because of the wide variation in orientation of the items. The most noticeable differences were among the work areas of the institutions. The Arts and Applied Arts staff for instance, placed less value on most of these inservice activity items and gave the lowest rating of any staff area on ten of the items. An exception to this trend was Item 19, "the provision of salary increases for outstanding instructors", an item they valued more highly (63 percent) than any other group.

Based on teacher training, staff members with no, or other than, university pedagogical training valued more highly items such as observation of instruction to offer advice, periodic evaluations and ratings of instruction, and the provision of continuing inservice training programs by institute staff than did staff with university

education courses. On the other hand, the latter saw more value in the provision of inservice training programs by university staff, and the introduction of university education courses for post-secondary instructors.

Administrators valued more highly than did the Instructors items such as, observations of instruction for the purpose of offering advice, periodic evaluations and ratings of instruction and instructors, and the provision of continuing inservice training programs by institute staff. The Administrators evaluation of the provision of inservice training programs by university staff was much lower than that of the Instructors.

There were 201 responses to Item 51 which requested further suggestions for inservice activities and techniques. Once again a large number (122) were concerned with subject matter skills and upgrading. There were 56 suggestions which were similar to those in the list and a further 22 which were not valid.

The sixty valid suggestions were classified under eleven headings. Those with the higher frequencies were: reimbursement of course fees on successful completion of training courses (9), visits to other institutes (8), review of the pre-session training program at the end of the year (8), the use of team-teaching as an inservice training (7), a one-year preservice training program (7), and exchanges of instructors with other institutes (6).

The suggestions received were of a practical nature, and five were directed toward getting a wider understanding of other institutes, departments and students.

The choice of responses was too limited in the section of the questionnaire asking which staff members could best carry out listed functions. The "good instructor" was chosen most frequently to provide guidance and advice on instructional problems and to give demonstrations of teaching methods and techniques. The section head was chosen as the best person to visit classrooms and labs to offer advice and to make periodic evaluations and ratings of instruction and instructors. In the above role the "good instructor" was a very close second choice. The director of instruction was second choice to give demonstrations of teaching methods and to provide expert guidance and advice.

Some differences of opinion as to the best person to carry out the supervisory functions appeared when the respondents were grouped by personal variables. These differences, in the main, were concerned with choice between the good instructor, section head and "all of these" (meaning these two plus the director of instruction and department head), and no distinct trends were discernable.

The final section of the questionnaire was concerned with determining the best method of developing practical

teaching skills in the beginning instructor. Of the five training methods presented, first choice, was a period of internship, second was a period of student teaching and third, an opportunity for practice teaching prior to instructing a class.

Suggestions for further ways of developing practical teaching skills were requested. There were 164 respondents who made some comment to this item. It was again noted that 52 suggestions were concerned with subject matter skill development. The 22 valid suggestions were classified under eleven headings for each of reporting. The most frequent suggestion was the use of video tapes in actual classroom situations with subsequent analysis of performance. Second was team teaching, used as a method of training teachers, and third was a reduced teaching load in the first year for the beginning instructor.

Chapter 6

SUMMARY, CONCLUSIONS AND IMPLICATIONS

SUMMARY

The Problem

The main purpose of this study was to determine the need for pedagogical training as perceived by practicing instructors and their academic administrators in post-secondary technical and vocational education. The research was carried out at the two Alberta institutes of technology.

The specific purpose of this work was to determine:

1. What skills and knowledges required of a teacher were seen to be important and needed to be developed in such an instructor?
2. What types of inservice and supervisory activities or techniques were seen to be most helpful in improving teaching effectiveness?
3. How were the practical skills of teaching seen to be most effectively developed in the beginning instructor?
4. What was the relationship of position, occupational experience, education and other background of the staff member to the perceived need for professional preparation?

Procedure

A questionnaire was developed with sixty-two items, thirty-nine of which required an answer or opinion on a Likert-type scale. The questionnaires were sent to the two institutions where, by agreement, they were distributed, collected and returned during March, 1970. There were 533 replies, representing a 66 percent return. The data were coded for computer processing with a cross-tabulation program. Frequencies and percentages of responses were tabulated in terms of situational or personal characteristics and on opinions of pedagogical items. Chi-square was calculated on contingency tables to determine differences in frequency distributions. Null hypotheses were rejected at the .05 level of significance.

Findings

The analysis of data was presented in Chapters 4 and 5, the former dealing with skills and knowledges of value to an instructor and the latter with inservice activities and techniques for improving instruction.

Skills and knowledges of value to an instructor. Of the listed skills and knowledges, skill in communication was valued most highly by the respondents (in terms of responses in the Necessary/Very Necessary category). Following in order were skills in: testing and evaluation techniques, classroom, lab and shop organization and

management, the selection and use of appropriate teaching techniques, the development and maintenance of discipline in class, curriculum development and implementation, and the development of educational objectives. It was noted that all the items receiving over 50 percent of the response as Necessary and Very Necessary were "skills", with the exception of Item 28, Knowledge of The Role of Motivation in Education. Least valued were a knowledge of: the history and philosophy of vocational education, the sociology of education, and programmed learning techniques.

Grouping the responses by situational and personal data revealed some differences in value emphasis. Administrators placed greater value than did the Instructors on skill in: the use of lesson plans; the diagnosis of learning and teaching problems; and knowledge of: human growth and development; the role of the instructor as a counselor; and programmed learning techniques.

Responses grouped according to pedagogical training possessed by respondents revealed that staff with university teacher training saw a need for skill in: developing educational objectives; the use of teaching techniques; selection and use of appropriate teaching methods, and knowledge of: human growth and development; the psychology of adult education; and the sociology of education. Those with no training or other-than-university teacher-training saw less need for such skills and knowledge. On the other

hand, the latter deemed skill in the development and maintenance of discipline in the class more necessary than did the former.

The type of technical qualification possessed by the respondents also produced differences in evaluation of the listed skill and knowledge items. Staff with journeyman papers or technical diplomas felt that skill in preparation and use of lesson plans, the development and maintenance of discipline in class, and theories of learning and forgetting were more important to an instructor than did the staff with university technical preparation.

Variation in value placed on the items occurred when the respondents were grouped by their major work area. Skill in the use of lesson plans was valued most highly by Administration and Vocational/Apprenticeship staff while staff members in the Technology area rated it the lowest. Knowledge of the sociology of education and of the psychology of adult education were rated the highest by the Arts/Applied Arts and Student Services personnel with the Business Education and Technology staff valuing it least.

Skill in Classroom, Lab and Shop Organization and Management was the item most frequently chosen as being of most value to a beginning instructor. Next in order of frequency were: skill in communication, skill in the

selection and use of appropriate teaching methods and techniques, and skill in the use of testing and evaluation techniques. "Skill" items were again valued more highly than were the "knowledge" items. The latter, in fact, headed the list of items considered by respondents to be of least value to a beginning instructor.

Skill in communication was the most frequently mentioned personal need of the respondents. A knowledge of the role of motivation in education, skill in testing and evaluation techniques, and skill in the diagnosis of learning and teaching problems were other personal needs mentioned. There was not the emphasis on "skills" as was shown previously, and the "knowledge" items were well distributed. No real differences were found among the choices when grouped by personal and situational variables.

The final section, composed of suggested skills and knowledges required of an instructor, revealed a considerable emphasis on the need for subject matter competence, although the survey was not investigating this area. Many of the suggestions were similar to those items already in the list. Of the 207 valid responses, classified under twenty general headings, the most frequently expressed need was for an understanding of human relations followed by development of leadership skills and sensitivity training experiences. It was noted that only six of the twenty headings had specific pedagogical connotations and

that most of the items concerned aspects of self development.

Inservice activities and techniques to improve the quality of instruction. Of the fourteen listed inservice practices, the most helpful (in terms of responses in the Helpful/Very Helpful category) were seen to be; the provision of sources of expert advice and guidance, followed by demonstrations of teaching methods and techniques, the provision of practice teaching using videotapes, and the opportunity to observe fellow instructors conducting classes. Least valued were: making the completion of inservice courses necessary for pay increments; evaluations and ratings of instructors; evaluation of instructor by students; and the provision of continuing inservice training by university staff.

Due to the wide variation in orientation of the questions, trends in value differences were not so discernible as in the analysis of the first section of the questionnaire. Main differences were among the work areas of the institutes. The Arts and Applied Arts group, for instance, placed little value on most of the listed inservice and supervisory activities and had the lowest response in the Very Helpful and Helpful categories for ten of them.

Staff with no, or other than, university teacher

training placed more value on items such as observation of instruction to offer advice, evaluations and ratings of instruction, and the provision of continuing inservice programs by institute staff than did those with university pedagogical preparation. The administrators valued the same items more highly than did the instructors.

The most frequently mentioned suggestion for further inservice practices helpful in improving instruction was that of reimbursement of course fees upon completion. This was followed by, "visits to other institutions", "review of the pre-session training program at the end of the year", and "the use of team teaching". The suggestions were of a practical nature, and five of the eleven were directed toward getting a better understanding of other institutions, departments and students.

The staff member chosen most frequently as best able to offer expert guidance and advice on instructional problems, and give demonstrations of teaching methods and techniques, was the "good instructor". The section head was the most favored person to visit classrooms and offer advice and to make evaluations and ratings of instructors.

Of the five training methods presented as a means of developing practical teaching skills in a beginning instructor, a period of internship was the most favored, receiving 50 percent response as helpful or very helpful. With a lower response were student teaching and opportunity

for practice teaching.

There were twenty-two suggestions for further ways to develop teaching skills, the most frequent being the use of video-tapes in actual classroom situations. Second, was team-teaching, and third, was the reduction of first year teaching load.

CONCLUSIONS AND IMPLICATIONS

Conclusions

The number of responses to this survey was comparatively low (66 percent), placing limitations on the generalizability of the results. Another limitation was that imposed by the questionnaire and the necessarily restricted number of items to respond to.

Within these limitations however, the study provided an indication of the pedagogical needs of instructors in pos -secondary technical and vocational education, and answers were obtained to the questions posed in the development of the study.

Question 1. "What skills and knowledges required of a teacher are seen to be important and of value to an instructor?"

Deemed most important were: (1) communication skills, (2) testing and evaluation techniques, (3) classroom, lab. and shop organization and management, (4) teaching methods and techniques, (5) development and maintenance of

discipline, (6) curriculum development.

The preponderence of "skills" of teaching rather than "knowledges" in the listing would seem to indicate that the first requirement for an instructor in technical and vocational education is the ability to perform as a teacher. This emphasis may possibly be due to the practical skill orientation of the institute programs.

Pedagogical "knowledges" such as: the sociology and psychology of education, theories of learning and forgetting, and human growth and development were considered to be more helpful than necessary to an instructor and were listed among the needs of the practicing staff (who had, presumably, developed some of the skills).

Question 2. "What types of inservice and supervisory activities and techniques are seen to be most helpful in improving teaching effectiveness?"

Considered most helpful were: (1) the provision of sources of expert guidance and advice, (2) demonstrations of teaching methods and techniques, (3) provision of practice teaching using video-tapes and playback, (4) opportunities to observe fellow instructors conducting classes and labs, and the introduction of special university education courses for instructors in post-secondary education.

The emphasis here was on the provision of opportunities for self-improvement and self-development rather

than on direction, evaluation, and reward.

A Recognized "Good Instructor" and the Director of Instruction were the staff members most favoured to provide guidance and advice on instructional problems and to give demonstrations of teaching methods and techniques. The Section Head and the Director of Instruction were chosen as best able to visit classrooms and labs to offer advice on the improvement of instruction and to make evaluations and ratings of instruction and instructor.

Question 3. "How are the practical skills of teaching seen to be most effectively developed in the beginning instructor?"

Of the listed training methods, a period of internship was perceived to be the most effective way to help a beginning instructor develop practical teaching skills. The provision of a period of student teaching and the provision of opportunities for practice teaching were second and third choices.

Question 4. "What is the relationship of position, occupational experience, general education or other background of the instructor to the perceived need for professional preparation?"

The study has shown that the perceived value of the various aspects of teacher training were indeed related to personal and situational factors. Of the seven situational and personal data variables examined in the

study, "work area" accounted for fifteen of the fifty-five differences reported. Staff position and pedagogical training each accounted for thirteen. There were six reported variances between responses from the two institutions and a further four based on technical qualification categories.

These differences in orientation should be taken into consideration in the planning of inservice and professional development programs.

Implications

The findings of this study appear to have implications for practice and for further research.

Implications for Practice

1. Certain skills and knowledges required of a teacher seen as being of value and importance to an instructor in post-secondary technical and vocational education have been identified. Opportunities for the instructional staff to develop these competencies should be provided both by pre-session and by inservice programs. The perceptions of the staff as to the importance or unimportance of the teaching competencies should be taken into consideration in the development of instructor training programs. Pre-session or pre-employment training should be directed at providing the basic skills and abilities, the core elements, required in teaching rather than attempting

to develop broad knowledges. The latter should be introduced in a continuing inservice program but still with an emphasis on relevance to post-secondary education and practical applications.

2. Inservice activities and techniques should not emphasize the traditional supervision with inspection and evaluation but rather the provision of sources of expert guidance and advice and the opportunity to learn from others with self and peer evaluation.

3. Though core elements have been identified, pre-session as well as inservice training programs should accommodate the different needs found in each of the divisions and other work areas of the institutions.

4. Continuing inservice training programs should be made available for professional development. These programs should include courses directed at self-improvement and social awareness as well as pedagogy.

5. Consideration should be given to the introduction of special education courses at the universities for instructors in post-secondary education.

6. The "good instructors" should be discovered so that their talents may be used in providing expert guidance and advice on teaching problems, demonstrations of teaching methods and techniques and as instructors for continuing inservice training programs. (Perhaps this would be a justification for merit pay.)

7. The new instructor coming on staff should be provided with a period of internship before being expected to carry a full teaching load.

8. Full use should be made of video-taping in actual classroom lab. and shop situations for the improvement of instruction.

Further Study

This descriptive study was directed toward determining the perceived need for pedagogical training of the staff of the technical institutes in Alberta. It was evident that respondents placed great importance on the need for subject matter competence, upgrading and development. A very useful study could be carried out in this area to determine the respective need for technical training and/or practical experience for instructors, and to develop ways in which these can be maintained and updated.

The present study was limited to the institutes of technology. Similar research should be carried out in the agricultural colleges and also in the rapidly developing community and junior colleges in the province.

B I B L I O G R A P H Y

BIBLIOGRAPHY

A. BOOKS

Barlow, Melvin L. (ed.) 1965. Vocational Education. Sixty-fourth Yearbook, N.S.S.E. Chicago, University of Chicago Press.

Gleaser, Edmond J. 1968. This is the Community College. Boston: Houghton Mifflin Co., p. 177.

Harris, Ben M. 1963. Supervisory Behavior in Education. Englewood Cliffs, N.J.: Prentice-Hall, Incorporated.

Herge, Henry C. 1965. The College Teacher. New York: Center for Applied Research in Education Inc.

Hillway, Tyrus. 1958. The American Two Year College. New York: Harper Brothers.

Mager, Robert E. 1968. Developing Attitude Toward Learning. Palo Alto: Fearon Publishers, California.

Mills, H. R. 1967. Teaching and Training: Techniques for Instruction. London: Macmillan and Co. Ltd.

Neagley, Ross L. and N. Dean Evans. 1964. Handbook for Effective Supervision of Instruction. Englewood Cliffs, N.J.: Prentice-Hall Incorporated.

Taba, Hilda. 1962. Curriculum Development: Theory and Practice. New York: Harcourt, Brace and World.

Thornton, James W. 1966. The Community Junior College. 2nd Ed. New York: John Wiley & Sons Inc.

Wilson, L. Craig., T. Madison Byar, Arthur S. Shapiro and Shirley Hseheu. 1969. Sociology of Supervision. Boston: Allyn and Bacon.

B. PERIODICALS

Bailey, D. 1967. "In-service Training: A Staff Development Programme," Technical Education, 4:433-435, October.

Cappa, Dan. 1957. "Opinions of Teachers Concerning the Most Helpful Supervisory Procedures," Educational Administration and Supervision, 43:217-222, April.

Cohen, Arthur M. 1967. "Teacher Preparation: Rationale and Practice," Junior College Journal, 37(5):21-25.

Coisman, Norbert. 1966. "From Practical Experience in Instructional Staff Development to Psycho-Pedagogic Training," Technical and Vocational Education in Canada, 10:14-18.

Easton, W. A. C. 1969. "Analysis of a College: No. 2. The Staff," Technical Journal, 7(2):10-12.

Ford, C. R. 1966. "The Technical and Vocational Training Program Today," Technical and Vocational Education in Canada, 8:7-9.

French, H. W. 1966. "Instructional Staff Development," Technical and Vocational Education in Canada, 9:26-34.

Glendenning, Don. 1964. "Technical and Vocational Teacher Education for the Years Ahead," Technical and Vocational Education in Canada, 2(3):9-11.

Glendenning, Don. 1967. "Does Vocational Teaching Appeal to You?" Technical and Vocational Education in Canada, 11:29, Spring.

Gordon, Shirley B. and Raymond P. Whitfield. 1967. "A Format for Teacher Preparation," Junior College Journal, 37(5):26-28.

Harris, Ben M. 1963. "Need for Research on Instructional Supervision," Educational Leadership, 21:129-135, November.

Koos, Leonard V. 1960. "Preparation for Community College Teaching," Journal of Higher Education, 31:244-247, June.

Love, R. J. 1966. "Teacher Training," Educational Review, 80(4):25-30.

Report of the National Technical and Vocational Training Advisory Council. 1965. Technical and Vocational Education in Canada, 8:25-26.

Report of the Technical Teacher Training Courses Panel of the West Midlands Advisory Council for Further Education. 1966. "In-service Technical Teacher Training," Vocational Aspect, 18(39).133-142.

Smith, Denis C. 1968. "The Preparation of College Teachers: Towards a Rationale for Instruction," Canadian Education and Research Digest, 8:230-244.

Tolonen, Paul. 1968. "Oregon's Vocational Instructor Bank," Industrial Arts and Vocational Education, V. 57(5):25-28.

C. OTHER SOURCES

American Association of Junior Colleges. 1969. In-service Training for Two-year College Faculty and Staff. Washington, D.C.

American Council on Education. 1954. Conference on the Preparation of Junior College Teachers, Proceedings. Washington, D.C.

Arnold, Joseph P. 1967. "Current Development in the Professional Preparation of Technical Teachers," Vocational and Technical Teacher Education, National Seminar Proceedings, eds. Vivian Neal and Ken E. Hoffman, Center for Vocational and Technical Education. Columbus, Ohio State University.

Arnold, Joseph P., Richard C. Erickson and Allen R. Suess. 1967. A Summar Institute for the Improvement of Technical Teacher Education Programs. Lafayette: Perdue University School of Technology, Indianna.

Bjorkquist, David D. 1961. Trade and Industrial Teacher Education: A Research Critique and a Model for Action. Pennsylvania: State University Vocational Education Department.

Cockrum, James L. 1966. The Preparation of Occupational Instructors: A Suggested Course Guide. Office of Education, Washington, D.C.

Community Colleges 1966. National Seminar on the Community College in Canada. Toronto: Canadian Association for Adult Education.

Courtney, E. Wayne. 1965. Implications for the Training of Teachers - Professional Education Preparation and Requirements. The Graduate School Minomine: Stout State University, Wisconsin.

Courtney, E. Wayne. 1967. The Identification and Comparison of the Common Professional Training Needs and Requirements for Teachers of Vocational Education. Phase I The Instrument. The Graduate School Menomonie: Stout State University, Wisconsin.

Department of Education. 1962. Fifty-sixth Annual Report of the Department of Education of the Province of Alberta 1961. Edmonton, Queen's Printer.

Department of Education. 1969. Sixty-third Annual Report of the Department of Education of the Province of Alberta 1968. Edmonton, Queen's Printer.

Dillon, Ray and James T. Horner. 1969. Seminar for Preparation of Professional Personnel for Vocational and Technical Education. Office of Education, Washington, D.C. Bureau of Research.

Government of Alberta. 1970. "Post-Secondary Education Until 1972: An Alberta Policy Statement." Edmonton, Government of Alberta. Mimeographed.

Great Britain, Committee on Higher Education. 1965. Higher Education ("Robbins Report") London: Her Majesty's Stationary Office.

Great Britain, Department of Education and Science. 1966. The Structures of Technical Education and Training Administration in the United Kingdom. Perth: Pan Indian Ocean Conference.

Hensel, James W., Garry R. Brice, (ed.) 1968. The Second Annual National Vocational and Technical Teacher Education Seminar Proceedings. Chicago: Center for Vocational and Technical Education, Columbus, Ohio State University.

Jarvie, L. L. 1956. "Making Teaching More Effective," in The Public Junior College, ed. Lamar Johnson, Fifty-fifth Yearbook of the National Society for the Study of Education, Part 1. Chicago, University of Chicago Press.

Logan, William. 1967. "The Pursuit of Excellence in Vocational Teacher Preparation," Vocational and Technical Teacher Education, National Seminar Proceedings. eds. Vivian Neal and Ken E. Hoffman. Center for Vocational and Technical Education, Columbus, Ohio State University.

MacKay, D. A. 1964. "In-service Education - A Strategy for Staff Development," in F. Enns (ed.), The Principal and Program Development. Edmonton: Leadership Course for School Principals, pp. 65-74.

Miller, Aaron J. 1967. Research Priorities in Technical Teacher Education, A Planning Model. Columbus: Ohio State Univeristy, Center for Vocational Education.

Moss, Jerome. 1967. Review of Research in Vocational and Technical Teacher Education. Minnesota Research Coordinating Unit in Occupational Education, Minnesota: University of Minnesota.

Neal, Vivian E. and Ken Hoffman. 1967. Vocational and Technical Teacher Education: National Seminar Proceedings. Columbus: Ohio State University, Council for Vocational Education.

Northern Alberta Institute of Technology. 1969. Calender 1969-70. Edmonton: Queens Printer.

Pass, George Byron. 1968. "Implications of the Role of the Junior College Teacher for Programs of Pre-service and In-service Education." Unpublished Doctoral dissertation, University of Alabama.

Quint, Louis. 1965. "A Proposed Program of Supervision of Instruction in Public Junior Colleges." Unpublished Doctoral Dissertation, University of the Pacific.

Report of American Council on Education. 1952. The Preparation of Junior College Teachers Conference Proceedings. Washington, D.C.

Report of a Special Committee appointed by the Minister of Education. 1957. The Supply and Training of Teachers for Technical Colleges. London: Her Majesty's Stationary office.

Southern Alberta Institute of Technology. 1969. Calender 1969-70. Calgary: Queen's Printer.

Swayze, Robert M. 1969. "Characteristics of Instructors in Manitoba Vocational Institutes." Unpublished Master's thesis, University of Alberta, Edmonton.

Taylor, Robert E. 1967. "Purpose and Objectives of the Seminar," Vocational and Technical Teacher Education, National Seminar Proceedings, eds. Vivian Neal and Ken E. Hoffman. Center for Vocational and Technical Education, Columbus, Ohio State University.

Taylor, Robert E. 1968. "Vocational and Technical Education: Concerns, concepts and commitments," The Second Annual National Vocational and Technical Teacher Education, Seminar Proceedings, eds. James Hensel and Garry Brice. Chicago: Center for Vocational and Technical Education, Columbus: Ohio State University.

Wenrick, R. 1967. "Preparation of Vocational Teachers," Vocational and Technical Teacher Education, National Seminar Proceedings, eds. Vivian Neal, and Ken Hoffman. Center for Vocational and Technical Education, Columbus: Ohio State University.

Wick, S. K. and W. A. Kavanaugh. 1967. An Introduction to Teaching in Vocational and Technical Education, a Pre-service Teacher Training Course for Potential Vocational Teachers in Minnesota Final Report. St. Paul, Minnesota State Dept. of Vocational Education.

Williams, John G. 1967. "Goals in Technical Education." Unpublished Master's thesis, University of Alberta, Edmonton.

Woerdehoff, Frank J., Norbert J. Nelson, and John K. Coster. 1960. Vocational Education in Public Schools as Related to Social Economic and Technical Trends, No. 1, The Analysis of Trends and Concepts. Studies in Education, No. 1, Lafayette, Indiana, Purdue University Division of Education.

Ziolkowski, Erwin Harold. 1965. "A Study of Practices Employed by High School Principals in the Supervision of Instruction." Unpublished Master's thesis, University of Alberta, Edmonton.

A P P E N D I X

Department of Educational
Administration,
University of Alberta,
Edmonton, Alberta.

March, 1970.

Dear Colleague:

I am an instructor at N.A.I.T., presently on leave attending the University of Alberta to complete my Master's degree in Educational Administration.

For my thesis, I am trying to determine the needs and requirements for teacher training as perceived by the practicing instructors and administrators in the Alberta Institutes of Technology. What do the staffs of two well established institutes feel is needed in the way of teacher training (if any) to enable them to instruct effectively? How would this training best be carried out?

The attached questionnaire is directed toward answering these queries. Would you be so good as to take some time to complete it? You do not have to complete it at first attempt, the questions do require some careful thought to be of maximum value. It is your opinion which is wanted so the questions should not be discussed with your colleagues prior to filling out the questionnaire.

The findings of this study, which has the full approval of your President, will be made available to the staffs of the Institutes and could well be of help in facilitating the search for useful areas of endeavour for pre-service and in-service training and professional development of instructors.

The success and future usefulness of this survey depends, of course, on as near one hundred percent returns from respondents as possible. Your effects toward attaining this goal would be very much appreciated.

Thanking you for your cooperation.

Yours sincerely,

Richard Wroot

Encl.
RW'bb

INSTRUCTIONS TO RESPONDENTS

(1) The questionnaire is intended for those members who are considered full-time instructional, instructional support, and/or administrative staff. It will exclude clerical, custodial and maintenance personnel.

(2) Do not place your name on the questionnaire or envelope.

(3) Please do not discuss the questions with colleagues before answering the questionnaire.

(4) In a rare number of cases a respondent may find he is unable to chose a response. In such a case a brief comment at the side of the question as to why would be appreciated.

(5) Place the completed questionnaire in the envelope provided, seal it, and return it as soon as possible to the person on staff who is coordinating data collection for your Institute.

Thank you.

INSTRUCTOR TRAINING IN POST-SECONDARY INSTITUTIONS
QUESTIONNAIRE

PERSONAL DATA

Please check (✓) the category which provides the best description.

		Check Here	Data Proc Only
1.	At which institute are you employed?		
	(1) S.A.I.T.	_____	1.1.
	(2) N.A.I.T.	_____	1.2.
2.	What is your position?		
	(1) Assistant Director or above	_____	2.1.
	(2) Department Head	_____	2.2.
	(3) Section Head	_____	2.3.
	(4) Senior Instructor	_____	2.4.
	(5) Instructor	_____	2.5.
	(6) Student Service - (Counselor, Librarian, Phys. Ed., Etc.)	_____	2.6.
3.	How many years have you held this position?		
	(1) Less than one academic year	_____	3.1.
	(2) 1 to 3 years	_____	3.2.
	(3) 4 to 6 years	_____	3.3.
	(4) 7 to 9 years	_____	3.4.
	(5) 10 years or more	_____	3.5.
4.	In what one area do you do the greater part of your work?		
	(1) Technology - (Applied sciences, engineering, etc.)	_____	4.1.
	(2) Business Education	_____	4.2.
	(3) Vocational or trade	_____	4.3.
	(4) Apprenticeship	_____	4.4.
	(5) Arts	_____	4.5.
	(6) Applied Arts	_____	4.6.
	(7) Student services	_____	4.7.
	(8) None of above - Fully administrative	_____	4.8.

(Please go on to next page)

			Data Proc Only
5.	What is the highest academic attainment you have?		
	(1) Less than Grade 12 or equivalent completed	____	5.1.
	(2) Grade 12 or equivalent completed ...	____	5.2.
	(3) University, less than a degree	____	5.3.
	(4) Bachelor's degree	____	5.4.
	(5) Two Bachelor's degrees	____	5.5.
	(6) Master's degree	____	5.6.
	(7) Doctoral degree	____	5.7.
6.	What is the highest teaching training attainment you have?		
	(1) None	____	6.1.
	(2) Institute inservice training certificate	____	6.2.
	(3) Other, non-university, teaching certificate	____	6.3.
	(4) University education courses - less than an Alberta teaching certificate	____	6.4.
	(5) Alberta teaching certificate	____	6.5.
	(6) Bachelor of education degree	____	6.6.
	(7) Master of Education degree	____	6.7.
	(8) Doctoral degree	____	6.8.
7.	What are your plans for further teacher training?		
	(1) None	____	7.1.
	(2) Am planning to take university education courses	____	7.2.
	(3) Am taking university education courses	____	7.3.
8.	What is the total number of years you have taught in public school or separate school systems, Grades 1 - 12?		
	(1) None or less than one academic year .	____	8.1.
	(2) 1 to 3 years	____	8.2.
	(3) 4 to 6 years	____	8.3.
	(4) 7 to 9 years	____	8.4.
	(5) 10 or more years	____	8.5.

(Please go on to next page)

Data Proc Only

9. What is the total number of years you have instructed as a full-time member in post-secondary institutions?

(1)	Less than one year	_____	9.1.
(2)	1 to 3 years	_____	9.2.
(3)	4 to 6 years	_____	9.3.
(4)	7 to 9 years	_____	9.4.
(5)	10 years or more	_____	9.5.

10. What is the total number of years you have instructed as a full-time staff member in the present institute? Count the present year as less than one.

(1)	Less than one year	_____	10.1.
(2)	1 to 3 years	_____	10.2.
(3)	4 to 6 years	_____	10.3.
(4)	7 to 9 years	_____	10.4.
(5)	10 years or more	_____	10.5.

11. Were you required to hold an Alberta Dept. of Education teaching certificate to obtain your present position? Check only one.

(1)	No	_____	11.1.
(2)	Yes	_____	11.2.
(3)	Some preference was indicated	_____	11.3.

12. What is the major trade or technical qualification you possess besides practical experience? Check only one.

(1)	Journeyman papers	_____	12.1.
(2)	One year post-secondary certificate.	_____	12.2.
(3)	2 or 3 years post-secondary diploma.	_____	12.3.
(4)	Bachelor's degree	_____	12.4.
(5)	Membership in a professional association (P. Eng., C.A., etc.) ..	_____	12.5.
(6)	Master's degree	_____	12.6.

(Please go on to next page)

INSTRUCTOR TRAINING

A number of skills and knowledges are listed below. Please circle the number which best indicates: your opinion of the importance and value of each to an instructor in Technical and Vocational Education.

The numbers indicate the following opinions:

1. Very necessary
2. Necessary
3. Useful
4. Of little use
5. No use

NOTE; Possession of the necessary subject matter skills and knowledges is assumed.

SKILLS IN:	Very Nec.				No Use	Data Proc Only
13. Classroom, Lab. and Shop organization and management.	1	2	3	4	5	13.
14. Development, selection and use of audio-visual aids.	1	2	3	4	5	14.
15. Curriculum development and implementation.	1	2	3	4	5	15.
16. Testing and evaluation techniques.	1	2	3	4	5	16.
17. The development of educational objectives.	1	2	3	4	5	17.
18. The selection and use of appropriate teaching methods.	1	2	3	4	5	18.
19. The preparation and use of subject outlines.	1	2	3	4	5	19.
20. The diagnosis of learning and teaching problems.	1	2	3	4	5	20.
21 The use of teaching techniques.	1	2	3	4	5	21.
22. The preparation and use of daily lesson plans.	1	2	3	4	5	22.

(Please go on to next page)

	Very Nec.				No Use	Data Proc Only
23. The development and maintenance of discipline in class.	1	2	3	4	5	23.
24. Communication.	1	2	3	4	5	24.
KNOWLEDGE OF						
25. The principles and theories of learning and forgetting.	1	2	3	4	5	25.
26. Human growth and development.	1	2	3	4	5	26.
27. The history and philosophy of vocational education.	1	2	3	4	5	27.
28. The role of motivation in education.	1	2	3	4	5	28.
29. The sociology of education.	1	2	3	4	5	29.
30. The role of the instructor as a counselor.	1	2	3	4	5	30.
31. The psychology of adult education.	1	2	3	4	5	31.
32. Programmed learning techniques.	1	2	3	4	5	32.
33. Which four items in the above list of skills and knowledges, Items 13-32, do you feel to be the <u>most</u> value to a <u>beginning</u> instructor? List them in order of importance.						33-40.
Item Nos. ____ ____ ____ ____						
34. Which four items do you feel to be <u>least</u> value to a <u>beginning</u> instructor?						41-48.
Item Nos. ____ ____ ____ ____						
35. Which of the above list of skills and knowledges, Items 13-32, do you feel yourself to be most in need of:						49-56.
Item Nos. ____ ____ ____ ____						
36. Write down any other skills or knowledges which you feel should have been included in the list.	VN				NU	
(a)_____	1	2	3	4	5	
(b)_____	1	2	3	4	5	
(c)_____	1	2	3	4	5	

(Please go on to next page)

A number of inservice training activities and techniques are listed below. Please circle the number which best indicates: your opinion of the value of each in helping to improve the quality and effectiveness of instruction.

The numbers indicate the following opinions:

1. Very helpful
2. Helpful
3. Some help
4. Of little help
5. No help

NOTE: A thorough and up-to-date subject matter competence is assumed.

	VH				NH	Data Proc Only
37. The provision of sources of expert guidance and advice on instructional problems.	1	2	3	4	5	57.
38. Demonstrations of teaching methods and techniques.	1	2	3	4	5	58.
39. The provision of practice teaching sessions using video tapes and play-back.	1	2	3	4	5	59.
40. Departmental meetings and seminars on instructional problems.	1	2	3	4	5	60.
41. The opportunity for instructors to observe fellow instructors conducting classes and labs.	1	2	3	4	5	61.
42. Observations of instruction for the purpose of making recommendations and offering advice for its improvement.	1	2	3	4	5	62.
43. Periodic evaluations and ratings of instruction and instructors.	1	2	3	4	5	63.
44. Evaluation of the instruction and instructor by the students.	1	2	3	4	5	64.
45. The provision of continuing inservice training programs by the institute staff.	1	2	3	4	5	65.

(Please go on to next page)

	VH				NH	Data Proc Only
46. The provision of continuing in-service training programs by university staff.	1	2	3	4	5	66.
47. Making the completion of a certain minimum of inservice courses (beyond those in the pre-session training program) a requirement for pay increments.	1	2	3	4	5	67.
48. Completion of specified institute inservice training courses (beyond those in the pre-session training program) recognized for pay grade purposes as are university education courses.	1	2	3	4	5	68.
49. The provision of salary increase or bonuses for outstanding instructors.	1	2	3	4	5	69.
50. The introduction of special university education courses for instructors in post-secondary institutions.	1	2	3	4	5	70.
51. Write down any further items which you feel could be added to the list.						
(a)_____	1	2	3	4	5	
(b)_____	1	2	3	4	5	
(c)_____	1	2	3	4	5	

(Please go on to next page)

Data Proc Only

In your opinion which of the following staff members could best provide each of the services listed below?

1. Director of Instruction
2. Department Head
3. Section Head
4. A recognized "good instructor"
5. All of the above.

Circle the appropriate number.

52. Provide guidance and advice on instructional problems.	1	2	3	4	5	71.
53. Give demonstrations of teaching methods and techniques.	1	2	3	4	5	72.
54. Visit classrooms and labs to make recommendations and offer advice on the improvement of instruction.	1	2	3	4	5	73.
55. Make periodic evaluations and ratings of the instruction and the instructor.	1	2	3	4	5	74.

A number of training methods are listed below. Please circle the number which best indicates: your opinion of the effectiveness of each in aiding a beginning instructor develop the practical skills of a competent teacher.

The numbers indicate the following opinions:

1. Very helpful
2. Helpful
3. Some help
4. Of little help
5. No help

	VH				NH	
56. Give the new instructor classes and courses to teach and advice only when he asks for it.	1	2	3	4	5	75.
57. Provide practice teaching opportunities for the instructor before he is assigned to instruct classes.	1	2	3	4	5	76.

(Please go on to next page)

	VH				NH	Data Proc Only
58. Provide for regular daily consultation with a senior member concerning instruction and preparation.	1	2	3	4	5	77.
59. Provide the beginning instructor with a short (four week) period of "student teaching' in which he helps to teach the classes of an experienced instructor under his observation and with his advice.	1	2	3	4	5	78.
60. Require each new instructor to serve a period as an intern or apprentice, with a reduced teaching load and working in close cooperation with, and under the supervision of, an expert instructor.	1	2	3	4	5	79.
61. Which of these items, 57-61, do you feel would be the most helpful?	Item No. ____					80.
62. Write down any other items you feel should have been included in the list.						
(a)_____ _____ _____	1	2	3	4	5	
(b)_____ _____ _____	1	2	3	4	5	
(c)_____ _____ _____	1	2	3	4	5	

FINISH.

THANK YOU FOR YOUR EFFORT.
PLEASE PUT THE COMPLETED QUESTIONNAIRE IN THE ENVELOPE, SEAL IT, AND RETURN IT AS SOON AS POSSIBLE TO THE PERSON ON STAFF WHO IS COORDINATING DATA COLLECTION FOR YOUR INSTITUTE.