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**AN EVALUATION OF THE PROFESSIONAL PREPARATION OF HIGH  
SCHOOL ATHLETIC TRAINERS IN THE STATE OF NORTH CAROLINA**

*Middle Tennessee State University*

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AN EVALUATION OF THE PROFESSIONAL PREPARATION  
OF HIGH SCHOOL ATHLETIC TRAINERS IN  
THE STATE OF NORTH CAROLINA

Kenneth E. Wright

A dissertation presented to the  
Graduate Faculty of Middle Tennessee State University  
in partial fulfillment of the requirements  
for the degree Doctor of Arts

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AN EVALUATION OF THE PROFESSIONAL PREPARATION  
OF HIGH SCHOOL ATHLETIC TRAINERS IN  
THE STATE OF NORTH CAROLINA

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## ABSTRACT

### AN EVALUATION OF THE PROFESSIONAL PREPARATION OF HIGH SCHOOL ATHLETIC TRAINERS IN THE STATE OF NORTH CAROLINA

Kenneth E. Wright

The purpose of this study was to evaluate the professional preparation of high school athletic trainers in the state of North Carolina. The three methods of professional preparation that these surveyed athletic trainers completed were either graduate of a National Athletic Trainers Association (NATA) curriculum program, graduate of a NATA internship program, or graduate of the North Carolina Department of Public Instruction Teacher/Athletic Trainer Instructional Program (TATIP).

Sixty-five high school athletic trainers completed and returned the questionnaire that consisted of 101 statements. Categories covered in the questionnaire included certification route, highest earned degree, academic background, current teaching responsibilities, past and present athletic training experiences, job longevity, and professional advancement. Also, permission to utilize their NATA certification examination scores for comparison was asked.

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Responses from the questionnaires were tabulated and, based on the findings, the following conclusions can be made from this study:

1. Certification route--fifty-seven trainers participated in the TATIP route, whereas four were either curriculum or internship graduates.
2. Highest earned degree--the majority of the athletic trainers earned a bachelor's degree.
3. Current teaching responsibilities--physical education, natural science, health and social studies were taught by forty-four of the sixty-five surveyed trainers.
4. Past and present experiences--limited practical experience was exhibited by all of the TATIP graduates; most trainers had three years or less experience as a head athletic trainer.
5. Job longevity--the TATIP trainers had close to seven years experience at their present schools, whereas the curriculum and internship trainers exhibited 2.75 and 1.5 years, respectively.
6. Professional advancement--most trainers belonged to the North Carolina Athletic Trainers Association and attended state clinics and workshops; very few graduates were active members of the National Athletic Trainers Association.



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7. NATA certification examination score--in  
comparison of state and national examination scores, the  
curriculum graduates did score higher.

## DEDICATION

This writer wishes to dedicate this work to his deceased mother, Mrs. Katie Lee Wright. My mother gave me the incentive to strive for success by working hard.

Through her continuous support, many impossible tasks were completed.

## ACKNOWLEDGEMENTS

The writer would like to express his appreciation to those individuals who assisted in the development of this dissertation. To Dr. Guy Penny, committee chairman, who provided endless support and direction toward completing this project. Also, special thanks to Dr. A. H. Solomon and Dr. Wallace Maples for their suggestions.

Thanks to Dr. Robert Barton, Mr. Charles Vosler, and Mr. Rob Lester for their professional advice.

To Mr. Delbert Wright, my father, who assisted me through life's many difficulties with sound advice and love.

To Mr. Paul Grace and Ms. Susan Williams, N.A.T.A. Certification Examination Committee, for their assistance in obtaining vital data for this research.

And, most important, to my loving wife, Vivian, whose patience and understanding greatly assisted her husband in obtaining this degree.

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CHAPTER ONE  
Introduction

Athletic Training, as defined by the National Athletic Association (NATA), is the immediate and temporary care and prevention of athletic injuries.<sup>1</sup> Athletic trainers are individuals who express a strong interest in this field along with interest in teaching. Currently, the most popular jobs for trainers are found at the secondary educational level.

The NATA established procedures for certifying athletic trainers and began to administer a certification examination in 1970. To qualify to take the examination, a candidate must complete an approved undergraduate or graduate curriculum, physical therapy program, or an internship under the direction of a NATA certified athletic trainer.

In 1975, the NATA established guidelines to permit classroom teachers to obtain class work and limited practical experience while fulfilling all requirements to become eligible to take the NATA certification examination.

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<sup>1</sup>National Athletic Trainers Association, Membership Information (Greenville, N.C., n.p., 1975).

This resulted from a study revealing the number of certified athletic trainers available to work at the high school level.

In early 1976, the Center for Sports Medicine of Northwestern University Medical School was granted NATA permission to conduct a nation's pilot Faculty Athletic Training Program (FATP).<sup>2</sup> Seeing that this program was feasible and an alternative route toward increasing the number of high school athletic trainers, the North Carolina Department of Public Instruction initiated the Teacher Athletic Trainer Instructional Program (TATIP) in June, 1978.

Because of the existing three methods that an athletic trainer can take for certification, the investigator believes that a study of these methods can lead to a better understanding of the curricula of high school athletic trainers. Also, the investigator will look at these aspects in this study: the specific teaching field that the athletic trainer is primarily assigned to; their employment prior to accepting this added responsibility; why the state of North Carolina ranks high in percentage of athletic trainers employed in high schools; effect North Carolina

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<sup>2</sup>P. Porter, et al., "The Faculty Athletic Training Program: A Model," The Physician and Sports Medicine, 10 (April 1982), 86.

House Bill No. 618 had upon their employment; increase or decrease of sports-related injuries that occurred at their school; and the current success and/or failures of the TATIP.

#### Statement of the Problem

This study will investigate the three methods of professional preparation for certification of high school athletic trainers in the state of North Carolina.

#### Significance of the Study

The North Carolina Department of Public Instruction by law requires that each high school participating in interscholastic athletics must have an athletic trainer with limited coaching responsibilities. In investigating the professional preparation of the present high school athletic trainers in North Carolina, the writer aspires to gain the necessary information related to the preparedness of the high school trainers in North Carolina and provide this information to the National Athletic Trainers Association and the North Carolina Department of Public Instruction, therefore giving direction to present and future athletic trainer certification requirements in North Carolina.

#### Delimitation of the Study

This study was limited to sixty-five high school athletic trainers who have received their academic and

practical experience by being a graduate of either an NATA approved athletic training curriculum, athletic training internship program, or North Carolina Teacher Athletic Trainer Instructional Program and are employed in the public and private schools in the state of North Carolina.

#### Definitions of Terms

Athletic trainer--an individual, who carries out the duties that are needed to aid athletes in preventing, treating and/or rehabilitating a specific injury.

NATA Certified Athletic Trainer--an individual who has met all certification requirements set forth by the National Athletic Trainers Association.

NATA--Founded in 1950, the National Athletic Trainers Association was established to set professional standards and act as a liaison between its members and allied professiona.

NATA certification guidelines--those guidelines established by the National Athletic Trainers Association for certification and approved curriculums.

NATA curriculum program--an approved educational curriculum, either undergraduate or graduate, which includes the specific courses and behavioral objectives set forth by the National Athletic Trainers Association.

NATA internship program--a four-year, noncurriculum program in which a student athletic trainer can become eligible for certification by completing 1,800 clinical hours under the direct supervision of a certified athletic trainer.

Teacher/athletic trainer--a person who has been employed as a teacher and athletic trainer in their particular school system in the state of North Carolina.

Teacher-athletic trainer instructional program--a program comprising three summers of athletic training instruction. This program is funded by the North Carolina Department of Public Instruction to advance the knowledge of individuals who display a strong interest in athletic training.

ATC--Certified Athletic Trainer.

NCATA--North Carolina Athletic Trainers Association.

FATP--Founded in 1979, the Faculty Athletic Trainer Program was established at the Center for Sports Medicine at Northwestern University Medical School for the primary purpose of offering advanced athletic training courses.

NATA certification examination--a national examination for athletic trainers who desire certification. The examination evaluates knowledge in prevention, recognition

and evaluation, management/treatment and disposition, rehabilitation, organization and administration, and education and counseling.

NATA certification examination score--a test in which the athletic trainer must receive passing grades on the 150 written questions and fifty practical situation questions to become a Certified Athletic Trainer.

#### Questions to Be Answered

1. What was the academic professional preparation of the North Carolina high school athletic trainers?
2. What academic areas did the surveyed trainers teach?
3. Is there a relationship between academic background and current job duties?
4. Does any studied group report higher scores on the NATA certification examination?
5. Of the six sections on the NATA certification examination, does any studied group display a significant weakness of knowledge in one or more sections?
6. How does practical athletic training experience among the three studied groups differ?

## CHAPTER TWO

### Review of Related Literature

A review of related literature in this study will be divided in the following six areas which are relevant to the professional preparation of high school athletic trainers in the state of North Carolina. Those areas are: history of athletic training and the NATA, need for certified athletic trainers, athletic training educational guidelines, governmental legislation concerning the certification and/or licensure of athletic trainers, NATA continuing education requirements, and NATA certification guidelines.

#### History of Athletic Training and the NATA

A history of athletic training can be traced back as far as 1600 B.C. O'Shea states that archaeological evidence suggestive of the presence of a trainer was found on the famed Hagia Triada vase which was located on the island home of the Great Sea Kings of the Mediterranean island of Crete.<sup>1</sup> These individuals aided their boxers with proper protective devices.

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<sup>1</sup>Michael O'Shea, A History of the National Athletic Trainers Association (Greenville, N.C.: NATA, 1979), p. 3.

Through the emergence of the Greek civilizations, organized athletic participation and games began to evolve. Establishment of the Panhellenic Games, originally religious festivals, the most famous of which were the Olympic Games, in time produced coaches and trainers to assist athletes in achieving a peak of physical perfection.<sup>2</sup> These Greek athletic trainers were called Paidotribes, Aleittes, and Gymnastes.

Claudius Galen (A.D. 130-200) was the first known trainer/physician who actively practiced medicine. Galen claimed that the practice of some athletic trainers and coaches was directly opposed to Hippocrates' health doctrines. He advised his patients to exercise in the gymnasia as a means of recovering from ills and weaknesses, as had Hippocrates.<sup>3</sup>

From A.D. 200 until the nineteenth century, not much published literature can be found. During these years, the injured athlete administered first aid treatment to himself.

A school which did have an athletic trainer (apparently the first recorded trainer in an educational institution) was Harvard University. This trainer was James Robinson,

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<sup>2</sup>Carl E. Klafs and Daniel D. Arnheim, Modern Principles of Athletic Training, 5th ed. (St. Louis: C. V. Mosby Co., 1981), p. 3.

<sup>3</sup>O'Shea, p. 4.



who was hired in 1881.<sup>4</sup> Dr. S. E. Bilik is considered by many to be the father of modern athletic training.<sup>5</sup> His dedication toward publishing the first edition of the Trainers Bible aided the athletic training profession greatly.

In 1912, Chuck Cramer invented a bottle of liniment to aid in the reduction of pain so that he could participate in an athletic event. By much success this liniment became quite popular among athletes. Chuck and Frank Cramer, with endorsements from Knute Rockne, marketed this athletic liniment and formed Cramer Products Company, an athletic training product company.<sup>6</sup>

The 1950 meeting was not the first attempt to organize athletic trainers. Charles Cramer, of the then Cramer Chemical Company of Gardner, Kansas, and Bill Frey, Certified Athletic Trainer at the University of Iowa in Iowa City, had formed an association that met at the 1938 Drake Relays in Des Moines, Iowa. But the war and regional bickering hurt the organization and that first NATA folded in 1944.<sup>7</sup>

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<sup>4</sup>Ibid., p. 5.

<sup>5</sup>Ibid., p. 14.

<sup>6</sup>"The Cramer Story," Cramer Athletic Equipment and Training Room Supplies (Gardner, Kansas: Cramer Chemical Company, 1982), p. 2.

<sup>7</sup>Gary Legwold, "Pinky Newell: The Man Who Dropped the Bucket and Sponge," The Physician and Sports Medicine, 11 (April 1983), 181.

The year 1950 has a special meaning for all athletic trainers, for it was in this year that the present National Association for Athletic Trainers was organized.<sup>8</sup> The meeting was held in Kansas City, Missouri, at the Hotel Muehlbach on June 24-25. During this meeting, the official name, National Athletic Trainers Association (NATA), was set forth. The proclaimed purpose of the association was to build and strengthen the profession of athletic training through the exchange of ideas, knowledge, and methods of athletic training.<sup>9</sup>

During the next twenty years, many professional goals of this association were met. Guidelines for academic courses were established in 1959 and during the 1969 National Convention in Columbus, Ohio. Specific criteria were established and adopted to implement the first certification examination. The date set for certification for the first time in the NATA was December 31, 1969.<sup>10</sup>

Currently, the exam is administered by the Professional Examination Service and entails 150 multiple-choice questions and an oral-practice session that tests the athletic trainer's practical skills.

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<sup>8</sup>O'Shea, p. 27.

<sup>9</sup>Ibid., p. 28.

<sup>10</sup>Ibid., p. 64.

Presently, there are over 8,700 members in the NATA and seventy-five colleges and universities that offer either an undergraduate or graduate NATA approved curriculum.

#### Need for Certified Athletic Trainers

In a 1979 membership survey of the NATA, Powell<sup>11</sup> states that only 26.7% of the responses returned were actively engaged as a high school athletic trainer. Of the 26.7%, 18.2% were certified. This study does show the low rate of employed certified athletic trainers that are assisting the junior/senior high school athletes with their sport-related injuries.

In this day of increased liability suits against school personnel, employing an athletic trainer becomes a real asset to a school district. An obvious need has spurred interest in legislation on the state and national levels requiring certified trainers for interscholastic athletics in secondary schools.<sup>12</sup>

Many states have enacted legislation that enforces any school to hire a full-time athletic trainer. North Carolina House Bill No. 618 states that any school that provides

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<sup>11</sup>John W. Powell, "National Athletic Trainers Association, 1979 Membership Survey," Athletic Training, 15 (Winter 1980), 224.

<sup>12</sup>Warren C. Bowlus, "First Priority: Certified Trainers," Journal of Physical Education and Recreation, 50 (June 1979), 72.

interscholastic athletic activities for students in the high school must hire an individual who will carry out the services that a sports medicine and emergency paramedical would provide, such as first aid and emergency life-saving skills.<sup>13</sup>

Blyth and Arnold listed numerous recommendations concerning their study of football facilities between 1931-1978.<sup>14</sup> Among the more notable recommendations were:

1. Mandatory physical examinations,
2. All personnel should participate in a pre-season proper, gradual and complete physical conditioning session,
3. Physician present at all games and sessions, and
4. Each institution should strive to have a team trainer who is a regular member of the faculty and is adequately prepared and qualified.

Steven Roy and Richard Irvin, authors of Sports Medicine: Prevention, Evaluation, Management and Rehabilitation, state that a recent Health, Education, and Welfare (HEW) study found that the coach or assistant coach provided on-field care in 80% of injuries and decided on

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<sup>13</sup>North Carolina, An Act to Provide Sports Medicine and Emergency Paramedical Services, and Emergency Life Saving Skills to Students in the Public Schools, Ch. 986, House Bill 618 (1979), pp. 1324-1325.

<sup>14</sup>Carl S. Blyth and David C. Arnold, "Forty-Seventh Annual Survey of Football Facilities 1931-1978," Athletic Training, 14 (Winter 1979), 235.

return to play in 60% of the cases because a NATA certified or associate member athletic trainer was not available.<sup>15</sup>

"Hundreds of young people are seen by physicians annually for the care of athletic related injuries which could have been prevented or minimized by adequate sports medicine services."<sup>16</sup> The teacher/athletic trainer can help in reducing the nonsevere cases by proper prevention techniques and educating the athlete on proper care.

#### Athletic Training Educational Guidelines

Since the 1959 NATA convention in Columbus, Ohio, many educational innovations have been adopted and revised by the Board of Directors. Since the initial meeting, the NATA now has formed the Professional Education Committee, of which Dr. Gary Delforge is the chairperson.

As of June, 1982, a total of sixty-two NATA-approved undergraduate programs were in existence in thirty-three states. Nine Master's Degree level programs have received NATA approval. For the most part, NATA approved athletic training education programs at the undergraduate level represent areas of academic concentration, options, or

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<sup>15</sup>Steven Roy and Richard Irvin, Sports Medicine: Prevention, Evaluation, Management and Rehabilitation (Englewood Cliffs, N.J.: Prentice-Hall, 1983), p. 5.

<sup>16</sup>Douglas K. Bowers, Jr., "Young Athletes Enduring Alarming Treatment Delays," The Physician and Sports Medicine, 4 (October 1976), 57.

minors within existing degree programs usually in health or physical education.<sup>17</sup>

Kegerreis states that the professional preparation of a certified athletic trainer involves numerous specific courses and many hours of supervised clinical experience.<sup>18</sup> To infer that a coach can get adequate training from a basic physical education undergraduate course and a possible graduate workshop is poor reasoning.

In a 1979 survey of the NATA members, Powell<sup>19</sup> stated that, of those responded, 54.7% had a Master's Degree, 35.4% had a Bachelor's Degree, 2.7% had a Doctorate Degree, and 7.1% had other related educational experiences prior to their employment. Also, this study did display that 49.9% of the NATA members had a degree in physical education.

Much concern has arisen lately concerning the guidance of future athletic trainers into obtaining a degree in health and/or physical education. Unpublished data from Prentice shows that administrators will hire an athletic

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<sup>17</sup>Gary Delforge, "The Athletic Training Major: A Report from the Professional Education Committee," Athletic Training, 17 (Winter 1982), 288.

<sup>18</sup>Sam Kegerreis, "Health Care for Student Athletes," Journal of Physical Education and Recreation, 50 (June 1979), 78.

<sup>19</sup>Powell, p. 225.

trainer but positions are limited within the health and physical education field in secondary schools.<sup>20</sup>

Spears states:

We've tried to remember, though that new laws which are requiring schools to have certified trainers on their staff will create financial burdens. We are a liberal arts college and we maintain this emphasis. Our trainers graduate with the credentials to become certified teachers, making them more attractive to budget-conscious school systems.<sup>21</sup>

Effective February 7, 1982, the Board of Directors of the NATA approved a change in the requirement that all undergraduate athletic training education programs approved by the NATA offer a major field of study in athletic training or its equivalent by July 1, 1986, to a requirement that schools be officially "in the process" of developing a major or its equivalent by this date.<sup>22</sup> Future studies will have to determine if a major in athletic training is too nonmarketable.

Governmental Legislation Concerning the  
Certification and/or Licensure of  
Athletic Trainers

The ratification of House Bill 618 is a mandate from the 1979 North Carolina General Assembly to employ an

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<sup>20</sup>William Prentice, unpublished data, Survey of Job Opportunities at the Secondary Level for Athletic Trainers, The Univ. of North Carolina at Chapel Hill, 1983. (Mimeographed--publication pending)

<sup>21</sup>Paul Spear, "A Demanding Curriculum for a Demanding Field," The First Aider (November 1981), 14.

<sup>22</sup>Delforge, p. 289.

athletic trainer in every high school in that state by 1984. This law is titled "An Act to Provide Sports Medicine and Emergency Paramedical Services, and Emergency Life Saving Skills to Students in the Public Schools." The statute appropriates funds to permit a phase-in of TAT over a five year period from 1979 to 1984, or until such time as each high school in the state has employed a TAT.

There can be drawn close similarity between the enactment on North Carolina House Bill No. 618 and the Athletic Safety Act of 1973, Bill H.R. 2575.

As stated by Barton, the House Bill 2575's main objective was

to provide the protection of the safety and health standards under the Occupational Safety and Health Act of 1970 for individuals participating in athletic contests between secondary schools or between institutions of higher education.<sup>23</sup>

Congressman Ronald V. Dellum of the eighth district of California introduced this bill to Congress.

#### NATA Continuing Education Requirements

Implementation of the NATA program of continuing education took place on January 1, 1979. A person who is once certified as an athletic trainer (ATC) remains certified as long as he or she meets the minimum requirements for

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<sup>23</sup>Bob Barton, "Competency-Based Objectives for Introductory Courses in Athletic Training," Diss. Middle Tennessee State Univ., 1975, p. 41.



continuing education and only as long as such requirements are met.<sup>24</sup>

The Continuing Education Unit (CEU) is defined as "Ten contact hours of participation in an organized continuing education experience under responsible sponsorship, capable direction, and qualified instruction."<sup>25</sup> (Ten contact hours = one CEU.) To maintain certification, the minimum number of units to be accumulated every three (3) years shall be six CEU's.

The three ways in which an athletic trainer can obtain CEU's are:

1. NATA annual national meeting--2 CEU's.
2. Scientific workshops offered at the NATA's annual national symposium--1 CEU.
3. NATA district meetings--1 CEU.
4. NATA approved short-term courses and scientific meeting--1 CEU.
5. Publication of original work--1.5 CEU.
6. Program participation at state, district, or national meeting--1 CEU.
7. Promotion of athletic training to other groups-- .5 CEU.

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<sup>24</sup>James B. Gallaspy, "Continuing Education Requirements and Appeal Process," Athletic Training, 17 (Winter 1982), 312.

<sup>25</sup>Ibid., p. 313.

8. Teaching of athletic training courses--.5 CEU.
9. Student trainer supervision--.5 CEU.
10. Post-graduate study--2 CEU's.
11. Correspondence courses--.3 CEU.

#### NATA Certification Guidelines

Both educators and the public have become increasingly aware that the conditioning and training of athletes involve much more than simply applying an ankle wrap or administering first aid. With this awareness has come a demand for trainers thoroughly educated and qualified in all phases of the field.<sup>26</sup>

In 1969, the NATA established the first certification examination. The purpose of this examination was to evaluate the professional competencies of an athletic trainer. In order to be successful, the certification of the athletic trainer had to be accepted on the same level as licensing or certification in any comparable profession.<sup>27</sup>

Maetozo states more competent coaching personnel will result in better injury management.<sup>28</sup> In the future every high school and college will have a certified trainer. By

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<sup>26</sup>Klafs and Arnheim, p. 23.

<sup>27</sup>O'Shea, p. 65.

<sup>28</sup>Matthew G. Maetozo, "Athletic Coaching: Its Future in a Changing Society," Journal of Physical Education and Recreation, 52 (March 1981), 42.

expecting coaches to act as trainers, schools are exposing themselves to liability for improperly handling an injury and failing to demonstrate total concern for the well-being of the athlete.

The certification requirements are:<sup>29</sup>

1. Completion of the educational requirements at either the undergraduate or graduate level.
2. Minimum of two years under direct supervision of a NATA certified trainer.
3. Proof of one year continuous associate or student membership in the NATA immediately prior to the application for certification.
4. Proof of certifications in standard first aid and CPR or equivalent.
5. Pass the NATA certificate examination.

For a student to have the proper educational course work, completion of the following courses is necessary:

1. Human Anatomy
2. Human Physiology
3. Physiology of Exercise
4. Applied Anatomy and/or Kinesiology
5. Psychology
6. First Aid (including CPR)
7. Nutrition

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<sup>29</sup>Klafs and Arnheim, p. 25.

8. Adapted Physical Education
9. Personal, Community, or School Health
10. Basic Athletic Training
11. Advanced Athletic Training.

These courses were established in 1980 by the Professional Education Committee of the NATA.<sup>30</sup>

One may acquire certification through any one of the several procedures, either by completing an approved athletic training curriculum in an approved college or university, through apprenticeship if attending a school that does not offer an approved curriculum, through special consideration if one is actively engaged in training but has not yet been certified, or if one is a physical therapy degree graduate and has met the general certification requirements.<sup>31</sup> In a 1979 membership survey of the NATA, Powell stated that, of those who responded, 27.9% graduated from an approved curriculum, 32.2% received their experience by the apprenticeship route, 6.3% were physical therapists, 6.9% were classified under the five year experience program, and the faculty instruction program had only 1.9% who were members.<sup>32</sup>

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<sup>30</sup>Professional Education Committee of the National Athletic Trainers Association, Guidelines for Development and Implementation of NATA Approved Undergraduate Athletic Training Programs (Greenville, N.C.: NATA, 1980), pp. 18-19.

<sup>31</sup>Klafs and Arnheim, p. 25.

<sup>32</sup>Powell, p. 225.

## CHAPTER THREE

### Methods and Procedures

A questionnaire to obtain pertinent information related to the professional preparation of high school athletic trainers in North Carolina was mailed to 115 high school athletic trainers who were recorded in the Division of Health, Physical Education, Safety, and Sports Office. The questionnaire acquired data related to degrees, major area of study, teaching responsibilities, college academic courses, practical experience, membership in professional organizations, attendance at clinics, current athletic training duties, and teaching experience.

In addition, it determined if the athletic trainer achieved NATA certification through an athletic training curriculum, athletic training internship program, or the North Carolina Teacher Athletic Trainer Instructional Program. Permission to utilize each athletic trainer's NATA certification examination score was requested to permit an evaluation of the three methods of certification. Ms. Susan Williams, Certification Coordinator of the NATA, sent data which displayed national mean scores of those individuals who took this examination during the years 1981, 1982, and 1983.

### Survey Sample

Sixty-five high school athletic trainers in the state of North Carolina returned the questionnaires. After obtaining a complete list of high school athletic trainers from Mr. Rob Lester, Chief Consultant for the Sports Medicine area for the Division of Health, Physical Education, Safety, and Sports for the state of North Carolina, the investigator mailed the questionnaires to 115 high school athletic trainers. Of the sixty-five returning the questionnaires, four had completed the curriculum method, four on the internship method, and fifty-seven completed the North Carolina TATIP.

### Survey Instrument

The investigator developed the questionnaire (Appendix A) by reviewing NATA certification examination requirements, athletic training curricula behavioral objectives, and personal interviews with several university athletic trainers. After drafting the questionnaire, high school athletic trainers who are employed in the Charlotte-Mecklenburg County school system were asked to review each question for clarity and importance to the topic.

After the questionnaire was edited, it was then presented to the following panel of experts for review: Dr. Robert Barton, NATA President and Athletic Training Curriculum Director, Department of Health, Physical Education,

Recreation, Safety and Dance, Eastern Kentucky University, Richmond, Kentucky; Mr. Charles Vosler, Athletic Training Curriculum Director, Department of Health, Physical Education and Recreation, Ohio University, Athens, Ohio; and Mr. Rob Lester, Chief Consultant for the Sports Medicine area for the Division of Health, Physical Education, Safety and Sports for the State of North Carolina, Raleigh, North Carolina. Suggestions made by these professionals were incorporated into the final questionnaire.

#### Collection of Data

The questionnaire was mailed to the 115 high school athletic trainers in the state of North Carolina on Friday, August 19, 1983. Along with the questionnaire, the athletic trainer received a letter (Appendix B) from this investigator examining in detail the purpose of the study. In addition, a letter from Mr. Lester (Appendix C) was enclosed stating the importance of their participation in the study. A self-addressed, stamped envelope was enclosed for their prompt return.

Each athletic trainer was asked to complete both the information questionnaire and NATA certification examination release form and return to the investigator. A follow-up letter (Appendix D) and another copy of the questionnaire were mailed on Tuesday, September 6, 1983, to those who had not responded. The deadline for returning the questionnaire

was September 20, 1983. As the questionnaires were returned, the data were coded by the writer on a fortran coding form for computer analysis.

#### Treatment of the Data

The responses to the 101 statements on the questionnaire from the sixty-five trainers were tabulated and key punched on computer cards. The University of North Carolina at the Charlotte Computer Center computed percentages for each group of trainers for each of the 101 statements. The investigator developed tables for presenting total responses and percentages for each group of trainers on each statement.



## CHAPTER FOUR

### Analysis of the Data

#### Comparison of Questionnaire Items

A questionnaire was mailed to 115 high school athletic trainers in the state of North Carolina. Sixty-five trainers returned the questionnaires. Only fifteen gave permission to obtain their NATA certification examination scores. Of the sixty-five high school trainers surveyed, four graduated from a NATA athletic training curriculum school, four completed 1,800 hours of supervised clinical experience under the supervision of a certified athletic trainer to meet requirements as an internship graduate, and fifty-seven completed the three-summer teacher/athletic trainer instructional program that was funded by the North Carolina Department of Public Instruction.

#### Highest Earned Degree

Of the sixty-five high school athletic trainers in the state of North Carolina responding to the questionnaire, the following characteristics were found in relation to the three methods of professional preparation. As revealed in Table 1, one curriculum trainer had earned a Master's Degree while the remaining three curriculum-prepared trainers had

obtained a Bachelor's Degree. Of the four internship-prepared trainers, two had earned a Bachelor's Degree and two a Master's Degree. The TATIP-prepared trainers displayed quite different degree levels in that thirty-one (54.4%) had a Bachelor's Degree, twenty-three had a Master's Degree for 40.4%, and three TATIP graduates indicated that they had a Specialist Degree.

Table 1  
Highest Earned Degree for the Sixty-five  
High School Athletic Trainers in  
the State of North Carolina

	Curriculum		Internship		TATIP	
	No.	%	No.	%	No.	%
Bachelor	3	75	2	50	31	54.4
Master	1	25	2	50	23	40.4
Specialist	0	0	0	0	3	5.3
Doctorate	0	0	0	0	0	0

Area of Study--Undergraduate

All four curriculum-prepared trainers majored in physical education and none pursued a minor. Of the internship-prepared trainers, three majored in physical education, whereas the other one obtained a degree in health. Looking at the internship trainers, their minor area of study was health, physical education, and natural science.

Of the TATIP-prepared trainers, twenty-two (38.6%) had physical education majors and eight (14%) had studied natural science. In addition, five had majored in social science, five in industrial education, and three had majored in business. Two trainers had majored in each of the following areas: English, foreign language, political science, math, and journalism. Only one trainer had majored in each of the following areas: health, elementary education, nursing, or library science.

In looking at the TATIP-prepared trainers' minor area of study, twenty-seven (47.4%) did not have an undergraduate minor. Natural science accounted for seven trainers (12.3%) and six trainers (10.6%) who had a minor in social science. Five minored in health for 8.8%. Additional minor areas of studies are displayed in Table 2.

#### Area of Study--Graduate

Only two curriculum and two internship-prepared teachers had completed a Master's Degree. All four received their Master's in physical education with one internship trainer obtaining a minor in health.

Twelve TATIP-prepared trainers (21.1%) had majored in physical education on the graduate level, while five (8.8%) studied natural science, three industrial education, and one trainer in each of the following areas: health, English, foreign language, elementary education, business, and political science. Twenty-nine had not completed a Master's

Table 2  
Area of Study--Undergraduate

		Curriculum		Internship		TATIP		
		No.	%	No.	%	No.	%	
Major								
Phys. Educ.	4	100	Phys. Educ.	3	75	Phys. Educ.	22	38.6
			Health	1	25	Health	1	1.8
						Natural Science	8	14.0
						Social Science	5	8.8
						English	2	3.5
						Foreign Language	2	3.5
						Political Science	2	3.5
						Industrial Educ.	5	8.8
						Math	2	3.5
						Elementary Educ.	1	1.8
						Business	3	5.3
						Nursing	1	1.8
						Journalism	2	3.5
						Library Science	1	1.8
Minor								
No Minor	4	100	Health	1	25	Phys. Educ.	2	3.5
			Phys. Educ.	1	25	Health	5	8.8
			Natural Sci.	1	25	Natural Science	7	12.3
			No Minor	1	25	Social Science	6	10.6
						English	2	3.5
						Foreign Language	1	1.8
						Political Science	2	3.5
						Economics	1	1.8
						Psychology	2	3.5
						Music	1	1.8
						Religion	1	1.8
						No Minor	27	47.4

Degree. Of the six TATIP graduates who obtained a minor, the following areas were indicated: natural science--2, health--1, social science--1, political science--1, and psychology--1 (see Table 3).

#### Current Teaching Responsibilities

All four curriculum-prepared trainers taught at the senior high school level. Two of the trainers taught physical education, one taught health classes, and the other taught math.

Of the internship-prepared trainers, two taught physical education while the other two taught health. Of the two trainers in each subject area, one taught on the high school level and one on the junior high level.

The TATIP-prepared trainers displayed a more varied range of teaching responsibilities in that twelve (21.1%) had instructional responsibilities in natural science while eleven (19.3%) taught physical education. The next most checked teaching areas were health (6) and social studies (6) for a percentage of 10.5. Industrial education, math, and elementary education displayed five trainers (8.8%) of this selected group. Only one individual indicated responsibilities as a guidance counselor. Two TATIP trainers taught in each of these subject areas: English, foreign language, or military science (see Table 4).

Table 3  
Area of Study--Graduate

	Curriculum		Internship		TATIP			
	No.	%	No.	%	No.	%		
Major								
No Master's	2	50	No Master's	2	50	No Master's	29	50.9
Phys. Educ.	2	50	Phys. Educ.	2	50	Phys. Educ.	12	21.1
						Health	1	1.8
						Natural Science	5	8.8
						Social Science	2	3.5
						Industrial Educ.	3	5.3
						English	1	1.8
						Foreign Language	1	1.8
						Elementary Educ.	1	1.8
						Business	1	1.8
						Political Science	1	1.8
Minor								
No Minor	4	100	No Minor	3	75	No Minor	51	89.5
			Health	1	25	Health	1	1.8
						Natural Science	2	3.5
						Social Science	1	1.8
						Political Science	1	1.8
						Psychology	1	1.8

Table 4  
 Current Teaching Responsibilities

	Curriculum		Internship				TATIP	
	Senior No.	High %	Junior No.	High %	Senior No.	High %	Senior No.	High %
Physical Education	2	50	1	25	1	25	11	19.3
Health	1	25	1	25	1	25	6	10.5
Natural Science							12	21.1
Social Studies							6	10.5
Industrial Educ.							5	8.8
English							2	3.5
Foreign Language							2	3.5
Military Science							2	3.5
Guid. Counseling							1	1.8
Math	1	25					5	8.8
Elementary Educ.							5	8.8

### College Academic Courses Completed

In looking at academic courses completed by these sixty-five athletic trainers, all four curriculum- and internship-prepared trainers completed an undergraduate course in human anatomy, but none were completed at the graduate level. Thirty-two (56.1%) completed human anatomy at the undergraduate level while only eight (14%) took a graduate course in this important area (see Table 5).

Human physiology was completed by all four curriculum-prepared trainers. Three internship- and twenty-nine TATIP-prepared trainers at the undergraduate level had completed a course in human physiology. Eight TATIP and one internship-prepared trainer had completed a course in human physiology at the graduate level.

Three curriculum-prepared trainers had completed a human physiology of exercise course during their undergraduate course work, while one of these trainers finished this course at the Master's level. Of the four internship-prepared trainers, three took this course while they were undergraduate students, and two completed it on the Master's level. In regard to TATIP-prepared trainers, nineteen (33%) had taken a course in human physiology of exercise, while eight had such a course at the graduate level.

Four curriculum, four internship, and twenty-five TATIP trainers had completed a course in applied human anatomy and kinesiology at the undergraduate level. At the graduate



Table 5  
College Academic Courses Completed

	Curriculum				Internship				TATIP			
	Undergrad.		Grad.		Undergrad.		Grad.		Undergrad.		Grad.	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
Human Anatomy	4	100	0	0	4	100	0	0	32	56.1	8	14
Human Physio.	4	100	0	0	3	75	1	25	29	50.9	8	14
Human Physio. of Exercise	3	75	1	25	3	75	2	50	19	33.3	8	14
Appl. Hum. Ant. and Kinesio.	4	100	1	25	4	100	1	25	25	43.9	6	10.5
Psychology	4	100	1	25	4	100	2	50	45	78.9	6	10.5
First Aid & Saf.	4	100	0	0	4	100	0	0	36	63.2	1	1.8
Nutrition	3	75	1	25	2	50	0	0	14	24.6	2	3.5
Adaptive Phys. Educ.	4	100	1	25	3	75	1	25	20	35.1	3	5.3
Personal, School & Comm. Health	4	100	0	0	4	100	0	0	24	42.1	3	5.3
Intro. to Athl. Training	4	100	0	0	4	100	1	25	24	42.1	5	8.8
Adv. Athl. Trg.	3	75	1	25	2	50	1	25	14	24.6	6	10.5
Therapeutic Modalities	2	50	0	0	1	25	0	0	5	8.8	4	7
Athletic Trg. Practicum	3	75	0	0	1	25	0	0	5	8.8	4	7

level, one curriculum-, one internship-, and six TATIP-prepared trainers had completed this course at the graduate level.

The most popular course taken at the undergraduate level for all three groups was psychology. All four curriculum- and internship-prepared trainers as well as forty-five TATIP trainers had taken psychology at the undergraduate level. Psychology was taken at the graduate level by only one curriculum-, two internship-, and six TATIP-prepared trainers.

The next highest rated undergraduate course among these sixty-five athletic trainers was first aid and safety. All four curriculum- and internship-prepared trainers completed this course, while thirty-six (63.2%) of the TATIP trainers took first aid and safety. At the graduate level, one TATIP trainer completed a first aid and safety course (see Table 5).

A nutrition course was completed at the undergraduate level by three curriculum, two internship, and fourteen TATIP trainers. Because of the limited number of nutrition courses available to the athletic trainers at the graduate level, only one curriculum and two TATIP trainers completed a graduate course in nutrition.

The four curriculum-prepared trainers had completed an undergraduate course in adaptive physical education. Three internship and twenty TATIP trainers had had adaptive

physical education at the undergraduate level. Only one curriculum, one internship, and three TATIP trainers had completed an adaptive course at the Master's level.

Personal, school, and community health was taken by all curriculum and internship trainers during their undergraduate studies, but not at the graduate level. Twenty-four (42.1%) TATIP trainers completed this health course as an undergraduate and three took it at the graduate level.

In studying the four recommended NATA professional courses in athletic training (Table 5), introduction to athletic training was the most commonly completed course. All four curriculum and internship trainers plus twenty-four out of fifty-seven TATIP graduates completed this course at the undergraduate level. Only one internship and five TATIP trainers took this course at the Master's level.

Advanced athletic training was taken by three curriculum-, two internship-, and fourteen TATIP-prepared trainers at the undergraduate level. At the graduate level, only one curriculum and one internship trainer took this course, while six TATIP-prepared trainers completed advanced athletic training.

The least taken academic course that all of the responding athletic trainers took was therapeutic modalities. Only two curriculum, one internship, and five of the TATIP graduates completed this course at the undergraduate level.

Only four of the TATIP trainers had taken this highly recommended professional course at the graduate level.

The athletic training practicum was taken by four of the TATIP trainers at the graduate level. At the undergraduate level, three curriculum, one internship, and five TATIP graduates took and completed this practical application course.

#### Student Athletic Trainer Experience

Fifty-three (93%) of the TATIP-prepared trainers had no student trainer experience. Only one internship-prepared trainer had no experience as a student trainer at the high school level. There was no student athletic trainer experience at the high school level among the four curriculum-prepared trainers. The other three internship trainers revealed two, three, and four years of high school student trainer experience, respectively. The four TATIP trainers with student athletic trainer experience reported one, two, and four years of experience (see Table 6). Concerning student athletic trainer experience at the college level, the following numbers indicated such experience: three curriculum-, two internship-, and two TATIP-prepared trainers.

Table 6  
Student Athletic Trainer Experience

	Curriculum		Internship		TATIP	
	No.	%	No.	%	No.	%
<u>High School</u>						
No Experience	4	100	1	25	53	93.0
1 year	0	0	0	0	1	1.8
2 years	0	0	1	25	2	3.5
3 years	0	0	1	25	0	0
4 years	0	0	1	25	1	1.8
<u>College</u>						
No Experience	1	25	2	50	55	96.5
1 year	0	0	0	0	0	0
2 years	1	25	0	0	1	1.8
3 years	1	25	0	0	0	0
4 years	1	25	2	50	1	1.8

### Assistant Athletic Trainer Experience

The responses indicated only five of the sixty-five athletic trainers had had assistant athletic trainer experience at the high school level. One internship- and four TATIP-prepared trainers reported such experience (see Table 7).

All fifty-seven TATIP trainers reported no previous experience as a graduate assistant athletic trainer at a college. Two curriculum and two internship trainers had had one year experience as a graduate assistant (see Table 7).

Only one internship and one TATIP trainer had held the position of Assistant Athletic Trainer at the inter-collegiate level. Four curriculum, three internship, and fifty-six TATIP trainers reported no experience at this level. Also, none of the sixty-five athletic trainers who were surveyed had had any experience as Assistant Athletic Trainer at the professional level.

### Head Athletic Trainer Experience

In surveying these sixty-five athletic trainers concerning the experience as Head Athletic Trainers at the high school level, two curriculum trainers had had two years experience. The remaining two curriculum trainers had had one and three years experience, respectively. The three internship trainers listed one, three, or five years of experience as the Head Athletic Trainer (see Table 8).

Table 7  
Assistant Athletic Trainer Experience

	Curriculum		Internship		TATIP	
	No.	%	No.	%	No.	%
<u>High School</u>						
No Experience	4	100	3	75	53	93.0
1 year	0	0	1	25	1	1.8
2 years	0	0	0	0	2	3.5
3 years	0	0	0	0	1	1.8
<u>Graduate Assistant College</u>						
No Experience	2	50	2	50	57	100.0
1 year	2	50	2	50	0	0
<u>College</u>						
No Experience	4	100	3	75	56	98.2
1 year	0	0	1	25	1	1.8
<u>Professional</u>						
No Experience	4	100	4	100	57	100.0

Table 8  
Head Athletic Trainer Experience

	Curriculum		Internship		TATIP	
	No.	%	No.	%	No.	%
<u>High School</u>						
No Experience	0	0	1	25	22	38.6
1 year	1	25	1	25	5	8.8
2 years	2	50	0	0	7	12.3
3 years	1	25	1	25	4	7.0
4 years	0	0	0	0	3	5.3
5 years	0	0	1	25	2	3.5
6 years	0	0	0	0	3	5.3
7 years	0	0	0	0	2	3.5
8 years	0	0	0	0	1	1.8
9 years	0	0	0	0	2	3.5
10 years	0	0	0	0	2	3.5
11 years	0	0	0	0	1	1.8
12 years	0	0	0	0	2	3.5
15 years	0	0	0	0	1	1.8
<u>College</u>						
No Experience	3	75	4	100	56	98.2
1 year	1	25	0	0	0	0
2 years	0	0	0	0	1	1.8
<u>Professional</u>						
No Experience	4	100	3	75	57	100.0
1 year	0	0	1	25	0	0



Twenty-two (38.6%) of the TATIP trainers had not had high school trainer's experience. Seven TATIP trainers listed two years experience, while five TATIP trainers listed one year.

Only two of the sixty-five athletic trainers who were surveyed stated that they had previous experience as a college head athletic trainer. One curriculum trainer reported one year of experience, and one TATIP trainer listed two years. One internship trainer had experience as a head athletic trainer for a professional team.

#### Sports Medicine Clinic Experience

Of the sixty-five trainers surveyed, two curriculum trainers had one year experience and one internship trainer had two years experience at a sports medicine clinic. Of the TATIP graduates, four (7%) had one year experience, six (10.5%) had two years experience, three (5.3%) had three years experience, and four (7%) had four years experience. Of the remaining, one teacher/athletic trainer had experienced seven years working in a sports medicine clinic and the other trainer reported twelve. Trainers reporting no experience were two curriculum, three internship, and thirty-eight TATIP (see Table 9).

#### Experience Prior to TATIP Program

An interesting statistic was found in that only thirteen (22.8%) of the fifty-seven TATIP trainers had prior

Table 9  
Sports Medicine Clinic Experience

	Curriculum		Internship		TATIP	
	No.	%	No.	%	No.	%
No Experience	2	50	3	75	38	66.7
1 year	2	50	0	0	4	7.0
2 years	0	0	1	25	6	10.5
3 years	0	0	0	0	3	5.3
4 years	0	0	0	0	4	7.0
7 years	0	0	0	0	1	1.8
12 years	0	0	0	0	1	1.8

athletic training experience before enrolling in the Teacher Athletic Trainer Instructional Program. All four graduates of the curriculum and internship program responded no to this question (see Table 10).

Table 10  
Experience Prior to TATIP Program

	Curriculum		Internship		TATIP	
	No.	%	No.	%	No.	%
No	4	100	4	100	44	77.2
Yes	0	0	0	0	13	22.8

Total Number of Years as Full-time Employed  
as a High School Athletic Trainer

In surveying the four curriculum trainers concerning tenure as athletic trainers at their current high schools, two responded that they had been on their present job two years, while the remaining two had been at their schools one and three years, respectively. The four internship trainers had been at their present positions one, two, three, and five years (see Table 11).

The TATIP trainers had a more diversified breakdown in the number of years employed at their present high schools. Twenty-two had been employed at their high schools one or two years. Five TATIP trainers recorded ten years

Table 11  
 Total Number of Years as Full-time Employed  
 as High School Athletic Trainer

	Curriculum		Internship		TATIP	
	No.	%	No.	%	No.	%
No Experience	0	0	0	0	4	7.0
1 year	1	25	1	25	11	19.3
2 years	2	50	1	25	11	19.3
3 years	1	25	1	25	4	7.0
4 years	0	0	0	0	4	7.0
5 years	0	0	1	25	4	7.0
6 years	0	0	0	0	3	5.3
7 years	0	0	0	0	4	7.0
8 years	0	0	0	0	1	1.8
9 years	0	0	0	0	2	3.5
10 years	0	0	0	0	5	8.8
11 years	0	0	0	0	1	1.8
12 years	0	0	0	0	2	3.5
15 years	0	0	0	0	1	1.8

experience, with four reporting three, four, five, and seven years of experience, respectively. Additional listing can be found in Table 11.

#### Professional Organization--Member

The sixty-five athletic trainers were asked to respond to questions concerning membership in professional organizations. The National Athletic Trainers Association is the predominant certifying organization for athletic trainers. Of the sixty-five trainers surveyed, four internship, three curriculum, and nineteen of the TATIP trainers indicated that they were active members in this association (see Table 12).

The American Athletic Trainers Association is a small group of professionals whose aim is to promote safety in sports. No athletic trainer surveyed in this study acknowledged active membership in this association.

The most active organization that these athletic trainers were involved in was the North Carolina Athletic Trainers Association (NCATA). Two curriculum-, four internship-, and forty-nine TATIP-prepared trainers were active members in this association.

Another organization of importance to athletic trainers would be the American College of Sports Medicine. Only one internship graduate reported being an active member. Six of the sixty-five indicated they were members

Table 12  
Professional Organization--Member

	Curriculum		Internship		TATIP	
	No.	%	No.	%	No.	%
National Athletic Trainers Association	3	75	4	100	19	33.3
American Athletic Trainers Association	0	0	0	0	0	0
North Carolina Athletic Trainers Association	2	50	4	100	49	86.1
American College of Sports Medicine	0	0	1	25	0	0
AAHPERD	0	0	1	25	5	8.8
National Strength & Conditioning Association	0	0	1	25	1	1.8

of American Alliance for Health, Physical Education, Recreation, and Dance (AAHPERD).

The National Strength and Conditioning Association is a newly organized association whose main purpose is to improve and upgrade knowledge in strength and conditioning techniques. Even though involvement through membership would be vital to all athletic trainers, only one internship and one TATIP trainer stated they were active members.

#### Current Athletic Training Duties

In surveying the sixty-five athletic trainers, the general consensus among the trainers was that the majority of their current job responsibilities was related to management/treatment and disposition. The second major duty requiring a great deal of time was in the area of prevention. Recognition and evaluation were listed as the third major area related to time spent as a high school athletic trainer. Applied techniques in rehabilitation was listed as fourth in their time distribution. Minimal time was spent by the athletic trainers in the area of organization and administration or education and counseling (see Table 13).

#### Attendance at Athletic Training Workshops/Clinics

All sixty-five athletic trainers who were surveyed were asked to indicate if they had attended specific athletic training workshop/clinics from July 1980 until August 1983.

Table 13  
Current Athletic Training Duties

	Curriculum %	Internship %	TATIP %	Total Percentage (65 Total)
Prevention	24.5	26.2	20.4	21.0
Recognition and Evaluation	21.6	17.5	18.8	18.9
Management/Treatment and Disposition	22.0	18.7	23.9	23.4
Rehabilitation	14.4	20.0	13.9	14.3
Organization and Administration	8.4	8.9	11.0	10.7
Education and Counseling	9.1	8.7	12.0	11.6



In response to their participation in the North Carolina Teacher/Athletic Trainer Instructional Program, all fifty-seven TATIP trainers did participate in the three summer instructional programs. Of the other two groups, only one curriculum-prepared trainer attended these sessions (see Table 14).

According to the responses, the North Carolina Coaches Clinic was the most popular workshop/clinic, attracting three of the curriculum trainers, all four internship trainers, and fifty-four (94.7%) of the TATIP trainers to their annual meeting.

The NATA district meeting was attended by two curriculum, two internship, and five TATIP trainers. Only four trainers of the sixty-five responding to the questionnaire attended the NATA National Convention.

Another workshop/clinic that is popular with these athletic trainers is the East Carolina Sports Medicine Clinic. Held annually during the spring, this clinic attracted sixteen TATIP and two internship trainers (see Table 14).

Academic Background: Best Vs.  
Least Prepared

The six areas included on the NATA examination were used by the investigator to assess each trainer's opinion of his or her professional background. The six areas were: prevention; recognition and evaluation; management/treatment

Table 14  
 Attended--Athletic Training Workshops/Clinics

	Curriculum		Internship		TATIP	
	No.	%	No.	%	No.	%
Teacher Athletic Trainer Instructional Program	1	25	0	0	57	100.0
North Carolina Coaches Clinic	3	75	4	100	54	94.7
NATA District Meeting	2	50	2	50	5	8.8
NATA National Convention	1	25	1	25	2	3.5
East Carolina Sports Medicine Clinic	0	0	2	50	16	28.1

and disposition; rehabilitation; organization and administration; and education and counseling.

In relationship to their professional training, the sixty-five trainers were asked to rank order from best prepared (1) to least prepared (6) in the aforementioned subject areas. Prevention was rated as their best prepared academic area with management/treatment and disposition as the second best.

Recognition and evaluation were listed third and organization and administration were fourth. Surprisingly, education and counseling were recorded as the least prepared academic subject area among these teacher/athletic trainers (see Table 15).

#### Number of Years Teaching at Current School

All trainers were asked to list the total number of years they had been employed at their present job. The average for the TATIP trainers was 6.7 years, whereas the average for the curriculum trainers was 2.75 years and the internship trainers was 1.5 years.

#### Employed as Teacher Prior to Assuming Athletic Training Duties

A crucial statistic that was discovered in this research was that fifty-one (89.5%) of the TATIP trainers were employed by their school system prior to their assuming

Table 15  
Academic Background--Best Vs. Least Prepared

	Curriculum	Internship	TATIP	Total Points
Prevention	2.5	2.5	2.56	2.55
Recognition & Evaluation	2.5	3.0	2.8	2.79
Management/Treatment & Disposition	3.0	2.2	2.63	2.62
Rehabilitation	4.25	2.75	4.6	4.46
Organization & Administration	4.25	5.5	3.8	3.9
Education & Counseling	4.5	5.5	4.4	4.47

athletic training duties. One curriculum and three internship trainers also were employed prior to this added responsibility.

Obtained Current Teaching Position Because  
of Previous Experience in  
Athletic Training

All four curriculum and four internship trainers had had previous experience in athletic training prior to obtaining current teaching positions. Only twenty (35.1%) of the TATIP trainers responded positively to this question.

Employed at School Because Teacher was  
Willing to Assume Athletic  
Training Duties

Three curriculum (75%), two internship (50%), and ten (17.5%) of the TATIP trainers were employed at their schools because they were willing to assume the duties of athletic training plus the normal teaching duties.

Comparison of NATA Certification  
Examination Scores

In studying mean scores of the NATA certification examination on a national basis over three years, curriculum graduates displayed an average score of 132.83 in 1983, 139.38 in 1982, and 137 in 1981. On a 200-point exam, internship graduates scored an average score of 126.1 in 1983, 131.60 in 1982, and 131 in 1981. The TATIP graduates were classified in the special consideration section of the

NATA. Their average national score for this selected group was 124.5 in 1983, 132.53 in 1982, and 138 in 1981 (see Table 16).

Of the sixty-five high school athletic trainers who responded to the survey, only fifteen granted permission to utilize their NATA certification examination scores for this research. One curriculum graduate had a score of 143. An average score of 134 was recorded by two internship graduates. Twelve TATIP graduates combined their overall scores on this examination for a mean average of 137.

In comparison of the three studied groups prior to NATA certification and their examination scores, it is displayed that the curriculum-prepared athletic trainers achieved higher overall scores on the NATA certification examinations. Previous tables in this study reveal higher NATA certification examination scores to those students who participated in structured athletic training courses.

Table 16  
 Comparison of NATA Certification Examination Score

	Curriculum	Internship	Special Consideration
1983	132.83	126.1	124.5
1982	139.38	131.60	132.53
1981	137	131	138

## CHAPTER FIVE

### Summary, Findings, Conclusions, and Recommendations

#### Summary

The purpose of this study was to investigate the professional preparation of high school athletic trainers in the state of North Carolina. The questionnaire used to gather data for this study was mailed to 115 high school athletic trainers in the state of North Carolina. Sixty-five (56%) athletic trainers returned the questionnaires.

For the purpose of reporting their professional preparation, the high school athletic trainers who returned the questionnaires were placed into one of three groups: NATA curriculum graduate, NATA internship graduate, or teacher/athletic trainer instructional program graduate, depending on their method for obtaining certification. In addition, the responses were organized into the following areas: degree earned, undergraduate and graduate area of study, current teaching responsibilities, college courses completed, athletic training experience, number of years employed as high school athletic trainer, membership in professional organizations, current athletic training duties, athletic training workshops/clinics attended, knowledge in a



related subject matter, and athletic training background and experience prior to assuming current teaching position.

A brief analysis of the results revealed most trainers taught either physical education, natural science, health, or social studies. Psychology, first aid and safety, and anatomy were the most popular courses taken during their schooling while these surveyed trainers expressed a deficiency in these academic courses: athletic training practicum, therapeutic modalities, advanced athletic training, and nutrition. Limited practical experience and limited knowledge in rehabilitation were revealed in this study. Most surveyed high school trainers belonged to the North Carolina Athletic Trainers Association, attended the annual state coaches clinic, but few participated in any organized functions of the NATA. The TATIP trainers showed employment records of close to seven years at their present schools.

#### Findings

Of the sixty-five high school athletic trainers responding to the questionnaire, fifty-seven were TATIP graduates, four curriculum graduates, and four internship graduates. In looking at these three groups together, thirty-six had Bachelor's degrees, twenty-six had Master's degrees, and three had Specialist degrees. The most popular undergraduate and graduate major for these high school

athletic trainers was physical education. The majority of the individuals taught at the high school level.

Of those surveyed, most had completed courses in human anatomy, human physiology of exercise, applied human anatomy and kinesiology, psychology, first aid and safety, personal school and community health, and introduction to athletic training. Advanced athletic training, nutrition, adaptive physical education, therapeutic modalities, and athletic training practicum were courses that a limited number of the trainers completed.

The majority of the surveyed athletic trainers had three or less years experience as a head trainer at the high school level. Also, most teacher/athletic trainers had no experience prior to their actual athletic trainer instructional program.

Concerning membership in professional organizations, fifty-five athletic trainers belonged to the North Carolina Athletic Trainers Association. The other organizations in ranked order were: National Athletic Trainers Association (26); American Alliance for Health, Physical Education, Recreation, and Dance (6); National Strength and Conditioning Association (2); and the American College of Sports Medicine (1).

On an average, the responding athletic trainers spent 23.4% of their current athletic training duties on management/treatment and disposition of sport-related

injuries. In ranked order and according to percentage, the trainers reported: prevention (21%); recognition and evaluation (18.9%); rehabilitation (14.3%); education and counseling (11.6%); and organization and administration (10.7%).

Sixty-one athletic trainers attended the annual North Carolina High School Coaches Clinic. Eighteen attended the East Carolina Sports Medicine Clinic, but, surprisingly, only nine participated in the NATA district meeting. Four had attended a NATA national convention.

In relationship to their athletic trainer educational background, the athletic trainers indicated their best to least prepared knowledge of these subject areas in this order: prevention, management/treatment and disposition, recognition and evaluation, organization and administration, rehabilitation, and education and counseling.

The TATIP trainers displayed an average tenure of 6.7 years of employment at the same school, while the curriculum trainers had been employed for 2.7 years and the internship trainer for 1.5 years. Also, fifty-one TATIP trainers, two curriculum trainers, and one internship trainer held their current teaching positions prior to assuming current athletic training duties.

All curriculum and internship trainers did have previous experience in athletic training, but only twenty of the TATIP trainers had had previous athletic training

experience. Of these twenty-eight athletic trainers, only three curriculum, two internship, and ten TATIP trainers were employed because of their athletic training background and willingness to assume the duties of an athletic trainer at their school.

In comparison of NATA certification examination scores, the curriculum graduates had higher scores on both national and state levels. Surprisingly, the TATIP graduates did score higher than the internship graduates on this examination.

### Conclusions

Based on the data obtained from the responses of the sixty-five high school athletic trainers in the state of North Carolina, several conclusions were drawn:

1. Limited trainers have attempted academic course work above the Bachelor's Degree.
2. Availability of academic courses in nutrition, adaptive physical education, therapeutic modalities, athletic training practicum, and advanced athletic training were limited to the trainers.
3. Practical experience was quite limited among the TATIP graduates.
4. Most high school athletic trainers were involved in state activities that reinforced athletic training concepts.

5. Comparing academic background vs. current athletic training duties, the graduates agreed upon their time spent in areas of prevention, recognition and evaluation, and management/treatment and disposition were essential. Rehabilitation was an important daily duty, but most graduates felt they had limited academic backgrounds.

6. The majority of the high school athletic trainers taught physical education, natural science, health, and/or social science.

7. The TATIP trainers had a significantly greater job longevity at their present schools than did the curriculum or internship trainers.

8. Comparing scores on the state and national levels, the curriculum graduates scored higher on the NATA certification examination.

9. Few high school trainers attended NATA district or national conventions.

10. The majority of the surveyed trainers were employed as a teacher prior to assuming the athletic training duties.

11. Only twenty-eight trainers had previous athletic training experience prior to their jobs, and out of this small group only fifteen were employed because of their willingness to be an athletic trainer.

### Recommendations

In review of the obtained responses from these athletic trainers and the preceding conclusions that have been drawn, the following recommendations are made:

1. All high school athletic trainers in the state of North Carolina should be encouraged to become NATA certified athletic trainers.

2. Because of the weakness in areas such as organization and administration, rehabilitation, and education and counseling, the trainers should be encouraged to seek additional knowledge in these areas.

3. Because of the number of trainers completing the TATIP program and the fact that programs have been downgraded, workshops and clinics to enhance the knowledge of these trainers should be a top priority.

4. In the event that the North Carolina schools continue their present policy of requiring an athletic trainer in each high school with a team participating in interscholastic athletics, emphasis should be placed on trainers being employed with four-year academic preparation in athletic training.

5. Through the North Carolina Department of Public Instruction and state universities, graduate courses in nutrition, adaptive physical education, therapeutic modalities, athletic training practicum, and advanced athletic training should be made available to interested

trainers. These courses should be offered during the summer months or evening classes during the school year.

6. Educate prospective high school teachers, who have an interest in athletics, to obtain practical and classroom knowledge in the field of athletic training.

In addition, the investigator encourages:

7. An ongoing evaluation of sport-related injuries.

8. Workshops and clinics to enlighten teachers, coaches, and athletic trainers of new techniques in prevention and rehabilitation.

## APPENDIXES



APPENDIX A

QUESTIONNAIRE TO HIGH SCHOOL  
ATHLETIC TRAINERS

A SURVEY OF THE PROFESSIONAL PREPARATION OF  
HIGH SCHOOL ATHLETIC TRAINERS IN THE  
STATE OF NORTH CAROLINA

Please indicate with a check (✓) in the appropriate spaces provided your response to the following questions. Space is also provided for short, written responses where appropriate. Answer all questions that are pertinent to your personal experiences.

PROFESSIONAL INFORMATION

Certification Route

NATA Athletic Training Curriculum Graduate	_____
NATA Athletic Training Internship Graduate	_____
North Carolina Teacher Athletic Trainer Instructional Program Graduate	_____

Highest Earned Degree

Bachelor's Degree	_____
Master's Degree	_____
Specialist Degree	_____
Doctorate Degree	_____

<u>Area of Study</u>	<u>Major</u>	<u>Minor</u>
<u>Undergraduate</u>	_____	_____
<u>Graduate</u>	_____	_____

CURRENT TEACHING RESPONSIBILITIES (1983-84 Academic Year)

	<u>Junior High</u>	<u>Senior High</u>
Physical Education	_____	_____
Health Education	_____	_____
Natural Science	_____	_____
Social Studies	_____	_____
Industrial Education	_____	_____
English	_____	_____
Foreign Language	_____	_____
Military Science	_____	_____
Guidance Counseling	_____	_____
Math	_____	_____
Elementary Education	_____	

COLLEGE ACADEMIC COURSES COMPLETED

	<u>Undergraduate</u>	<u>Graduate</u>
Human Anatomy	_____	_____
Human Physiology	_____	_____
Human Physiology of Exercise	_____	_____
Applied Human Anatomy and Kinesiology	_____	_____
Psychology	_____	_____
First Aid and Safety	_____	_____
Nutrition	_____	_____
Adaptive Physical Education	_____	_____

	<u>Undergraduate</u>	<u>Graduate</u>
Personal, School and Community Health	_____	_____
Introduction to Athletic Training	_____	_____
Therapeutic Modalities	_____	_____
Athletic Training Practicum	_____	_____

PREVIOUS ATHLETIC TRAINING EXPERIENCE

(Please list total number of years experience)

Student Athletic Trainer--High School	_____	years
Student Athletic Trainer--College	_____	years
Asst. Athletic Trainer--High School	_____	years
Grad. Asst. Athletic Trainer--College	_____	years
Asst. Athletic Trainer--College	_____	years
Asst. Athletic Trainer--Pro	_____	years
Head Athletic Trainer--High School	_____	years
Head Athletic Trainer--College	_____	years
Head Athletic Trainer--Pro	_____	years
Sports Medicine Clinic	_____	years
No experience prior to TATIP	_____	

TOTAL NUMBER OF YEARS AS FULL-TIME EMPLOYED HIGH SCHOOL ATHLETIC TRAINER

Please include 1983-84 academic school year.

(Please circle number)

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15

Check the professional organizations of which you are a member:

National Athletic Trainers Association \_\_\_\_\_  
 American Athletic Trainers Association \_\_\_\_\_  
 North Carolina Athletic Trainers Association \_\_\_\_\_  
 American College of Sports Medicine \_\_\_\_\_  
 American Alliance for Health, Physical  
 Education, Recreation and Dance \_\_\_\_\_  
 National Strength and Conditioning Association \_\_\_\_\_  
 OTHERS? Please List:

1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_

In relationship to your present high school athletic training duties during the 1983-84 school year, list estimated percentages by each of the following areas:

Current Athletic Training Duties

Prevention	_____	%
Recognition & Evaluation	_____	%
Management/Treatment & Disposition	_____	%
Rehabilitation	_____	%
Organization & Administration	_____	%
Education & Counseling	_____	%
<b>TOTAL =</b>		<b>100%</b>

PLEASE LIST THE ATHLETIC TRAINING WORKSHOPS AND/OR CLINICS  
YOU ATTENDED FROM JULY 1980 UNTIL AUGUST 1983

	Workshop Title	Location	Date
1.	_____	_____	_____
2.	_____	_____	_____
3.	_____	_____	_____
4.	_____	_____	_____
5.	_____	_____	_____
6.	_____	_____	_____

IN RELATIONSHIP TO YOUR ACADEMIC BACKGROUND, PLEASE RANK IN  
ORDER YOUR BEST VS. LEAST PREPARED OF THESE SUBJECT AREAS:

1 = Best Prepared

6 = Least Prepared

Prevention	_____
Recognition & Evaluation	_____
Management/Treatment & Disposition	_____
Rehabilitation	_____
Organization & Administration	_____
Education & Counseling	_____

TOTAL NUMBER OF YEARS TEACHING AT YOUR CURRENT SCHOOL  
 Please include 1983-84 academic school year

(please circle number)

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15

Were you employed as a teacher prior to assuming your current athletic training duties?

Yes \_\_\_\_\_ No \_\_\_\_\_

When you obtained your current teaching position, did you have previous experience in athletic training?

Yes \_\_\_\_\_ No \_\_\_\_\_

Were you employed because of your athletic training background and willingness to assume the duties of an athletic trainer at your school?

Yes \_\_\_\_\_ No \_\_\_\_\_

---

WANT COPY OF STUDY: Yes \_\_\_\_\_ No \_\_\_\_\_

If yes, please include name and address:

\_\_\_\_\_  
 Name

\_\_\_\_\_  
 Street Address Apt. No.

\_\_\_\_\_  
 City/State Zip Code

I, \_\_\_\_\_ give Kenneth E. Wright permission to obtain my N.A.T.A. certification examination score from the National Athletic Trainers Association office in Greenville, North Carolina, for use in his graduate research. With the assistance of the N.A.T.A. certification office, Mr. Wright will only receive grouped data.

I understand that all scores will be kept confidential and will be used in grouped data without reference to individuals and that utilization of the data will be limited to the study of the three educational routes which an athletic trainer can take prior to qualifying to take the National Athletic Trainers Association (N.A.T.A.) certification examination.

\_\_\_\_\_  
Date

\_\_\_\_\_  
Signature

\_\_\_\_\_  
N.A.T.A. Membership No.

\_\_\_\_\_  
Social Security No.

\_\_\_\_\_  
Certification Number



APPENDIX B

FACE LETTER TO HIGH SCHOOL  
ATHLETIC TRAINERS

UNCC  
The University  
of North Carolina  
at Charlotte

UNCC Station  
Charlotte, N.C.  
28223

Health and  
Physical Education

704/597-4695

Dear Athletic Trainer:

I am conducting a survey of the professional preparation of the high school athletic trainer in the state of North Carolina.

The main emphasis of my research will be on the three educational routes that an athletic trainer can take prior to qualifying to take the National Athletic Trainers Association certification examination. As you know, the Faculty Athletic Training Program has aided our state by providing qualified athletic trainers in our schools. The North Carolina Department of Public Instruction developed a similar program in June 1978 and called it Teacher Athletic Trainer Instructional Program (TATIP). Other selected routes toward certification are graduate of N.A.T.A. approved curriculum and graduate of N.A.T.A. internship program.

For those of you who are N.A.T.A. certified athletic trainers, I am asking your permission to release your N.A.T.A. certification examination score. Signing the enclosed waiver will allow me to forward this form to Ms. Susan Williams, certification coordinator of the N.A.T.A. national office.

Only grouped data, without reference to individuals, will be utilized in this study. For your convenience, I have enclosed a form to be filled out and returned with the questionnaire.

The results of this study will hopefully aid our educational program in properly preparing high school athletic trainers. If you wish to have a copy of the results of this study, please check appropriate space on the questionnaire.

Thank you for your time in completing the survey. A stamped, self-addressed envelope is enclosed for your convenience.

Sincerely,

/s/

Kenneth E. Wright

encl/js

APPENDIX C

LETTER FROM MR. ROB LESTER TO HIGH  
SCHOOL ATHLETIC TRAINERS

## DEPARTMENT OF PUBLIC INSTRUCTION

STATE OF NORTH CAROLINA

RALEIGH

August 5, 1983

MEMO

TO: Teacher Athletic Trainers  
FROM: Robbie Lester, Chief Consultant, Sports Medicine  
RE: Professional Preparation Survey

Enclosed is a survey being conducted by Ken Wright, A.T.C., Head Athletic Trainer at UNC-C. The purpose of this survey is to evaluate the professional preparation of the teacher athletic trainers in North Carolina. Ken will use the survey as part of his doctoral dissertation. Please take a few minutes and complete the questionnaire and return to Ken.

Ken has asked for your assistance in completing the survey. I feel this type of information will assist my office in further determining where we are and where we need to go in the future. Your cooperation will be most appreciative. If you have any questions, please contact me.

RL/dw

Enclosure

APPENDIX D  
FOLLOW-UP LETTER TO HIGH SCHOOL  
ATHLETIC TRAINERS

UNCC  
The University  
of North Carolina  
at Charlotte

UNCC Station  
Charlotte, N.C.  
28223

Health and  
Physical Education

704/597-4695

September 6, 1983

Dear Athletic Trainer:

This follow-up letter is to ask you once again to please complete the enclosed questionnaire. As you have been informed, this is a study of the professional preparation of high school athletic trainers in the state of North Carolina.

With the assistance of the N.A.T.A. Certification Coordinator, grouped data will be received and utilized in comparing the N.A.T.A. certification examination score to the three educational routes studied. If you are a N.A.T.A. certified athletic trainer, please sign the attached waiver form so that your score can be utilized in this study.

Your time and consideration toward completing this survey will be greatly appreciated. A stamped, self-addressed envelope is enclosed for your convenience.

Sincerely,

/s/

Kenneth E. Wright

encl/vh

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## BIBLIOGRAPHY

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