

PEDAGOGICAL METHODOLOGIES IN TEACHING CRITICAL THINKING SKILLS
TO BASIC POLICE RECRUITS AT
MADISON AREA TECHNICAL COLLEGE

By

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ABSTRACT

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AT MADISON AREA TECHNICAL COLLEGE

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Police officers working in the year 2000 have a much different job than those working a few short years ago. In the 1960s, despite the threat of faster response times and more officers on the street, crime rates continued to rise. To address this, police agencies developed community relations units to improve their image (Gaines, 1991). The focus of the police, as "crook catchers" and responding when called, was gradually transferred into preventing crime. This was the beginning of Community Policing.

Community Policing requires officers to be pro-active in their function, rather than the time honored re-active. To be successful, officers must be able to solve problems using higher level thinking than was traditionally required. This higher level of problem solving necessitates that officers possess critical thinking ability.

The research hypotheses of this study was that a majority of the instructional methodology used during the Madison Area Technical College Law Enforcement Basic Recruit Academy does not encourage critical thinking and problem solving skills in its graduates.

The subjects for this study were adults accepted into the 69th Basic Police Recruit Academy of the Madison Area Technical College (MATC).

The instrument chosen to test the level of critical thinking skills for this study was the California Critical Thinking Skills Test (CCTST). The instrument, as a pre-test, was presented to the subjects during their first week of training. A consent form along with a short demographic questionnaire accompanied the instrument. A post-test was presented to the subjects during their last week of training.

Accompanying the post-test was a short questionnaire asking the respondents to identify the methods of instruction used during the training period and to estimate the percentage of time each of the methods were used. A similar survey was sent to instructors who presented material during the training, asking that they identify topics covered, time allowed for each topic, and methodologies used.

The lecture method of teaching was by far the most often used methodology during the 69th Class of MATC's Basic Recruit Academy. To learn critical thinking skills, trainees are best taught using interactive methodologies. Pre and post-test data collected indicated that the graduates of the 69th Class of MATC's Basic Recruit Academy did not gain in the area of critical thinking skills.

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CHAPTER I

INTRODUCTION

Police officers working in the year 2000 have a much different job than those working a few short years ago. In the recent past, the role of officers and departments was that of "law enforcers" or "crook catchers" (Gaines, 1991). Between calls, officers were able to write moving traffic or parking citations. In many municipalities, departments prided themselves on how fast they could respond when called. Reducing response times was an annual debate and the cause of many budget requests in the form of additional squad cars or increased number of personnel.

In the 1960s, despite the threat of faster response times and more officers on the street, crime rates continued to rise. To address this, police agencies developed community relations units to improve their image (Gaines, 1991). The focus of the police, as "crook catchers" and responding when called, was gradually transferred into preventing crime. This was the introduction of Community Policing.

Community Policing is a philosophy of policing, based on the concept that police officers and private citizens, working together in creative ways, can help solve contemporary community problems related to crime, fear of crime, social and physical disorder, and neighborhood decay (Trojanowicz, 1990).

Community Policing requires officers to be pro-active in their function, rather than the time honored re-active. Pro-active officers must have the ability to identify potential problems and attempt, through the use of community resources, to find creative and new solutions. To be successful, officers must be able to solve problems using higher

level thinking than was traditionally required. This higher level of problem solving necessitates that officers possess critical thinking ability.

Developing critical thinking skills in police officers begins in the recruit training academy. It requires an environment where trainees are free to question their instructors and think for themselves. Adult learners especially, learn best in an environment that fosters freedom and encourages experimentation and creativity (Billington, 1996).

Dr. William Glasser's Quality School is founded on such a premise. Glasser used W. E. Deming's ideas for successful corporate management to develop his idea of the Quality School. Glasser's Quality School is based on his Choice Theory which states that motivation for everything we do is based on the need to belong, the need for power, the need for freedom, or the need for fun (Glasser, 1997). He argued that people learn best when learning addresses these needs.

In a Quality School students are taught to evaluate their own work so they can continually improve it and are never asked to do work that is meaningless. Glasser also suggested that students be taught in cooperative groups in a warm and supportive environment because this setting is much more need-satisfying. When needs are satisfied, learning feels good, which in turn promotes quality learning.

Glasser's Quality School was devised to address what he saw as a shortcoming in our educational system. He stated that what we call education is merely knowledge gathering and remembering. Problem solving and thinking have been down graded in all but a few scientific subjects (Glasser, 1969).

Adults learn differently than children do. Adults tend to have a life-, task-, or problem centered orientation to learning as contrasted to subject-matter orientation for

children (Knowles, 1984). The methods used to teach adults should be learner-centered rather than teacher-centered.

Glasser's Quality School Method sharply contrasts with police training academies, where mastery/obedience is the primary teaching method (Birzer, 1999). Recruits are told what they should know and are expected to know what they are told. Tests are designed to evaluate the rote memory skills of students. When provided with a stimulus, question, or scenario, students are expected to respond with the right answer. This structured approach puts undue stress on students and does not encourage effective learning or support the community policing mission (Birzer, 1999).

In Wisconsin, providing skills that police officers need is the basis for the Department of Justice, Training and Standards Bureau's Basic Recruit Curriculum (Wisconsin Department of Justice, 1991). Curriculum content not involving physical skills is generally covered using the mastery/obedience method of teaching/learning.

Statement of the Problem

Research shows that teaching techniques like William Glasser's Quality School Method guides students to become problem solvers by enhancing their critical thinking skills.

A review of the literature shows that the standard teaching technique used in most law enforcement basic recruit academies is the mastery/obedience method in the form of the lecture and that this method does not promote effective learning.

Literature also shows that society's demands upon the police have changed. Police departments and officers are now expected to be proactive and solve community problems before those problems become dangerous.

Therefore the research hypotheses of this study was that a majority of the instructional methodology used during the Madison Area Technical College Law Enforcement Basic Recruit Academy does not encourage critical thinking and problem solving skills in its graduates.

Purpose of the Study

The purpose of this study was to determine if graduates of the Madison Area Technical College (MATC) Law Enforcement Basic Recruit Academy, Class #69, acquired problem solving skills during their training; skills they will need in the expected performance of their duties as police officers in a community policing environment.

Questions to be Answered

This study focused on the following questions:

1. What were the primary methods of instructional delivery used in the MATC, 69th Recruit Academy?
2. What are the primary methods of instructional delivery that develop critical thinking skills?
3. What was the level of critical thinking skills of police recruits entering the MATC, 69th Recruit Academy?
4. What was the level of critical thinking skills of police recruits successfully completing the MATC, 69th Recruit Academy?
5. Did the primary methods of instructional delivery used in the MATC, 69th Recruit Academy develop critical thinking skills in its graduates?

Significance of the Study

State mandated curriculum for police recruit training has not significantly changed in over 10 years. During this time, the role of police officers has shifted from crime fighter to problem solver. Data may be used to identify shortcomings in current police recruit training methods and may be used as an indicator for the need for curriculum revision.

Assumptions

The following are assumptions used in the study:

1. The score received on the California Critical Thinking Skills Test (CCTST) is a true measure of student's critical thinking/problem solving ability.
2. The CCTST is free from bias.
3. Training conducted during the 69th Recruit Academy adhered to the required curriculum.

Limitations

The following are limitations of the study:

1. Only students accepted into the MATC, 69th Recruit Academy will be part of the study.
2. The mandated curriculum results in a 400 hour, ten-week program.

Definition of Terms

Police Basic Recruit Training Academy: In Wisconsin, police recruit training is governed by the Law Enforcement Standards Board and administered by the Training and Standards Bureau of the Department of Justice. An established curriculum, containing 71

general tasks and 481 specific objectives, mandates a minimum of 400 hours for training before officers become certified by the Board.

Police Recruit: In Wisconsin, to be certified as a police officer one must be at least eighteen (18) years of age, have earned at least 60 college credits (there is a grace period), and have no unpardoned felony convictions. Recruits are officers that have not yet completed the mandated training.

Community Policing: Community Policing, is a philosophy of policing, based on the concept that police officers and private citizens, working together in creative ways, can help solve contemporary community problems related to crime, fear of crime, social and physical disorder, and neighborhood decay (Trojanowicz, 1990)

Critical Thinking: The process of purposeful, self-regulatory judgment. Critical thinking is the cognitive engine which drives problem-solving (APA, 1990).

Problem Solving Skills: The ability to:

1. Define a problem
2. Select pertinent information for a solution
3. Recognize stated and unstated assumptions
4. Formulate and select relevant and promising hypotheses
5. Draw valid conclusions and judge the validity of inferences (Chalupa, 1992).

Methods of Instructional Delivery (Teaching Methods): Instructional processes, such as patterned teacher behavior, delivery systems for curriculum, and organizational structures for promoting learning (Gage, 1976).

CHAPTER II

REVIEW OF LITERATURE

This review of literature covers the following sub-topics: Educational Styles, Adult Education, Police Recruit Training, and Present Day Police Function. This review shows that typical police recruit training has not keep pace with what the community expects from police officers and that present day police training uses limited and inappropriate teaching methods.

Educational Styles

Historically, problem solving skills have not been included in our educational system. Education does not emphasize thinking and is so memory-oriented that almost all schools and colleges are dominated by the certainty principle, which states that there is a right and wrong answer to every question (Glasser, 1969). Much of our current educational system merely provides students with the right and wrong answers.

Dr. William Glasser's Quality School was devised to address what he saw as a shortcoming in our educational system. Dr. Glasser felt that what we call education is merely knowledge gathering and remembering. Our brains are being used for committing facts to memory rather than expressing ideas or solving problems. Problem solving and thinking have been down graded in all but a few scientific subjects (Glasser, 1969).

Glasser has successfully utilized W. E. Deming's ideas, for successful corporate management, to develop the Quality School Method. Glasser's Quality School is based on his Choice Theory which states that motivation for everything we do is based on the need to belong, the need for power, the need for freedom, or the need for fun (Glasser,

1997). He argued that people learn best when learning addresses these needs. People make choices about how to act based on their ability to fulfill their personal needs.

The most prevalent type of educational philosophy being applied in our schools today is the “Boss Method.” This method uses coercion freely to try to make students learn (Barlow, 1998). Rules are handed down from the school board through superintendents and principals and teachers to the students. Because of the lack of focus on student needs, secondary education may be discouraging students from exploring and creating and robbing them of their individuality, creativity, and self-respect (Bratter, 1974). Teachers who use the “Boss Method” limit the learning of their students (Glasser, 1990).

In the Quality School, Glasser argued that quality work is dependent on the following six conditions:

1. There must be a warm, supportive classroom environment.
2. Students should be asked to do only useful work.
3. Students are always asked to do the best they can do.
4. Students are asked to evaluate their own work and improve it.
5. Quality work always feels good.
6. Quality work is never destructive (Glasser, 1993. p. 22).

In a Quality School teachers lead and manage but do not boss. They convince students that doing quality work will add value to their lives. Students are introduced to the skill of solving real-life problems and taught that the only real purpose of gathering information is to use it (Glasser, 1993).

Adult Education

Glasser's work initially focused on elementary education. Young learners must grasp early the benefits and skills of learning. Others have argued that Glasser's thinking is toward education as a whole and that his ideas are applicable from kindergarten to graduate school (Bratter, 1976).

Adults learn differently than do children (Birzer, 1999). Factors in adult learning environments which best facilitate adult growth and development include:

1. An environment where abilities and life achievements are acknowledged and respected.
2. An environment that fosters intellectual freedom and encourages experimentation and creativity.
3. An environment where faculty treats adult students as peers.
4. Self-directed learning where students take responsibility for their own learning.
5. Intellectually challenging just beyond student's present ability.
6. Active involvement in learning, as opposed to passively listening to lectures.
7. Regular feedback mechanisms (Billington, 1996. p. 2).

Adults do not need to be taught *what* to think. They need to be taught *how* to think (Chalupa, 1992).

Teaching adults should be approached in a different way than teaching children because adults learn differently than children. The teacher-centered method of teaching children is inappropriate for use with adults where the method of teaching should be learner-centered (Knowles, 1984).

Much of college instruction is delivered through lectures. Instructors stand in front of a classroom and recite facts. The goal of this method is to facilitate student's rote memorization of facts. Considered "lower-order learning," this method hinders rather than facilitates the educational process (Hirose, 1992).

Social learning experiences allow a student to observe other students' methods of successful learning and encourage him or her to emulate them. Experiences such as group projects, collaborative learning situations, peer teaching, and problem based learning have been successful in this area. Most often, students who participate in these practices perceive a more meaningful learning experience and in some cases actually learn more than students in conventional learning situations (Stage, 1998).

Research has shown that creative problem solving skills can be consciously recognized and deliberately called upon and, most important of all, the techniques for doing so can be taught (James, 1990). In a research project to determine if college students could be taught these skills, a sample group received problem solving training consisting of eight weekly sessions of 50 minutes each. Results showed significant improvement in the student's ability to solve problems.

One highly successful type of adult education, following on Glasser's Quality School Method, is cooperative learning. Cooperative learning incorporates students, working in small groups to identify and solve problems. Studies have shown that cooperative learning improves race relations between students, increases student's concern for others, and leads to increased learning (Johnson, 1992). In such groups, problem solving is collaborative, with participants contributing to the dialogue as well as constructing novel solutions (Stein, 1998).

Working in groups facilitates creative problem solving by reframing the context of the problem by exploiting the diversity of the group members and groups develop the relationship and team-working skills required for a successful career in modern organizations (Mundell, 1999). Considerable research demonstrates that cooperative learning produces high achievement, more positive relationships among students, and healthier psychological adjustment than do competitive or individualistic experiences (Johnson, 1992).

Students must do more than listen to learn. They must read, write, discuss, or be engaged in such higher-order thinking tasks as analysis, synthesis, and evaluation. Many strategies promoting active learning are comparable to lectures in promoting the mastery of content but superior to lectures in promoting the development of students' skills in thinking and writing (Bonwell, 1991).

It has been widely established that adults learn differently than younger students. Training and education is generally more effective if the learning process is interactive, in opposition to a lecture format. There is a need to engage and challenge the adult learner in not only understanding the material, but conceptually applying it to real world situations (CJA, 1998).

Finally, it has been shown that groups are superior to individuals in the proportion of correct solutions to problems, in reducing the number of errors preceding solution, and in minimizing the time required to reach solution (Gage, 1976).

Critical thinking, as the cognitive driver of problem solving abilities, is a high-level thinking process. The ideal critical thinker is habitually inquisitive, well-informed, trustful of reason, open-minded, flexible, fair-minded in evaluation, honest in facing

personal biases, prudent in making judgments, willing to reconsider, clear about issues, orderly in complex matters, diligent in seeking relevant information, reasonable in the selection of criteria, focused in inquiry, and persistent in seeking results which are as precise as the subject and the circumstances of inquiry permit (APA, 1990. p. 3).

These skills are not only critical for work. They are also needed to deal with the increasingly complex spheres of family, community, and society (Kerka, 1992). These are the same spheres in which most police work originates.

Developing problem solving skills in police officers requires an environment where officers are free to question their instructors and think for themselves. Support for police officers, as adult learners, should be provided through a learning environment that meets both their physical and psychological needs (Imel, 1999).

Police Recruit Training

Police training academies, like most police departments, are modeled after the military style chain of command (Gaines, 1991). In some areas police recruits are subjected to a form of basic training resembling boot camp: living in barracks, group calisthenics, dress uniforms, and inspections.

A majority of police agencies have rigid codes of behavior and expect officers to learn these codes and follow them without deviation. This type of organizational concept avoids the need to think out a response to individual situations. This method works only within a limited range of situations under close supervision (de Bono, 1991).

Most police agencies resemble military attachments with uniforms, a firmly structured command hierarchy, rules and regulations, and even the titles given to the different ranks such as sergeant, lieutenant, captain, etc. The military system, with its

rigid organizational structure and authoritarian management style, increasingly has been called into question as a proper model for modern policing (Meese, 1993). This system restricts the contribution of many officers. Policing is denied the benefits of their constructive thinking, creativity, and resourcefulness (Goldstein, 1990).

In police training academies mastery/obedience is the primary teaching method, which shows up as the lecture (Birzer, 1999). Recruits are told what they should know and are expected to remember what they are told. Tests are designed to test the rote memory skills of students. When provided a stimulus, a question or scenario, students are expected to respond with the right answer.

A study done for the New Jersey Police Training Commission by the U.S. Department of Health, Education and Welfare showed that the curriculum of most police training is basically skills-oriented and that there is little evidence of practice in problem solving (Green, 1997). This structured style puts undue stress on students and does not encourage effective learning or support the community policing mission (Birzer, 1999).

In Wisconsin, providing skills that police officers need is the basis for the Department of Justice, Training and Standards Bureau's Basic Recruit Curriculum (Wisconsin Department of Justice, 1991). This curriculum is based upon a task analysis conducted in 1982 for the position of police officer. It is considered an accurate model of what the tasks of a police officer were at that time. This curriculum is the minimum number of hours mandated for police recruit training.

Areas covered by the 400 hour Curriculum include Defensive Tactics - 40 hours, Care and Use of Firearms - 36 hours, Operate Patrol Vehicles - 46 hours, Conduct Investigations - 76 hours, and Professional Orientation 14 hours. Included within the 14

hours assigned to Professional Orientation are six hours devoted to Apply Decision Making and Problem-Oriented Policing Techniques.

A review of the lesson plan for the Problem Oriented Policing Techniques unit of the Madison Area Technical College's Basic Recruit Academy, shows that all the State curriculum required learning objectives are covered using the lecture/discussion teaching method. The lesson plan includes objective test questions that are used to test the recruits' memory at the end of the unit (Krembs, 1997).

A majority of the curriculum is designed as competency-based, where recruits are required to perform a skill properly before being allowed to move on to other skills. Those areas that do not involve physical skills are dealt with primarily by the lecture method of teaching. How this learning task is accomplished is delegated to the individual recruit schools and their instructors.

With limited hours available for training, expediency rules, where large numbers of facts are crammed into short periods of time. Lectures are used in the belief that they maximize coverage (Goldstein, 1977).

Research by the Bureau of Justice Statistics indicated that police officers spend as little as ten percent of their duty time on criminal-related activities (Birzer, 1999). The remainder of an officer's time is spent on a variety of service related calls such as disturbances and providing direct aid to citizens. It appears that the majority of training time, in a police academy, is spent on events or situations that officers will spend the least amount of time with during on-duty hours.

Present Day Police Function

Police officers working today have a much different job than ones of a few short years ago. In the past, the role of officers and departments was that of "law enforcers" or "crook catchers" (Gaines, 1991).

In the 1960s crime rates continued to rise. Citizens did not feel safe in their homes and did not have faith in the police to make them safe. To address this, police agencies developed community relations units to improve their image (Gaines, 1991). Police agencies wanted to become more customer friendly and in an attempt to do this their focus was gradually transferred to preventing crime before it occurred. This was the birth of Community Policing.

Community Policing is a philosophy of policing, based on the concept that police officers and private citizens working together in creative ways can help solve contemporary community problems related to crime, fear of crime, social and physical disorder, and neighborhood decay (Trojanowicz, 1990). It is not an experimental idea. Community Policing is now an established concept of modern law enforcement doctrine (Meese, 1993). It is rapidly becoming the standard by which police departments are judged (Sloan, 1992).

The Community Policing philosophy requires officers to be pro-active in their actions. Instead of reacting to situations, limited by rigid guidelines and regulations, officers become thinking professionals, utilizing their imaginations and creativity to identify and solve problems (Meese, 1993).

Summary

Police training has not keep pace with the demands placed on the police in our ever-changing society (Birzer, 1999). There now exists a significant gap between what officers are taught and what they are expected to do.

The mastery/obedience method for teaching adults is clearly not the most appropriate method for teaching critical thinking and problem solving skills to today's police recruits. What is required are educational systems that teach and motivate students to learn and to be creative, rather than to recall information (Tapscott, 1996).

Modern police training should strive to empower the learner. The most important skills for recruits to learn are the ability to learn, think, and solve problems in a self-directed manner (Ramirez, 1996). With these abilities officers will be better able to address the changing needs of our communities. This is needed to adequately prepare police recruits for the 21st century of policing (Birzer, 1999).

CHAPTER III

METHODS AND PROCEDURES

The purpose of this study was to determine if graduates of the Madison Area Technical College (MATC) Law Enforcement Basic Recruit Academy, Class #69, were acquiring problem solving skills during their training; problem solving skills they will need in the expected performance of their duties as police officers. A secondary purpose was to determine the methods of instructional delivery being used by instructors during the 10 week training of Class #69.

This study focused on the following questions:

1. What were the primary methods of instructional delivery used in the MATC, 69th Recruit Academy?
2. What are the primary methods of instructional delivery that develop critical thinking skills?
3. What was the level of critical thinking skills of police recruits entering the MATC, 69th Recruit Academy?
4. What was the level of critical thinking skills of police recruits successfully completing the MATC, 69th Recruit Academy?
5. Did the primary methods of instructional delivery used in the MATC, 69th Recruit Academy develop critical thinking skills in its graduates?

Research Design

This study was designed to be of the Ex Post Facto type. The study contains in effect two groups and one variable. The two groups are the 69th Recruit Academy of MATC

separated by 10 weeks of training, pre-training and post-training. The variable is the recruit's measured ability in critical thinking.

Subjects

The subjects for this study were adults who have been accepted into the 69th Basic Police Recruit Academy of the Madison Area Technical College (MATC). Class size is 24 recruits with 18 being male and 6 female.

Instrumentation

The instrument chosen to test the level of critical thinking skills for this study was the California Critical Thinking Skills Test (CCTST). This instrument was chosen because of the length of time it has been available, constant revisions, non-gender bias, and because of professional recommendations.

Literature on the CCTST indicates that it is a 45-minute, 34 question-standardized test designed to assess the core critical thinking skills of post-secondary level persons. It was first published in 1990 and has been revised as needed since then. Prior to being published by the California Academic Press the CCTST completed more than twenty years of conceptual and experimental research (Michael, 1995). The author is Peter A. Facione, of Santa Clara University, California.

The instrument reports six scores in the following areas: analysis, evaluation, inference, deductive reasoning, inductive reasoning, and an overall score. These areas were identified as a result of a two year Delphi research project on critical thinking (McMorris, 1995).

Two experts, Robert F. McMorris and William B. Michael, have reviewed the CCTST. As for validity, McMorris states that, "...the validity coefficients among sub

scores appear as reasonably supportive.” (Conoley, 1995) Michael reports that, “...evidence indicates the CCTST possesses considerable content validity” (Conoley, 1995).

A nursing instructor at MATC has been using the CCTST as a predictor of student accomplishment. The test is given before starting the program. Results are still preliminary. Low pre-test scores seem to correlate with low reading skills and may indicate a greater degree of difficulty in completing course work (Soukup, 1999). Results of a comparison of pre-test and post-test scores have been used to identify areas in the curriculum in need of refinement.

Procedures Followed

The instrument, as a pre-test, was presented to the subjects during their first week of training in February 2000. A consent form along with a short demographic questionnaire accompanied the instrument. A post-test was presented to the subjects during their last week of training in April, 2000. Accompanying the post-test was a short questionnaire asking the respondents to identify the methods of instruction used during the ten week training period and to estimate the percentage of time each of the methods were used. The test site was the primary recruit training room at the MATC Commercial Avenue Campus in Madison, Wisconsin. A similar survey was sent to instructors who presented material during the training asking that they identify topics covered, time allowed for each topic, and methodologies used.

CHAPTER IV

RESULTS AND DISCUSSION

The purpose of this study was to determine if graduates of the Madison Area Technical College (MATC), Law Enforcement Basic Recruit Academy, Class #69, acquired problem solving skills during their training. Trainees' (respondents') critical thinking skills were evaluated (tested) during their first week of training and again at the conclusion of their training. The study compared these two values in an attempt to determine if a change in the respondent's critical thinking skill level occurred. Instructors and trainees were surveyed to determine what primary methods of instructional delivery (methodology) were used.

The study focused on the following questions:

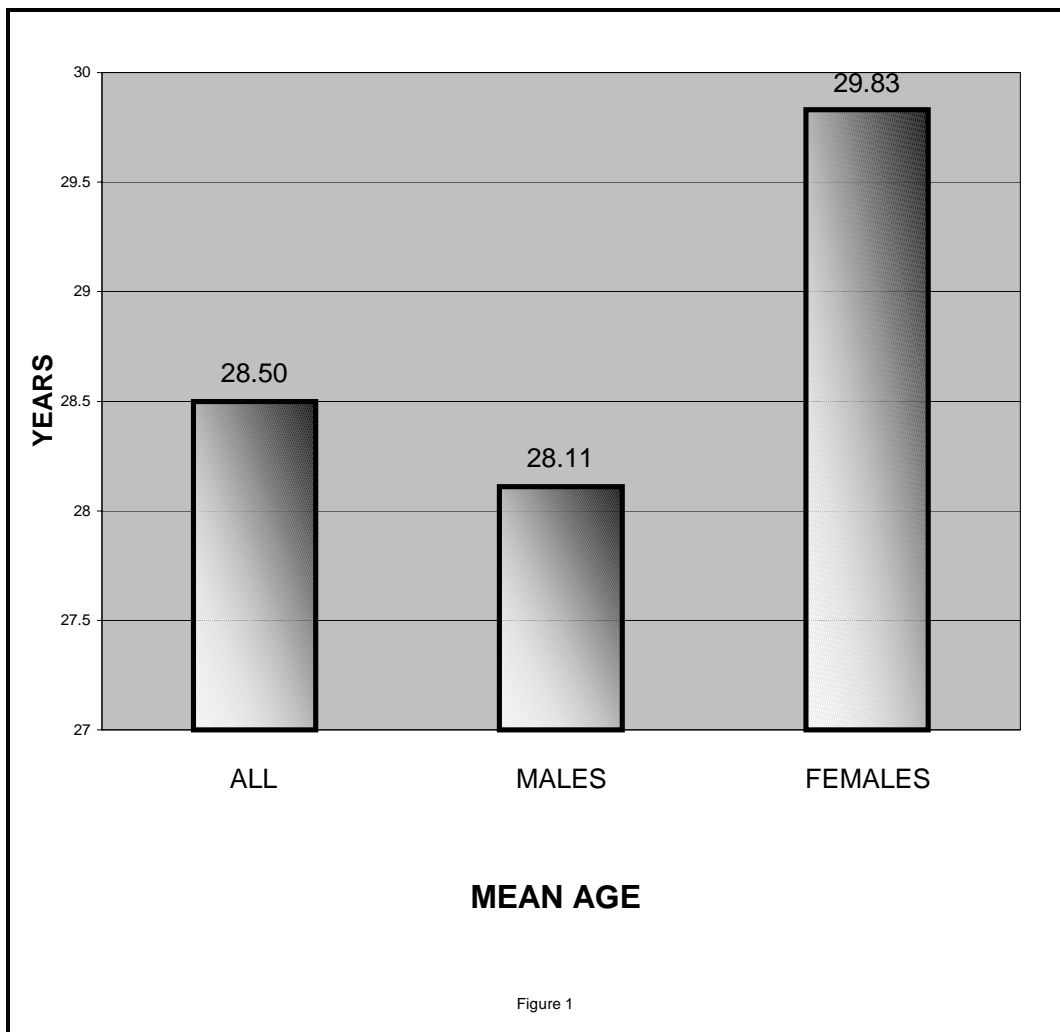
1. What were the primary methods of instructional delivery used in the MATC, 69th Recruit Academy?
2. What are the primary methods of instructional delivery that develop critical thinking skills?
3. What was the level of critical thinking skills of police recruits entering the MATC, 69th Recruit Academy?
4. What was the level of critical thinking skills of police recruits completing the MATC, 69th Recruit Academy?
5. Did the primary methods of instructional delivery used in the MATC, 69th Recruit Academy develop critical thinking skills in its graduates?

Each of these questions will be presented separately in this chapter with a discussion of the relevant data.

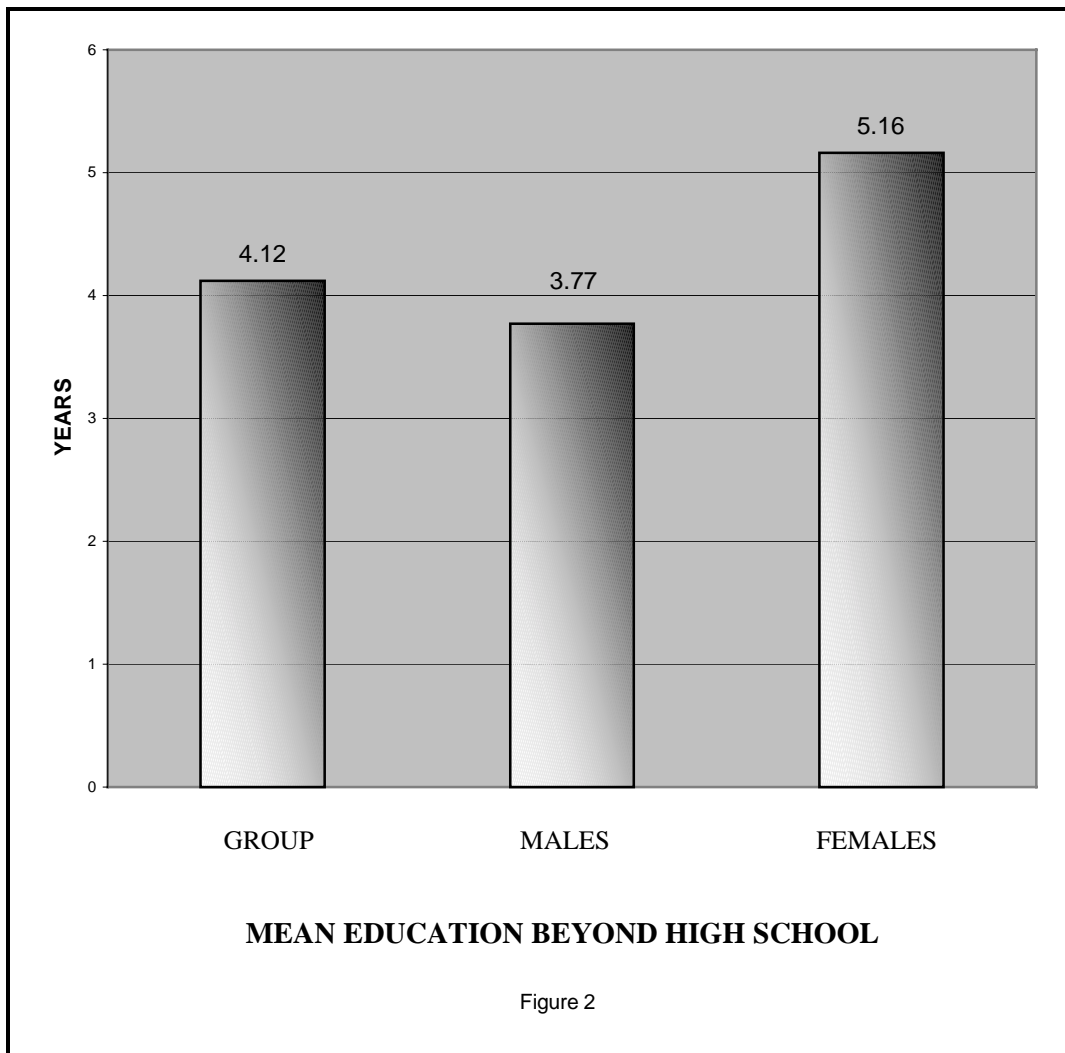
Demographics

The 69th Class of the Madison Area Technical College's Basic Recruit Academy consisted of a total of 24 trainees. Of that total, 18 were male and six were female.

The age range of the class was from 19 to 43 years with a mean age of 28.5 years. Males ranged from 19 to 43 years with a mean of 28.11 years. Females ranged in age from 23 to 40 with a slightly higher mean of 29.83 years. This data is shown in figure 1.



Education, in years beyond high school, ranged from two to eight years for the group. Males had a mean of 3.77 years on a range of two to seven. Females had a mean of 5.16 years on a range of four to eight. Females, as a group, had 1.38 years more education beyond high school than the males. This comparison is shown in figure 2.



Question #1: What were the primary methods of instructional delivery used in the MATC, 69th Recruit Academy?

A survey was mailed to the 19 instructors who taught the 400 hours of the 69th Class of MATC's Basic Recruit Academy. Responses were received from seven, for a

response rate of 36.84%. The questionnaire asked instructors to provide the topics taught, the time assigned for each topic and to identify, from a provided list, the teaching methodologies used for each topic. The seven responding instructors accounted for 193.00 hours of the 400 hour training, or 48.25%.

Instructor respondents indicated a wide range of methodologies used during the training. The methodologies in order of their frequency of usage are reported in figure 3.

<u>Methodology</u>	<u>Frequency</u>
Lecture	9
Discussion	8
Video tapes	8
Demonstration	6
Case study	5
Role-playing	3
Large group projects	2
Independent study	1
Slides	1

Figure 3

When individual methodologies are matched with the percentage of time they were used in a reported topic area, total hours used can be computed. These hours are then compared to the total hours of instruction reported by instructor respondents for a ranking. Figure 4 shows this information.

<u>Methodology</u>	<u>Percent</u>	<u>Hours</u>
Lecture	36	69
Large group projects	15	30
Demonstration	14	28
Discussion	12	22
Video tapes	10	19
Case study	4	7
Slides	4	5
Role-playing	3	5
Independent study	2	1

Figure 4

Of the 24 trainee respondents, 16 completed the methodology survey. Three of the 16 respondents provided data that was not consistent with the requested data leaving 13 respondents for a response rate of 54.16%.

Trainee respondents reported an even greater range of methodologies used during the training. The methodologies in order of their frequency of usage are reported in figure 5.

<u>Methodology</u>	<u>Frequency</u>
Lecture	13
Small group projects	12
Video tapes	12
Slides	12
Discussion	11
Role-playing	10
Independent study	9
Large group projects	7
Demonstration	5
Case study	4
PowerPoint	2
Computer assisted	1

Figure 5

Figure 6 shows the mean percentage of total time used for each methodology, as reported by trainee respondents.

<u>Methodology</u>	<u>Percent Used</u>
Lecture	48
Discussion	14
Video tapes	10
Large group projects	8
Slides	5
Independent study	5
Demonstration	3
Role-playing	3
Case study	2

Figure 6

When looking back over their ten weeks of training, trainees recalled a higher percentage of time allocated to the lecture method than did the instructors (48% to 36%). A similar discrepancy occurred between the large group projects (8% to 15%) and in demonstrations with student practice (3% to 14%). The six remaining methodologies compare to within just a few percentage points of each other.

Question #2: What are the primary methods of instructional delivery that develop critical thinking skills?

B. F. Skinner, the great behaviorist, said “we learn by doing” (Skinner, 1968. p. 5). Skinner believed that to learn, students must play an active part. They must do more than listen. They must read, write, discuss, or be engaged in such higher-order thinking tasks such as analysis, synthesis, and evaluation (Bonwell, 1991). Training and education are more effective if the learning process is interactive, in opposition to a lecture format (CJA, 1998).

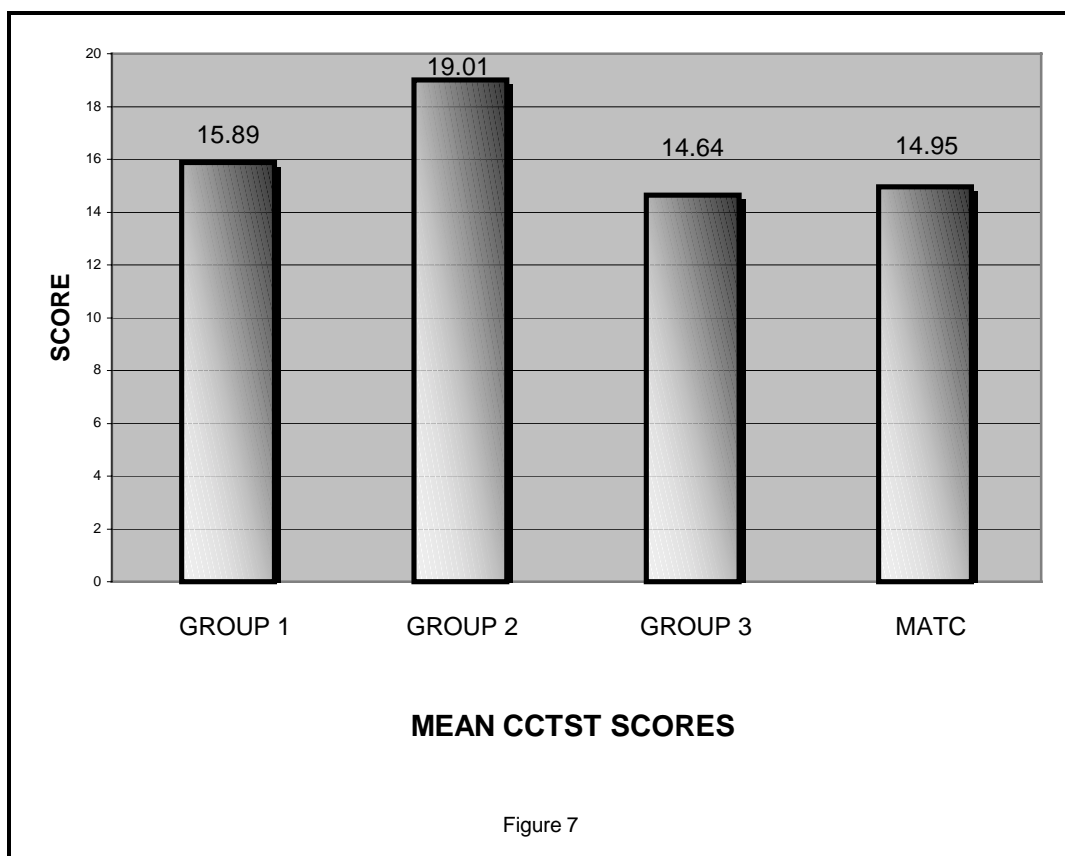
Social learning experiences allow a student to observe other students' methods of learning, both successful and not, and encourage him or her to emulate the successful and avoid the others. Experiences like group projects, collaborative learning situations, peer teaching, and problem based learning have been successful in doing this (Stage, 1998).

Groups are superior to individuals in the proportion of correct solutions to problems, in reducing the number of errors preceding solution, and in minimizing the time required to reach solution (Gage, 1976). Working in groups facilitates creative problem solving by reframing the context of the problem by exploiting the diversity of the group members (Mundell, 1999).

Question #3: What was the level of critical thinking skills of police recruits entering the MATC, 69th Recruit Academy?

The instrument chosen to test the level of critical thinking skills for this study was the California Critical Thinking Skills Test (CCTST). The CCTST is a 45-minute, 34 question-standardized test designed to assess the core critical thinking skills of post-secondary level persons.

The MATC Basic Recruit Academy, Class #69, received a mean score of 14.95 (correct answers) on the pre-test. Figure 6 shows how this score compares with national norms for the test (Facione, 1998). Group one, a group of 781 college juniors, had a mean age of 22 years. Group two consisted of 153 nursing students working towards their masters' degrees. Group three was 224 cadets enrolled in a law enforcement academy. No further information was available for group three.

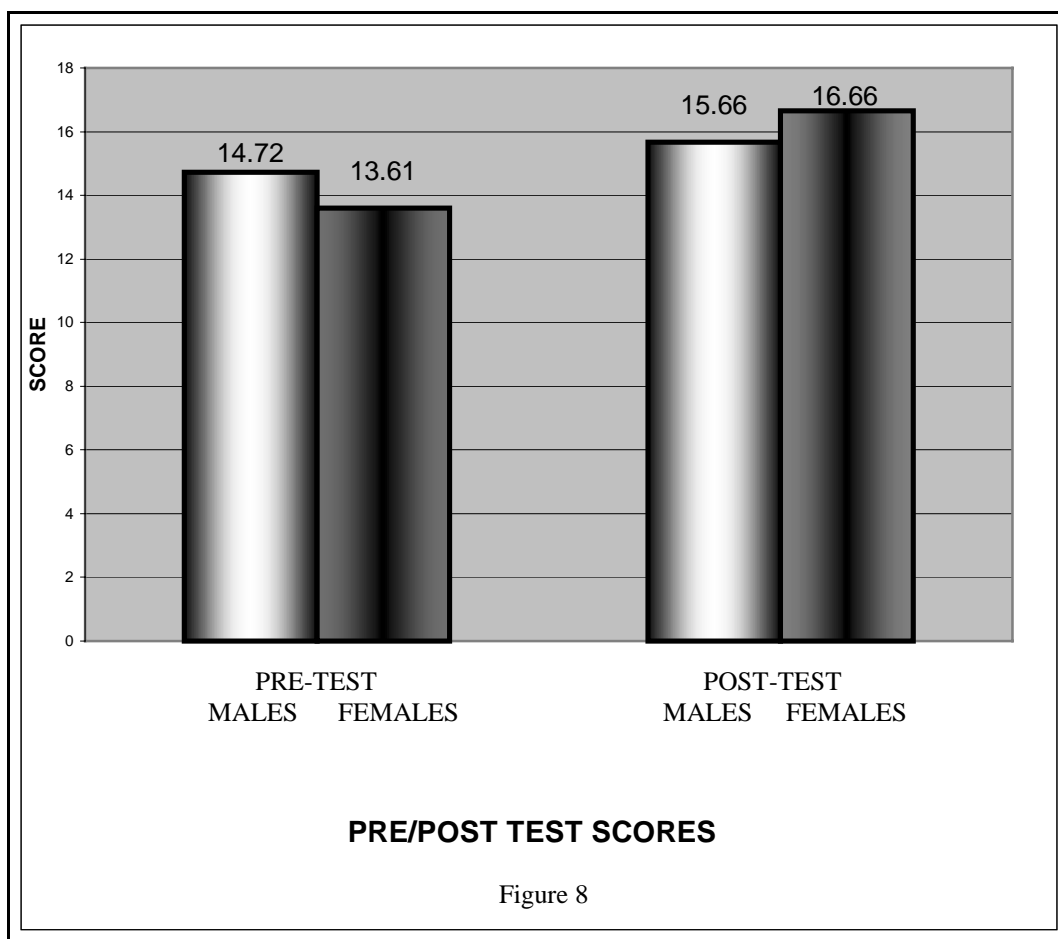


The MATC mean score of 14.95 is above group three's score of 14.64 and below groups' two and one scores of 19.01 and 15.89 respectively. The mean score for MATC males was 14.72 while the mean for females was 15.66. These scores are consistent with the norms provided when correlated with a mean of 5.16 years of education for MATC females and 3.77 for males.

Question #4: What was the level of critical thinking skills of police recruits successfully completing the MATC, 69th Recruit Academy?

A post-test was given to the subjects on their last day of training. Again the California Critical Thinking Skills Test (CCTST) was used. The mean score on the post-test was 14.25 compared to the pre-test score of 14.95.

Notable differences were observed between male and female pre and post-test scores. Males scored lower on the post-test with a 13.61 as compared to their pre-test score of 14.72. Females, on the other hand, scored higher on the post-test with a 16.66 as compared to their pre-test score of 15.66. This relationship is shown in Figure 7.



Question #5: Did the primary methods of instructional delivery used in the MATC, 69th Recruit Academy develop critical thinking skills in its graduates?

The lecture method of teaching was by far the most often used during the 69th Class of MATC's Basic Recruit Academy as reported by both teachers and trainees. Also ranking high in both groups responses was the use of video tapes. These two teaching

methodologies accounted for over 46% of the time instructors spent with the trainees (58% as reported by trainees).

These factors, along with the professional opinions expressed in Chapter Two, that critical thinking skills are best taught using interactive methodologies, combined with the pre and post-test data collected, indicate that the graduates of the 69th Class of MATC's Basic Recruit Academy did not improve their critical thinking skills during training.

CHAPTER V

SUMMARY, CONCLUSIONS, RECOMMENDATIONS

This chapter contains a summary consisting of a Restatement of the Problem, Methods and Procedures and Major Findings, Conclusions and Recommendations, and Recommendations for Future Study.

Restatement of the Problem

Research shows that teaching techniques like William Glasser's Quality School Method guides students to become problem solvers by enhancing their critical thinking skills. A review of the literature shows that the standard teaching method used in most law enforcement basic recruit academies is the mastery/obedience method in the form of the lecture and that this method does not promote effective learning. Literature also shows that society's demands upon the police have changed. Police departments and officers are now expected to be proactive and solve community problems before those problems become dangerous.

Therefore the research hypotheses of this study was that a majority of the instructional methodology used during the Madison Area Technical College Law Enforcement Basic Recruit Academy, Class #69, does not encourage critical thinking and problem solving skills in its graduates.

Methods and Procedures

The study contains two groups and one variable. The two groups are the 69th Recruit Academy of MATC separated by ten weeks of training, pre-training and post-

training. The instrument chosen to test the level of critical thinking skills was the California Critical Thinking Skills Test (CCTST).

The instrument, as a pre-test, was presented to the subjects during their first week of training. A short demographic questionnaire accompanied the instrument. A post-test was presented to the subjects during their last week of training. Accompanying the post-test was a short questionnaire asking the respondents to identify the methods of instruction used during the ten week training period and to estimate the percentage of time each of the methods were used. A survey was also mailed to the instructors who presented during the training session asking that they identify teaching methods used.

Major Findings

The lecture method of teaching was by far the most often used methodology during the 69th Class of MATC's Basic Recruit Academy as reported by both teachers and trainees. Responding instructors reported using the lecture method for 36.10 % of the time while trainees reported its use at 48.46%. Also ranking high in both groups' responses was the use of video tapes. These two teaching methodologies accounted for over 46% of the time instructors spent with the trainees.

To learn critical thinking skills, so they can be used to solve community problems as part of a police officer's community oriented policing duties, trainees are best taught using interactive methodologies. Pre and post-test data collected indicates that the graduates of the 69th Class of MATC's Basic Recruit Academy showed no improvement in critical thinking skills.

Conclusions and Recommendations

The following conclusions and recommendations are based on the findings of this study and are addressed to answer each of the five research questions.

Question #1: What were the primary methods of instructional delivery used in the MATC, 69th Recruit Academy?

Based on the data collected it is concluded that the primary methods of instructional delivery used in the MATC, 69th Basic Recruit Academy, in rank order, as reported by instructor respondents were: lecture, discussion, video tapes, demonstration, case study, role-play, large group projects, independent study, and slides. Trainee respondents reported the following methods of delivery used, in rank order were: lecture, video tapes, slides, small group projects, discussion, role-playing, independent study, large group projects, demonstration, case study, PowerPoint, and computer assisted instruction. A majority of the time instructors spent with trainees was spent using non-interactive methods such as lecture, video tapes and slides.

Based on these conclusions, it is recommend that the underlying structure of the MATC Basic Recruit Academy be modified so that it is learner-centered and not teacher-centered. The curriculum should be modified so that use of those methodologies that promote adult learning and critical thinking, such as small group projects and peer teaching, are used. Instructors of the Academy should be instructed in adult learning theory. Often instructors use the methods that were used when they were trained many years before, when the function and needed skills of officers were vastly different than today.

Question #2: What are the primary methods of instructional delivery that develop critical thinking skills?

Based on the data collected, it is concluded that the primary methods of instructional delivery that develop critical thinking skills are learner-centered models that include higher-order thinking tasks such as analysis, synthesis, and evaluation, interactive methods as compared to lecture, and group projects, collaborative learning situations, and peer teaching.

Based on this conclusion, it is recommended that the MATC Recruit Academy's instructors incorporate these methodologies into their lesson plans.

Question #3: What was the level of critical thinking skills of police recruits entering the MATC, 69th Recruit Academy?

Based on the data, it is concluded that the level of critical thinking skills of police recruits entering the MATC, 69th Basic Police Recruit Academy was a mean score of 14.95 (correct answers) on the instrument used. When compared to national norms, the MATC mean score of 14.94 falls between the scores of tested cadets enrolled in a law enforcement academy and college juniors and well below the norms of graduate nursing students.

Based on this conclusion, it is recommended that MATC accept, as a goal, the responsibility of increasing the level of critical thinking skills in its graduates. Police departments are equating their success on the ability of their officers to be problem solvers. It has come to the point where the public now demands this type of pro-action. To be problem solvers, officers must possess critical thinking ability. MATC should

administer the CCTST, as a pre and post-test, to the trainees in the Basic Recruit Academy, as a monitor of this goal.

Question #4: What was the level of critical thinking skills of police recruits completing the MATC, 69th Recruit Academy?

Based on the data, the level of critical thinking skills of police recruits completing the MATC, 69th Basic Recruit Academy was a mean score of 14.25, as compared to the pre-test score of 14.95. Although there may be extenuating circumstances allowing for the post-training scores to be lower for the group than were the pre-training scores, there is no doubt that the scores were not significantly higher after training.

Based on this conclusion, it is recommended that MATC accept, as a goal, the responsibility of increasing the level of critical thinking skills in its graduates so that its graduates can perform the duties expected of them in today's world. MATC should administer the CCTST, as a pre and post-test, to the trainees in the Basic Recruit Academy, as a monitor of this goal.

Question #5: Did the primary methods of instructional delivery used in the MATC, 69th Recruit Academy develop critical thinking skills in its graduates?

Based on the data, it is concluded that the primary methods of instructional delivery used in the MATC, 69th Basic Recruit Academy did not develop critical thinking skills in its graduates. When compared to national norms, the graduates of the 69th Class of the MATC Basic Recruit Academy maybe less prepared for their jobs than is expected of them.

Based on this conclusion, it is recommended that the MATC Basic Recruit Academy curriculum and the lesson plans of its instructors be modified, so that those methodologies that promote adult learning and critical thinking are favored.

Recommendations for Further Study

The following recommendations for further study are made based on the findings of this study:

1. Research should be conducted to identify whether the results of this study are generalizable to all Wisconsin basic recruit academies conducted in the mandated minimum 400 hours. Other Wisconsin Vocational Districts offering recruit training could conduct similar studies along with those agencies in the state that train their own personnel.
2. Research is needed to determine the correlation between the Training and Standard's Bureau's mandated curriculum and the failure of recruits to increase their critical thinking skills.
3. It is recommended that research be conducted to establish new, updated levels of police recruit training and, where possible, said curriculum include adult learning methodologies and critical thinking skills development.
4. Longitudinal studies are needed to establish a standard for critical thinking skills for police recruits. The results of these studies could then be utilized to help establish norms in the training academies.
5. Further research needs to be conducted to correlate the affect of student motivation upon post-test scores.

Summary

Police recruit training has not keep pace with the change exerted on police agencies and officers, to become pro-active members in the society in which they exist. Because of this failure to keep pace, officers are ill prepared for the duties and tasks expected of them when they leave recruit training.

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