INTEREST OF MEDICAL TECHNOLOGY STUDENTS IN TWO MODELS OF THE CERTIFICATION PROCESS

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ABSTRACT

INTEREST OF MEDICAL TECHNOLOGY STUDENTS IN
TWO MODELS OF THE CERTIFICATION PROCESS

By

Ruth Marie Allen

Medical technology is undergoing an identity crisis and is challenging many of the traditional processes of the profession. One of these under challenge is the process of certification in the profession.

Traditionally this process has been under the control and guidance of clinical pathologists. As a consequence many of the medical technologists have regarded the pathologist as a father figure not only in the laboratory but in most aspects of their professional lives as well.

As medical technologists assume a greater role in the operations of the clinical laboratory they are beginning to demand more of a role in their certification process. They are beginning to view themselves as competent individuals whose talents and abilities complement rather than serve the pathologist. Medical technologists are beginning to view themselves as professionals and are questionning the dominance of the pathologists in the process and the registry.

The purpose of the study was to measure the interest of medical technology students in two models of the registry. These two models were the extant model of the registry based on a parent-child relationship and a proposed new model of the registry based on a professional-to-professional relationship.

Several independent and dependent variables were used in the study. The independent variables were degree of authoritarianism (authoritarian and non-authoritarian), class level (senior and sophomore), and models of the registry (the extant model and the proposed model). The dependent variables consisted of three unobtrusive measures of manifest interest and one measure of tested interest.

Three main effects were observed:

1. Seniors demonstrated statistically significantly greater interest than did sophomores.
2. Students classed an non-authoritarian demonstrated statistically significantly greater interest than did those students classed as authoritarian.
3. Students receiving the extant model of the registry demonstrated a statistically significantly greater interest than those students receiving the innovative model of the registry.

If, however, there had been any great interest shown by any students comprising the three factors under

consideration, some first order interactions would have been detected in the statistical analysis. The only statistical significance occurred in the main effects.

Suggested areas for further research are presented.

INTEREST OF MEDICAL TECHNOLOGY STUDENTS IN TWO MODELS OF THE CERTIFICATION PROCESS

By

Ruth Marie Allen

A THESIS

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To D: Who was never satisfied with the status quo.

To M: Who believed in me.

To Steve, Wayne, John, Claire, Lucille and Harrell: Who nagged a lot.

To Kris: Who let me laugh.

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To my committee, Dr. Paul W. F. Witt, Chairman, Dr. Gerry B. Mendelson, Dr. Elwood E. Miller and Dr. Stephen Yelon, who accepted only my best efforts.

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The author wishes to state that the views and comments expressed herein do not necessarily represent those held by the American Society for Medical Technology.

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CHAPTER I

INTRODUCTION

Medical technology, like many other allied health areas, is experiencing an upward surge toward increased professionalism. As a result it is in the throes of an "identity crisis" (Evans 1968), which causes both students and practitioners in the area concern and anxiety. Consequently many practices in medical technology will have to be re-evaluated and reconstructed into increasingly more professional formats (American Medical Association 1970).

Among the practices to be re-evaluated are academic accreditation, licensure, certification and inter-professional relationships (Selden 1972).

The Problem

The certification process is one of the changing practices of the profession of medical technology. For many years the process of certification has been controlled by a group of medical practitioners, the clinical pathologists, who are not certified as medical technologists. With the increasing awareness of their professional role and responsibility, medical technologists, supported by national

accrediting agencies, have considered the possibility of establishing a certifying process under their own control (American Medical Association 1970).

The present Registry and certification processes are ones which are under the control and guidance of the clinical pathologists. The pathologists set the standards, not only of the tests performed but also of the personnel hired in the laboratory situation. As a consequence, many of the personnel, specifically the medical technologists, have regarded the pathologists as a father figure not only in the laboratory but in most aspects of their professional lives as well. This father-figure concept has thus been transferred to the extant structure of the Registry. Many of the older medical technologists view this as an appropriate role for the pathologist (Fagelson 1971).

Present trends in the clinical laboratory are challenging the father-figure role of the pathologist. Technological advances freeing the technologist for supervisory and administrative roles have caused the technologist to begin to view himself or herself as a competent individual whose talents and abilities complement rather than serve the pathologist. Moreover, advanced technical skills required to operate in a modern laboratory today are of a highly specialized nature. These skills require training which a pathologist may not necessarily have. This training as a consequence also increases the level of

professionalism of a medical technologist. Thus some of the medical technologists are questioning the dominance of the pathologists in the certification process and the registry. They are suggesting a new innovative model of the registry based on a professional-to-professional basis, a new registry where medical technologists are independent of the dominance of the pathologists.

This innovation, an independent registry, would proceed through several steps before it would be adopted. (Rogers 1962). One of these steps is manifestation of interest in the innovation by the potential adopter, in this case, the student of medical technology.

Rationale for the Study

Since present day students will be the potential adopters of this innovation it was necessary to measure the interest of these students in both the extant model of the registry (based on a parent-child relationship) and the proposed innovative model of the registry (based on a professional-to-professional relationship).

Another need which was met by this study was the assessment of several personality variables of those involved in the profession of medical technology. Evans theorized (Evans 1968) that many medical technologists are authoritarian personalities and would show a greater interest in a registry dominated by non-medical technologists. (Bass

1955, Adorno 1950, Rokeach 1960, Maslow 1943, Christie 1958.) Was this true? What influence did another personality variable, external-internal locus of control, have on the students' manifestation of interest in this innovation? Did results of this study provide a more rational basis for decision making and thus more effective diffusion of the innovation?

Purpose of the Study

The purpose of the study was to measure the interest of medical technology students in two models of the registry. These two models were the extant model of the registry based on a parent-child relationship (treatment booklet 1) and a proposed new model of the registry based on a professional-to-professional relationship (treatment booklet 2). (See Appendices A and B.)

The research hypotheses and planned comparisons investigated are listed below:

Research Hypothesis 1.--Seniors will demonstrate a significantly greater interest than will sophomores.

Research Hypothesis 2.*--There will be a significant difference between those receiving treatment booklet 1 and those receiving treatment booklet 2 such that several post-hoc comparisons can be made. Among the comparisons of interest are the four listed below.

a. Authoritarian seniors presented with the extant model of the registry will demonstrate more

interest than will those authoritarian seniors presented with the innovative model of the registry.

b. Non-authoritarian seniors presented with the innovative model of the registry will demonstrate more interest than will the non-authoritarian seniors presented with the extant model of the registry.

c. Authoritarian sophomores presented with the extant model of the registry will demonstrate greater interest than authoritarian sophomores presented with the innovative model of the registry.

d. Non-authoritarian sophomores presented with the innovative model of the registry will demonstrate more interest than the non-authoritarian sophomores presented with the extant model of the registry.

*Note: There will be a significant difference within class when considering the authoritarianism of the respondent and the booklet received.

Research Hypothesis 3.--Those students designated as non-authoritarian will demonstrate significantly greater interest than those classed as authoritarian.

Research Hypothesis 4.--There will be no significant second order interaction between class level, degree of authoritarianism, and model of the registry.

Research Hypothesis 5.--There will be no significant interaction between class level and models of the registry.

Research Hypothesis 6.--There will be no significant interaction between class level and degree of authoritarianism.

Research Hypothesis 7.--There will be no significant interaction between models of the registry and degree of authoritarianism.

Research Method Employed

The research method initially employed was a multivariate analysis of covariance (MANCOVA), using the variable, locus-of-control, as the covariable.

Several independent and dependent variables were used in the study. The independent variables were:

1. Degree of authoritarianism, measured by the California F Scale (Rokeach 1960).
2. Class level, specifically senior and sophomore students.
3. Treatment, exemplified by two booklets describing two differing models of the registry.

The dependent variables were:

1. Three measures of manifest interest exhibited by students in the models of the registry.
2. One measure of tested interest in the registry.

The experimental matrix used was a 2X2X2 factorial design. Comparisons of means using a multivariate analysis of

covariance procedure was conducted by means of a computer program designed by Finn at the State University of New York at Buffalo.

Limitations of and Setting for the Study

The study was conducted at Michigan State University from September, 1971 through October, 1971 during four, fifteen minute sessions at the beginning of scheduled weekly classes with the students.

The students in the study were those enrolled in the senior seminar and the sophomore seminar in medical technology and who met the minimum limitations of the experiment which were (1) taking the opinionnaire and thus being ranked on degree of authoritarianism, (2) receiving the treatment booklet, and (3) taking the final multiple choice test and thus being evaluated on this measure of tested interest.

Definition of Terms

The following terms used throughout the study are defined below:

Students.--persons enrolled in MT201 Seminar in Medical Technology (sophomores) and MT401 Seminar in Medical Technology (seniors) during Fall term, 1971 at Michigan State University.

Medical Technology.--one of the allied health fields dealing with the practices, procedures, and research in the clinical laboratory.

Accreditation.--the process by which an agency or an organization evaluates and approves a program of study or an institution meeting certain pre-determined qualifications or standards. Accreditation shall apply only to institutions and their programs of study or their services; and it should be conducted only when there is a demonstrable and evident social need. (Selden 1972).

Certification.--the process by which a non-governmental agency or association grants recognition to an individual who has met certain pre-determined qualifications specified by that agency or association. Such qualifications may include: (1) graduation from an accredited or approved program of study, and/or (2) acceptable performance on a qualifying examination or series of examinations, and/or (3) completion of a stated amount of work experience. (Selden 1972.)

Licensure.--the process by which an agency of government grants permission to persons meeting pre-determined qualifications to engage in a given occupation and/or use a particular title, or grants permission to institutions to perform specified functions. (Selden 1972.)

Registration.--the process by which qualified individuals are listed on an official roster maintained by a governmental or non-governmental agency. (Selden 1972.)

Registry.--the official roster on which those who have been certified are listed. (Selden 1972.)

Organization of the Report of the Study

The relevant literature is reviewed in Chapter II. The experimental design, the independent and dependent variables and the statistical methods used for analysis of the data are described in Chapter III. The findings of the study, including tables designed to clarify the data, are reported in Chapter IV. Chapter V contains a summary, discussion of findings, conclusion and implications. Appendices provide material relevant to the implementation of the experimental design.

CHAPTER II

REVIEW OF THE LITERATURE

This review of the literature is focused on six areas which relate significantly to the study. The areas are:

1. Professionalism in the field of medical technology.
2. Vocational interests and characteristics of medical technology personnel.
3. Statistical data related to the field of medical technology.
4. Interrelationships between accreditation, licensure, and certification.
5. Historical data pertinent to the relationship between the American Society for Medical Technology, (ASMT), the American Society of Clinical Pathologists (ASCP) and the Registry of Medical Technologists.
6. The functions and activities of the present Registry of Medical Technologists.

Professionalism in the Field of Medical Technology

Several attempts at defining professionalism have been made (Fryer 1971, Hall 1969, Selden 1972). The common concepts in each definition are listed below. They include a

1. systematic theory
2. professional authority
3. formal and informal community, sanctioning the profession, its powers and privileges
4. regulative code of ethics
5. professional culture which involves norms governing memberships in the professional association.

Other characteristics of professionalism include the concept of service, the concept of continuing education, and concept of attitude toward the profession (Matthaei 1960, Bucher 1961).

Wilensky (1964), for example, felt that the service ideal appears to be the basis of professionalism. Morrison (1960) stated that the concept of a professional medical technologist includes, "an individual who is objective enough in his service to those whom he serves to make him oblivious to his own interests." He further stated:

> The professional person is the negotiator of his business relationships, the negotiator of the amount received in recompense for his skills, and the negotiator for the conditions under which he will serve.

Widger (1971) reported that the continuous update of knowledge and skills was a requisite of professionalism. Attitude has been discussed by Matthaei. She described the professional medical technologist as "introspective, conscientious, retiring, working alone but a little resentful when others don't seem to recognize their importance and value. Professionalism is a matter, primarily, of attitude." Bucher reported that attitudes toward clients and colleagues are included in the concept of professionalism.

A professional association contributes to the identity and solidarity of a profession as well. Stinett (1966) listed the range of activities undertaken by a professional association. Association goals depend upon public confidence and acceptability for carrying the organized occupation into public relations activities and to influence the government and its policies (Vollmer and Mills 1966). Bucher and Strauss (1961) pointed out established associations become battlegrounds, as different emerging segments compete for control of their field of specialization. Considered from this viewpoint, such things as codes of ethics and procedures for certification became the historical deposits of certain powerful segments of control for an association.

Since medical technology has only recently attained the majority of characteristics composing a profession, it is considered by some to be a marginal profession (Reiss 1955, Wilensky 1964). As a result of this marginal character

there exist several barriers to professional mobility. McGraw (1968) outlines the problem as follows:

> Because we want all workers in the health field to 'profess' along with us that the patient's interest comes first and to behave accordingly, physicians should encourage rather than resist the idea of professional status for these workers and should encourage a professional responsibility commensurate with training. We will also need to encourage standards and modes of renumeration commensurate with both responsibility and training.

Vocational Interests and Characteristics of Medical Technologists

Many general studies of self-concept theory and characteristics are available in the literature (Super 1950, Super 1963, Wolfbein 1964, Howard 1960), but none of them specifically relate to the medical technology profession.

Vocational interest studies have been conducted (Roe 1964, Borow 1964, Bloom 1964) and have confirmed the assumption that some personality characteristics are somehow and to some extent involved in occupational choice behavior. The relationship between medical technology as a career choice and various personality characteristics was not elucidated.

Statistical Data Related to the Field of Medical Technology

Summative data on medical technology personnel and their performance on registry examinations were available.

(Starr 1970, National Committee for Careers in Medical Technology 1967, American Medical Association 1970).

The quality of performance on the present registry examination was presented (National Correlations in Medical Technology Education 1967). The usefulness of the present examination was investigated since it showed no significant difference between job performance ratings between those who passed the 1962 certifying examinations and those who failed the examinations. Thus the 1962 certification examination did not serve to distinguish between high and low job performance in the clinical year. However, the 1962 certification examination did have a tendency to differentiate between those scoring satisfactory grades in some courses in the college-based curriculum and those not scoring satisfactory grades in the college-based curriculum.

Additional data showed that medical technologists in hospitals with a small number of beds were forced to exercise independent judgment and were subject to less supervision in the performance of technical and administrative duties than those working in larger hospitals. Thus the technologists assumed a more professional stature in their work activity and their image had changed from a simple laboratory worker to that of a skilled person making judgments and assuming responsibility for these decisions.

Students have little information about the performance required of them in the actual clinical setting. In

a recent survey (Bennett 1971) students showed interest in having information about the job into which they would be entering upon graduation. When the survey was attempted students had little basic information and as a result responded poorly.

Interrelationships between Accreditation, Licensure, and Certification

Several studies recently undertaken indicate and discuss the general concepts and interrelationships of accreditation, licensure and certification. Selden (1972) defines the terms and focuses on accreditation as a means of regulating the profession. Hatch (1970) comments on accreditation, certification, and equivalency examinations and their utilization by medical corpsmen in the profession. Another study (Anderson and Ertell 1962) commented that licensure may well supercede certification and accreditation in importance in the profession.

Specific needs for continued licensing activities are supported so that improved health care delivery can be guaranteed. ASMT has taken a position to support state licensure (Friedheim 1971a). Egeberg (1970) has stated:

> Growing awareness of the need to re-evaluate licensure patterns is shown in a National Advisory Committee of Health Manpower recommendation that professional societies, universities and State governments should undertake with Federal support studies and the development of guidelines for State licensure codes for health personnel.

Levine has pointed out (Levine 1969, Levine 1970b) the need for certification and licensure. He stated that certification and licensure are essential since there are inadequate numbers of supervisory physicians in the laboratory. Moreover he elaborated that mechanisms must be established to bring employers, students and the public together to form new certifying and accrediting boards so that new mechanisms be developed to insure that the interests of all three groups are considered but no one group is allowed to dominate on these boards.

He also pointed out that the purpose of licensure and certification is to indicate to the public that a particular professional is capable of performing a particular role. Without such certificates or licenses, well trained professionals must compete with those less well trained and consequently performing in an unacceptable fashion.

Certification and accreditation also influence curricular structure. One study (Kinney 1965) pointed out that whoever defined the certification requirements determined the curriculum. Since ASCP controls the certification process as well as the accreditation process, they essentially determine the curriculum for medical technology. Evaluation of and change within the curriculum is also influenced by those controlling the certification process (Moe 1969). Forgotson (1969) expressed similar feelings about the impact of certification procedures and licensure requirements.

> Professional licensure laws can constrain innovations in the education of members of the health professions and occupations.

He also stated education curricula, which because of legal restrictions cannot be modified to be made more responsive to the effects of the technological and informational explosion and changing patterns of medical care, might not be meeting even minimal requirements of public protection if the restrictions are too rigid or of such long duration that they no longer reflect the realities of scientific achievement of new patterns of medical health care delivery.

Kissick (1968) pointed out that the resistance to the pressures for change can be even more difficult to overcome when the status quo is firmly embedded in a multiplicity of statutes, accreditation procedures, and criteria for certification.

Historical Data Pertinent to the Relationship Between the American Society for Medical Technology, the Medical Society of Clinical Pathologists, and the Registry of Medical Technologists.

Several sources provided general background information on the struggle and conflict between the two professional organizations, ASCP and ASMT. Historical overviews were presented (Drury 1971 and Alcuin 1952) and a summation of legal proceedings between the two organizations were reviewed.

The period from 1940 to 1950 represented a time of growth and development for ASMT, especially in its relationship with ASCP. A paper written early in this time period (Ikeda 1940) presented a brief history of the Registry, its development, and an overview of the registrants. Some of the statements made expressed the mechanisms and manner in which pathologists were utilizing medical technologists at levels less than their maximum efficiency. Also indicated was the differential treatment given to registered technologists versus unregistered technologists. The control ASCP had over the Registry's books, audit and governing Board was reported. Many of the statements displayed parental attitudes towards medical technologists.

In a paper presented in 1946, Ikeda (1946) once again made several statements which were paternalistic. Additional statements he made included:

1. Without a Registry, a class of workers might be created who would take over the role of a clinical pathologist by reason of their superior education and training.

2. ASMT was admitted to the Board of Registry, not as a bona fide member which might be interpreted as unconstitutional, but as an Advisory Committee to the Board.

3. The clinical pathologist should bear the child (the medical technologist), nurse her, care for her and safeguard her health and well-being and perhaps give her education and training.

4. There is hope for joint conduct of the Board of Registry by ASCP and ASMT.

5. All clinical laboratory personnel should be under ASCP control.

6. Medical technologists can reach a decision about licensure "with her own judgment tempered with the advice and wishes of the clinical pathologist."

7. A commission may be created to formulate a policy which may guide the medical technologist in her struggle against the economic injustices.

8. The relationship between (ASCP and ASMT) is so integrated and so interdependent . . . that there shall never be a complete separation between the two professional groups.

In the later portion of this decade, ASMT has matured in the eyes of ASCP and was allowed to take a more active role in the process of certification of its practitioners. In the paper Ikeda delivered in 1950 (Ikeda 1950) he indicated three ASMT members had been added to the Board of Registry; he also encouraged close cooperation between ASMT and ASCP and indicated that eventually the Board of Registry should come under the control of medical technology, and also indicated that the place of the medical technologists in the practice of clinical pathology be re-evaluated.

In the last half of the following decade medical technologists were demanding much more of a role in their professional lives than ever before. In 1968, two articles appeared in the ASMT News (Friedheim 1968, ASMT News 1968) which indicated the feelings of ASMT in the rising conflict between the two organizations. One of the articles reported an increase in the resistance to some of the ongoing policies

of ASCP, both by ASMT as a professional society and by members within ASMT. It was stated that many people and groups would like to see medical technologists maintain more control over their own professional activities. The Friedheim article reported ASMT's efforts to bring about needed and essential innovations which would assure the professional progress of medical technology. Friedheim stated that this progress had been stifled, ignored and in many ways, "sabotaged in an attempt to deny the technologists a role which is consistent with their professional ability."

In 1970, several articles appeared indicating an increased awareness of the professional role of the medical technologist (Freidheim 1970, Cicarelli 1970, Burns 1970). Freidheim effectively summarized the increasing conflict of ASMT with ASCP during the previous ten years and urged a change. Cicarelli also called for a growth in the relationship and indicated the criteria established by the profession a quarter of a century ago possessed a durability unmatched by their relevance. They served no useful purpose but to exist. Burns challenged the ASMT to review its stance because

> . . . it becomes incumbent upon the organization to develop an environment or an atmosphere that will allow individuals to meet their own personal professional needs, as long as they are in concert with the organization's requirements, objectives and goals.

In late 1970, the conditions under which ASMT and the profession of medical technology were forced to function

became untenable. Brown (1970) indicated in a presidential message she had received communications from the membership of ASMT requesting the Registry for Medical Technologists to function for the medical technology profession. She also requested the ASMT membership to support a "total endeavor to achieve an appropriate role for the profession in its responsibilities and destiny."

The Functions and Activities of the Present Registry of Medical Technologists.

During the late 1960's and 1970 more challenges to the status quo were made and continued demands for change occurred. Many medical technologists began to experience an identity crisis (Evans 1968, Lawrence 1968, Karni 1970). Many felt the role they had played for many years was an appropriate one. Though they had been considered authoritarian submissive and more-or-less willing to be controlled and in the past had looked up to some kind of father-figure (i.e., a pathologist or a physician), several medical technologists began to question this attitude. They also began to question the concept that the physician completely controlled their economic resources.

Other facets of the profession were changing as well (Wilson 1970a). The Executive Office of ASMT had expanded its role because of increased membership in the Society, changes in services rendered to the membership, and changes

in the external commitments the Society was willing to make. Wilson felt that, "our change in needs is a natural one evolving from the emerging profession."

The function of the Registry was challenged. Some felt that the Registry examination measured only specific factual knowledge which the technologist acquires in his or her period of study, and in no way measured the technologist's competency in applying that knowledge in the laboratory (Elberfeld 1970).

The relationship between the Board of Registry, the professional societies for pathology and for medical technology and the academic institutions was challenged. While to some this relationship appeared to be a necessity in any evaluation of educational programs for laboratory workers (Love 1969), others felt this mutual interaction occurred only because ASMT encouraged it (Manning 1968).

The requirements of the Registry were also questioned by medical technologists. When the science prerequisites for admission to a school of medical technology were examined, very few definite requirements were found (Gleich 1969). Since the profession of medical technology had no control over these standards and also considered them to be minimal, they questioned whether or not the clinical pathologists were the appropriate professionals to control the Registry. Some felt that if a professional society wished to maintain quality

control over the profession, it is best imposed by the group involved in the profession, not from a group over it. (Evans 1968).

The interest in professional responsibilities continued to grow. It was pointed out that because a medical technologist did not strive to own a laboratory, or pioneer research in one of the specialty areas, it did not follow that he or she would be any less interested in professional responsibilities or vocational activities (Hamilton 1970).

Another factor leading to the increased interest in professional responsibilities was the series of poorly conducted Registry examinations. After these poorly conducted Registry examinations and related activities Wilson (Wilson 1970b) questioned, "How can anyone have any doubts left as to the intent of ASCP to completely dominate and control the profession of medical technology?" She then referred to a basic AMA policy statement which stated that the professional associations representing the allied health specialists should assume a major share of responsibility for establishing and maintaining educational standards in their respective fields.

In June, 1969, Selden made three observations on the ASCP/ASMT relationship (Selden 1969). They were, summarized, (1) that the relationship between the two professional societies was not the same as the relationship between an individual pathologist and an individual medical technologist,

(2) to meet its obligations to its members a health professional association must have final responsibility for the admission of its members, and (3) national health professional associations should provide for consumer input into their functioning. He also called attention to problems of professional identity, standards, their evaluation and interrelationships.

As a result of these papers and related incidents, antitrust action against ASCP was filed by ASMT. As a result of a report of the Board of Registry meeting where a proposed transfer of the registry function to ASMT and the use of a national examination service for the Registry were negated by the Board of Registry (Wilson 1971) feelings of professional conflict were increased. Several reports and summary statements of the resulting legal dispute were written (Friedheim 1971, Levine 1970a).

These reports and related health manpower surveys (Hiestand 1966) indicated many areas for research in allied health manpower fields. One of these areas, certification of medical technology personnel, was the focus of this study.

CHAPTER III

DESIGN OF THE STUDY

Population

The subjects in this study were sophomores and seniors enrolled in the two seminars offered by the School of Medical Technology of Michigan State University during Fall term 1971. There were approximately 100 sophomores and 70 seniors in these seminars.

Independent Variables

There were three factors under test, with each factor having two levels.

Treatment Factor.--The two levels of this factor were:

1. Level 1 (T1)-- a booklet describing the model of the registry exemplifying extant conditions; a model of the registry promoting a parent-child relationship between pathologist and the medical technologist. (See Appendix A.)
2. Level 2 (T2)-- a booklet describing the model of the registry exemplifying the innovative concept;

a model of the registry based on a professional-to-professional relationship. (See Appendix B.)

Class Factor.--The two levels of this factor were:

1. Level 1 (Sr.)--students in their senior year in the School of Medical Technology.
2. Level 2 (So.)--students in their sophomore year in the School of Medical Technology.

Authoritarian Factor.--The two levels of authoritarianism were:

1. Level 1 (A)--students scoring high on a standardized measure of authoritarianism. (See Appendix C.)
2. Level 2 (NA)--students scoring low on a standardized measure of authoritarianism.

Experimental Design

This experiment used a 2 X 2 X 2 factorial design matrix as illustrated below.

		T1	T2
Sr	A		
	NA		
So	A		
	NA		

Covariable

Scores on a standardized measure of external-internal locus of control were selected as the covariable. (See Appendix C.) The locus of control defined as a measure of the perceived location of the factors which controlled their environment was used to provide a means of predicting the amount of manifest and tested interest of the subjects. These scores were coded as "locus."

Dependent Variables

Four dependent variables were employed.

1. The student's response to the postcard included in the treatment booklet he or she received, one unobtrusive measure of manifest interest, served as one of the dependent variables. This measure is coded as "M-1." (See Appendix B.)

2. Whether or not the student requested additional information from the student chapter of the national professional organization and signed a sheet requesting this resource, a second unobtrusive measure of manifest interest, served as a second dependent variable. This measure was coded "M-2." (See Appendix D.)

3. Whether or not the student asked for information by signing up on a sheet provided in the Office of Medical Technology and reading the references provided there for his or her inspection, a third unobtrusive measure of manifest interest, served as a third dependent variable. This measure was coded "M-3." (See Appendix C.)

4. A measure of tested interest was obtained by having the students respond to a twenty item, four foil, multiple choice test, a measure of tested interest (See Appendix F) covering factual information (See Appendix G) given to him or her the previous class meeting. This response served as a fourth dependent variable. This measure was coded "Total."

Hypotheses

The following seven hypotheses, stated in both research and null form, and using the symbols employed in the Design Matrix, were tested in this study.

Research Hypothesis 1.--Seniors will demonstrate a significantly greater interest in models of the Registry than will sophomores.

Ho:1 The interest of the Seniors will equal the interest of the Sophomores.

$$I(Sr) = I(So)$$

Ha:1 The interest of the Seniors will not equal the interest of the Sophomores.

$$I(Sr) \neq I(So)$$

Research Hypothesis 2.--There will be a significant difference in the responses between those receiving T1 and T2 such that several post-hoc comparisons can be made. Among the comparisons of interest are the four listed below.

a. Authoritarian seniors presented with the extant model of the registry will demonstrate more interest than will those authoritarian seniors presented with the innovative model of the registry.

b. Non-authoritarian seniors presented with the innovative model of the registry will demonstrate more interest than will the non-authoritarian seniors presented with the extant model of the registry.

c. Authoritarian sophomores presented with the extant model of the registry will demonstrate greater interest than authoritarian sophomores presented with the innovative model of the registry.

d. Non-authoritarian sophomores presented with the innovative model of the registry will demonstrate more interest than the non-authoritarian sophomores presented with the extant model of the registry.

Ho:2 The interest of those receiving Treatment 1 will be equal to the interest of those receiving Treatment 2.

$$I(T1) = I(T2)$$

Ha:2 The interest of those receiving Treatment 1 will not be equal to the interest of those receiving Treatment 2.

$$I(T1) \neq I(T2)$$

Research Hypothesis 3.--Those students classed as non-authoritarian will demonstrate significantly greater interest in models of the registry than those classed as authoritarian.

Ho:3 The interest of those classed as authoritarian will be equal to the interest of those classed as non-authoritarian.

$$I(A) = I(NA)$$

Ha:3 The interest of those classed as authoritarian will not be equal to the interest of those classed as non-authoritarian.

$$I(A) \neq I(NA)$$

Research Hypothesis 4.--There will be no significant second order interaction.

Ho:4 There will be no significant second order interaction between class, treatment, and degree of authoritarianism factors.

Ha:4 There will be a significant second order interaction between class, treatment, and degree of authoritarianism factors.

Research Hypothesis 5.--There will be no significant interaction between class level and models of the registry.

Ho:5 There will be no significant interaction between class level (Sr/So) and the models of the registry (T1/T2).

Ha:5 There will be a significant interaction between class level and the models of the registry.

Research Hypothesis 6.--There will be no significant interaction between class level and degree of authoritarianism.

Ho:6 There will be no significant interaction between class level (Sr/So) and degree of authoritarianism (A/NA).

Ha:6 There will be a significant interaction between class level and degree of authoritarianism.

Research Hypothesis 7.--There will be no significant interaction between models of the registry and levels of authoritarianism.

Ho:7 There will be no significant interaction between models of the registry (T1/T2) and levels of authoritarianism (A/NA).

Ha:7 There will be a significant interaction between models of the registry and levels of authoritarianism.

Experimental Methodology

Students

The students selected to participate in the study were seniors enrolled in a required seminar which was open

only to medical technology students and sophomores enrolled in a similar seminar at that level. The students enrolled in the sophomore level seminar had a minimum amount of scientific background. The senior level seminar contained students who had a more sophisticated scientific, clinically oriented background.

Assumptions

This study was predicated on the following assumptions:

1. The students in the study would remain independent of each other with respect to this study and would not discuss the content of the study.

2. The seniors in the study would have been exposed to a greater amount of cognitive material directly related to the profession of medical technology and as a consequence would have greater professional stature and awareness than the sophomores in the study.

3. There would be no statistically significant difference in the amount of interest demonstrated by the males than the amount and interest demonstrated by the females.

4. The medical technology students in this study would be representative of other college students on whom personality scales have been normed.

Phases of the Study

This study was divided into five phases.

Phase I:

In Phase I measures of two personality variables were obtained. All students responded to an 88 item "opionnaire" which was composed of a modified Rotter's scale (Rotter 1966) which measured their felt degree of internal locus of control (59 items) and the California F scale which measured their expressed degree of authoritarianism (29 items). (See Appendix C.) These opinionnaires were then scored on both variables and the two classes divided into "authoritarian" and "non-authoritarian" groups based on a median split of their results on the authoritarianism scale. Each of the four groups, senior authoritarian and non-authoritarian and sophomore authoritarian and non-authoritarian, were then further, randomly divided into treatment groups, with one of the two sub-groups receiving and responding to the items in the booklet promoting the registry as a parent-child relationship, and the other sub-group receiving the booklet promoting the registry as a professional-to-professional relationship.

Phase II:

In this phase, one week after the opinionnaires were administered, students received the treatment booklets.

(See Appendices A and B.) The booklets were composed of several sections.

1. The first section consisted of a measure of awareness of the Registry as it now exists. One of the early steps in the process of the diffusion of an innovation, according to Rogers, is awareness of the innovation. Rogers also states awareness of an innovation must precede interest in the innovation. As a consequence, a subjective measure of the students' awareness was made.

2. The second section presented the independent variable, one of the two models of the registry. The presentation consisted of text, pictures, and charts.

3. The third section requested comments on the booklet. This section was included for two reasons. First, to insure that the students had read the booklet and second, to provide data which could possibly be used to provide support for conclusions reached on the basis of statistical analyses.

4. The final section consisted of a tear-out page which could be retained by the student. The remainder of the booklet was returned to the investigator. This tear-out page served as a resource information sheet for the student. On the page were listed (1) a source of additional reading material available in the office of the School of Medical Technology (See Appendices A and B), (2) a notification of a sign-up sheet requesting a meeting of the student chapter of the national professional

organization to study the registry problem (See Appendix D) and (3) a self-addressed business reply postcard which could be torn out and mailed to the investigator requesting further information about the Registry. Thus, if students were interested in learning more about the Registry, they could pursue any or all of the opportunities open to them to obtain further information on the topic. The three items in the fourth section served as three dependent variables measuring manifest interest in the study.

Phase III:

In Phase III, one week after Phase II the students received a brief summary of facts about the Registry. They were asked to respond in writing to this presentation in a manner similar to that in the first presentation in Phase II, and return their comments to the investigator. They were allowed to retain the fact sheet. (See Appendix G.)

Phase IV:

One week after the students received the fact sheet they were given a 20 item, four foil, multiple choice test covering the facts on the sheet from the previous week. This dependent variable served as a measure of tested interest in the study. Since educational psychologists have suggested that the greater the interest a person has in a topic,

the greater the information he will retain about the topic. (DeCecco 1968 and Thiagarajan 1971.) (See Appendix F.)

Phase V:

Ten days after the sophomores, and consequently two weeks after the seniors completed Phase IV, five seniors and ten sophomores, randomly selected, were interviewed in person to ascertain certain data in an informal manner. The interview was conducted by a colleague of the investigator so as to minimize confounding the data (Smith 1950). The interview questions were structured (1) to gain a general impression of the study, (2) to elicit possible alternate methods of information transfer satisfactory to the participant, (3) to discover other activities the participant used to obtain additional information about the Registry, (4) to discover if the participants were aware of any differences in the booklets, (5) to ask what the present feeling of the participants was regarding the composition of the Registry, and finally, (6) to obtain any additional comments the participant might have had about the study. (See Appendix H.) The assessment of the likelihood of contaminating variables was also made possible by this interview. If the same type of response appeared repeatedly in the interview, a contaminating variable could possibly be identified.

Dependent Variable

The 20 item multiple choice test was validated by two independent groups of staff and students in the Office of Medical Education Research and Development. One group of three took the test, knowing nothing of the topic under investigation. Any score above that possible by chance invalidated the questionnaire which was then rewritten and retested. A second group of three took the test, having the fact sheet available at all times, so that all the answers could be found readily. This group was required to obtain a perfect score, thus insuring that all the information tested for on the examination did indeed appear on the information sheet and thereby validated the examination. After validation, the examination was printed by a commerical firm. The answer sheets used were scored by a mechanical device. The data were then transferred to computer punch cards.

Control of Confounding Variables

In any experimental study, a biased estimate of the treatment's main effects can be obtained by the introduction of confounding variables which exerts an influence on the outcome of the results of the study (Campbell and Stanley 1963). Contamination of the results in this study was minimized in the four ways outlined below.

Selection of the Experimental Design.--The experimental design chosen for this study was a post-test only version

of a research program (Campbell & Stanley 1963). This design controlled for the major sources of internal validity such as history, maturation, testing, instrumentation, regression, selection and mortality. One of its weaknesses, however, is that it did not control for unique, intersession history without a replication of the experimental procedure.

On the other hand, external validity of this design was minimal. Regional, geographic or cultural variations were not included in this design. Also when the experiment is repeated, results between the first experiment and the second experiment cannot be accurately compared for the subject matter of the experiment is in a state of flux and what is true in the first experiment may not necessarily be true in the second. Certain factual data may have been modified with the course of time.

The Specific Methodology Employed.--By choosing this format of experimental design, several confounding variables could have been introduced. However, these confounding variables were minimized by employing the above specified methodology. Six instances where confounding variables could have been introduced are considered below.

1. To avoid subjects receiving more than one treatment, the booklets were labelled with the subject's name or his or her pseudonym (depending upon the student's choice earlier in the study), and distributed to

the class as it entered the room. The subjects were asked to sign the booklet and, later, the information sheet and several related forms in the space provided in the booklet or forms. Thus, if a question arose signatures could be verified to insure subject continuity.

2. Another way in which confounding variables were minimized was by removing the independent variable immediately after the subject's exposure to it, thus decreasing the possibility of cross contamination of treatments. However, since subjects could possibly communicate the content of the booklets to their peers, confounding effects could occur. Since the discussion may have occurred in all groups, all levels of class, treatment, and authoritarianism would be influenced equally, thereby minimally biasing results.

3. A confounding effect was introduced when two different experimenters had to be used to administer the personality measures to different class levels, since the principal investigator was unable to attend an initial session. However, this effect was minimized by having a standardized introductory statement which was read to both groups by each experimenter in each case. (See Appendix I.)

4. Another confounding effect may have occurred because one class had a greater access to one of the dependent variables (the student meeting sign-up sheet)

than the other since the one class met in the classroom adjacent to the bulletin board where the sheet was posted. However, the bulletin board was in a readily accessible, highly travelled hallway. Thus the confounding effect was minimized, though not eliminated.

5. Minor differences in applying treatments and introducing dependent variables to different groups could also constitute a source of internal invalidity. To minimize this difference, a standardized statement was given to each of the two classes at each class meeting. Various supportive staff were also given a standardized statement describing the project to minimize informational errors. (See Appendix I.)

6. Since the experiment was conducted during a portion of a regularly scheduled class period, only a short period of time could be devoted to the experiment per se. Since this sometimes required the students to read the material and respond to it at excessive speed, various levels of frustration in various subjects could occur, thereby confounding the data. However, again, this would affect all levels equally.

Background Information Provided.--Suggestions as to the underlying purpose of the study were not made available to the experimental subjects by the instrumentation used. The subjects were not aware of the experimental methodology in advance of the procedures being carried out, and all

independent and dependent variables were constructed to simulate a "study of the dynamics of growth and development of professional organizations."

Statistical Methodology Employed.--For many years, experimental research in social scientific fields, such as education, has used the statistical procedures of Fisher where effects of two or more independent variables on one dependent variable had been assessed by the analysis of variance (ANOVA). When more than one dependent variable was present, separate analyses of variance were carried out for each dependent variable.

Multiple dependent variables of the kind used in this study are rarely independent of each other. Until recently this problem was largely ignored because alternatives were not readily available.

However, with the advent of computer technology and new statistical techniques, a more accurate approach, known as multivariate analysis of variance (MANOVA) is available.

ANOVA yielded an F ratio for each factor in the experimental design and an F ratio for each factor interaction on the dependent variable under test. Furthermore, this statistical approach indicated whether or not the given F ratio was statistically significant at a given level of alpha.

The MANOVA computer program developed by Finn yields a multivariate F ratio. The multivariate F ratio indicated the probability of all dependent variables, simultaneously,

being statistically significant at a given alpha level of a given hypothesis. This study yielded a multivariate F for each hypothesis under test. It also yielded univariate F ratios for each of the dependent variables associated with each hypothesis under test.

The univariate F ratio is based upon the assumption of dependent variables which are independent of every other dependent variable. Since this assumption is a tenuous one, care must be taken in interpreting reports of statistical significance for univariate F ratios.

Rationale for Covariance

Randomized blocking or leveling on pre-test scores and the analysis of covariance, with pre-test scores as the covariate, are usually preferable to simple gain-score comparisons. This is because the great bulk of educational experiments show no significant difference, and hence are frequently not reported, the use of this more precise analysis would seem highly desirable. (Campbell and Stanley 1963.)

Multivariate analysis of covariance (MANCOVA) uses one or more covariables to determine the influence of covariables on dependent variables. The effect of the covariable is ascertained by a series of regression analyses.

MANCOVA represents a significant breakthrough in statistical methodology for research in the social sciences. Its advantages far outweigh its limitations in this present

study. Note should be taken that because MANCOVA was used, only one experimental hypothesis has been written for all second order interactions and, consequently, all null hypothesis concerning second order interactions.

CHAPTER IV

ANALYSIS OF RESULTS

Sample

The sample consisted of sixty-one seniors and ninety-one sophomores, distributed as indicated in Table 1.

Table 1. Distribution of Subjects.

		T1	T2	
Sr.	A	16	17	33
	NA	12	16	28
So	A	25	23	48
	NA	21	22	43
		74	78	152

Cell Means

The cell means on each of the variables are presented in Table 2.

Effect of Locus of Control as a Covariate

Inspection of the correlations between the dependent variables and the covariate yielded no meaningful relationships (Table 3). The chi-square test for association between

Table 2. Cell Means for Respondents on the Covariable (Locus) and Dependent Variables (Total, M-1, M-2, M-3). (For definition of dependent variables, see pages 27 and 28).

	Locus	Total	M-1	M-2	M-3*
Sr -T1-A	40.31250	10.18750	0.43750	0.50000	0.00000
Sr -T1-NA	34.16667	10.08333	0.58333	0.83333	0.00000
Sr -T2-A	41.17647	10.00000	0.35294	0.58824	0.05882
Sr -T2-NA	40.62500	10.62500	0.31250	0.68750	0.00000
So -T1-A	39.20000	9.16000	0.56000	0.04000	0.00000
So -T1-NA	42.90476	9.52381	0.47619	0.09524	0.00000
So -T2-A	36.56522	7.26087	0.26087	0.04348	0.00000
So -T2-NA	40.63636	9.22727	0.40909	0.13636	0.00000

*Cells means of 0.0000 indicates no response by any of the subjects.

Table 3. Correlation Matrix of Dependent Variables and Covariable.* (See Chapter III for definition of Locus, Total, M-1, M-2, M-3.)

	Locus	Total	M-1	M-2	M-3
1 Locus	1.000000				
2 Total	-0.051612	1.000000			
3 M-1	-0.139593	-0.080311	1.000000		
4 M-2	-0.055412	0.018878	0.140806	1.000000	
5 M-3	0.009328	0.065127	0.112219	0.096021	1.000000

*Correlations indicate independence between the dependent variables and the covariable.

the covariable and the dependent variable was not significant (chi-square = 3.6715, d.f. = 4, $p<0.4523$) and examining the statistics for multiple regression analysis caused the covariate to be eliminated (See Table 4). Note should be taken, however, of a nearly significant correlation between the covariate and the return of the postcards, M-1 ($p<0.0941$). Thus the data were reanalyzed, omitting the covariable and regaining one additional degree of freedom for hypotheses testing.

Table 4. Statistics for Regression Analysis with the Covariate (Locus of Control).

Variable	Square Mult R	Mult R	F	P Less Than*
Total	0.0027	0.0516	0.3819	0.5376
M-1	0.0195	0.1396	2.8419	0.0941
M-2	0.0031	0.0554	0.4404	0.5080
M-3	0.0001	0.0093	0.0124	0.9114

Degrees of Freedom for Hypothesis = 1
Degrees of Freedom for Error = 143

Chi-square for test of hypothesis of no association = 3.6715

d.f. = 4 $p<0.4523$

*$p<.05$ indicates significance; therefore covariable was eliminated.

Test of Hypotheses

Hypothesis 1:

Ho: 1 Interest of Sr + Interest of So

Ha: 1 Interest of Sr ≠ Interest of So

Hypothesis 1 relates to the interest shown by the seniors compared to the interest shown by the sophomores. A multivariate analysis of variance showed a significant difference between the two groups (multivariate F = 23.6870, significant at $p<0.0000$). (See Table 5.) Thus Ho: 1 was rejected and Ha: 1 was accepted.

Table 5. F Ratio for Multivariate Test of Equality of Mean Vectors for Main Effects Associated with Class Level.

F-Ratio for Multivariate Test of Quality of Mean Vectors = 23.6870

D.F. = 4 And 141.000 P Less Than 0.0000

Variable	Between Mean Sq.	Univariate F	P Less Than
1 Total	76.7074	11.0238	0.0012*
2 M-1	0.0128	0.0523	0.8196
3 M-2	11.5518	85.1366	0.0000*
4 M-3	0.0098	1.5016	0.2225

Degrees of Freedom for Hypothesis = 1
Degrees of Freedom for Error = 144

*p<.05 indicates significance.

Inspection of the univariate F ratios indicated Total and M-2 have contributed heavily to this effect (Total: F = 11.0238, $p<0.0012$, M-2: F = 85.1366, $p<0.0000$).

Least squares estimates is an estimate of a comparison or an estimate of the difference of two quantities. In this hypothesis the difference is (Sr - So). The calculations involving Sr/So differences were both positive (Table 6) indicating that Seniors did indeed show a greater interest than did sophomores as was hypothesized earlier.

Hypothesis 2:

Ho: 2 Interest in T1 = Interest in T2

Ha: 2 Interest in T1 $\neq$ Interest in T2

In this case the null hypothesis must be rejected and the alternate hypothesis accepted based on the data in Table 7 (multivariate F = 2.3006, significant at $p<0.0617$). In this case M-1 appeared to play a major role in establishing the difference between the two treatments. An examination of the data in Table 6, Least Squares Estimates and Standard Errors, shows the difference to be positive indicating those students receiving the treatment booklet basing the Registry on a parent-child relationship showed more interest than those students receiving the treatment booklet basing the Registry on a professional-to-professional basis. Four comparisons of interest were presented earlier.*

a. Authoritarian seniors presented with the extant model of the registry will demonstrate more interest than will those authoritarian seniors presented with the innovative model of the registry.

Table 6. Least Square Estimates and Standard Errors. (Summarized to include those which were significant.)

Comparison	Least Square Estimate	Standard Error	Significant at P Less Than
Sr. vs Soph.			
Total	1.430970	0.439280	0.0012
M-2	0.573497	0.061342	0.0000
T1 vs T2			
M-1	0.180406	0.082480	0.0271
A vs NA			
Total	-0.712762	0.439280	0.0581
M-2	-0.145180	0.061342	0.0368

Table 7. F Ratio for Multivariate Test of Equality of Mean Vectors for Main Effects Associated with Treatment Levels.

F-Ratio for Multivariate Test of Equality of Mean Vectors = 2.3006

D.F. = 4 And 141.000 P Less Than 0.0617

Variable	Between Mean Sq.	Univariate F	P Less Than
1 Total	13.5783	1.9514	0.1646
2 M-1	1.2239	4.9892	0.0271*
3 M-2	0.0051	0.0377	0.8464
4 M-3	0.0056	0.8507	0.3580

Degrees of Freedom for Hypothesis = 1
Degrees of Freedom for Error = 144

*p<.05 indicates significance.

The data in Table 8 reveal a significant difference in the means of the two groups. The difference was in the direction the comparison above suggested.

Table 8. Summary of the Data for Planned Comparisons.

Source	SS	df	MS	F*
Between	1.93080	7	.27580	1.14200
$\hat{\Psi}1$	0.02502	1	.02502	0.10360
$\Psi 2$	0.25669	1	.25669	1.06289
$\Psi 3$	0.31314	1	.31314	1.29664
$\Psi 4$	0.01570	1	.01570	0.06501
Rest	1.32030	3	.44010	1.82230
Error (within)	34.77980	144	.24150	
Totals	36.71060	151		

*All values of F are significant.

b. Non-authoritarian seniors presented with the innovative model of the registry will demonstrate more interest than will the non-authoritarian seniors presented with the extant model of the registry.

Table 8 shows a significant difference in the means of the two groups but in a direction opposite to the one proposed.

c. Authoritarian sophomores presented with the extant model of the registry will demonstrate

greater interest than authoritarian sophomores presented with the innovative model of the registry.

Again a significant difference is found between the means of the two groups (Table 8) and in the direction proposed.

d. Non-authoritarian sophomores presented with the innovative model of the registry will demonstrate greater interest than non-authoritarian sophomores presented with the extant model of the registry.

The data in Table 8 show a significant difference between the means of the two groups but in the direction opposite to the one proposed.

*Note: There will be a significant difference within class when considering the authoritarianism of the respondent and the booklet received.

Hypothesis 3:

Ho: 3 Interest of A = Interest of NA

Ha: 3 Interest of A $\neq$ Interest of NA

From an examination of Table 9, it became apparent that Ho: 3 must be rejected and Ha: 3 be accepted ($F = 2.4051$, significant at $p<0.0525$). As in an earlier case, both total and M-2 are the variables contributing most significantly to the differences (Total: $F = 3.6515$, $p<0.0581$; M-2: $F = 4.4448$, $p<0.0368$). When Table 6 is examined, both the Total and M-2

have a negative value, indicating the interest of those characterized as Non-authoritarian was more than those characterized as Authoritarian.

Table 9. F Ratio for Multivariate Test of Equality of Mean Vectors for Main Effects Associated with Personality Characteristics.

F-Ratio for Multivariate Test of Equality of Mean Vectors = 2.4051

D.F. = 4 And 141.000 P Less Than 0.0525

Variable	Between Mean Sq	Univariate F	P Less Than
1 Total	25.4082	3.6515	0.0581*
2 M-1	0.0505	0.2060	0.6506
3 M-2	0.6031	4.4448	0.0368*
4 M-3	0.0061	0.9267	0.3374

Degrees of Freedom for Hypothesis = 1
Degrees of Freedom for Error = 144

*p<.05 indicates significance.

Hypothesis 4:

Ho: 4 There will be no second order interaction among the factors.

Ha: 4 There will be a second order interaction among the factors.

From an inspection of Table 10, no significant second order interactions are found. Thus Ho: 4 failed to be rejected (multivariate F = 0.8632, significant at p<0.4878).

Table 10. F Ratio for Multivariate Test of Equality of Mean Vectors for Effects Associated with Second Order Interactions.

F-Ratio for Multivariate Test of Equality of Mean Vections = 0.8632

D.F. = 4 And 141.0000 P Less Than 0.4878

Variable	Between Mean Sq	Univariate F	P Less Than*
1 Total	1.7193	0.2471	0.6199
2 M-1	0.3944	1.6076	0.2069
3 M-2	0.1664	1.2263	0.2700
4 M-3	0.0078	1.1932	0.2766

Degrees of Freedom for Hypothesis = 1
Degrees of Freedom for Error = 144

*None of the probabilities were significant.

Hypothesis 5:

Ho: 5 There will be no significant interaction between class level (Sr/So) and models of the registry (T1/T2).

Ha: 5 There will be a significant interaction between class levels and the models of the registry.

From an examination of Table 11, Ho: 5 failed to be rejected as suggested earlier (multivariate F = 0.8125, significant at $p<0.5192$).

Hypothesis 6:

Ho: 6 There will be no significant interaction between class levels (Sr/So) and degree of authoritarianism (A/NA).

Ha: 6 There will be a significant interaction between class levels and degree of authoritarianism.

From an examination of Table 12, Ho: 6 failed to be rejected as suggested earlier (multivariate F = 0.9105, significant at $p<0.4597$).

Table 11. F Ratio for Multivariate Test of Equality of Mean Vectors for Effects Associated with the Interaction of Class Level and Models of the Registry.

F-Ratio for Multivariate Test for Equality of Mean Vectors = 0.8125

D.F. = 4 And 141.0000 P Less Than 0.5192

Variable	Between Mean Sq	Univariate F	P Less Than*
1 Total	14.0828	2.0239	0.1571
2 M-1	0.0040	0.0161	0.8991
3 M-2	0.0100	0.0738	0.7863
4 M-3	0.0085	1.3033	0.2556

Degrees of Freedom for Hypothesis = 1
Degrees of Freedom for Error = 144

*None of the probabilities were significant.

Hypothesis 7:

Ho: 7 There will be no significant interaction between models of the registry (T1/T2) and levels of authoritarianism (A/NA).

Ha: 7 There will be a significant interaction between models of the registry and levels of authoritarianism.

Examination of Table 13 reveals that Ho: 7 failed to be rejected as suggested earlier (multivariate F = 0.9534, significant at $p<0.4353$).

Table 12. F Ratio for Multivariate Test of Equality of Mean Vectors for Effects Associated with the Interaction of Class Level and Degree of Authoritarianism.

F-Ratio for Multivariate Test of Equality of Mean Vectors = 0.9105

D.F. = 4 And 141.0000 P Less Than 0.4597

Variable	Between Mean Sq	Univariate F	P Less Than*
1 Total	6.7841	0.9750	0.3252
2 M-1	0.0015	0.0061	0.9381
3 M-2	0.1570	1.1572	0.2839
4 M-3	0.0093	1.4294	0.2339

Degrees of Freedom for Hypothesis = 1
Degrees of Freedom for Error = 144

*None of the probabilities were significant.

Reliability of Instrumentation

The Authoritarian Measure

The scale used to measure the degree of authoritarianism of the students in the study was the standardized California F Scale developed by Adorno and discussed by Rokeach (Rokeach paper). The published reliability coefficients for this scale range between .81 and .97, averaging at .90.

The Locus of Control Measure

The scale used in this study is a modified version of the standardized test developed by Rotter (1966). The published correlation coefficient for internal consistency in Rotter's scale ranges from .65 to .79 and the correlation coefficient for test-retest reliability ranges from .49 to .83. The scale used in this study was modified by Schneider (Schneider 1970 and personal communication 1972.) Schneider has found a correlation coefficient of .78 for test-retest reliability of Rotter's scale. He has also found a correlation coefficient of .53 and .79 for reliability of his modified scale compared to Rotter's scale.

Table 13. F Ratio for Multivariate Test of Mean Vectors for Effects Associated with the Interaction of Models of the Registry and Degree of Authoritarianism.

F-Ratio for Multivariate Test of Equality of Mean Vectors = 0.9534

D.F. = 4 And 141.0000 P Less Than 0.4353

Variable	Between Square	Univariate F	P Less Than*
1 Total	14.8179	2.1295	0.1467
2 M-1	0.0405	0.1650	0.6853
3 M-2	0.0467	0.3443	0.5583
4 M-3	0.0052	0.7885	0.3761

Degrees of Freedom for Hypothesis = 1
Degrees of Freedom for Error = 144

*None of the probabilities were significant.

The 20 Item Questionnaire

The reliability of this instrument was attained by calculating the Kuder Richardson reliability coefficient (KR 20), on both classes, independently and then as a pooled sample. Results are found in Table 14 below.

Table 14. Kuder Richardson Reliability Coefficients (KR 20) for the Measure of Tested Interest.

Classes	Results
Seniors	r = .4290
Sophomores	r = .5631
Pooled Sample	r = .5342

Subjective Data

Awareness of the Registry

One of the early steps in the process of the diffusion of an innovation, according to Rogers, is awareness of the innovation. Rogers also states awareness of an innovation must precede interest in the innovation. As a consequence, a subjective measure of the students' awareness was made. The instrument used appeared on the first page of the treatment booklet and consisted of a six item response indicating various levels of student awareness. The six items are listed below.

1. Have never heard of the Registry.
2. Have heard the Registry mentioned, but have no knowledge of the academic requirements and laboratory training required.
3. Have minimal awareness of the Registry, its academic and laboratory skill requirements.
4. Have moderate awareness of the Registry, its academic and laboratory skill requirements.
5. Have great awareness of the Registry, its academic and laboratory skill requirements.
6. Consider myself an authority on this subject.

A summary of the results appears in Table 15. An informal analysis of Table 15 indicates the Seniors to be more aware of the Registry than Sophomores. This may account in part for the significantly greater interest demonstrated by the Seniors.

Post Experimental Interview

Ten days after the 20 item questionnaire was administered, five seniors and ten sophomores were interviewed by a skilled interviewer, not the investigator. The format along with a summary of the responses of the interview is found in Appendix J. The pertinent findings are listed below by question.

Table 15. Summary of Responses to Students' Stated Awareness of the Registry.

Statement Number	Seniors				Sophomores			
	Authoritarian		Non Authoritarian		Authoritarian		Non Authoritarian	
	T1	T2	T1	T2	T1	T2	T1	T2
1	1	1	1	1	8	8	4	8
2	4	7	7	7	9	5	7	8
3	3	4	7	5	4	7	10	6
4	5	7	4	3	3	5	5	3
5	1	0	0	0	0	0	0	1
6	0	0	0	0	0	0	0	0

Question 1.--What was your general impression of the total program made available to you so you could gain information about the Registry?

Of the five seniors, three were positively oriented, one was neutral, and one was negatively oriented to the program. Among the sophomores, the ratio was 6:3:1. In their comments, three of the seniors stated that at first the program was confusing but became clearer with time. Another felt the information was helpful and the fifth felt the material did not apply to him.

Of the sophomores, six found the program interesting and informative; two felt they needed more information and two considered the program a poor presentation.

Question 2.--What other opportunities would have appealed to you in which you could learn more about the Registry?

Two seniors felt more printed matter would be of benefit while two felt lectures by experts would be informative. One felt audiovisual presentations would be stimulating.

The sophomores expressed the same opinions in the same ratio.

Question 3.--What other activities did you pursue to obtain additional information about the Registry?

One senior did nothing outside of the program; four sent for the booklet via the postcard and one discussed the project with her husband.

Six of the sophomores did nothing outside of the program. Four sent for the booklet.

Question 4.--Were you aware of any differences in the booklets you and your classmates received? If so, what were they? Did you discuss these differences with anyone? Who?

Four seniors were not aware of any differences in the booklets; one was aware of a difference because of a conversation with a friend.

Two of the sophomores were aware of the differences through conversations with friends. Eight reported no differences, even though two of them had conversations over the booklets.

Question 5.--Did you feel that the Registry should be (1) controlled by ASCP and the medical profession, (2) controlled by ASMT, the official representative of the profession of Medical Technology, (3) both, on an equal, shared basis, (4) neither, a new Board entirely should be established.

Three of the seniors offered no comment because they felt they lacked sufficient information to make a decision. One felt the pathologists should dominate the registry while another felt the medical technologists should dominate and control their own registry.

Of the sophomores, two offered no comment; one felt the pathologists should control the registry; two felt the

medical technologists should control their own registry; four felt a joint effort should be maintained while one sophomore suggested two separate independent systems, each maintaining a registry.

Question 6.--Any other comments?

Three seniors offered no comment while two suggested that not enough time had been allowed for the program. They also expressed a need to know the design and scope of the experiment in which they had participated.

Seven of the sophomores requested more information of the scope and design of the experiment; one thought the entire program was too vague and general; one stated the experiment initiated her thinking about the registry, while one felt the total experiment occupied too much class time.

Summary of the Responses to the Information Sheet Retrieval Form

The seniors indicated the information sheet was informative, clear and concise as well as covering the material adequately. They also felt it was well organized, but could provide more information, especially about the legal activities of the professional organizations.

The sophomores agreed the material was clear, concise, and informative as did the seniors. However, they felt the material was only "fair" to "well" organized. They also expressed a need for more information about the legal

conflict between the two societies as well as needing more information about the functions of the registry.

These comments apply nearly uniformly within class levels, across treatment groups and personality differentiations. A more complete summary can be found in Appendix K.

Summary of the Responses to the Treatment Booklets

The majority of the seniors felt the booklet contained too little information and was too brief. Only one commented the booklet was too biased in its statements. Many thought the organization was presently acceptable though brief. Many, about half, offered no comment. The illustrations were considered either acceptable, of no value, helpful, or produced no comment at all in one-third of the cases.

The sophomores expressed more concerns. They felt the information was too brief and vague and not focused enough on the registry and its functions sufficiently. Sixty percent offered no comments on the organization of the material while the remainder felt the organization was either acceptable, or that there was not enough information presented to be able to reach a decision. Fifty percent of the sophomores offered no comment on the illustrations. The other half of the students found them either acceptable, unnecessary, or unacceptable.

The comments apply nearly uniformly within class levels, across treatment groups and personality characteristics. A more complete summary can be found in Appendix L.

CHAPTER V

RESULTS, CONCLUSIONS, AND IMPLICATIONS OF THE STUDY

Summary of the Results

The results of the study are summarized in the following paragraphs.

Study of the Covariable

The covariable used in this study, locus of control, did not prove to be an effective one. The regression analysis showed only weak correlation between score on this measure and amount of interest demonstrated by the students.

Analysis of the Data

Following the usual procedure, the data were reanalyzed using a multivariate analysis of variance and thus gaining one degree of freedom for hypothesis testing. The results of this analysis with respect to the research hypotheses listed in Chapter 1 are provided below.

Research Hypothesis 1.--Seniors will demonstrate a significantly greater interest than will sophomores. This hypothesis was accepted, for seniors did demonstrate a

significantly greater interest both by their higher scores on the multiple choice test and by their higher manifest interest in the possibility of gaining more information at a student meeting of the national professional organization.

Research Hypothesis 2.--There will be a significant difference between those receiving treatment booklet 1 (parent-child relationship) and those receiving treatment booklet 2 (professional-to-professional relationship).

This hypothesis was accepted. Data showed that those receiving treatment 1 showed more interest than those receiving treatment 2. In this case the differences in one of the measures of manifest interest appeared to account for the statistical significance. Those receiving treatment booklet 1 returned more postcards (M-1) than those receiving treatment booklet 2.

Four post-hoc comparisons were attempted:

1. Authoritarian seniors presented with the extant model of the registry will demonstrate more interest than will those authoritarian seniors presented with the innovative model of the registry.

The results of the statistical analysis showed this to be an acceptable statement. Those students presented with the extant model of the registry did demonstrate more interest.

2. Non-authoritarian seniors presented with the innovative model of the registry will demonstrate more interest than will the non-authoritarian seniors presented with the extant model of the registry.

The results of the statistical analysis showed this to be an unacceptable statement. Those students presented with the extant model of the registry again demonstrated more interest.

3. Authoritarian sophomores presented with the extant model of the registry will demonstrate greater interest than authoritarian sophomores presented with the innovative model of the registry.

The results of the statistical analysis showed this to be an acceptable statement. Those students presented with the extant model of the registry did demonstrate more interest.

4. Non-authoritarian sophomores presented with the innovative model of the registry will demonstrate more interest than the non-authoritarian sophomores presented with the extant model of the registry.

The results of the statistical analysis showed this to be an unacceptable statement. Those students presented with the extant model of the registry again demonstrated more interest.

Research Hypothesis 3.--Those classed as non-authoritarian will demonstrate significantly greater interest than those classed as authoritarian.

This hypothesis was accepted. Data showed that those classed as non-authoritarian did demonstrate a significantly greater amount of interest than those classed as authoritarian. In this case, the differences in one of the measures of manifest interest (i.e., the possibility of gaining more information at a student meeting of the national professional organization) and in the scores on a multiple choice test proved to be statistically greater for non-authoritarian than those classed as authoritarian.

Research Hypothesis 4.--There will be no significant second order interaction.

The data which was accumulated caused this hypothesis to be accepted.

Research Hypothesis 5.--There will be no significant interaction between class level and models of the registry.

The data which was accumulated caused this hypothesis to be accepted.

Research Hypothesis 6.--There will be no significant interaction between class level and degree of authoritarianism.

The data which was accumulated caused this hypothesis to be accepted.

Research Hypothesis 7.--There will be no significant interaction between models of the registry and degree of authoritarianism.

The data which was accumulated caused this hypothesis to be accepted.

Conclusions of the Study

Three main effects were observed:

1. Seniors demonstrated statistically significantly greater interest than did sophomores.
2. Students classed as non-authoritarian demonstrated statistically significantly greater interest than did those students classed as authoritarian.
3. Students receiving the extant model of the registry demonstrated a statistically significantly greater interest than those students receiving the innovative model of the registry.

In the first case, the seniors were closer to graduation and consequently the registry had a greater import to their lives; thus this may have provided an explanation for their greater interest.

In the second case, further investigation showed the delineation between authoritarian and non-authoritarian groups was not as great as first supposed. Both groups were relatively non-authoritarian when compared to a larger population covering a larger geographical area.

In the third case, the extant model of the registry was the preferred one most probably because it was indeed the model the students must confront in their professional development.

If, however, there had been any great interest shown by any students comprising the three factors under consideration, some first order interactions would have been detected in the statistical analysis. The only statistical significance occurred in the main effects.

Moreover, the subjective data in Table 15 indicate the subjects of the study had only a low or minimal awareness of the registry and thus their interest was minimal. Moreover, the students were rushed during the experimental procedures and consequently reported feelings of frustration which caused them to display minimal interest in the topic under consideration. Thirdly, many of the students reported that they did not understand the concepts presented in the booklet and as a consequence, pursued the suggested activities with minimal interest.

Implications of the Study

Lack of interest shown by the students in this study may possibly be traced to two factors, i.e., a lack of information and a lack of motivation.

The informational problem might have several possible solutions. Included among these is a better diffusion of

information to professionals and students in the field. Medical technologists must also be made aware of data available to them. This awareness could be increased by films and other audiovisual media. Better information transfer to the public must also be accomplished through increased public relations activities thereby enhancing the image of the medical technologist. Better descriptions of current operations and activities within the profession should be transmitted to both medical technologists and the general public.

The basic concerns of medical technologists should be surveyed. Their levels of awareness of the present status of topics such as job duties, salary, and professional growth opportunities should be ascertained.

A basic personality profile of the members of the profession should be attempted. This could lead to more appropriate means of dissemination of information. An initial attempt at obtaining this profile might be initiated at the various workshops offered by the national professional organization.

Motivational problems which caused a lack of interest might be decreased by enhancing the image of the practitioner. This possibly would increase the interest of the practitioner in the profession.

Pathologists as well as medical technologists should be motivated to evaluate their attitude toward the profession of medical technology. As a result of the recent legal

actions involving both groups, an investigation of possible changes in the administration of the registry might be undertaken. These new means of administration might include those in which the pathologists were in control, those in which the duties were shared by the pathologists and the medical technologists, and those in which the medical technologists were in control.

These and related problems could serve as a basis of further research in this area.

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APPENDICES

APPENDIX A

Booklet Used in Treatment 1 (T1)

OCCUPATIONAL INFORMATION VALIDATION PROCEDURE

We would appreciate your assistance in helping us determine the effectiveness of the enclosed occupational information about the Registry.

Please be assured your contributions will be kept confidential.

I. Please write your name here _____

II. Please respond to the following by circling the number of the statement which best describes your present degree of awareness of the Registry for Medical Technologists.

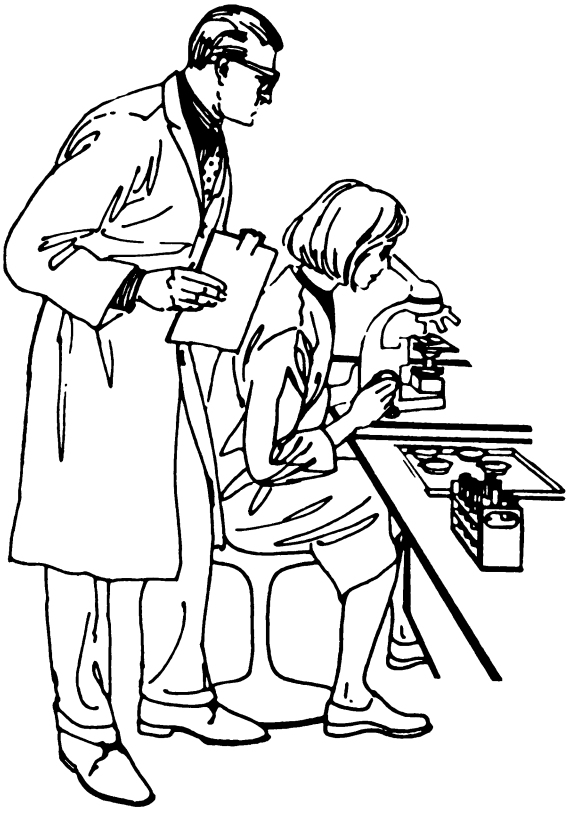
1. Have never heard of the Registry
2. Have heard the Registry mentioned, but have no knowledge of the academic requirements and laboratory training required
3. Have minimal awareness of the Registry, its academic and laboratory skill requirements
4. Have moderate awareness of the Registry, its academic and laboratory skill requirements
5. Have great awareness of the Registry, its academic and laboratory skill requirements
6. Consider myself an authority on this subject

III. Turn the page and read the booklet carefully.

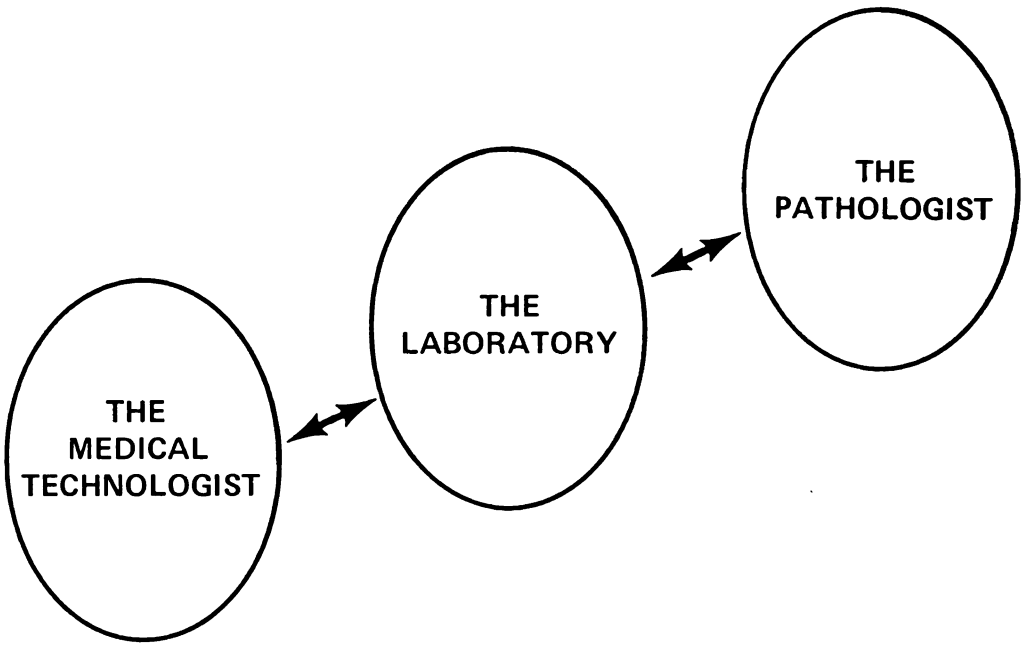
Introducing a Professional Option
The *ASCP* Registry

Introducing a Professional Option
The *ASCP* Registry

For many years medical technologists have worked in cooperation with and under the guidance of clinical pathologists. As a natural result the Registry for Medical Technologists has been administered and guided by the clinical pathologists with the cooperation of the medical technologists. Because of the clinical pathologists' assumption of responsibility for the results produced by medical technology, they should rightly guide the direction and dimensions of the Registry.



The history of the Registry includes references to the significant early input from pathologists. From the early beginnings of medical technology up until the present the clinical pathologist has had the best interests of his assistants, the medical technologists, as part of his concern and awareness. As a part of this concern, he has undertaken the responsibility of establishing the necessary guidelines and requirements of the Registry. Because of his medical training he can perceive the far reaching outlines and goals of present and future demands for increased health care delivery. As a consequence it is only proper that the clinical pathologists retain a degree of control over the Registry for Medical Technologists.



Examples of concern and guidance expressed by the clinical pathologists include supervisory control, both in the area of technical work load distribution as well as in the area of decision making regarding personnel policy. The clinical pathologist also serves as a reference source when dichotomous results occur and as a judge of how best to resolve the dichotomy. Since the clinical pathologist plays such an important role in the professional laboratory life of medical technologists, it is his duty to manifest this same degree of care, concern, and control over the Registry of Medical Technologists.

In order to acquaint medical technologists with data about the Registry, its construction, requirements, and its role in the future in relation to medical technologists, several resources are available (see resource information sheet). You are encouraged to avail yourself of these opportunities to learn more about the Registry for Medical Technologists.

How do you feel this booklet could be improved?

1. Content:

2. Organization:

3. Illustrations:

RESOURCE INFORMATION SHEET

(Please remove from the booklet and retain)

To obtain further information you may do any or all of the following 3 things:

1. Inspect the reading material concerning the Registry. This information will be available to you in the Office of the School of Medical Technology, 48 Giltner Hall between the hours of 9 a.m.-12 noon and 1 p.m.-4 p.m., Monday through Friday.

2. Request that the local MSU chapter of ASMT consider the Registry as a topic for one of its forthcoming meetings. You may do this by signing the notice on the bulletin board outside Mrs. Thomas' office in 141 Giltner Hall.

3. You may mail the attached postcard for further information about the Registry.

POSTCARD

Please send me further information on the Registry and its requirements.

Name _____

Local Address _____

City _____ State _____ Zip _____

FIRST CLASS
Permit No. 941
East Lansing, Mich.

BUSINESS REPLY MAIL
NO POSTAGE NECESSARY IF MAILED IN THE UNITED STATES

POSTAGE WILL BE PAID BY:

Miss Ruth Allen
1206 Red Oak Lane
E. Lansing, Michigan 48823

11–3983

APPENDIX B

Booklet Used in Treatment 2 (T2)

OCCUPATIONAL INFORMATION VALIDATION PROCEDURE

We would appreciate your assistance in helping us determine the effectiveness of the enclosed occupational information about the Registry.

Please be assured your contributions will be kept confidential.

I. Please write your name here _____

II. Please respond to the following by circling the number of the statement which best describes your present degree of awareness of the Registry for Medical Technologists.

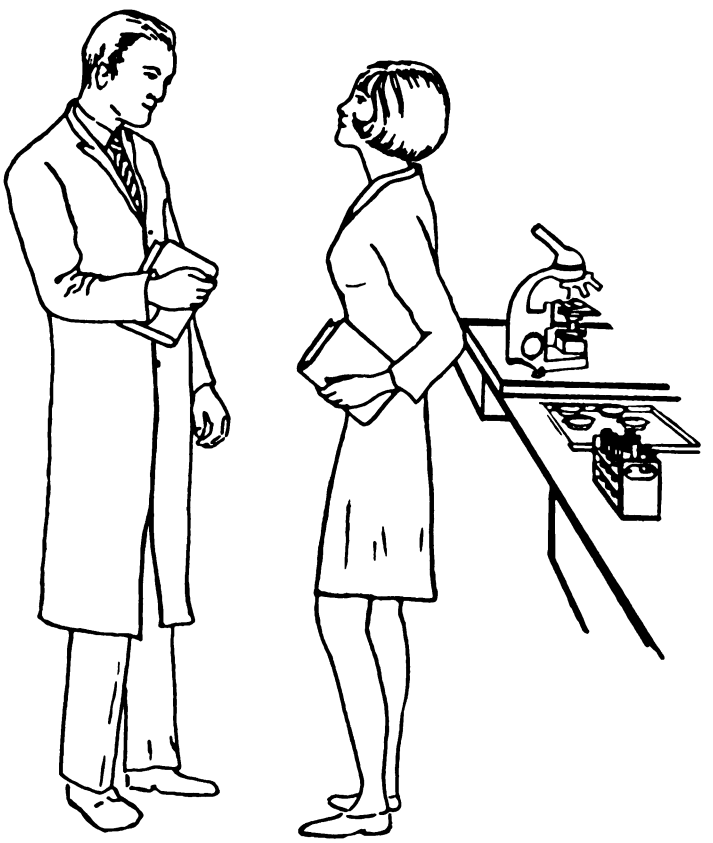
1. Have never heard of the Registry
2. Have heard the Registry mentioned, but have no knowledge of the academic requirements and laboratory training required
3. Have minimal awareness of the Registry, its academic and laboratory skill requirements
4. Have moderate awareness of the Registry, its academic and laboratory skill requirements
5. Have great awareness of the Registry, its academic and laboratory skill requirements
6. Consider myself an authority on this subject

III. Turn the page and read the booklet carefully.

Introducing a Professional Option
A Registry of the Profession

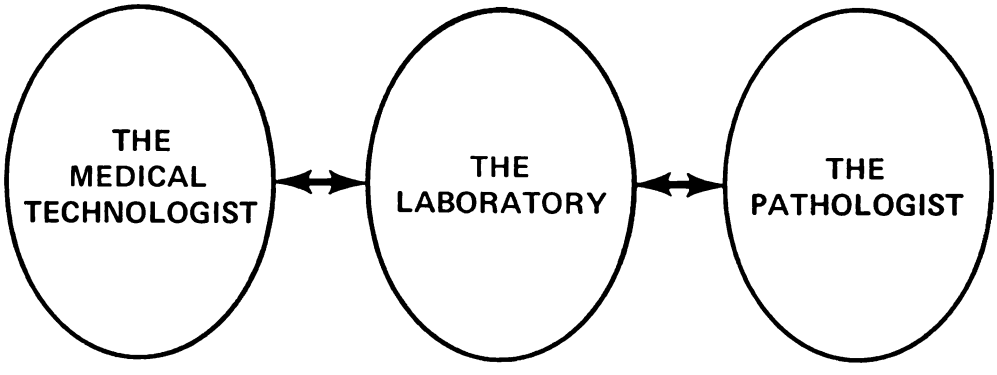
Introducing a Professional Option
A Registry of the Profession

In the field of allied health professions, ASMT serves as the representative for the profession of medical technology. Others in the field are the American Association of Medical Assistants, American Occupational Therapy Association, American Dietetic Association, the American Association of Inhalation Therapists, and others, each of which has its own professional registry. Medical technology is the only professional group at the baccalaureate level who do not control their own registry. Why is this? The answer is that because of historical circumstances the profession of clinical pathology via ASCP has controlled the registry in the field of medical technology for many years. Though a bi-societal relationship was established in 1949 and maintained on a "gentleman's agreement" basis, there was no security of role of the profession in the registry. Recent events in the last eight years have resulted in a continued decrease of the role of the profession of medical technology in their own registry.



Is this as it should be? One of the principles found in the AMA Statement of Basic Principles for the Accreditation of Allied Health Education Programs states, "The professional associations representing these allied health specialists should assume a major share of the responsibility for establishing and maintaining educational standards in their respective fields."

In recent years this situation, control of the Registry of Medical Technologists by ASCP, has led to legal confrontation between ASMT and ASCP. There are no valid reasons for the profession of medical technology to have different criteria set for them by the medical profession. Other baccalaureate level allied health professions are given this responsibility for their certification process. There is no reason why medical technology should be exempted from this privilege.



Over the years medical technology has assumed greater and greater responsibility for its own activities. Examples of increased responsibility the medical technologists have assumed as a result of their expanding role include more supervisory functions as well as making judgments regarding the resolution of dichotomous findings of laboratory tests. The demands inherent in the responsibilities for certification in their own profession are those which the medical technologists have assumed in their process of growth.

In order to acquaint medical technologists with data about the Registry, its construction, requirements, and its role in the future in relation to medical technologists, several resources are available (see resource information sheet). You are encouraged to avail yourself of these opportunities to learn more about the Registry of Medical Technologists.

How do you feel this booklet could be improved?

1. Content:

2. Organization:

3. Illustrations:

RESOURCE INFORMATION SHEET

(Please remove from the booklet and retain)

To obtain further information you may do any or all of the following 3 things:

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3. You may mail the attached postcard for further information about the Registry.

POSTCARD

Please send me further information on the Registry and its requirements.

Name _____

Local Address _____

City _____ State _____ Zip _____

FIRST CLASS
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BUSINESS REPLY MAIL
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POSTAGE WILL BE PAID BY:

Miss Ruth Allen
1206 Red Oak Lane
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11–3983

APPENDIX C

Measure of Authoritarianism and External-Internal Locus of Control

INTERNATIONAL OPINION SURVEY

Below are a number of statements about various topics. They have been collected from different groups of people and represent a variety of opinions. There are no right or wrong answers to this questionnaire; for every statement there are large numbers of people who agree and disagree. Please indicate whether you agree or disagree by marking an "X" under the disagree or agree column. If you have no opinion or can't decide, place an "X" in the no opinion column.

Please read each item carefully and be sure that you indicate the response which most clearly corresponds to the way which you personally feel.

1. I think the government owes every citizen a decent living.

2. Most students in school would not cheat even if they were sure of getting away with it.

3. When people are nice to me, it is generally because I have done something to make them that way.

4. I definitely cannot go along with the philosophy of "Eat, drink and be merry for tomorrow, who know?"

5. What has happened to me in the past is my own fault. No one is responsible but me.

6. A good leader makes it clear to everybody what their jobs are.

7. By taking an active part in political and social affairs, the people can control world events.

8. Most students don't realize the extent to which their grades are influenced by accidental happenings.

9. Capable people who fail to become leaders have not taken advantage of their opportunities.

10. Most repairmen will not overcharge even if they think you are ignorant of their specialty.

11. I believe that the government has been taking over too many of the affairs of private industry.

12. Most parents can be relied upon to carry out their threats of punishment.

13. In the long run, people get the respect they deserve in this world.

14. Many of the unhappy things in people's lives are partly due to bad luck.

15. When people are "mean" to me, it is generally because I have done something to make them that way.

16. Using the Honor System of not having a teacher present during exams would probably result in increased cheating.

17. The average citizen can have an influence on government decisions.

18. The idea that teachers are unfair to students is nonsense.

19. A person can succeed no matter what his previous background is.

20. Most people can be counted on to do what they say they will.

21. My political views are more liberal than most peoples'.

22. I am not as honest with myself as I should be.

23. When someone gets mad at me, I can usually do something to make him my friend again.

24. Many times we might as well decide what to do by flipping a coin.

25. It is seldom profitable to try to be friends with someone if he doesn't want to be.

26. This country has a dark future unless we can attract better people into politics.

27. With enough effort, we can wipe out political corruption.

28. In the case of the well prepared student, there is rarely if ever such a thing as an unfair test.

29. A good leader molds the opinions of the group he is leading rather than merely following the wishes of the majority.

30. Most elected public officials are really sincere in their campaign promises.

31. Labor unions have acquired too much power in this country.

32. The United Nations will never be an effective force in keeping world peace.

33. It is hard to know whether or not a person really likes you.

34. I have often found that what is going to happen will happen.

35. Every person should be held accountable for his own actions.

36. Parents usually can be relied upon to keep their promises.

37. In the long run, the people are responsible for bad government on a national as well as a local level.

38. Sometimes I can't understand how teachers arrive at the grades they give.

39. I can seldom make other people do the things I want them to do.

40. Most of the time, I can't understand why politicians behave the way they do.

41. One should not attack the political beliefs of other people.

42. If we really knew what was going on in international politics, the public would have more reason to be frightened than they now seem to be.

43. People who can't get others to like them don't understand how to get along with others.

44. I think life is largely a gamble.

45. Unfortunately, an individual's worth often passes unrecognized no matter how hard he tries.

46. The judiciary is a place where we all can get unbiased treatment.

47. It is difficult for people to have much control over the things politicians do in office.

48. There is a direct connection between how hard I study and the grades I get.

49. When I make plans, I am almost certain that I can make them work.

50. Most people would be horrified if they knew how much news the public hears and sees is distorted.

51. Completely free enterprise is the best policy a country can have.

52. Even though we have reports in newspapers, radio and television, it is hard to get objective accounts of public events.

53. When I get into an argument, it is sometimes my fault.

54. Most people don't realize the extent to which their lives are controlled by accidental happenings.

55. No matter how hard you try some people just don't like you.

56. Most people answer public opinion polls honestly.

57. All wars could be stopped if countries would put forth more effort to prevent them.

58. Many times exam questions tend to be so unrelated to course work that studying is really useless.

59. I can usually influence people to my way of thinking if I wish.

60. Obedience and respect for authority are the most important virtues children should learn.

61. A person who has bad manners, habits, and breeding can hardly expect to get along with decent people.

62. If people would talk less and work more, everybody would be better off.

63. The businessman and the manufacturer are much more important to society than the artist and the professor.

64. Science has its place, but there are many important things that can never possibly be understood by the human mind.

65. Young people sometimes get rebellious ideas, but as they grow up they ought to get over them and settle down.

66. What this country needs most, more than laws and political programs, is a few courageous, tireless, devoted leaders in whom the people can put their faith.

67. No sane, normal, decent person could ever think of hurting a close friend or relative.

68. Nobody ever learned anything really important except through suffering.

69. What the youth needs is strict discipline, rugged determination, and the will to work and fight for family and country.

70. An insult to our honor should always be punished.

71. Sex crimes, such as rape and attacks on children, deserve more than mere imprisonment; such criminals ought to be publicly whipped, or worse.

72. There is hardly anything lower than a person who does not feel a great love, gratitude, and respect for his parents.

73. Most of our social problems would be solved if we could somehow get rid of the immoral, crooked, and feeble-minded people.

74. Homosexuals are hardly better than criminals and ought to be severely punished.

75. When a person has a problem or worry, it is best for him not to think about it, but to keep busy with more cheerful things.

76. Every person should have complete faith in some supernatural power whose decisions he obeys without question.

77. Some people are born with an urge to jump from high places.

78. People can be divided into two distinct classes: the weak and the strong.

79. Some day it will probably be shown that astrology can explain a lot of things.

80. Wars and social troubles may someday be ended by an earthquake or flood that will destroy the whole world.

81. No weakness or difficulty can hold us back if we have enough will power.

82. It is best to use some prewar authorities in Germany to keep order and prevent chaos.

83. Most people don't realize how much our lives are controlled by plots hatched in secret places.

84. Human nature being what it is, there will always be war and conflict.

85. Familiarity breeds contempt.

86. Nowadays when so many different kinds of people move around and mix together so much, a person has to protect himself especially against catching an infection or disease from them.

87. Nowadays more and more people are prying into matters that should remain personal and private.

88. The wild sex life of the old Greeks and Romans was tame compared to some of the goings-on in this country, even in places where people might least expect it.

International Student Opinion Survey

Name _____ Age _____ Sex _____

Year _____

Example:

	Agree	No Opinion	Disagree
A.	X		
B.		X	

	Agree	No Opinion	Disagree		Agree	No Opinion	Disagree
1.				31.			
2.				32.			
3.				33.			
4.				34.			
5.				35.			
6.				36.			
7.				37.			
8.				38.			
9.				39.			
10.				40.			
11.				41.			
12.				42.			
13.				43.			
14.				44.			
15.				45.			
16.				46.			
17.				47.			
18.				48.			
19.				49.			
20.				50.			
21.				51.			
22.				52.			
23.				53.			
24.				54.			
25.				55.			
26.				56.			
27.				57.			
28.				58.			
29.				59.			
30.				60.			

	Agree	No Opinion	Disagree
61.	____	____	____
62.	____	____	____
63.	____	____	____
64.	____	____	____
65.	____	____	____
66.	____	____	____
67.	____	____	____
68.	____	____	____
69.	____	____	____
70.	____	____	____
71.	____	____	____
72.	____	____	____
73.	____	____	____
74.	____	____	____
75.	____	____	____
76.	____	____	____
77.	____	____	____
78.	____	____	____
79.	____	____	____
80.	____	____	____
81.	____	____	____
82.	____	____	____
83.	____	____	____
84.	____	____	____
85.	____	____	____
86.	____	____	____
87.	____	____	____
88.	____	____	____

APPENDIX D

Sign-up Sheet Requesting the Resources of the National Professional Organization

THE REGISTRY

Yes, I am interested in learning more about the Registry and encourage the Student Chapter of ASMT to schedule a meeting in the near future to discuss the topic.

(Note: This list will be forwarded to the President of the Student Chapter here on campus.)

Date	Name	Class

APPENDIX E

Sign-up Sheet Requesting Information in the Office of the School of Medical Technology

Resource Information Utilization Tally Sheet

Date	Name	Class

APPENDIX F

Survey Questionnaire for Information Retrieval

SURVEY QUESTIONNAIRE FOR INFORMATION RETRIEVAL

Please write your name here _____

You recently received an information sheet on the Registry. This 20 item questionnaire is designed to test the effectiveness of that sheet in transmitting certain factual information. **The results of this survey will not be used in any other way.**

Please write your name on the sheet provided with the pencil provided. Then answer the questions by filling in the appropriate space on the sheet provided. There is only one correct answer for each question. If you have absolutely no idea of the correct answer, leave the question blank. However, if you are not sure of the correct answer, but think you recall it, please feel free to guess.

1. The Registry, at present, is composed of:

   A. 4 members, 2 ASCP, 2 ASMT
   B. 11 members, 5 ASCP, 6 ASMT
   C. 4 members, 4 ASCP
   D. 11 members, 6 ASCP, 5 ASMT

2. Clinical Laboratory Assistant's duties are commonly

   A. directed by a medical technologist
   B. directed by a pathologist
   C. directed by medical technologists as well as nurses
   D. directed by a pathology resident

3. The director of a typical laboratory is:

   A. a senior medical technologist
   B. a pathologist
   C. a Ph.D. in one of the basic sciences
   D. an ACP member

4. The function of the Registry is best described as:

   A. developing and conducting examinations
   B. maintaining a current listing of those certified by the Board
   C. establishing standards and certifying students
   D. handling annual registration of those certified by the Board

5. The stated academic requirements of the Registry for Medical Technologists are:

   A. graduation from an accredited high school and 45 semester hours of collegiate training
   B. 3 years of academic training or equivalent
   C. graduation from an accredited high school and 4 years of academic training
   D. graduation from an accredited high school and 90 semester hours of collegiate education

6. The duties of a medical technologist are best described as:

   A. performance of established tasks as well as performance of complex procedures
   B. administrative duties and supervision
   C. supervision and performance of complex procedures
   D. technical mechanical task performance and supervision

7. In 1969, a legal action taken by ASMT was:

   A. an anti-trust suit against ASCP
   B. a Civil Investigative Demand against ASCP
   C. a Civil Investigative Demand with the U.S. Justice Department
   D. an anti-trust suit against ASCP and the Registry

8. The approximate number of members in ASMT in 1971 is:

   A. 15,000
   B. 20,000
   C. 10,000
   D. 5,000

9. In March, 1971, the legal action taken by ASMT was:

   A. dismissed due to failure to show cause of action
   B. appealed to a higher court by ASMT
   C. dismissed because of ideological and professional differences
   D. appealed to a higher court by ASCP

10. The category of general certification includes:

   A. cytotechnology and hematology
   B. MT's, MLT's, and CLA's
   C. nuclear medicine technology
   D. histologic technicians

11. The original membership on the Registry of Laboratory Technicians was:

   A. 11 members, 6 ASCP, 5 ASMT
   B. 4 members, 2 ASCP, 2 ASMT
   C. 11 members, 5 ASCP, 6 ASMT
   D. 4 members, all ASCP

12. The date the Registry of Laboratory Technicians was established is:

   A. 1930
   B. 1937
   C. 1928
   D. 1940

13. The Specialist Certification category includes certification for:

   A. MT's, MLT's, CLA's
   B. nuclear medicine technology
   C. blood banking and chemistry
   D. cytotechnology and hematology

14. The duties of a Medical Laboratory Technician include:

   A. performance of established tasks and performance of complex procedures
   B. technical mechanical task performance and supervision
   C. carrying out established procedures
   D. administrative duties and supervision

15. Registry functions are offered by:

    A. ASCP and AMT
    B. ASCP and ASMT
    C. ASCP only
    D. ASMT only

16. The initial number of registrants of the Registry of Laboratory Technicians was:

    A. 50
    B. 25
    C. 15
    D. 70

17. The official name of the present Registry accepted by the American Medical Association is:

    A. Registry of the ASCP
    B. ASMT Registry of ASCP
    C. Registry of Medical Technologists of the ASMT
    D. Registry of Medical Technologists of the ASCP

18. The Categorical Certification category includes:

    A. MT's, MLT's, and CLA's
    B. nuclear medicine technology
    C. MT's without a B.S. degree
    D. CLA's and histologic technicians

19. Professional laboratory skills training for a Medical Technologist obtaining a B.S. degree extends over

    A. 2 years
    B. 6 months
    C. 1 year
    D. varies, depending upon previous experience

20. In 1966, ASMT, as a result of legal action:

    A. was dismissed from a Civil Investigative Demand
    B. appealed a Civil Investigative Demand
    C. was dismissed from an anti-trust suit
    D. appealed an anti-trust suit

APPENDIX G

Information Sheet Reaction Form

INFORMATION SHEET REACTION FORM

We would appreciate your opinion of the following information sheet on the Registry. Your reactions will be used to develop and improve occupational information on the Registry. *Please read the following information for content* and make whatever comments you feel will be appropriate on the sheet provided. *Be assured that your comments will be kept in strict confidence.*

Turn to the following page.

INFORMATION SHEET

In 1928 the Registry of Laboratory Technicians was initiated by the American Society of Clinical Pathologists (ASCP). The membership, originally 4 members of ASCP, was enlarged and now stands at 11, with the majority (6) being M.D.'s representing ASCP and the 5 member minority representing the American Society for Medical Technology (ASMT).

The function of the Registry is to establish standards for medical technologists and other categories of laboratory personnel, and to provide certifying mechanisms. Certification by the Registry is voluntary but has wide recognition among professional medical and hospital organizations.

Originally, the Registry of Medical Technologists of the American Society of Clinical Pathologists, (the present-day official name of the certifying system,) registered only "laboratory technicians". It now registers qualified people in 3 categories:

1. *General Certification* which includes medical technologists (MT's), medical laboratory technicians (MLT's), and certified laboratory assistants (CLA's)

2. *Categorical Certification* which includes blood banking, chemistry, cytotechnology, hematology, histologic technicians, microbiology, and nuclear medicine technology

3. *Specialist Certification* which includes chemistry, cytotechnology, hematology, and microbiology

The basic outline of academic requirements listed by the Registry for certification for Medical Technologist include:

A. Graduation from an accredited high school or its equivalent

B. Three years (90 semester hours or 135 quarter hours) of collegiate education in a college or university approved by a recognized accrediting body

C. The three years must include:
   1. A minimum of 16 semester hours in chemistry
   2. A minimum of 16 semester hours in biological science
   3. A minimum of one semester of college level mathematics
   4. A college course in physics

In addition, the candidate's transcript must be evaluated by the Board of Schools and approved before the student starts his or her professional laboratory skills training of at least one year.

Medical Technologists, Medical Laboratory Technicians, Certified Laboratory Assistants and those with specialized training in one aspect of clinical laboratory functions work together as a team under the laboratory director who, typically, is a pathologist. Medical Technologists generally perform the more complex procedures and may be supervisors. Medical Laboratory Technicians tend to be responsible for carrying out established procedures. Certified Laboratory Assistants work under the direction of Medical Technologists and Medical Laboratory Technicians. Opportunities for advancement exist through the route of further education and experience.

In 1928, only 25 "laboratory technicians" were listed in the Registry. Today, the ASMT has grown and the majority of its 21,000 members are found in the Registry.

In recent years, however, the relationship between ASCP and ASMT has become markedly controversial, largely over matters involving the Registry. In 1966, ASMT was charged and subsequently dismissed from a Civil Investigative Demand filed by the U.S. Justice Department against the College of American Pathologists and ASCP.

In 1969, ASMT filed an anti-trust case against the College of American Pathologists and ASCP in areas of ideological and professional differences. In March, 1971, the U.S. District Court in Chicago dismissed the complaint against ASCP filed by ASMT on the grounds of failure to show any cause of action. The judgement is being appealed.

Please write your name here _____

1. What is your opinion of the content which was presented?

2. What is your opinion of the organization of the material?

3. How could the information sheet be improved?

APPENDIX H

Format of the Interview

INTERVIEW FORMAT

Student Name _____ Class _____

Date _____ Level _____

Interviewer _____Treatment _____

1. What was your general impression of the total program made available to you so you could gain information about the Registry?

   Positive _____Neutral_____Negative_____

   COMMENTS:

2. What other opportunities would have appealed to you in which you could learn more about the Registry?

3. What other activities did you pursue to obtain additional information about the Registry?

INTERVIEW FORMAT (CONT'D)

4. Were you aware of any differences in the booklets you and your classmates received? If so, what were they? Did you discuss these differences with anyone? Who?

5. Do you feel that the Registry should be
   ____1. Controlled by ASCP and the medical profession
   ____2. Controlled by ASMT, the official representative of the profession of Medical Technology
   ____3. Both, on an equal, shared basis
   ____4. Neither, a new Board entirely should be established

6. Any other comments?

APPENDIX I

Standardized Introductory Statement

PROJECT DESCRIPTION

(for Ruth Allen)

General Statement:

This study is being conducted to assist a collegue who is studying the dynamics of growth and development of professional organizations. The School of Medical Technology has agreed to cooperate in these efforts to obtain this data. An abstract of the findings for your information will be made available to the School when the project is completed.

Miscellaneous facts to be issued only upon request:

1. Experimenter is Dr. Howard Ranger
2. He is located at the University of Wisconsin (unknown department)
3. Names of the students are not important, per se, but will be used only for statistical data purposes.
4. For further information contact Ruth Allen 29 Owen Graduate Center, 353-9656.

APPENDIX J

Summary of Interview Responses

APPENDIX J

Summary of Interview Responses

SENIOR RESPONSES

1. What was your general impression of the total program made available to you so you could gain information about the Registry?

   Positive: 3 Neutral: 1 Negative: 1

Comments:

A. I really don't know much about the program anyway. I'm not a typical Medical Technologist. I appreciate the effort however.

B. At first it was confusing on what you were trying to do. Later it was clear.

C. It was worthwhile because it gave a little about the Registry, but they still don't know much.

D. Did not know what was going on. Too unstructured. Did not explain what it was for. Seems as though there was no purpose.

E. The pamphlets did not give information. I'm certain that the way it was given turned the kids off. Did not get a thing out of the pamphlets.

2. What other opportunities would have appealed to you in which you could learn more about the Registry?

A. Talking with or interviewing someone from the Registry.

B. More booklets or pamphlets; more formalized brochure would be a good idea.

C. Reading things out of a paper was cut and dry. Should talk with someone who has experience. I have talked with a guy who is in the Registry and it made a big difference.

D. Read the booklet. Use of audio-visual aids are always good.

E. A well organized booklet rather than some half hearted efforts. They all give history but what does the Registry do for the Medical Technologist? Perhaps a presentation in the Medical Technology seminar.

3. What other activities did you pursue to obtain additional information about the Registry?

A. I did mail the card and got the material but I have not read it. I will read it when I have time.

B. I forgot to send in the card. I have been busy but I will send it in. It did make one more aware in wanting to find out about the Registry. My interest is up now.

C. Sent for the booklet, but had alrady seen it. I also talked with a guy to get more details. Asked Mr. Brooks about it. I don't have enough concrete data. There is a large learning gap.

D. Sent for the booklet, nothing else.

E. Sent in the card just recently and have not received the information.

4. Were you aware of any differences in the booklets you and your classmates received? If so, what were they? Did you discuss these differences with anyone? Who?

A. No, I was not aware. I know they were not the same but I did not talk with anyone about it.

B. One booklet dealt more with the pathologist. The technologist was in the background. Not enough information was given on the Medical Technologist. Should find out more what the specific problems between the two groups are and why they are coming up. The second booklet was more specific. Talked with my husband about this. He is a biochemist.

C. Problems because it was before class and we were in a big hurry. Poor presentation. Kids said they came in during the middle and did not know what was going on. Was not looking for any differences.

D. The material the investigator presented was the same as the booklet. They were close. Did not talk with anyone.

E. No, I did not know they were different. They were all the same. We talked about them but we decided we did not get anything out of them. I know they were different because they talked about the war between Medical Technologists and Pathologists, but got nothing out of them.

5. Do you feel that the Registry should be

____ Controlled by ASCP and the medical profession
__1__ Controlled by ASMT, the official representative of the profession of Medical Technology
__3__ Both, on an equal, shared basis
____ Neither, a new Board entirely should be established.

A. I can't really answer this because I don't know what I'm talking about.

B. I don't know that much about it. I think the pathologist should be in charge but I think the technologist should have almost equal rights. But the pathologist is the ultimate in charge.

C. They should have a right to control their own people. ASCP is conservative. Not much progress for Medical Technologists has come from them in the past.

D. I belong to the ASMT. I know there is a big discussion going on. The news letters discuss these things. My own opinion is that I have not looked into it much.

E. Don't understand big clash between them. I really don't have an opinion but guess I would say both.

6. Any other comments?

A. Nothing I think would be helpful. I'm not the typical type. If I were I would have read the material and done something about it.

B. No opinion. I was willing to cooperate.

C. Would like to know more about the Registry. If it was not such a rush-rush job, the kids would get more out of it and so would Ruth Allen. She did not have much time because she did not want to take Mr. Brook's time. She rushed the gathering of information. What is she trying to find out? Would like to know.

D. No opinion. Wish I knew the purpose.

E. Would like to have an organized approach to the whole thing. I did not understand what the whole thing was. Poor presentation; would have taken more interest if we were not so rushed so much and given a reasonable explanation about the whole thing.

SOPHOMORE RESPONSES

1. What was your general impression of the total program made available to you so you could gain information about the Registry?

Positive: 6 Neutral: 3 Negative: 1

Comments:

F. I really had never heard about it before. It made me think about the Registry. It filled me in more. I sent for the information but have not read it yet.

G. Informative--Gave information about the Registry. I did not realize it was about the Registry until the end.

H. I did learn some but I did know some. I knew some of the history. Based too much on history, it was factual but I wish it would have told more about the advantages.

I. It was concise and gave the information necessary. It was easy to understand.

J. Conditions in the classroom did not allow concentration on the booklet. I still have questions on the Registry that I'm not clear about. Too little information given and I need more detail.

K. At first did not know what was coming off. But it was really interesting. First pamphlet did not say anything. A girl friend and I talked and thought pamphlets should have been revised. I liked it. Glad I could help.

L. It did introduce some new facts that I did not know. It made me curious. It left me with many questions however.

M. I was not that interested. I did not know what they were doing. I still am not sure about the Registry and different organizations. It was informative. I just came into Medical Technology.

N. I've worked in the lab before two years and had lots of experience. I did not like the presentation. Things in the material did not make a difference. She did not think the sophomores were interested. Poor organization of the whole survey.

O. To me it was like any other paper you read. Just a plain old declarative paper. It said what it had to say.

2. What other opportunities would have appealed to you in which you could learn more about the Registry?

F. More reading from brochure. Discussion with people who know and can explain it more. A lecture would be OK.

G. Would like slide tape presentation. Things were not clear at the beginning but at the end learned a lot.

H. Would have been better if they would have had a lecture or some speaker to talk about it.

I. Research on his own. Would like a more formalized brochure.

J. If I could talk with someone who had just been certified. I know its function in setting standards. Maybe a lecture in class might help clear things up.

K. Have a registered person come and discuss it in detail. Good informal discussions.

L. Sent away for booklet and got the information. Would like to talk with someone about their activities with the Registry. Thought the booklet that I got had some good information. Would like some personal contact with someone in the Registry. I'm willing to do what I can to find out more. Would like slides, etc., in fact anything. Want to know more about what I'm getting into.

M. I would be more interested in reading about it on my own. I guess booklets, etc., would be good.

N. Would like to see a more detailed presentation in a formalized brochure. A career day on Medical Technology would be good. I have written to most of the places alrady, so I know a lot.

O. I think slides and movies would help. People would rather look at things than read them.

3. What other activities did you pursue to obtain additional information about the Registry?

F. I sent for the booklet. That's all I did.

G. None.

H. I sent in the little postcard but I did not get a thing yet. Nothing else. When are they going to send me the information?

I. None, since the questionnaire was handed out.

J. I did none. However, I have worked in a hospital a little with some Medical Technologists, but not much.

K. Sent in card for material and read it. Signed up at the Student ASMT meeting to find out more.

L. Wrote for booklet. Am going to go to the library. Did talk to Medical Technologists at a hospital. My purpose in talking with Medical Technologists was to find out about the exam. I will talk with my advisor and Dr. Brooks.

M. I did not do anything. I was not that interested to tell the truth. I have two more years to go in Medical Technology.

N. I have all the information. I have seen films just because I have worked with it, I know about it. I have lots of files of information.

O. Did not do anything at all.

4. Were you aware of any differences in the booklets you and your classmates received? If so, what were they? Did you discuss these differences with anyone? Who?

F. Did not discuss it with anyone. Did not notice any differences in the booklets.

G. First booklet had too much detail. Information did not seem necessary. The second booklet was good. The necessary information was given right to the point. Just general talk at the end, not in detail however. Did not really know what was going on.

H. No difference that I know of between what my friends got and what I got. There were differences but I don't remember. Did not talk about it. Just wonder what it is all about.

I. Did not discuss differences. First booklet was elementary and confusing. Second booklet was more clear and organized and better and easier to understand. Presented material in a better form.

J. I did not notice any differences. The first one I did not understand; things in the classroom were confusing and I could not concentrate on the material. The second booklet was clear and I understood it much better. Did not talk with anyone.

K. I was aware of differences because I talked with a friend. My booklet was better than hers. The second booklet was lots better than the first. It was more informative than the first booklet which just had facts pushed at you.

L. Talked with two girls about them. First booklet was too general. It did start but not enough. Second was more specific, but only reported limited information.

M. No, I did not notice any difference. I talked with two friends and we just completed them.

N. I have lots of close friends and we went over the whole thing. Some booklets sounded general and some were specific. The blue booklet the girl next to me had was more interesting. I tried to "psych out" the differences.

O. I did not. The only paper I received I think was the one day. Did not talk with anyone.

5. Do you feel that the Registry should be

1	Controlled by ASCP and the medical profession
2	Controlled by ASMT, the official representative of the profession of Medical Technology
6	Both, on an equal, shared basis
1	Neither, a new Board entirely should be established.

F. I don't know much about it so I won't comment.

G. No Comment.

H. I think it should be both. I have questioned however if they could both work together. It could happen I think.

I. Theoretically it should be shared. Both groups have differences. In actual practice I'm not sure.

J. They (ASCP) know best what standards should be met. I'm certain they would work with the Medical Technologists in doing what is best.

K. Pathologists have more information and should be involved but Medical Technologists should be there. Pathologists have some say but Medical Technologists should keep them in shape.

L. They have to work together. So why not have a Board together. We both are specialists and we need to share our knowledge.

M. Probably ASMT. I don't really know but I think Medical Technologists should control their own.

N. I want to become a pathologist. I'm just starting. The pathologists should cooperate and advise but Medical Technologists should do their own.

O. Both should be made available. Really there should be two Boards and see if they could work together. Could have different goals and work on different things I guess.

6. Any other comments?

F. Oh, I don't know. Booklets were too general and did not explain. They just made me curious about the whole thing. I think that's what they were supposed to do. Booklets were poor, and questions were DUMB to say the least. I did not mind participating.

G. Would be interested in finding out what it was all about and would like the results. Just wondered what the purpose was.

H. When will you tell us about the survey? Everyone in class has been talking about it, wanting to know what it is about. No problem, just questioning. When will they let us know what this was about?

I. Interested in results or the conclusions that could be drawn from this research. Miss Allen's presentation, I think, did not have a serious intention. Kids were late. Did not think people could get a clear picture because of the method of presentation. Too informal of an approach. Thinks it could have been put together better.

J. Still cloudy on finding out what the Registry is all about. When time comes I will look into it more. I was neutral about the whole thing. Would be interested in finding out more about the results. It did get me started on thinking about the Registry.

K. Even though it was for her doctorate; it really helped me. I probably would not have gotten interested until I was a junior or a senior. It got me interested. I probably would not have bothered if it was not introduced to me. Really be glad to find out what that first test was all about.

L. I did not know what the purpose was. I really would like to know. I did not know Miss Allen's purpose. If the booklets were to stimulate interest, they did. If they were for information, they did not give enough. Miss Allen was very exact. Really would like to know what it was all about. Miss Allen was nice and I would be happy to help her more if I could. Want to find out what it was all about.

M. Took up too much time. I thought it was our class. I think it should have been given when we are seniors. I was not that interested having just joined.

N. Not particularly. Want to find out about the 80 questions on school, politics, etc. we had to take. Want to find out what the whole thing was about. It was interesting!

O. It was very direct.

APPENDIX K

Summary of the Responses to the Information Sheet Retrieval Form

APPENDIX K

Summary of the Responses to the

Information Sheet Retrieval Form

SENIORS--AUTHORITARIAN--EXTANT MODEL

Question 1.
What is your opinion of the content which was presented?

7 - Adequate.
4 - Content was informative.
1 - The content didn't really say anything in particular about the Registry.
1 - Great improvement over the information contained in the last reading.
1 - I really think this pamphlet was unnecessary--especially its detail on the controversy. Information should be given (as in the first 1/2) but the rest is irrelevant.

Question 2.
What is your opinion of the organization of the material?

14 - The material is well organized.

Question 3.
How could the information sheet be improved?

4 - Seems adequate.
5 - Give more information, especially about the anti-trust case.
1 - Last page should be omitted.
1 - Tell us what it is all about.

SENIORS--AUTHORITARIAN--INNOVATIVE MODEL

Question 1.
What is your opinion of the content which was presented?

8 - It is clear and covered the material well.

1 - Far superior to the other booklet we had last week.
1 - Not enough information to elicit more than a passing interest.
1 - For a background of the founding of the Registry, fine. To give the MT student the definition of the Registry he is looking for, what type of questions are asked and what material is covered etc., it helps not at all.
1 - It tells nothing of why a conflict arose in the Registry and why the conflict between med techs. and pathologists.

Question 2.
What is your opinion of the organization of the material?

6 - Well organized.
3 - Need more information.
1 - First page easy to follow. Last page a little jumpy.
1 - Better than last week.

Question 3.
How could this information sheet be improved?

6 - Present more information about the case filed against the College of American Pathologists and the ASCP.
3 - This article was very informative.
1 - Page 2 doesn't really flow from page 1. The facts on it aren't related to those on page 2.
1 - The purpose of the sheet should be told.
1 - Answer why your organization feels so adamantly it must be independent.

SENIORS--NON-AUTHORITARIAN--EXTANT MODEL

Question 1.
What is your opinion of the content which was presented?

8 - Clear, concise, and brief, but covered the material adequately.
6 - Informative.
1 - Better than the last pamphlet you handed out.

Question 2.
What is your opinion of the organization of the material?

14 - Good, well organized.

Question 3.
How could the information sheet be improved?

7 - It should contain more information on the Registry and what it can do for you.

1 - Fine as it is.
1 - I am not sure of what you would like to get across with this material.

SENIORS--NON-AUTHORITARIAN--INNOVATIVE MODEL

Question 1.
What is your opinion of the content which was presented?

9 - Very informative and I am further interested in finding out more.
2 - Fairly well presented.
1 - Ridiculous--a pathologist is the only one who can judge and decide the qualities he wants in his MT.
1 - Contains too many topics not brought together well. Three separate categories that should hang together better.
1 - I disagree with the intent of the court cases. If a pathologist heads the laboratory he should know what he wants from a med. tech.; therefore to insure competent lab workers he should be involved in the Registry.

Question 2.
What is your opinion of the organization of the material?

7 - Good organization.
3 - Fair organization.
1 - It was better than the last one.
1 - It gave a historical perspective of the material and followed in a logical manner.
1 - Somewhat hard to follow purposes behind actions.

Question 3.
How could the information sheet be improved?

6 - Provide more information, especially on the court cases.
2 - Tell us the purpose of this whole series of handouts.
2 - Pretty concise and to the point.
1 - Complete. Why should med. techs. certify other med. techs.?
What is the reason for the court action against ASCP by ASMT?
1 - A short list of references would be helpful.

Information Sheet

SOPHOMORES--AUTHORITARIAN--EXTANT MODEL

Question 1.
What is your opinion of the content which was presented?

13 - Very informative and understandable.
4 - Fairly well presented.
2 - Confusing and unclear.
6 - Too general and too brief.

Question 2.
What is your opinion of the organization of the material?

16 - Well organized
4 - Fair; adequate.
3 - Fair; last section on ASMT/ASCP conflict needs rewriting.
2 - No comment.

Question 3.
How could the information sheet be improved?

9 - Explain ASMT/ASCP controversy more clearly.
6 - Give more information about the functions of the Registry.
1 - Rearrange the order of presentation of facts.
1 - Add pictures.
1 - Find the way it is.
7 - No comment.

SOPHOMORES--AUTHORITARIAN--INNOVATIVE MODEL

Question 1.
What is your opinion of the content which was presented?

16 - Very informative and clearer than other handouts.
4 - Fair; controversy between ASMT and ASCP could be made clearer.
1 - Vague.

Question 2.
What is your opinion of the organization of the material?

12 - Well organized.
5 - Fair.
2 - Poorly done.
2 - No comment.

Question 3.
How could the information sheet be improved?

8 - Be more specific regarding the ASMT/ASCP conflict.
5 - Give more information on the functions of the Registry.
4 - Provide less factual data; use a story line to tie the material together.
2 - Leave it as is.
2 - No comment.

SOPHOMORES--NON-AUTHORITARIAN--INNOVATIVE MODEL

Question 1.
What is your opinion of the content which was presented?

10 - Content was informative.
5 - Clear and concise.
5 - Vague on conflict between ASMT and ASCP.
2 - Very good.
1 - Was interesting.
1 - The first page contains some worthwhile material but the paragraph about the court case was irrelevant.

Question 2.
What is your opinion of the organization of the material?

16 - The material is well organized.
3 - Material split into two distinct portions, one about the requirements and a second ill defined section on the court conflict.
1 - No comment.
1 - Fair.
1 - Academic requirements should be listed at the beginning or at the end of the information sheet.
1 - Specific as it should be. A pain.

Question 3.
How could the information sheet be improved?

8 - No comment.
12 - Elaborate on differences between ASCP and ASMT.
3 - Adequate.

SOPHOMORES--NON-AUTHORITARIAN--EXTANT MODEL

Question 1.
What is your opinion of the content which was presented?

12 - Very informative.
5 - Fair.
4 - Not as informative as it could or should be.

Question 2.
What is your opinion of the organization of the material?

10 - The material is well organized.
11 - Fair; paragraphs about the ASMT/ASCP controversy need clarification.

Question 3.
How could this information sheet be improved?

3 - No comment.
6 - Elaborate on differences between ASMT and ASCP.
5 - Doesn't need improvement; acceptable as is.
4 - Outline requirements of various categories of certification.

APPENDIX L

Summary of the Responses to the Treatment Booklets

APPENDIX L

Summary of the Responses to the Request Form in the Treatment Booklet

SENIORS--AUTHORITARIAN--EXTANT MODEL

Question 1.
How could the content of the booklet be improved?

13 - Could have contained more information; too brief.
1 - No comment.

Question 2.
How could the organization of the booklet be improved?

6 - Presently acceptable.
2 - Too repetitive and confusing.
2 - Too little material to organize.
4 - No comment.

Question 3.
How could the illustrations be improved?

10 - Presently acceptable.
1 - Make them more relevant.
3 - No comment.

SENIORS--AUTHORITARIAN--INNOVATIVE MODEL

Question 1.
How could the content of the booklet be improved?

14 - Could have contained more information; too brief.
2 - OK as is.
2 - No comment.

Question 2.
How could the organization of the booklet be improved?

3 - Presently acceptable.
2 - Too confusing.
3 - Too little material to organize.
11 - No comment.

Question 3.
How could the illustrations be improved?

5 - Helpful.
6 - Did not help at all.
1 - Increase the number of illustrations.
7 - No comment.

SENIORS--NON-AUTHORITARIAN--EXTANT MODEL

Question 1.
How could the content of the booklet be improved?

5 - Could have contained more information; too brief.
3 - OK as is.
1 - No comment.

Question 2.
How could the organization of the booklet be improved?

11 - Presently acceptable, though brief.
7 - No comment.
1 - Unacceptable and too brief.

Question 3.
How could the illustrations be improved?

7 - Helpful.
2 - Did not help at all.
3 - Could have been more "modern" in their design.
2 - Increase the number of illustrations.
5 - No comment.

SENIORS--NON-AUTHORITARIAN--INNOVATIVE MODEL

Question 1.
How could the content of the booklet be improved?

12 - Could have been more informative; too brief.
1 - Information is conflicting
1 - Too biased in its statements.
2 - No comment.

Question 2.
How could the organization of the booklet be improved?

8 - Presently acceptable, though brief.
3 - Unacceptable and too brief.
1 - Response to content of booklet.
4 - No comment.

Question 3.
How could the illustrations be improved?

4 - Helpful.
5 - Not needed for information too sparse.
1 - Confusing.
6 - No comment.

SOPHOMORES--AUTHORITARIAN--EXTANT MODEL

Question 1.
How could the content of the booklet be improved?

9 - Not informative, too brief; did not describe what the Registry was.
6 - Merely described the role of the pathologist.
3 - Confusing information.
6 - Not enough information to make any comment.
1 - Content acceptable as is.

Question 2.
How could the organization of the booklet be improved?

3 - Poor organization.
5 - Acceptable organization
2 - Nothing to organize
15 - No comment.

Question 3.
How could the illustrations be improved?

6 - Adequate.
6 - Add little to the value of booklet.
2 - More active picture; more representative of medical technology.
11 - No comment.

SOPHOMORES--AUTHORITARIAN--INNOVATIVE MODEL

Question 1.
How could the content of the booklet be improved?

9 - Give more information about the Registry per se.
10 - Need more information; confusing, don't understand the material.
3 - Concern the booklet less with political affairs and decrease bias of the presentation.
7 - No comment.

Question 2.
How could the organization of the booklet be improved?

5 - Unsatisfactory.
9 - Satisfactory.
1 - Weak appeal to encourage information seeking behavior.
14 - No comment.

Question 3.
How could the illustrations be improved?

11 - Unnecessary.
7 - Acceptable.
2 - Should be labelled and explained.
9 - No comment.

SOPHOMORES--NON-AUTHORITARIAN--EXTANT MODEL

Question 1.
How could the content of the booklet be improved?

10 - Explain more about the Registry per se.
4 - Put more emphasis on medical technology rather than on the role of the clinical pathologist.
7 - Content too vague to respond; lacks sufficient information.
5 - No comment.

Question 2.
How could the organization of the booklet be improved?

5 - Acceptable as is.
7 - Not enough information to reach a decision.
1 - Need more information on the Registry.
1 - State the purpose of the booklet.
12 - No comment.

Question 3.
How could the illustrations be improved?

6 - Acceptable.
1 - Not sufficient material to comment on.
4 - Unnecessary.
3 - Unacceptable.
1 - Need more illustrations.
11 - No comment.

SOPHOMORES--NON-AUTHORITARIAN--INNOVATIVE MODEL

Question 1.
How could the content of the booklet be improved?

12 - Give more information on the Registry per se.
7 - Content confusing, vague and unclear.
4 - There was no content; nothing was said.
3 - Content was enlightening.

Question 2.
How could the organization of the booklet be improved?

6 - Acceptable.
2 - Unacceptable.
4 - Purpose of booklet unclear.
2 - Not enough information.
1 - Repetitive.
1 - Biased view presented.
10 - No comment.

Question 3.
How could the illustrations be improved?

4 - Acceptable.
8 - Unnecessary.
3 - Unacceptable.
1 - Include additional laboratory equipment in the picture.
11 - No comment.