

CAREER LADDER ATTITUDES OF BENCH MEDICAL TECHNOLOGISTS

A THESIS

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Date

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entitled "Career Ladder Attitudes of Bench Medical Technologists."

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that it be accepted in partial fulfillment of the requirements for the degree of Master
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DEDICATION

This thesis is dedicated to all medical technologists. May our profession flourish and receive the recognition that is entitled to it in the health care profession.

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ABSTRACT

COMPLETED RESEARCH IN HEALTH SCIENCES
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The purpose of the study was to determine the attitudes before and after a career ladder intervention module of bench medical technologists in the Dallas/Fort Worth metroplex, as measured by a Cantu Career Ladder Attitude Inventory. A sample of convenience with 62 subjects was utilized in this study. A group of medical technologists were given a career ladder attitude inventory pretest survey. After completion of the survey, an oral presentation on the concept of career ladders was presented and details of the career ladder plan was opened for discussion. Examples of career ladders were introduced and a model plan describing a career ladder for medical technology was distributed. One week later, the group received a career ladder attitude inventory posttest survey with the same instructions. Analysis of the data revealed that for the pretest survey a mean of 69.06 was obtained. After the career ladder oral presentation, the posttest scores increased to a mean of 74.85. The results showed that there was a significant favorable change in attitudes toward career ladders at a $p \leq 0.05$ significance level.

TABLE OF CONTENTS

	Page
DEDICATION	iii
ACKNOWLEDGMENTS	iv
ABSTRACT	v
LIST OF TABLES	vi
Chapter	
I. THE PROBLEM AND ITS BACKGROUND	1
Problem of Study	2
Statement of Purposes	3
Hypothesis	3
Definition of Terms	4
Assumptions	5
Limitation	5
Significance of the Study	5
II. REVIEW OF LITERATURE	7
Medical Technologists	7
The Role and Education of a Medical Technologist	7
Turnover Rate of Medical Technologists	8
Lack of Professional Motivation of Medical Technologists	9
Stress/Burnout of Medical Technologists	12
Career Ladder	14
Examples of Career Ladders	16
Career Ladder in the Medical Technology Profession	18

	Page
Attitudes	19
Relationship of Attitudes to Job Performance	22
Summary	22
III. METHODOLOGY	23
Setting	23
Population and Sample	23
Protection of Human Subjects	24
Instrument	25
Scoring	25
Reliability and Validity	26
Module	27
Data Collection	28
Treatment of Data	29
IV. FINDINGS	30
Subjects	30
Findings by Hypothesis	30
Secondary Findings	32
V. SUMMARY, CONCLUSION, DISCUSSION AND RECOMMENDATIONS	36
Summary	36
Conclusion	37
Discussion	37
Recommendations	38
REFERENCES	40

	Page
APPENDICES	
A. Agency Permission to Conduct Study	43
B. Cantu Career Ladder Attitude Inventory	45
C. Evaluators Letter with Form A and Form B	48
D. Career Ladder Module and Guidelines	62
E. Medical Technologist Letter with Cover Page	69

LIST OF TABLES

Table	Page
1. Statistical Results for Pretest Group and Posttest Group	30
2. Frequency and Percentage for the Pretest Survey by Category	32
3. Frequency and Percentage for the Posttest Survey by Category	33

CHAPTER I

THE PROBLEM AND ITS BACKGROUND

Many medical technologists complain that their professional growth dead ends at the bench. Inadequate opportunities for upward mobility in the organizational structure is the first reason for job dissatisfaction among medical technologists (Varnadoe, 1992). It is an old problem where the laboratory is full of highly qualified bench technologists with only a handful of supervisory positions available. Increasing the managerial positions, even if feasible, appears not the answer. As scientists, some technologists have no desire to trade the bench for a desk mired in paper work and bureaucratic game playing (Warren, 1982). But when bench technologists feel they have hit a dead end, they may lose their enthusiasm for excellence. This is when morale plummets and the turnover rate soars. Many medical technologists are also at a point of their life where they are deciding to go into other areas of study due to low salary, burnout, boredom, etc. It was reported that advancement was more of a staff concern than money (Stevenson, 1989). A laboratory full of experienced bench medical technologists can be a mixed blessing. Their work can be exceptional, but they may be on the edge of boredom and burnout (Yabit, 1983). Again, this is partially due to low salary and lack of advancement.

A career ladder may have a positive influence on the medical technology profession. Career ladders encourage goal-setting and thus, may decrease turnover, increase salaries, provide recognition, and advancement. Career ladders also may place more responsibility and accountability on the technologist for self-development and professional conduct. Career ladder programs are used to offer opportunities to the employee to advance and make career choices, which in turn promotes self-esteem, both personally and professionally (Alt & Houston, 1986). This may be done by creating job categories and responsibilities for each title. A career ladder may allow new responsibilities, a chance to broaden the medical technologist's range of skills, and increase value on the job market. A career ladder program offers employees the opportunity to grow in their jobs while helping the laboratory meet future staffing needs. A career ladder may be a beneficial tool for both the employer and the bench medical technologists.

Problem of Study

What are the attitudes before and after a career ladder intervention module of bench medical technologists in the Dallas/Fort Worth metroplex, as measured by a Cantu Career Ladder Attitude Inventory?

Statement of Purposes

The purposes of this study were:

1. To develop a career ladder instrument.
2. To prepare a career ladder module for the bench medical technologist.
3. To determine the career ladder attitudes that bench medical technologists have prior to a career ladder intervention module.
4. To present a career ladder module and career ladder examples for the bench medical technologist.
5. To determine the career ladder attitudes that bench medical technologists have toward a career ladder after the intervention module.
6. To determine if there is a difference between pretest and posttest scores on the Career Ladder Attitude Inventory.
7. To determine the content validity of the Cantu Career Ladder Attitude Inventory.
8. To determine the ex post facto reliability of the career ladder instrument.

Hypothesis

The hypothesis addressed in this study was: there is no significant difference between the career ladder attitude level of bench medical technologists

before and after an intervention module, as measured by the Cantu Career Ladder Attitude Inventory.

Definition of Terms

The following terms were defined:

1. Attitudes. "An enduring organization of motivational, emotional, perceptual, and cognitive processes with respect to some aspect of the individual's world" (Krech & Crutchfield, 1948, p. 152).
2. Bench Medical Technologist. Any person who obtains a baccalaureate degree, with one year of clinical laboratory training and is registered by the American Society of Clinical Pathology or is eligible for certification or registration.
3. Career Ladder Attitude Inventory. An instrument (Cantu Career Ladder Attitude Inventory) that measures the career ladder attitudes of bench medical technologists.
4. Career Ladder Attitudes. A favorable or unfavorable feeling or emotion toward a career ladder.
5. Career Ladder. A systematic form of progressive advancement from one professional level to the next within a career.
6. Intervention Module. An educational unit that is used to present a concept. In this study the concept is a "Career Ladder."

Assumptions

The assumptions of this study were:

1. Attitudes are complex.
2. Attitudes can be measured and career ladder attitudes can be measured.
3. Medical Technologists have attitudes toward the career ladder concept.
4. All respondents will answer the inventory to the best of their ability.

Limitations

The following limitations were identified:

1. The same instrument was used for the pretest and posttest inventory.
2. The sample of convenience may impact the generalizability of this study.

Significance of the Study

The significance of the study was as follows:

1. This study may determine the attitudes toward a career ladder concept of bench medical technologists.

2. It is possible that a career ladder could be used to enhance professional growth.

3. This study may benefit the medical technology profession by increasing the recruitment of potential students desiring medical technology careers. The students will know in advance that this career provides growth opportunities which may increase salary and status.

4. A career ladder could assist in the development of a salary increase, an increase in retention level, and may reduce stress and burnout levels for medical technologists by providing advancement opportunities with salary scales and added benefits.

CHAPTER II

LITERATURE REVIEW

This chapter contains a review of literature examining turnover rate, lack of motivation, and stress and burnout in the medical technology profession. The career ladder concept is introduced and examples of career ladders are reviewed. Also, findings associated with career ladders are reported. Attitudes and the relationship of attitudes to job performance are briefly discussed.

Medical Technologist

The Role and Education of a Medical Technologist

Medical technologists are highly skilled laboratory professionals who use qualitative and quantitative tests to analyze blood, tissues, and fluids of the human body. The medical technologist's responsibilities require an understanding of scientific principles and theories as well as the ability to perform a wide variety of laboratory procedures with accuracy and integrity. To obtain the knowledge and skills required by this profession students can be admitted to a Medical Technology program in their senior year as a one-year plan and receive a bachelor's degree in Medical Technology or they can be admitted into a one-year certificate program after completing a bachelor's degree.

The Medical Technology curriculum is diphasic: a classroom phase and a clinical rotation phase. During the classroom phase, formal lectures and laboratory sessions offer the opportunity to study the principles of the major divisions such as chemistry, hematology, blood banking, immunology, and microbiology. In the clinical phase, instruction and supervision are provided at affiliated hospitals as the student rotates through each section of the clinical laboratories.

After successfully completing this program, each student is eligible to take the national certifying examinations for medical technology. Medical Technology Programs are accredited by the Committee on Allied Health Education and Accreditation of the American Medical Association in collaboration with the National Accrediting Agency for Clinical Laboratory Sciences.

Turnover Rate of Medical Technologists

Medical technologists receive a good technical background and are oriented toward problem solving. The profession is challenging despite the gloomy profile depicted in a survey reported by the Medical Laboratory Observer (Hallam, 1985). This survey cited turnover rate was due to stagnant salaries, dwindling career opportunities, low prestige, nonexistent mobility, and shrinking benefits and budgets as prime reasons for discontentment.

Medical technologists have been plagued by a double-edged image problem. Their work separates them from the public; therefore, they become the invisible member of the health care team with no image or they have a second-class citizen image that is unflattering. This lack of professional respect and acceptance is one major reason for the turnover rate in medical technology and accounts for the problem of declining student enrollment (Clerc, 1992). Other surveys (Hallam, 1985) taken of medical technologists who have left the profession indicated turnover rate was due to a variety of reasons. Some factors are the lack of promotional opportunities, inability to fully apply their skills and abilities, routineness of their jobs, and lack of supervisory support. In addition, some technologists leave their jobs to relocate when spouses are transferred, others to be full-time parents, and others become full-time students which indicates a switch to a different career altogether (Clerc, 1992).

Lack of Professional Motivation of Medical Technologists

Developing a strong motivational program appears to be the key to employee satisfaction, and incentive and managerial success. Motivation is the basic element of all management principles. People are not always aware of what they want. Therefore, many times only a small portion of the motivational principle is clearly visible or conscious to oneself (Maslow, 1954). This may be attributed to a lack of effort by individuals to gain self-insight. People differ not

only in their ability to perform but also in their will to do or to be motivated.

The motivation of people depends on the strength of their motives. "Motives are the needs, wants, drives, or impulses within an individual" (Hersey & Blanchard, 1993). Motives are directed toward goals, and are the "whys" of behavior. They arouse and maintain activity and determine the general direction of the behavior of an individual (Hersey & Blanchard, 1993). Managers cannot achieve departmental and organizational goals without staff support and cooperation. It definitely helps the cause when employees have a vested interest in seeing their own goals achieved when the total organization also succeeds.

Motivation is the major catalyst for employee behavior and performance. A highly motivated work-force is self-directed and requires less supervision than a less motivated one. An employee experiences less absenteeism, produces more work, and enjoys greater job satisfaction. Unfortunately, today's medical technologists feel that they lack control over their jobs. They have become frustrated and uninspired (Barros, 1990). A motive tends to decrease in strength if it is either satisfied or blocked from satisfaction (Hersey & Blanchard, 1993).

To develop a successful job enrichment program, and increase incentive and motivation, laboratory managers must understand that success begins with determining the needs and wants of individual employees. Every individual is capable of developing to a self-actualization stage, according to Maslow (1954).

Self-actualization is the desire to become what one is capable of becoming (Hersey & Blanchard, 1993).

Merit incentive systems are viewed as an opportunity to reward individuals for outstanding productivity. A merit incentive system is a pay plan that rewards managers and workers, either individually or collectively, for outstanding performance (Levey & Loomba, 1984). This approach compensates employees above the normal rate for specific activities such as cost control, improved output, or creativity in handling a particular situation (Williams, 1982). There is

Vrooms Theory of Expectancy which supports the premise that incentive systems can influence employee productivity if: (1) rewards are linked to an achievable level of performance, (2) there is a clear relationship between performance and rewards and (3) incentives are perceived as relating more to positive than negative outcomes of effective performance (Cammann & Lawler, 1972, p. 311).

Health care organizations have increasingly experimented with employee-incentive systems during recent years. Benefits to these institutions include decreased turnover, increased productivity, decreased overtime and decreased sick time, decreased work hours, increased communication with employees, improved management-control systems, increased cash, and above average employee compensation (Hamon, Snyder, Wilson & Speicher, 1991).

Merit incentive systems focus on the opportunity to influence the relationship between performance and satisfaction. When implemented correctly, incentive reward systems can stimulate satisfaction, incentive, and motivation

while increasing the measurable variables of attendance and retention. Even though, it has been reported that in general, medical technologists are dissatisfied with their jobs and feel that they are low on the recognition list and reward ladder, these types of plans may be a step in the right direction (Roberts, 1988).

Stress and Burnout of Medical Technologists

In the allied health literature, burnout is sometimes equated with job stress (Bailey, 1980). Job stress is generally viewed in relation to factors in the work environment that interact with a worker's personality in such a way as to disrupt the worker's psychological or physical functioning (Margolis & Kores, 1974). Burnout is typically considered as one consequence of job stress. Job stress appears to be a precursor factor for burnout to occur. Many workers experience job stress from time to time but do not develop burnout, however, no one has burnout without experiencing job stress (Muldary, 1983).

Edelnich (1980) defined burnout as "a progressive loss of idealism, energy, and purpose experienced by people in the helping professions as a result of their work conditions" (p. 10). Clinical laboratorians who complain of stress and burnout, cite a conglomeration of symptoms and conditions. The symptoms include but are not limited to apathy, fatigue, low morale, decreased interest in work, reduced productivity, tardiness, absenteeism, anger, resentment, headaches, backaches, muscle tension, frequent upper respiratory illness, and depression.

Conditions that occur due to burnout include role conflict, resistance to change, and the feeling of isolation that medical technologists have from other health care professionals (Martin, 1986). The most visible impact of burnout is the change in people's work performance such as motivation being down, and frustration being up (Maslach, 1982). The burnout syndrome appears to be a response to chronic, every day stress (Maslach, 1982).

Role conflicts afflict technologists who no longer have the same sense of purpose on the job because of changes in assignments, procedures, and instrumentation brought on by financial pressures. Technologists often do not receive a good explanation for these changes.

Resistance to change is a related problem. Like role conflict, it surfaces when management does not confide in employees about its intentions. To overcome resistance, management should also seek input on forthcoming changes from all levels of the organization.

Another burnout factor is the feeling of isolation from other health care professionals. This is a prevailing situation that continues to plague medical technologists.

Other causes of burnout are inadequate pay, excessive hours, too much paperwork, and the fear of making a mistake, particularly in the blood bank. Most medical technologists feel that their careers are at a dead end. Technologists see few opportunities to advance, since only a select number are

ever called to the supervisory level (Martin, 1986).

One report (Tanner, 1983) mentions that burnout victims experience intellectual boredom and a shortened attention span. When this happens, technologists change career objectives because they perceive a loss of skills and strength in their present jobs. To the extent that job characteristics can either promote or reduce emotional stress, they become an important factor in the burnout syndrome (Maslach, 1982).

Career Ladder

A career ladder is focused on a career advancement during employment and is based on criteria that are job related. A typical Laboratory Career Ladder Program (LCLP) is composed of five integrated elements: (a) a career ladder, (b) criteria-based job descriptions, (c) performance appraisals, (d) educational credits, (e) written and practical examinations (Hendrix, 1989, p.2). These criteria must be developed and integrated for each individual job level identified in the Career Ladder Program.

The criteria-based job descriptions should include the following: job title; job summary; job responsibilities, education, licensure, and certification; working conditions/physical demands; and performance standards (Hendrix, 1989, p. 841). Performance appraisals should consist of a detailed list of duties and skills. Each performance should be quantitated, customized, objective, and

integrated with a skill checklist (Hendrix, 1989, p. 841). Education credits can be obtained by furthering ones education and also by attending continuing education courses and workshops. Written and practical examinations should be objective, and unbiased. The supervisors and pathologists should predetermine a passing score on these examinations.

There are two categories of laboratorians: medical technicians and medical technologists. Differentiation is based on formal educational achievements including certification and licensure as well as duties and responsibilities in the workplace. The goal for a career ladder is to expand the medical technology profession by creating a two-tiered career ladder (Varnadoe, 1992). One tier would include management positions, the other would be more of a technical approach. The rationale behind the two-tiered system is that some laboratory personnel want to stay very close to the technical aspects of the job, but under the present system, technologists must move on to management positions in order to advance themselves. The technical tier of the Career Ladder Program would allow technologists to move up to a higher level of technical work, including troubleshooting, safety and equipment repair, preventative maintenance, and evaluation of new equipment, but still be close to the bench. The other tier allows technologists to move into management positions where they can spend the majority of their time and efforts on management issues and delegating technical issues to others.

Examples of Career Ladders

An appropriate career ladder plan for the medical laboratory may be designed after institutions endeavor to overcome employee stagnation. The military, academia, and industrial research laboratories represent groups whose efforts are directed toward resolving this motivational dilemma.

The United States Army, for example, has a ranking and grade system for enlisted personnel, or non-officers, that includes the traditional command route (sergeant) and a specialist classification for technical personnel. There are nine pay grades that range from E-1 to E-9. Their scale gives the military tremendous flexibility in rewarding and promoting their personnel based on job needs, performance and technical ability (Varnadoe, 1992).

The academic model is perhaps the most familiar. Academic administrative titles are signified by terms such as chairperson, dean, vice-president, and president. The scholastic side uses a classification scale to allow those who excel in teaching, research, and services to be recognized. Authority and salary status can be modified by advancing through the ranks of instructor, assistant professor, associate professor to full professor.

The laboratories of industry, an environment that is closest to the medical laboratory, employs thousands of highly educated and trained individuals to test their products and explore new technology. The hierarchical scheme utilized by these businesses follows closely that of academia. The laboratorian may advance

on a bureaucratic or technical ladder. Many employees in industry have bachelor's, master's, and doctoral degrees so titles such as assistant scientist, associate scientist and research scientist describe the promotion and reward systems used in these facilities (Varnadoe, 1992).

The nursing profession began a career ladder program which was designed to achieve recognition and provide a means of advancement commensurate with equitable monetary reward. The nurse developed and practiced the skills in nursing administration or clinical nursing practice. For example, the University of Texas M. D. Anderson Hospital career ladder nursing program evolved slowly over a four-year period. The University of Texas M.D. Anderson Hospital reported a 75 percent reduced turnover in the Division of Nursing, doubled the tenure of the terminating registered nurse, and decreased the dependency on temporary services from 29 to zero full-time equivalents (Alt & Houston, 1986). It has been reported that their Career Ladder program at M. D. Anderson Hospital has forced nursing administration to identify specific job requirements and demanded development of an education program. They have found that employees who were exposed to a career ladder program experienced an increase in self-esteem both personally and professionally due to the opportunity for advancement and career choices (Alt & Houston, 1986). The career ladder program at The University of Texas M.D. Anderson is reported to be a vital

energizer that retains nurses in a stimulating and rewarding environment. Their feedback has been a very positive one.

Career Ladder in the Medical Technology Profession

Based on a survey conducted in 1987 (Stevenson) for career ladder opportunities in medical technology, Stevenson reported that few opportunities existed around the country. But among those that were identified and surveyed, career ladder institutions had more employees with good work attitudes and positive productivity. Hendrix reported (1989) that the career ladder implementation had, in general, improved the image of the laboratory, created an incentive for technologists to pursue higher education, and defined the expectations of each job level. Some programs consisted of three tiers similar to the nursing criterion. The tiers consist of Levels I, II, and III with experience and training and responsibility achieved by the individual. The higher the level, the more that is expected of the technologist. Other career ladders have a dual tier which consists of Levels I and II with mobility going either horizontally or vertically (Hendrix, 1989).

Attitudes

Attitudes can be defined as "an enduring organization of motivational, emotional, perceptual and cognitive processes with respect to some aspect of the

individual's world" (Krech & Crutchfield, 1948, p. 152). The individual plays a role primarily in terms of one's contribution to the group process (Herzberg, Mausner, & Snyderman, 1959).

Attitudes may be reflected in the behavior of the individual or in the individual's immediate experience. Therefore, both behavioral analysis and introspection can be used for measurement. Measurements can be made by qualifying relevant aspects of the individual's behavior toward the object itself. The way in which attitudes reflect themselves in behavior and experience is governed partially by the nature of the momentary circumstances. The term measurement does not imply a highly refined degree of quantification. What is necessary though is a degree of differentiation that is observable and thus is measurable. Any measurement of attitudes must be construed in terms of reliability of the measuring instrument. There is no direct mode of validation of measurements. To the extent that predicting how individuals will behave in various situations, the measurements of relevant attitudes can be viewed as valid. Measurements require a scale and every scale depends upon the central tendencies or dispersions of opinions expressed by many people (Krech & Crutchfield, 1948).

One type of instrument used to measure attitudes is the Likert scale. The Likert scale method is a simple and commonly used self-report method for measuring attitudes. The Likert scale requires clearly favorable and unfavorable

attitude statements with a five point scale or a seven point scale ranging from strongly agree, agree, undecided, disagree, and strongly disagree so that it can be scored and evaluated (Gronlund, 1985).

Relationship of Attitudes to Job Performance

The factors that are instrumental in bringing about high job performance are attitude-based, namely, doing the job, liking the job, success in doing the job, recognition for doing the job, and moving up the organization ladder as an indication of professional growth. Other factors, which are characterized more with the context in which the job is done and not characteristic of job attitude, are working conditions, interpersonal relationships, supervision, company policies, policy administration, effects on worker's personal life, job security, and salary (Herzberg et al., 1959).

The factors of work itself, responsibility and advancement, are almost always associated with long-term changes in job attitudes. A feeling that people have achieved and a feeling that they have been recognized are the two most frequent feelings that are associated with an increase in job satisfaction and job performance (Herzberg et al., 1959). Job performance can improve with basic feelings of recognition that are associated with the positive reinforcements of advancement, added responsibility, and interesting and challenging work.

Achievement can stand independently of recognition as a source of good feelings about a job (Herzberg et al., 1959).

Summary

In summary, when an employee experiences positive attitudes toward job performance, one of the rewards for the employer is the employee has greater bonding with the organization. Career ladders may be useful in motivating performance. When a foundation is laid for professional growth, recognition, and excellence, it will develop into a strong system for career advancement.

CHAPTER III

METHODOLOGY

This study used the descriptive survey method of research. A questionnaire approach with a pretest-posttest design was utilized.

Setting

The study was conducted in a conference room during a Dallas District Society of Medical Technology meeting in Dallas, Texas. The room was arranged into two groups. One group consisted of medical technologists and the other, medical technology students.

Population and Sample

The population included all certified medical technologists and those eligible for certification. A sample of convenience was used and consisted of medical technologists who were certified or eligible for certification who attended the Dallas District Society of Medical Technology monthly meeting and who returned for a second meeting one week later. An agenda item had been designated for a pretest and posttest survey. Attendees who were students or were medical laboratory technicians were not included in the study. Those who were

present at both meetings, and willing to complete the questionnaire at the time of the study, were included. Only subjects who had matching numbers on their pretest and posttest were used in this study. Any subject that was missing a matching pretest or posttest was disqualified from the study.

Protection of Human Subjects

Written permission to conduct the study was obtained from the Dallas District Society of Medical Technology Association and the Texas Woman's University prior to data collection (see Appendix A). This study was in compliance with Category I of the Risk Categories of the Federal Regulations because no names were included in the study at any time. A survey identification system was used. Each subject was asked to put his or her date of birth and the last four digits of their social security number on the right side of the cover page of the Cantu Career Ladder Attitude Inventory. These numbers were used to correlate each subject's pretest and posttest questionnaires. Only volunteers were used in the study. The return of the surveys indicated consent from the medical technologists to participate in the study. Data were recorded in such a way that subjects could not be identified, and the single copy of the document linking numbers to the questionnaires was kept under lock and key. Only group data were used.

Instrument

An instrument (Cantu Career Ladder Attitude Inventory) designed by the researcher was used to collect the data for this study. The inventory consisted of 20 questions (see Appendix B). The questions were short and easy to read. This instrument was a self-report inventory. The inventory used a Likert-type scale format with a five-category response: (a) Strongly Agree -- SA, (b) Agree -- A, (c) Undecided -- U, (d) Disagree -- D, and (e) Strongly disagree -- SD.

Scoring

The scoring of the Likert-type scale was based on assigning weights from one to five for each position on the scale. Favorable statements included item numbers 1, 3, 5, 7, 9, 12, 14, 16, 18, 19, and were weighted 1, 2, 3, 4, 5, going from strongly disagree to strongly agree. Unfavorable statements such as items 2, 4, 6, 8, 10, 11, 13, 15, 17, 20, had these weights reversed. The unfavorable items were weighted 5, 4, 3, 2, 1, going from strongly disagree to strongly agree. An individual's total score on this type of scale was the sum of the scores on all items.

Reliability and Validity

Reliability

An ex post facto reliability was done. This study used a Cronbach alpha, item analysis as an evaluative tool. It was utilized for recognizing instrument weaknesses, for test scoring, and for calculating internal consistency reliability measurements. Each test item was evaluated in terms of its response pattern within the group tested. The internal consistency reliability measure was found to be $+ .90$ for the 20 item total test. This value is deemed to be "excellent" by Balian (1988).

Validity

Experts were selected based on their knowledge and experience in the area of Medical Technology. Five experts were telephoned and asked to participate in determining the content validity of the inventory. The experts were certified medical technologists with a minimum of 5 years clinical experience. Each expert was employed in the allied health sciences field as a faculty-ranked professional. The experts were sent a cover letter with instructions, the evaluation instrument and a preaddressed stamped envelope (see Appendix C). These experts were given 14 days to mail back the inventory forms. If the forms were not received within the 14 days, the experts were telephoned and another form was sent out to them. If the form was not returned within the 14-day time limit, that expert was

replaced. No replacement evaluators were needed. Each question was reviewed and chosen according to the consensus ruling of the evaluators. Consensus was defined as four of the five experts. The survey had 22 questions for evaluation. On the evaluation form survey, question number 11 and 18 were omitted as recommended by the evaluators. Item 8 was reworded by removing a few words from the question as follows: "A career ladder would not make too much of a difference in salary potential" to say "A career ladder would not make much difference in salary potential."

Each question was evaluated as an unfavorable or favorable statement. These findings are indicated above. There was an even distribution of favorable and unfavorable statements for the final survey. A total of 20 questions comprised the final survey.

Module

An intervention module was used as an educational unit to present the "career ladder" concept. Modules function as a unit and are therefore used to illustrate a design. This module was presented following the career ladder outline (see Appendix D). Included in this module was an example of a multi-level medical technology career ladder. Job descriptions and career ladder criteria were included.

Data Collection

To assure anonymity of the respondent, a pretest and posttest identification system was used. There were two meetings with these medical technologists in a conference room in the Dallas area. The group was divided into two groups, the right side of the room, consisted of certified medical technologists or eligible for certification and the other group on the left was comprised of students and medical laboratory technicians. Only the group on the right received the surveys and the group on the left received the module to read during the administration of the survey. An introductory letter regarding the survey was attached to the questionnaire explaining the purpose and intent of the survey (See Appendix E). The questionnaires were distributed with a cover page and a place for entering date of birth and the last four digits of the respondent's social security number. Each medical technologist was given 15 minutes to complete the Cantu Career Ladder Attitude Inventory. All surveys were returned at the end of the 15-minute time frame, but the only valid surveys were those completed within the 15-minute time period. Upon completion, an envelope was passed to allow everyone to put their form in the envelope. All surveys were sorted and incomplete surveys were not utilized. A 30-minute oral presentation on the concept of "Career Ladder" was presented by the investigator at the first meeting and details of the career ladder plan was opened for discussion. Examples of career ladders were introduced and a model plan describing a career

ladder for medical technologists was distributed. One week later, the Dallas District Society of Medical Technology had another society meeting. The Cantu Career Ladder Attitude Inventory posttest was distributed with a cover page which included a place for entering their date of birth and the last four digits of the respondents, social security number. The same procedures applied for the posttest. They were allowed 15 minutes to complete the survey. Incomplete surveys were not utilized. Upon completion of the instrument the medical technologist placed his or her questionnaire in the envelope, as previously discussed. Each medical technologist was thanked for participating in the survey. Any subject that was missing a matching pretest or posttest was disqualified from the study.

Treatment of Data

Inferential statistics were used. A t-test was used to determine if the mean scores, from pretest and posttest, are significantly different. A Cronbach's alpha item analysis was used to determine the reliability of the instrument. This study used a $\leq .05$ level of significance.

CHAPTER IV

FINDINGS

This chapter presents the findings of the study. It describes the subjects, the findings by hypothesis and the secondary findings.

Subjects

The study had 68 initial subjects. However, there were three subjects who had a pretest survey but did not have a matching posttest survey and therefore were excluded from the study. Also excluded were three persons who declined to participate. A total of 62 subjects, both men and women, were used to determine the findings of this study.

Findings by Hypothesis

The null hypothesis in this study stated that "there is no significant difference between the career ladder attitude level of bench medical technologists before or after an intervention module, as measured by the Cantu career Ladder Attitude Inventory." The mean was calculated to be 69.06 for the pretest survey and increased to a mean of 74.85 for the posttest survey (see Table 1). A t-test was performed on the mean to establish homogeneity between the pretest and

Table 1

Statistical Results for Pretest Scores and Posttest Scores

Scores	Mean	Standard Deviation	Variance	Range	<u>t</u> -test	<u>p</u> value
Pretest (n = 62)	69.06	10.01	100.20	44-86	11.17	0.0001*
Posttest (n = 62)	74.85	9.188	84.42	47-96		

*Significant at the $\leq .05$ level.

posttest survey scores. The t -test value was 11.17 with a p value of 0.001. The null hypothesis was rejected or failed to be accepted.

Secondary Findings

A few interesting secondary findings were noted. The pretest and posttest revealed an increase in favorable responses (agreed and strongly agreed) to item 1, "I have a positive attitude toward a career ladder." This favorable change was from 40% to 56% (see Table 2 and 3). Item 3 of the pretest survey indicated that 35 (56%) of the subjects agreed and 7 (11%) strongly agreed that they were enthusiastic about a career ladder in the medical technology field. The posttest survey reported 41 (66%) agreed and 13 (21%) strongly agreed that they were enthusiastic about a career ladder (see Table 2 and 3). Thus, there was a change in the degree of favorableness. In item 5 of the posttest survey the majority of subjects (95%) agreed that a career ladder would enable personal growth and development. Findings showed that for item 7, 44 (71%) of the subjects on the posttest the subjects felt that a career ladder would be self-fulfilling. Item 8 indicated that less than half of the subjects 29 (47%) disagreed in the pretest, whereas, 49 subjects (79%) in the posttest felt that career ladders would not make much difference in salary potential. In item 18, both pretest and posttest groups had high percentages for believing that career ladders are rewarding, 71% and 82% respectively.

Table 2

Frequency and Percentages of the Pretest Survey by Category

ITEM	<u>SD</u> f %	<u>D</u> f %	<u>U</u> f %	<u>A</u> f %	<u>SA</u> f %
1	2(3)	8(13)	12(19)	27(44)	13(21)
2	9(15)	21(34)	14(23)	17(27)	1(2)
3	2(3)	5(8)	13(21)	35(56)	7(11)
4	19(31)	37(60)	3(5)	3(5)	0
5	0	4(6)	4(6)	41(66)	13(21)
6	4(6)	33(53)	15(24)	10(16)	0
7	1(2)	2(3)	15(24)	36(58)	8(13)
8	8(13)	21(34)	14(23)	16(26)	3(5)
9	1(2)	5(8)	21(34)	30(48)	5(8)
10	2(3)	37(60)	10(16)	12(19)	1(2)
11	5(8)	30(48)	18(29)	9(15)	0
12	2(3)	16(26)	15(24)	26(42)	3(5)
13	9(15)	32(52)	11(18)	10(16)	0
14	0	9(15)	21(34)	30(48)	2(3)
15	9(15)	22(35)	16(26)	13(21)	2(3)
16	3(5)	14(23)	24(39)	21(34)	0
17	8(13)	12(19)	26(42)	15(24)	1(2)
18	0	2(3)	16(26)	40(65)	4(6)
19	0	3(5)	15(24)	40(65)	4(6)
20	4(6)	24(39)	23(37)	9(15)	2(3)

Table 3

Frequency of Percentages of the Posttest Survey by Category

ITEM	<u>SD</u> f %	<u>D</u> f %	<u>U</u> f %	<u>A</u> f %	<u>SA</u> f %
1	0	2(3)	4(6)	36(58)	20(32)
2	6(10)	35(56)	6(10)	12(19)	3(5)
3	0	2(3)	6(10)	41(66)	13(21)
4	17(27)	36(58)	4(6)	4(6)	1(2)
5	0	0	3(5)	42(68)	17(27)
6	4(6)	37(60)	7(11)	13(21)	1(2)
7	1(2)	6(10)	11(18)	36(58)	8(13)
8	16(26)	33(53)	6(10)	6(10)	1(2)
9	0	1(2)	9(15)	39(63)	13(21)
10	12(19)	36(58)	5(8)	6(10)	3(5)
11	11(18)	42(68)	5(8)	4(6)	0
12	0	5(8)	11(18)	37(60)	9(15)
13	8(13)	37(60)	9(15)	8(13)	0
14	0	6(10)	8(13)	37(60)	11(18)
15	15(24)	30(48)	8(13)	6(10)	3(5)
16	0	6(10)	7(11)	32(52)	17(27)
17	12(19)	10(16)	16(26)	18(29)	6(10)
18	1(2)	2(3)	8(13)	33(53)	18(29)
19	0	4(6)	4(6)	36(58)	18(29)
20	9(15)	33(53)	13(21)	7(11)	0

It is interesting to note that fewer people selected the category "undecided" on the posttest. For example, item 17 of the pretest had 26 (42%) of the subjects "undecided" about a career ladder being fair and unbiased. This undecided attitude changed to 16 (26%) on the posttest. Furthermore, item 19 had 44 subjects on the pretest and 54 subjects on the posttest expressing a favorable feeling toward the concept that career ladders would allow them the opportunity to use their abilities.

CHAPTER V

SUMMARY, CONCLUSIONS, DISCUSSION AND RECOMMENDATIONS

Summary

The purpose of the study was to determine the attitudes before and after a career ladder intervention module of bench medical technologists in the Dallas/Fort Worth metroplex, as measured by a Cantu Career Ladder Attitude Inventory. The survey research was conducted as a descriptive study using a questionnaire approach with a pretest-posttest design. A sample of convenience was used. The sample consisted of certified medical technologists or those eligible for certification. These subjects were members who attended the Dallas District Society of Medical Technology meeting. An agenda item had been designated for a pretest and posttest survey. The subjects totaled 62 medical technologists. Only subjects who had matching identification numbers on their pretest and posttest were used in the study. The t-test was used to determine if a significant difference existed between the pretest mean and the posttest mean. Of these technologists a significant difference in attitude scores toward career ladders between the pretest and posttest inventory were found.

Conclusions

The primary conclusion is that when medical technologists were presented with a module about career ladders they were more favorably inclined toward a career ladder than they were prior to the intervention.

Discussion

There are several limitations that would be helpful to keep in mind for further study. First, the study used a sample of convenience. The employees were not randomly selected and were volunteers. The lack of random sampling, generalizations regarding attitudes of Dallas/Fort Worth metroplex bench medical technologists may not be accurate. Thus, findings of this study may have been influenced by the sampling technique. The sample was relatively small in size and it was from a limited geographic region.

A career ladder appeared to be a new concept to a number of bench medical technologists. Thus, the module presentation and discussion that followed among the subjects may have had both cognitive and affective impact. Attitude may change in either direction--favorable or unfavorable. An increase in favorable attitudes about career ladders was seen after the presentation and discussion of career ladders. It may be beneficial if career ladders are perceived as favorable in order to win the approval of laboratory managers in order to institute a career ladder program. It is possible that the subjects may have been

biased by the use of an identical pretest and posttest.

It should not be overlooked that bias factors for burnout, stress, low salary, and lack of recognition may already pre-exist among these medical technologists. However, a career ladder may cause negative attitudes to change to a more positive state when monetary rewards are part of the scheme.

The timely nature of the topic in this study has created lively discussions and controversy in many sectors within the ranks of these medical technologists. Time will prove whether moving to the career ladder model is the appropriate choice for institutions or whether a new idea will emerge to stimulate a stronger, more positive professional attitude toward career ladders.

This study indicated that presenting the career ladder concept did favorably change attitudes. Thus, it appears that inservice education may be beneficial to promote the concept of career ladders and favorable attitudes toward career ladders. Favorable attitudes toward career ladders may improve job performance. Perhaps career ladders may recruit new employees and retain current employees.

Recommendations

Future research should attempt to replicate the study using a larger sample including individuals who are not Society members. Further studies concerning attitudes toward career ladders may investigate the different relationships of

demographic characteristics, such as gender, age, etc. The study may also be replicated to determine if medical laboratory technicians have different attitudes toward career ladders than medical technologists. Comparative attitude studies between bench medical technologists in a career ladder program and bench medical technologists not in a career ladder program might be pursued. The study might also be replicated to determine if the attitudes of supervisors and bench medical technologists differ.

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APPENDICES

APPENDIX A

Agency Permission to Conduct Study

TEXAS WOMAN'S UNIVERSITY
DEPARTMENT OF HEALTH STUDIES
AGENCY PERMISSION FOR CONDUCTING SURVEY

The Dallas District Society for Medical Technology

GRANTS TO

Doramarie Arocha

a student enrolled in the master's degree program in Health Studies at Texas Woman's University, the privilege of its facilities/data in order to study the following problem:

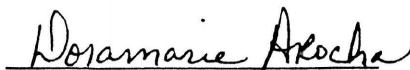
Career Ladder Attitudes of Bench Medical Technologists

The conditions mutually agreed upon are as follows:

1. The agency (may) (may not) be identified in the final report.
2. The names of consultative or administrative personnel in the agency (may) (may not) be identified in the final report.
3. The agency (wants) (does not want) a conference with the student when the report is completed.
4. Other _____

DATE: 5/13/94


(Signature of Agency)


Signature of Student


Thesis Committee Chairman

APPENDIX B

Cantu Career Ladder Attitude Inventory

CANTU CAREER LADDER ATTITUDE INVENTORY

INSTRUCTIONS

The purpose of this Inventory is to determine your attitude about a career ladder in the medical technology profession. The definition of a Career Ladder is a systematic form of progressive advancement from one professional level to the next within a career. There are 20 items listed below. Please read each item carefully and circle SD, D, U, A, or SA as it relates to you and your career. The five category responses will be utilized with the following values:

SD	-	Strongly Disagree
D	-	Disagree
U	-	Undecided
A	-	Agree
SA	-	Strongly Agree

On the basis of your answers and those of other Medical Technologists, we hope to get a better understanding of a career ladder in the medical technology profession.

Remember: Keep the statement in mind when deciding how you feel about a career ladder. Do this for all statements. Please answer every item.

Be frank and honest. Give a true picture of your feelings about a career ladder in the medical technology profession. There are no right or wrong answers.

Career Ladder for Medical Technology

- | | |
|-----------------------------------------------------------------------|---------------------|
| 1. I have a positive attitude toward a career ladder. | SD D U A SA |
| 2. A career ladder would provide greater job-related stress. | SD D U A SA |
| 3. I am enthusiastic about a career ladder. | SD D U A SA |
| 4. A career ladder would not enhance personal growth and development. | SD D U A SA |

- | | | | | | | |
|-----|-------------------------------------------------------------------------------------------|----|---|---|---|----|
| 5. | A career ladder can enable personal growth and development. | SD | D | U | A | SA |
| 6. | A career ladder would increase ones emotional overload. | SD | D | U | A | SA |
| 7. | A career ladder would be self-fulfilling. | SD | D | U | A | SA |
| 8. | A career ladder would not make much difference in salary potential. | SD | D | U | A | SA |
| 9. | A career ladder has goals that are important to me. | SD | D | U | A | SA |
| 10. | I am not very enthusiastic about a career ladder. | SD | D | U | A | SA |
| 11. | A career ladder would force the medical technologist to do many unimportant tasks. | SD | D | U | A | SA |
| 12. | I would be very involved in my work if there was a career ladder. | SD | D | U | A | SA |
| 13. | A career ladder would give me the chance to tell people what to do. | SD | D | U | A | SA |
| 14. | I would feel a strong commitment to my work if a career ladder was implemented. | SD | D | U | A | SA |
| 15. | A career ladder will not provide chances for advancement in this job. | SD | D | U | A | SA |
| 16. | A career ladder would increase my salary. | SD | D | U | A | SA |
| 17. | A career ladder would be fair and unbiased. | SD | D | U | A | SA |
| 18. | A career ladder would be rewarding. | SD | D | U | A | SA |
| 19. | A career ladder would allow me the chance to do something that makes use of my abilities. | SD | D | U | A | SA |
| 20. | I have growing doubt about a career ladder. | SD | D | U | A | SA |

APPENDIX C

Evaluators Letter with Form A and Form B

THE UNIVERSITY OF TEXAS
SOUTHWESTERN MEDICAL CENTER
AT DALLAS

June 6, 1994

Department of Medical Laboratory Sciences

Dear Evaluator:

As an experienced professional medical technologist, I am asking you to serve as an evaluator of the survey instrument I am using for my Master's degree research data collection. Your opinion is important to me in assessing the questions that compose this instrument.

Please analyze each question and offer any editorial suggestions you feel are appropriate to improve its quality or to improve its communication effectiveness. This can be done on Form A. There is a Form B with the same questions that should be used to analyze and evaluate each question as a Positive statement, a Negative statement, or can be regarded as Either a positive or negative statement.

I thank you for your time and effort in completing this survey. Please try to return the completed survey within two weeks of receipt. A pre-addressed, postage paid envelope is provided. If you have any questions about the survey, please call me at (214) 648-1786. If you would like to receive a copy of the survey results, please indicate so when you return the completed survey.

Sincerely,

Doramarie Arocha

**CANTU CLAI CONTENT VALIDITY
EVALUATION
FORM A**

Directions: Please complete and return the following questionnaire in the stamped, self-addressed envelope. To ensure that your responses are counted, please return the questionnaire within two weeks after receipt.

1. I have a positive attitude toward a career ladder. SD D U A SA
____ Make no changes
____ Delete
____ Change
Comments: _____

2. A career ladder would provide greater job-related stress. SD D U A SA
____ Make no changes
____ Delete
____ Change
Comments: _____

3. I am enthusiastic about a career ladder. SD D U A SA
____ Make no changes
____ Delete
____ Change
Comments: _____

4. A career ladder would not enhance personal growth and development. SD D U A SA
____ Make no changes
____ Delete
____ Change
Comments: _____

5. A career ladder can enable personal growth and development. SD D U A SA
____ Make no changes
____ Delete
____ Change
Comments: _____

6. A career ladder would increase ones emotional overload. SD D U A SA
____ Make no changes
____ Delete
____ Change
Comments: _____

7. A career ladder would be self-fulfilling. SD D U A SA
____ Make no changes
____ Delete
____ Change
Comments: _____

8. A career ladder would not make too much of a difference in salary potential. SD D U A SA
____ Make no changes
____ Delete
____ Change
Comments: _____

9. A career ladder has goals that are important to me. SD D U A SA
____ Make no changes
____ Delete
____ Change
Comments: _____

10. I am not very enthusiastic about a career ladder. SD D U A SA
____ Make no changes
____ Delete
____ Change
Comments: _____

11. A career ladder provides a higher social status. SD D U A SA
____ Make no changes
____ Delete
____ Change
Comments: _____

12. A career ladder would force the medical technologist to do many unimportant tasks. SD D U A SA
____ Make no changes
____ Delete
____ Change
Comments: _____

13. I would be very involved in my work if there was a career ladder. SD D U A SA
____ Make no changes
____ Delete
____ Change
Comments: _____

14. A career ladder would give me the chance to tell people what to do. SD D U A SA
____ Make no changes
____ Delete
____ Change
Comments: _____

15. I would feel a strong commitment to my work if a career ladder was implemented. SD D U A SA
____ Make no changes
____ Delete
____ Change
Comments: _____

16. A career ladder will not provide chances for advancement in this job. SD D U A SA
____ Make no changes
____ Delete
____ Change
Comments: _____

17. A career ladder would increase my salary. SD D U A SA
____ Make no changes
____ Delete
____ Change
Comments: _____

18. A career ladder would create exhaustion and fatigue. SD D U A SA
____ Make no changes
____ Delete
____ Change
Comments: _____

19. A career ladder would be rewarding. SD D U A SA
____ Make no changes
____ Delete
____ Change
Comments: _____

20. A career ladder would be fair and unbiased. SD D U A SA
____ Make no changes
____ Delete
____ Change
Comments: _____

21. A career ladder would allow me the chance to do something that makes use of my abilities. SD D U A SA
____ Make no changes
____ Delete
____ Change
Comments: _____

22. I have growing doubts about a career ladder. SD D U A SA

☐ Make no changes

☐ Delete

☐ Change

Comments: _____

**CANTU CLAI CONTENT VALIDITY
EVALUATION
FORM B**

Directions: Please complete and return the following questionnaire in the stamped, self-addressed envelope. To ensure that your responses are counted, please return the questionnaire within two weeks after receipt.

1. I have a positive attitude toward a career ladder.

☐ Positive statement

☐ Negative statement

☐ Either positive or negative statement

Comments: _____

2. A career ladder would provide greater job-related stress.

☐ Positive statement

☐ Negative statement

☐ Either positive or negative statement

Comments: _____

3. I am enthusiastic about a career ladder.

☐ Positive statement

☐ Negative statement

☐ Either positive or negative statement

Comments: _____

4. A career ladder would not enhance personal growth and development.
☐ Positive statement
☐ Negative statement
☐ Either positive or negative statement
Comments: _____

5. A career ladder can enable personal growth and development.
☐ Positive statement
☐ Negative statement
☐ Either positive or negative statement
Comments: _____

6. A career ladder would increase ones emotional overload.
☐ Positive statement
☐ Negative statement
☐ Either positive or negative statement
Comments: _____

7. A career ladder would be self-fulfilling.
☐ Positive statement
☐ Negative statement
☐ Either positive or negative statement
Comments: _____

8. A career ladder would not make too much of a difference in salary potential.

☐ Positive statement

☐ Negative statement

☐ Either positive or negative statement

Comments: _____

9. A career ladder has goals that are important to me.

☐ Positive statement

☐ Negative statement

☐ Either positive or negative statement

Comments: _____

10. I am not very enthusiastic about a career ladder.

☐ Positive statement

☐ Negative statement

☐ Either positive or negative statement

Comments: _____

11. A career ladder provides a higher social status.

☐ Positive statement

☐ Negative statement

☐ Either positive or negative statement

Comments: _____

12. A career ladder would force the medical technologist to do many unimportant tasks.
_____ Positive statement
_____ Negative statement
_____ Either positive or negative statement
Comments: _____

13. I would be very involved in my work if there was a career ladder.
_____ Positive statement
_____ Negative statement
_____ Either positive or negative statement
Comments: _____

14. A career ladder would give me the chance to tell people what to do.
_____ Positive statement
_____ Negative statement
_____ Either positive or negative statement
Comments: _____

15. I would feel a strong commitment to my work if a career ladder was implemented.
_____ Positive statement
_____ Negative statement
_____ Either positive or negative statement
Comments: _____

16. A career ladder will not provide chances for advancement in this job.

☐ Positive statement

☐ Negative statement

☐ Either positive or negative statement

Comments: _____

17. A career ladder would increase my salary.

☐ Positive statement

☐ Negative statement

☐ Either positive or negative statement

Comments: _____

18. A career ladder would create exhaustion and fatigue.

☐ Positive statement

☐ Negative statement

☐ Either positive or negative statement

Comments: _____

19. A career ladder would be rewarding.

☐ Positive statement

☐ Negative statement

☐ Either positive or negative statement

Comments: _____

20. A career ladder would be fair and unbiased.

☐ Positive statement

☐ Negative statement

☐ Either positive or negative statement

Comments: _____

21. A career ladder would allow me the chance to do something that makes use of my abilities.

☐ Positive statement

☐ Negative statement

☐ Either positive or negative statement

Comments: _____

22. I have growing doubts about a career ladder.

☐ Positive statement

☐ Negative statement

☐ Either positive or negative statement

Comments: _____

APPENDIX D

Career Ladder Module and Guidelines

OUTLINE OF A CAREER LADDER MODULE PRESENTATION

Objectives: To discuss the components of the career ladder concept which may be utilized by medical technologists.

ORAL PRESENTATION CONSISTING OF:

- I. Definition of Career Ladder**
- II. Advantages of Career Ladder**
- III. Disadvantages of Career Ladder**
- IV. Examples of Career Ladder**
 - a. Military, Academia, and Industry**
 - b. Texas Nurses Career Ladder**
 - c. Medical Technology Career Ladder Model**
- V. Handouts, Questions and Answer Time Period**

CAREER LADDER OPTIONS

LEVEL I

MT



LEVEL II

Safety Officer ← MT II → Student Coordinator

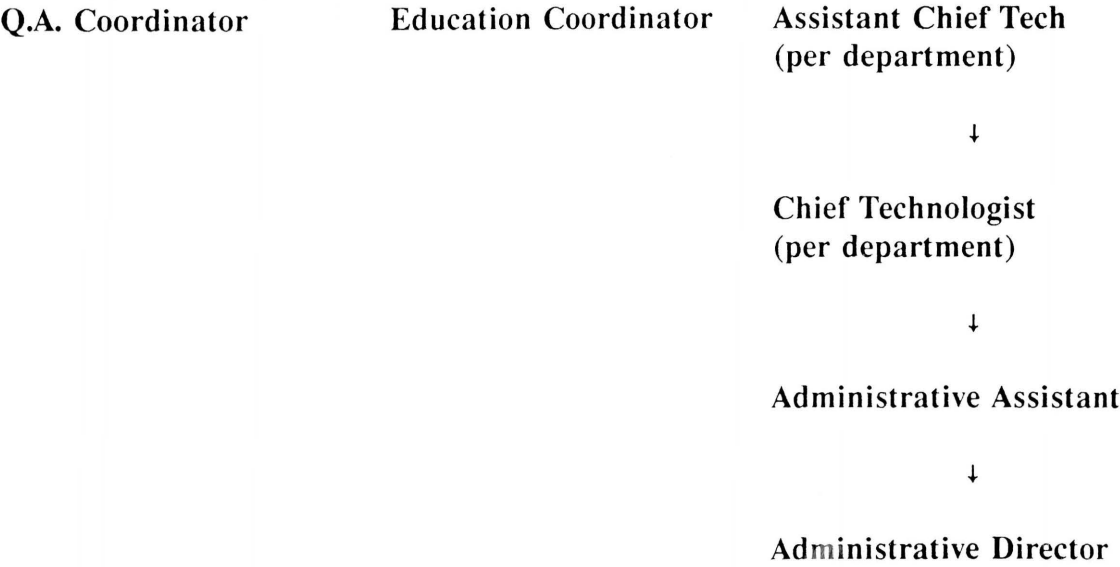


LEVEL III

Assistant Q.A. Coordinator ← Senior Technologists → Infection Control Coord.



LEVEL IV



MEDICAL TECHNOLOGIST I & II

JOB DESCRIPTION

GENERAL SUMMARY:

Responsible for performance of qualitative and quantitative laboratory procedures. Responsibilities require an understanding of scientific principles and theories. Must perform all required quality control tasks to ensure validity of test results. Must be able to notify appropriate physician of test results obtained as required by policy. Must be able to perform maintenance of laboratory equipment and perform troubleshooting procedures as needed. The technologist must be able to instruct new employees and other personnel in proper laboratory procedures as directed. Must be able to maintain accurate documentation regarding procedures performed.

Additional responsibilities as individual advances up to MT II level includes:

- 1) Responsible for production of one quality assurance project per year.
- 2) Obtains a minimum of fifteen hours of applicable continuing education in six events each year.
- 3) Develop methods for continuous quality improvement.
- 4) Responsible for reviewing quality control records and work cards.
- 5) Must serve on at least one committee a year.

CAREER LADDER DESCRIPTION: MT II

- 1) Must have ASCP certification as a Medical Technologist or categorical.
- 2) Must have three years experience in the related area.
- 3) Must have two years work experience at the hospital.
- 4) Must complete the continuing education hours required for each year. See Career Ladder credits page.
- 5) Must be able to pass competency performance.
- 6) Must go through MT II before being eligible for any of the other advanced positions.
- 7) With each promotion a salary increase of no less than 10% will be awarded. This increase will be above and beyond the yearly salary increase.
- 8) Some of the criteria that are looked at are:
 - a) Communication skills
 - b) Length of service
 - c) Willingness to take extra responsibilities
 - d) Sufficient knowledge of laboratory operations

CAREER LADDER CRITERIA:

Safety Officer/Student Coordinator/Senior technologists:

- 1) Must meet all the above criteria for MT I and MT II.
- 2) Personnel should be notified of position availability.
- 3) Technologists must fill out form for application.
- 4) Selection Committee will be established.
- 5) Criteria are established by the Laboratory Manager.

- 6) The Assistant Chief Technologist and the Chief Laboratory Manager will properly select the individual.
- 7) At level 2 and 3 occur vertically but there are horizontal options.
- 8) Technologists may apply to horizontal and vertical positions such as Assistant Q.A. Coordinator or other similar options, potential options as positions become available.
- 9) There may be other options available that have not been listed. These options are subject to change. Technologists would be notified.
- 10) Criteria are established for each option based on skills, continuing education, and other advanced degrees.

CAREER LADDER CREDITS**LECTURE**

Attend a scientific lecture	1 hour credit
Attend a professional lecture	1 hour credit
Review of lecture (synopsis or presentation)	1 hour credit

JOURNAL ARTICLES

Review and synopsis of scientific articles	1 hour credit
Review and synopsis of professional article	1 hour credit
Journal club member	1 hour credit
Journal club presentation of scientific or professional article information	2 hour credit

VIDEOTAPES

Any presentation that includes scientific information	1 hour credit
Any presentation that includes professional information in related area	1 hour credit

WORKSHOPS

3 hour credit

APPENDIX E

Medical Technologist Letter with Cover Page

THE UNIVERSITY OF TEXAS
SOUTHWESTERN MEDICAL CENTER
AT DALLAS

Department of Medical Laboratory Sciences

TO: Medical Technologist

FROM: Doramarie Arocha, BSMT, M(ASCP)
Laboratory Coordinator, Medical Technology Program
University of Texas Southwestern Medical Center

RE: MT Career Ladder Attitude Survey

Your assistance is needed in a survey that is part of my master's degree research program at Texas Woman's University. The survey is a brief questionnaire directed toward professional improvement in the field of medical technologist using a career ladder plan.

The information you provide the investigator through the questionnaire is totally confidential and anonymous. Return of the questionnaire will indicate your consent to participate in the survey. If you feel that you cannot participate in this survey, please return the incomplete documents to me in the enclosed envelope.

I respectfully urge you to be part of this important data collection project. The results could directly affect you and have a positive impact on the profession.

If you have any questions or concerns regarding this research or how it is being conducted, you may contact the Office of Research and Grants at TWU at (817/898-3375).

DA/mk
Enclosure

CAREER LADDER ATTITUDE INVENTORY

SS#: _____

DATE OF BIRTH: _____

GUIDELINES TO COMPLETING THE SURVEY

1. PRETEST

Each participant will receive a pretest questionnaire. This test will be administered by the investigator on-site and completed in 15 minutes. For the purpose of valid comparisons, it is essential to match the pretest and posttest participants. Therefore, a date of birth and the last four digits of the participants social security number must be included on the title page of the pretest. An envelope will be circulated among the participants for collecting all pretests. The packet of pretests will then be returned to the investigator in a sealed envelope.

2. CAREER LADDERS

Three career ladder models will be presented for discussion, criticism, and assessment. The format will take about 30 minutes. Also a model plan describing a career ladder for medical technology will be distributed.

3. POSTTEST

One week following the pretest, a posttest will be given for the purpose of identifying any changes of attitudes toward career ladders. For the purpose of valid comparisons against each participant, it is essential to match the same pretest and posttest participants. Therefore, a date of birth and the last four digits of the responder's social security number must be on the pretest and the posttest title page. When all data have been assimilated, the documents with the identifying numbers, such as date of birth and social security numbers, will be destroyed. Confidentiality will be maintained. Only group data will be maintained.

4. RESULTS OF SURVEY

Any participant in the survey is entitled to receive a copy of the completed survey results. A business card will be provided with my name, address, and phone number in case there are any questions about the survey. A plain envelope will be available for self-addressing to those who desire to receive a copy of the survey results.

CANTU CAREER LADDER ATTITUDE INVENTORY

INSTRUCTIONS

The purpose of this Inventory is to determine your attitude about a career ladder in the medical technology profession. The definition of a Career Ladder is a systematic form of progressive advancement from one professional level to the next within a career. There are 20 items listed below. Please read each item carefully and circle SD, D, U, A, or SA as it relates to you and your career. The five category responses will be utilized with the following values:

SD	-	Strongly Disagree
D	-	Disagree
U	-	Undecided
A	-	Agree
SA	-	Strongly Agree

On the basis of your answers and those of other Medical Technologists, we hope to get a better understanding of a career ladder in the medical technology profession.

Remember: Keep the statement in mind when deciding how you feel about a career ladder. Do this for all statements. Please answer every item.

Be frank and honest. Give a true picture of your feelings about a career ladder in the medical technology profession. There are no right or wrong answers.

Career Ladder for Medical Technology

- | | |
|-----------------------------------------------------------------------|---------------------|
| 1. I have a positive attitude toward a career ladder. | SD D U A SA |
| 2. A career ladder would provide greater job-related stress. | SD D U A SA |
| 3. I am enthusiastic about a career ladder. | SD D U A SA |
| 4. A career ladder would not enhance personal growth and development. | SD D U A SA |

- | | | | | | | |
|-----|-------------------------------------------------------------------------------------------|----|---|---|---|----|
| 5. | A career ladder can enable personal growth and development. | SD | D | U | A | SA |
| 6. | A career ladder would increase ones emotional overload. | SD | D | U | A | SA |
| 7. | A career ladder would be self-fulfilling. | SD | D | U | A | SA |
| 8. | A career ladder would not make much difference in salary potential. | SD | D | U | A | SA |
| 9. | A career ladder has goals that are important to me. | SD | D | U | A | SA |
| 10. | I am not very enthusiastic about a career ladder. | SD | D | U | A | SA |
| 11. | A career ladder would force the medical technologist to do many unimportant tasks. | SD | D | U | A | SA |
| 12. | I would be very involved in my work if there was a career ladder. | SD | D | U | A | SA |
| 13. | A career ladder would give me the chance to tell people what to do. | SD | D | U | A | SA |
| 14. | I would feel a strong commitment to my work if a career ladder was implemented. | SD | D | U | A | SA |
| 15. | A career ladder will not provide chances for advancement in this job. | SD | D | U | A | SA |
| 16. | A career ladder would increase my salary. | SD | D | U | A | SA |
| 17. | A career ladder would be fair and unbiased. | SD | D | U | A | SA |
| 18. | A career ladder would be rewarding. | SD | D | U | A | SA |
| 19. | A career ladder would allow me the chance to do something that makes use of my abilities. | SD | D | U | A | SA |
| 20. | I have growing doubt about a career ladder. | SD | D | U | A | SA |