
Jerry Wayne Andrews
Louisiana State University and Agricultural & Mechanical College

Follow this and additional works at: https://repository.lsu.edu/gradschool_disstheses

Recommended Citation
https://repository.lsu.edu/gradschool_disstheses/1816

This Dissertation is brought to you for free and open access by the Graduate School at LSU Scholarly Repository. It has been accepted for inclusion in LSU Historical Dissertations and Theses by an authorized administrator of LSU Scholarly Repository. For more information, please contact gradetd@lsu.edu.
ANDREWS, Jerry Wayne, 1940-

THE PREPARATION AND EMPLOYMENT STATUS
OF SCIENCE TEACHERS WHO GRADUATED FROM
LOUISIANA COLLEGES AND UNIVERSITIES,
1964-68.

The Louisiana State University and
Agricultural and Mechanical College,
Ed.D., 1970
Education, general

University Microfilms, Inc., Ann Arbor, Michigan
THE PREPARATION AND EMPLOYMENT STATUS OF SCIENCE
TEACHERS WHO GRADUATED FROM LOUISIANA
COLLEGES AND UNIVERSITIES, 1964-68

A Dissertation

Submitted to the Graduate Faculty of the
Louisiana State University and
Agricultural and Mechanical College
in partial fulfillment of the
requirements for the degree of
Doctor of Education

in

The Department of Education

by

Jerry Wayne Andrews
B.S., Louisiana Polytechnic Institute, 1962
M.S., Louisiana Polytechnic Institute, 1965
August, 1970
ACKNOWLEDGMENTS

The writer wishes to express his appreciation and thanks to Dr. Sam Adams, who served as major professor, friend, and advisor during the preparation of this manuscript. He would also like to acknowledge the help and encouragement of Dr. John L. Garrett, Jr., Dr. J. B. Kelley, Dr. Robert Von Brock, Dr. William Smith, and Dr. J. H. Roberts.

The writer would also like to express his sincere gratitude to his wife whose encouragement and help were always inspiring.
# TABLE OF CONTENTS

<table>
<thead>
<tr>
<th>CHAPTER</th>
<th>PAGE</th>
</tr>
</thead>
<tbody>
<tr>
<td>I. THE PROBLEM</td>
<td>1</td>
</tr>
<tr>
<td>Statement of the problem</td>
<td>2</td>
</tr>
<tr>
<td>Importance of the study</td>
<td>3</td>
</tr>
<tr>
<td>Sources of data</td>
<td>4</td>
</tr>
<tr>
<td>Delimitation of the problem</td>
<td>4</td>
</tr>
<tr>
<td>Definition of terms</td>
<td>4</td>
</tr>
<tr>
<td>Louisiana colleges and universities</td>
<td>4</td>
</tr>
<tr>
<td>Science teacher</td>
<td>5</td>
</tr>
<tr>
<td>Organization of the remainder of the study</td>
<td>5</td>
</tr>
<tr>
<td>II. SURVEY OF RELATED LITERATURE</td>
<td>6</td>
</tr>
<tr>
<td>Introduction</td>
<td>6</td>
</tr>
<tr>
<td>Nationwide studies</td>
<td>6</td>
</tr>
<tr>
<td>Studies in other states</td>
<td>8</td>
</tr>
<tr>
<td>Studies in Louisiana</td>
<td>14</td>
</tr>
<tr>
<td>III. FINDINGS OF THE STUDY</td>
<td>22</td>
</tr>
<tr>
<td>Introduction</td>
<td>22</td>
</tr>
<tr>
<td>Number prepared and entering</td>
<td>22</td>
</tr>
<tr>
<td>Sex and race of science teachers entering</td>
<td>24</td>
</tr>
<tr>
<td>Areas of certification in science</td>
<td>26</td>
</tr>
<tr>
<td>Sex and race as related to area of certification</td>
<td>28</td>
</tr>
<tr>
<td>Institutions granting degrees</td>
<td>31</td>
</tr>
<tr>
<td>Employment histories of science teachers</td>
<td>35</td>
</tr>
<tr>
<td>Subject area analysis of persons who left teaching</td>
<td>38</td>
</tr>
</tbody>
</table>
CHAPTER PAGE

Highest degrees held by science teachers ................................. 38
Highest degrees held by Negro teachers as related to teaching area ................................................................. 42
Highest degrees held by white science teachers as related to teaching area ................................................................. 42
School positions held ............................................................... 45
Types of schools in which science teachers were employed ........ 47
Number of persons teaching in their area of certification .......... 49
Persons teaching outside their area of certification .................. 55
Persons certified in science but not teaching science ............... 57
Years of experience in position held in 1968 ........................... 57
Total years of experience .......................................................... 60
Teaching combinations of science teachers ............................... 62

IV. SUMMARY AND CONCLUSIONS ............................................. 66

Introduction ................................................................. 66
Number of graduates who entered the profession ..................... 66
Sex of science teachers entering teaching ............................... 67
Institutions preparing science teachers .................................. 67
Employment histories of those who entered the profession ........ 68
Teaching assignments of science teachers who remained in the profession and who left the profession .................. 69
Highest degrees held .......................................................... 69
School positions held ........................................................... 70
Teaching assignment as related to area of certification in science ................................................................. 71
Years of experience ............................................................. 71
<table>
<thead>
<tr>
<th>CHAPTER</th>
<th>PAGE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Teaching combinations of science teachers</td>
<td>72</td>
</tr>
<tr>
<td>Conclusions</td>
<td>73</td>
</tr>
<tr>
<td>BIBLIOGRAPHY</td>
<td>74</td>
</tr>
<tr>
<td>BIOGRAPHY</td>
<td>76</td>
</tr>
</tbody>
</table>
**LIST OF TABLES**

<table>
<thead>
<tr>
<th>TABLE</th>
<th>PAGE</th>
</tr>
</thead>
<tbody>
<tr>
<td>I. Number of Persons Certified in Science and the Number Entering Teaching in Louisiana, 1964-68</td>
<td>23</td>
</tr>
<tr>
<td>II. Sex and Race of Science Teachers Who Entered Teaching During the Years 1964-68</td>
<td>25</td>
</tr>
<tr>
<td>III. Areas of Certification of Science Teachers Who Entered Teaching in Louisiana by Race and Year</td>
<td>27</td>
</tr>
<tr>
<td>IV. Sex and Race of Science Teachers as Related to Areas of Science Preparation*</td>
<td>29</td>
</tr>
<tr>
<td>V. Sex and Race of Science Teachers as Related to Areas of Science Preparation*</td>
<td>30</td>
</tr>
<tr>
<td>VI. Distribution of Teachers Certified in Science Who Entered Teaching in Louisiana, 1964-68, According to Degree Granting Institution</td>
<td>32</td>
</tr>
<tr>
<td>VII. Employment Histories of Science Teachers Who Entered the Profession During 1964-68</td>
<td>36</td>
</tr>
<tr>
<td>VIII. Areas of Specialization of the 77 Science Teachers Who Left the Profession</td>
<td>39</td>
</tr>
<tr>
<td>IX. Highest Degrees Held in 1968 by Science Teachers Who Entered Teaching During the Years 1964-68</td>
<td>40</td>
</tr>
</tbody>
</table>
TABLE PAGE

X. Highest Degrees Held in 1968 by Science Teachers Who Entered Teaching During the Years 1964-68, According to Sex and Race ................................. 41

XI. Highest Degrees Held in 1968 by Negro Science Teachers as Related to Science Teaching Areas ...................................................... 43

XII. Highest Degrees Held in 1968 by White Science Teachers as Related to Science Teaching Areas ...................................................... 44

XIII. Positions Held in 1968 by Science Teaching Personnel Who Entered Teaching During the Years 1964-68 ........................................... 46

XIV. Types of Schools in Which Science Teachers Who Entered Teaching During 1964-68 Were Employed ................................................. 48

XV. Number and Per Cent of Science Teachers Prepared in Biology Who Were Teaching Biology in 1968 ..................................................... 50

XVI. Number and Per Cent of Science Teachers Prepared in Chemistry Who Were Teaching Chemistry in 1968 ............................................ 51

XVII. Number and Per Cent of Science Teachers Prepared in General Science Who Were Teaching General Science in 1968 ............................ 52

XVIII. Number and Per Cent of Science Teachers Prepared in Physics Who Were Teaching Physics in 1968 .................................................. 53

XIX. Number and Per Cent of Science Teachers Prepared in Earth Science Who Were Teaching Earth Science in 1968 ............................ 54

XX. Number and Per Cent of Science Teachers Who, in 1968, Were Teaching in an Area for Which They Were Not Certified ............................ 56

XXI. Number and Per Cent of Science Teachers Not Teaching Any Science in 1968 ...................................................................................... 58
TABLE PAGE

XXII. Years of Experience in Position Held in 1968 by Persons Certified in Science During the Years 1964-68 .......... 59

XXIII. Total Years of Experience (1968) of Science Teachers Certified in Science During the Years 1964-68 .......... 61

XXIV. Teaching Combinations in 1968*

*Per Cents Expressed as Parts of Total Number Teaching Each Science Combination ...................... 63

XXV. Teaching Combinations in 1968*

*Per Cents Expressed as Parts of Each Racial and Sexual Group .......................................... 64
ABSTRACT

The purpose of this study was to investigate the preparation and employment status of science teachers who graduated from Louisiana colleges and universities and then entered teaching in the public school systems of the state during the years 1964 through 1968.

A total of 1,006 science teachers graduated from Louisiana institutions during the years 1964-68. Of this number, 412 entered the teaching profession in the public schools of Louisiana.

The results of this study with regard to preparation were as follows:

1. The number of science teachers prepared in Louisiana increased significantly since the last study in 1957, while the per cent entering the profession in Louisiana decreased.

2. There were approximately twice as many men as women who entered teaching. Yearly evaluations of the per cent of men and women entering teaching indicated a possible trend toward an increased number of women entering the profession.

3. The number of Negro science teachers entering the profession was small.

4. The predominant areas of preparation for both Negro and white science teachers were general science and biology.

5. The major teaching areas for both Negro and white science teachers were general science and biology. Only a small number of persons was teaching physics and chemistry.

6. A very small number of persons certified in science was
teaching in other science areas for which they were not certified.

7. Less than fifty per cent of the teachers certified in each science area were teaching in that area except for general science where slightly over fifty per cent were teaching in this area of certification.

The results of this investigation with regard to employment were as follows:

1. A majority of the teachers who entered teaching had continuous employment records.

2. No significant differences in the employment records of Negro and white science teachers were found.

3. Over seventy-five per cent of the persons certified as science teachers and entering teaching in Louisiana were employed at the elementary, junior high, or secondary level.

4. The largest per cent of science teachers leaving the profession were certified in chemistry; the smallest per cent leaving the profession were certified in physics.

5. A majority of the white science teachers were teaching science in combination with one other subject, while the Negro science teachers most often taught only science.
Chapter I

THE PROBLEM

An increasing need for a better understanding of scientific principles in an industrial society has predicated the need for more science teachers. This increasing need makes it imperative that more qualified people become engaged in science teaching. For this reason, the importance of identifying the employment status of college graduates trained in science education cannot be overemphasized.

In a study conducted in 1957, the results revealed that 531, or 46.1 per cent, of the 1,153 persons certified to teach science in Louisiana during the ten-year period 1947-56 were never employed in the state public school system. Another 19.9 per cent entered teaching and left or assumed some other profession after one year.1

A more recent study revealed that 67.2 per cent of those persons teaching physics, the area representing the lowest percentage of certification, and 83.5 per cent of those teaching general science were certified in their respective fields. The percentage of certified teachers in other science areas fell within this range.2

These data indicated that many certified persons did not enter the profession, and that many science teachers were not properly

---


certified for their teaching areas.

The aforementioned facts indicated a need for further investigation as to the status of science teachers in Louisiana.

STATEMENT OF THE PROBLEM

The purpose of this study was to analyze the status of certified science teachers who graduated from Louisiana colleges and universities during the years 1964-68.

Specific questions to be answered were:

1. What was the preparational status of this group with reference to the following questions:

   A. How many persons graduated from Louisiana colleges and universities with certification in science during the years 1964-68? How many entered teaching in Louisiana during these years?

   B. Which of the following groups most often entered teaching? Negro males? Negro females? White males? White females?

   C. What was the distribution of these graduates according to sex?

   D. What were the areas of specialization in science of graduates each year from 1964-68? Were there significant trends in the number of students prepared in the various science areas over the years?

   E. Which teacher preparatory institutions in Louisiana prepared these persons?

   F. How did Negro and white science teachers compare with reference to their employment histories?

   G. What was the distribution among subject areas of those teachers who left the profession?

   H. What was the highest degree held by these teachers in 1968?

2. If employed in Louisiana, what was the school employment status of those persons certified in some area of science during the prescribed years with reference to the following questions:
A. What positions did these people hold in the schools where they were employed?

B. In which phase of the organizational structure did they work?

C. To what degree did these personnel teach in their areas of certification?

D. How many years had these teachers been employed in their position? What were their total years of experience?

E. What was the predominant pattern of teaching assignments?

IMPORTANCE OF THE STUDY

The percentage of certified science teachers entering the teaching profession upon graduation from college was extremely low when compared to teachers in other subject areas. While the range of those entering the profession varied from 36.1 per cent in chemistry in 1954 to 69.9 per cent in general science in 1967, there still exists a considerable deficiency in the number of certified teachers in the sciences.

In 1967 the national demand for teachers of natural and physical sciences was 9,932, but there were only 7,500 teachers prepared to meet this need and a large number of these did not enter teaching. This deficiency was one of the largest deficits recorded in any teacher preparatory area.

Although these were national figures, Louisiana's situation was similar inasmuch as a 1958 survey showed that only 46.1 per cent of the

---


4Ibid.

5Ibid., p. 53.
certified science teachers entered the profession.\(^6\)

In view of these data, a thorough analysis of the preparational and employment background of science teachers in Louisiana was needed to ascertain the number of certified teachers who might be available and to determine how effectively those entering the profession were utilized.

**SOURCES OF DATA**

Records from the Office of Teacher Retirement provided information relative to the teacher's date of entry and exit from the teaching profession, race, and job location.

Annual reports from the State Department of Education provided information about certification, teaching position and area, highest degree, years of experience, pattern of assignments, and the phase of the organizational structure where the teachers were working.

**DELIMITATION OF THE PROBLEM**

This study included both white and Negro teachers certified in science during the five-year period, 1964-68. Only those who entered teaching in Louisiana were included in the study. The employment records of science teachers in the state public school system were followed from the 1964-65 session through the 1968-69 session.

**DEFINITION OF TERMS**

**Louisiana Colleges and Universities**

This term included all of the teacher preparatory institutions,

\(^6\)Garrett, loc. cit.
both public and private, in Louisiana.

Science Teacher

Throughout this study the term "science teacher" referred to the graduate of a Louisiana preparatory institution who met certification requirements to teach one or more of the science subjects; that is, general science, biology, chemistry, and physics. These requirements, which became effective in July, 1947, and remained unchanged at the conclusion of this study are as follows:

For Science: Twelve semester hours in addition to the twelve semester hours in science required under general education. The whole science course shall include a minimum of six semester hours in biology, and six semester hours in chemistry, with an additional requirement of six semester hours in science field or fields in which the teacher applies for certification, provided that the requirement of six semester hours in physics, six semester hours in biology, and six semester hours in chemistry shall meet the requirements for general science.  

ORGANIZATION OF THE REMAINDER OF THE STUDY

A review of related literature is presented in Chapter II.

Chapter III presents an analysis of the current status of those persons certified in science and entering the profession during the years 1964-68. Special emphasis is given to the number who graduated and entered teaching, sex of graduates, training institutions, and areas of certification and employment.

The final chapter, Chapter IV, consists of the summary and conclusions.

Chapter II

SURVEY OF RELATED LITERATURE

INTRODUCTION

The intense desire of the American public to surpass the scientific achievements of Russia led to the allocation of large sums of money for the improvement of science education at every school level. The National Defense Education Act of 1958 and subsequent acts have provided much of the money for the implementation of programs to improve science education. The results and future implications of these efforts should be partially revealed in this and subsequent studies related to the training and current employment status of science teachers in Louisiana and other states.

NATIONWIDE STUDIES

One of the few nationwide studies of science teachers was conducted in 1961-62 under the direction of the United States Department of Health, Education, and Welfare.¹ For matters of interpretation, the study was divided into geographic areas, with Louisiana considered a part of the Southeast region.

This study revealed that approximately 103,666 persons were teaching one or more periods of science in the public schools of the

United States, this representing 17.0 per cent of the secondary teachers in the United States. The Southeast region of the United States had 25.8 per cent of the nation's science teachers.

An analysis of the types of schools in which the science teachers were working showed 24.4 per cent teaching in junior high schools, 37.2 per cent in junior-senior high schools, 9.9 per cent in senior high schools, and 28.5 per cent in regular four-year high schools.

The daily teaching load of the science teachers was used to divide the teachers into groups. Examination of these groups showed 62.7 per cent devoting most of their time, four or more periods per day, to the teaching of science. These teachers were usually found in large high schools. The remaining science teachers were divided into groups, with 22.5 per cent teaching either two or three periods of science and 15.0 per cent teaching only one science class.

Of the teachers devoting four or more periods to science, 26.2 per cent worked in junior high schools, 34.3 per cent in junior-senior high schools, and 26.9 per cent in four-year high schools.

Geographically, the Southeast section of the United States had 25.5 per cent of the teachers who taught only science and 37.9 per cent of the one-period science teachers.

---

2 Ibid.
3 Ibid., p. 4.
4 Ibid.
5 Ibid., p. 5.
6 Ibid.
7 Ibid.
In the fall of 1961 approximately twenty-two per cent of all the nation's public school science teachers were new to their positions. In the junior high school 20.9 per cent were new, while 15.8 per cent of the science teachers in senior high schools were new. The regular four-year high schools had 24.4 per cent of the science teachers in their first year of teaching. 8

The Southeastern region of the nation had 23.0 per cent of all the new science teachers, a percentage which compared favorably with all other sections of the country. 9

In addition to those persons new to their jobs, there were 12,471, or 12.0 per cent, of the science teachers who had no previous teaching experience. 10

Analysis of the teaching combinations of the science teachers revealed mathematics to be the most common teaching combination with science. Over twenty-one per cent of the science teachers also taught mathematics. 11

STUDIES IN OTHER STATES

Studies of the status of science teachers have been conducted in several states. During the 1959-60 school session, such a study was conducted in the states of Maryland, New Jersey, and Virginia to determine the status of science and mathematics teachers. 12 While this study

8Ibid., p. 8.
9Ibid.
10Ibid., p. 10.
11Ibid.
12Kenneth E. Brown and E. S. Obourn, Qualifications and Teaching
dealt with both mathematics and science teachers, the information contained herein pertains only to those persons teaching science.

An examination of the degrees held by these persons revealed that 64.3 per cent of the science teachers had only bachelor's degrees. The remaining teachers had master's degrees of some type.\textsuperscript{13} One half of the degrees held by science teachers in these states had been obtained in the previous nine years.\textsuperscript{14}

Of the science teachers in these states, 40.0 per cent had their training in a teachers college or college of education program.\textsuperscript{15} Over forty-six per cent had their training in the state where they were employed.\textsuperscript{16}

The academic training possessed by the science teachers of Maryland, New Jersey, and Virginia showed 78.3 per cent with biology training, 87.0 per cent with chemistry training, and 71.7 per cent with physics training.\textsuperscript{17}

The teaching combinations of the science teachers in these three states showed that slightly less than fifty per cent taught only science, while 27.8 per cent taught more than one science. There were also 22.2 per cent of the teachers who taught only a single science.\textsuperscript{18}

\textsuperscript{13}Ibid., p. 31.
\textsuperscript{14}Ibid.
\textsuperscript{15}Ibid.
\textsuperscript{16}Ibid.
\textsuperscript{17}Ibid.
\textsuperscript{18}Ibid.
Dowling and Henderson conducted a study of all science teachers in Wisconsin in 1965-66 and 1966-67. The information for this study was collected over a period of three years, 1965-67.

In 1965-66 there were 2,144 men and 245 women teaching at least one science subject in the State of Wisconsin. In 1966-67 there were 2,187 men and 302 women teaching science. The average total experience for both men and women was 9.4 years in 1965-66 and 9.6 years in 1966-67.

An examination of the degrees held showed 68.0 per cent with bachelor's degrees in 1965-66 and 65.0 per cent with bachelor's degrees in 1966-67. Advanced degrees were held by 29.0 per cent of the teachers in 1965-66 and 31.0 per cent in 1966-67. Most of the degrees, 76.0 per cent in 1965-66 and 75.0 per cent in 1966-67, were obtained from institutions within the state.

A similar study was conducted by Steidle in Ohio in 1965. The purpose of Steidle's investigation was to study the pre-service secondary school science programs of forty-seven Ohio institutions.

The findings showed that many of the science training programs

---


20Ibid., p. 6.

21Ibid., p. 7.

22Ibid.

23Ibid.

24Ibid., p. 8.

were weak. They also showed that an excess of science teaching certificates was issued by the state certification division compared to the number of science majors prepared in Ohio institutions. This resulted in an excessive number of teachers in the biological sciences.\textsuperscript{26}

The majority of the teachers who left the profession were biology teachers. They either entered graduate school or entered another field of teaching.\textsuperscript{27} Most of the teachers prepared in Ohio who did not enter teaching in this state accepted teaching positions in other states.\textsuperscript{28}

The academic training of general science teachers in Indiana was surveyed by Rentschler in 1963.\textsuperscript{29} The purpose of this study was to ascertain the academic preparation of the seventh and eighth grade teachers of general science in Indiana.

In contrast to earlier studies, which showed over one half of the high school science teachers teaching four or more periods of science per day, Rentschler found more than one half of the science teachers in Indiana junior high schools to be part time teachers of science.\textsuperscript{30}

Analysis of the academic background of these junior high science teachers showed that more majored in physical education, English, and mathematics than majored in science. Most of the teachers minored in science. The graduate work in science of these teachers was sparse with

\begin{itemize}
	\item \textsuperscript{26}Ibid.
	\item \textsuperscript{27}Ibid.
	\item \textsuperscript{28}Ibid.
	\item \textsuperscript{30}Ibid., p. 2311.
\end{itemize}
the average being only 4.45 semester hours.31

In a study of science teachers in Montana, Gebhart found that 88.2 per cent were men.32 The science teachers in Montana had an average of nine years of experience and had taught in the same position for an average of five years. Four hundred thirty-one teachers taught in grades one through twelve. Of this number, 113 taught only science, 62 taught only one science subject, and 51 taught more than one science subject.33 Sixty-nine per cent of the Montana teachers had bachelor's degrees as their highest degree.34

Zweig reported that in New Mexico the shortage of qualified teachers was most crucial in the smaller schools and in the area of physics, with the percentage of teachers with more than fifteen semester hours in physics decreasing in the preceding ten years.35

An examination of the number of students completing preparation for standard teaching certificates in the natural and physical sciences in Louisiana's neighboring states of Arkansas, Texas, and Mississippi showed that Arkansas prepared a total of 122 students in 1967 and 183 in 1968.36 The area showing the smallest number of certified persons was

31Ibid.


33Ibid.

34Ibid.


physics, with two certified in 1967 and five in 1968. Mississippi
produced 173 science teachers in 1967 and 214 in 1968. There were no
people certified in physics in Mississippi during these two years.37
Texas prepared 423 science teachers in 1967 and 523 in 1968. The
smallest number of persons were prepared in physics with seventeen
prepared in 1967 and twenty-nine in 1968. In each case, the number of
persons certified in science had risen between 1967 and 1968.38

This writer was unable to locate additional nationwide surveys of
science teachers that had been conducted since 1963. However, several
studies have been completed that relate to science teachers since that
time. One group of studies was the National Education Association's
reports on teacher supply and demand in public schools for the years
1964-68.39

The number of college graduates prepared in the natural and
physicial sciences since 1950 was at its lowest point in 1954, began to
climb in 1964, and reached its peak in 1968.40 The number of science

37 Ibid., p. 65.
38 Ibid., p. 71.
39 National Education Association, Teacher Supply and Demand in
Public Schools, 1964, A Report of the Seventeenth Annual National Teacher
Supply and Demand Study (Washington: National Education Association,
1964); National Education Association, Teacher Supply and Demand in Public
and Demand Study (Washington: National Education Association, 1965); 
National Education Association, Teacher Supply and Demand in Public
Schools, 1966, A Report of the Nineteenth Annual National Teacher Supply
and Demand Study (Washington: National Education Association, 1966); 
National Education Association, Teacher Supply and Demand in Public
Schools, 1967, A Report of the Twentieth Annual National Teacher Supply
and Demand Study (Washington: National Education Association, 1967); 
National Education Association, Teacher Supply and Demand in Public
Schools, 1968, A Report of the Twenty-First Annual National Teacher
Supply and Demand Study (Washington: National Education Association, 1968).

teachers prepared in 1968 increased 13.8 per cent over the number prepared in 1967. Of the science teachers, the number prepared in physics showed the greatest per cent increase, 37.1 per cent. Chemistry teachers showed the smallest per cent gain, where only 3.3 per cent more were prepared in 1968 than in 1967.41

After the completion of degree requirements, those persons certified in the natural and physical sciences showed a tendency to accept employment in the state where the degree was earned. Over forty-seven per cent accepted employment in the state where their degrees were earned.42

According to previous employment statistics, approximately sixty per cent of the science graduates of 1968 were expected to enter classrooms following the completion of their respective programs. Biology teachers were expected to show the largest per cent of entry into the classroom with over sixty-five per cent of these graduates entering the teaching profession. In Louisiana, only 45.2 per cent of those prepared in 1966 and 1967 in secondary fields went into teaching. A larger per cent of science teachers entered in their respective fields than did the graduates in other fields.43

STUDIES IN LOUISIANA

In a study conducted in 1931, Hester44 investigated the status

41 Ibid.
42 Ibid., p. 22.
43 Ibid., p. 25.
of white science teachers in Louisiana. Hester found a total of 627 persons teaching science. The average teaching experience was 5.5 years, while the average tenure in present position was 2.6 years. Sixty-five per cent taught five years or less.  

The distribution of teaching loads indicated that most science teachers were teaching a combination of subjects. Of the non-science subjects, home economics, algebra, and arithmetic were most often taught. 

The four regular science courses were taught in the following descending order of frequency: general science, biology, chemistry, and physics.

Of the 627 persons teaching science, 96 were reported as having majored in science. Fourteen of the 96 were principals, 13 were men teaching only science, 13 were women teaching only science, 42 were men teaching science combinations, and 14 were women teaching science combinations. Nearly half, or 47.6 per cent of the science teachers majored in non-science subjects.

Ninety-two per cent of the teachers studied had a college degree, while 4.7 per cent had no degree. The Bachelor of Arts degree was the most prevalent, followed by the Bachelor of Science and Master of Arts.

---

45Ibid., p. 28.
46Ibid., p. 20.
48Ibid., p. 33.
49Ibid., p. 36.
50Ibid.
degrees.\textsuperscript{51}

Eighty-four per cent of the 627 teachers were trained in Louisiana colleges.\textsuperscript{52} Louisiana State University trained the largest number, followed by the Louisiana State Normal College.\textsuperscript{53}

A study of the status and employment histories of white college graduates certified as science teachers in Louisiana during the ten-year period, 1947-56, was done by Garrett in 1959.\textsuperscript{54}

One thousand one hundred fifty-three persons were certified during this period of time. Of this number, 217, or 18.8 per cent, were graduates of Louisiana State University.\textsuperscript{55} Southeastern Louisiana College and Louisiana Polytechnic Institute ranked near the University in the number of science education graduates prepared.

The highest degree held by 85.0 per cent of these teachers was the Bachelor of Science degree. Nine per cent held the Bachelor of Arts degree and less than one per cent held the Master of Arts and Master of Science degrees.\textsuperscript{56}

The total group studied consisted of 784 men and 369 women. During each year of the ten-year period, more men were certified than

\textsuperscript{51}\textit{Ibid.}
\textsuperscript{52}\textit{Ibid.}, p. 37.
\textsuperscript{53}\textit{Ibid.}
\textsuperscript{55}\textit{Ibid.}, p. 20.
\textsuperscript{56}\textit{Ibid.}
women. This study also revealed that more men than women entered teaching.

In the area of certification, 17.4 per cent of the total group were certified to teach all four sciences offered in Louisiana secondary schools. The smallest number of certified persons was in physics. Only 11.7 per cent were certified to teach physics or combinations involving physics. Men predominated in every area of certification except chemistry-general science combinations. The large number of women in this particular area was attributed to the employment of home economics teachers to teach science. On a numerical basis, 1,152 were certified to teach general science, 799 to teach biology, 678 to teach chemistry and 335 to teach physics.

The employment status of these teachers was broken into four groups. One group, those with an unbroken period of employment, consisted of 270 persons, or 23.4 per cent of the entire group. Ten per cent of the total group had a broken period of employment, while 13.0 per cent entered teaching, then withdrew. Forty-six per cent of the total never taught in the state public school system.

Once they began teaching, about one half of the men remained in

---

57 Ibid., p. 23.
58 Ibid., p. 25.
59 Ibid., p. 28.
60 Ibid.
61 Ibid., p. 33.
62 Ibid., p. 55.
63 Ibid., p. 58.
the profession while less than one third of the women remained. Of those persons who entered teaching and subsequently left, 48.1 per cent left after the first year.

School related jobs other than teaching were held by men in twenty-one of twenty-two cases.

The question arose as to which institution produced the teachers who remained in the profession. While McNeese State College and Northeast Louisiana State College were relatively young, their graduates stayed in their positions longer than did the graduates of the other state teacher preparatory institutions. Of the other colleges and universities, Louisiana Polytechnic Institute led with 48.0 per cent remaining in the profession, while Northwestern State College had only 36.8 per cent remain in the profession. Sophie Newcomb led the non-public colleges in producing graduates who remained in the profession.

An analysis of the teaching loads of the 622 teachers who entered the profession showed that only 53.0 per cent were teaching full time in subjects they were certified to teach.

Staring also studied Louisiana science teachers in 1957. She found that 19.4 per cent of the 679 white science teachers in Louisiana had less than four years of experience and that 61.0 per cent had taught

64 Ibid.
65 Ibid.
66 Ibid., p. 80.
67 Ibid., p. 91.
for eleven years or less.

Over thirty-five per cent of these teachers had been in their positions for less than four years.69

Of the white teachers in this study, 66.8 per cent were men and 33.1 per cent were women.70

The highest degrees held by these people ranged from 50.6 per cent with Bachelor of Science degrees to 15.6 per cent holding the Master of Arts or Master of Science degrees. Only 0.4 per cent of the white science teachers had no degree.71

In-state institutions granted 93.0 per cent of the Bachelor of Science degrees and 86.0 per cent of the Bachelor of Arts degrees held by Louisiana science teachers.72

The most frequent non-science subject taught by chemistry and physics teachers was mathematics, while biology and general science teachers divided their time outside science with mathematics and physical education.73

Staring also investigated the status of Negro science teachers in Louisiana. Of the 249 Negro science teachers, 169, or 67.8 per cent, were men and 80, or 32.1 per cent, were women.74

Slightly over twenty-five per cent of the Negro teachers had less

69Ibid.
70Ibid.
71Ibid.
72Ibid., p. 22.
73Ibid., p. 25.
74Ibid., p. 36.
than four years experience in teaching and 72.2 per cent had taught for less than fifteen years. Among the Negro science teachers, 41.7 per cent had been in their present jobs for three years or less.76

One hundred seventy-four, or 69.8 per cent, held Bachelor of Science degrees. Only 0.4 per cent of the Negro teachers had no degree.77 Slightly over eighty-one per cent of the degrees granted Negro teachers were conferred by institutions in the state.78

Of the subjects taught in combination with science, mathematics was predominant among Negro teachers, whereas white teachers tended to teach physical education in combination with science more frequently.79

A study conducted by Hunter in 1957 revealed the following information.80 There was a total of 666 white science teachers in Louisiana. Almost two-thirds of these, or 62.6 per cent, were men. The median years of experience of the men were 7.6 years, while the women had 11.9 years of experience as a median. Sixty-three per cent of the men had taught less than ten years, and 27.6 per cent had taught for less than five years.

Of the 666 white teachers, 79.9 per cent had the bachelor's degree as the highest degree, while 20.1 per cent held the master's degree. Of those holding the master's degrees, 59.7 per cent were

75 Ibid., p. 38.
76 Ibid.
77 Ibid.
78 Ibid.
79 Ibid.
Master of Education degrees, 21.6 per cent Master of Arts degrees, and 18.9 per cent Master of Science degrees.\textsuperscript{81}

Fourteen Louisiana colleges and universities trained 91.0 per cent of all high school science teachers in the state.

Seventy-five per cent of the biology teachers for whom data were available met the minimum certification requirements. Fifty per cent of the chemistry teachers and 35.0 per cent of the physics teachers met the minimum certification requirements.\textsuperscript{82}

In the area of teaching combinations, 24.0 per cent taught only science, 24.0 per cent taught science and mathematics, 20.0 per cent taught science and physical education, and 11.0 per cent taught science and social studies.

\textsuperscript{81}\textit{Ibid.}

\textsuperscript{82}\textit{Ibid.}
Chapter III

FINDINGS OF THE STUDY

INTRODUCTION

This chapter presents a comprehensive analysis of the status of the 412 persons who were prepared to teach in one or more areas of science by a Louisiana College or University, and who entered teaching in the Louisiana public school system during the years 1964-68.

NUMBER PREPARED AND ENTERING

As shown in Table I, a total of 1,006 persons graduated from Louisiana colleges and universities with certification in at least one area of science during the years 1964-68. Of this number, 412, or 41.0 per cent, entered teaching in Louisiana. The 1,006 persons prepared in science during the five years of this study represented an increase over the 1,153 prepared during the ten-year period, 1947-56.¹

White men science teachers outnumbered any other group entering teaching in Louisiana. They comprised 55.1 per cent of all the teachers who entered the profession during the five years of this study. The number of white men science teachers who entered the profession was double the number of white women science teachers who comprised 27.4 per cent of the total number of science teachers entering teaching in

TABLE I

NUMBER OF PERSONS CERTIFIED IN SCIENCE AND THE
NUMBER ENTERING TEACHING IN LOUISIANA, 1964-68

<table>
<thead>
<tr>
<th>Male</th>
<th>Female</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Negro</td>
</tr>
<tr>
<td>Number Per Cent</td>
<td>34   8.3</td>
</tr>
</tbody>
</table>

Total Prepared in Louisiana: 1006
Total Accepting Positions in Louisiana: 412
Per Cent Accepting Positions in Louisiana: 41.0%
Louisiana. Negro women science teachers accounted for 9.2 per cent of the total number of teachers who entered teaching, while Negro men science teachers composed 8.3 per cent; hence, a total of 17.5 per cent of the science teachers were Negroes. Staring found that 26.9 per cent of the science teachers who were teaching in 1957 were Negroes.2

Twelve persons included in the total number who entered teaching taught only the second semester. Since the principals' annual reports used in the collection of data were submitted in the fall of each year, no information was available on these persons.

Complete data on twenty-three other teachers, also included in the total entering teaching, were not available, since they were working in school-related jobs outside the elementary, junior high, or high school. Thus, complete data were available on 377 of the 412 persons who entered teaching in Louisiana. In the remainder of this study, these persons will be referred to by the number 377 or as elementary, junior high, and secondary school science teachers.

SEX AND RACE OF SCIENCE TEACHERS ENTERING

The numerical composition, according to sex, of persons entering the profession during the years 1964-68 is presented in Table II. The data in this table showed that the total number of men and women science teachers entering the profession had increased from 53 in 1964 to 104 in 1968. Of the fifty-three science teachers who entered in 1964, 73.5 per cent were white men, and only 18.8 per cent were white women. In contrast, in 1968, 46.2 per cent of the 104 persons entering teaching

<table>
<thead>
<tr>
<th>Year</th>
<th>Male</th>
<th></th>
<th></th>
<th>Female</th>
<th></th>
<th></th>
<th></th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Negro</td>
<td>Per Cent</td>
<td>White</td>
<td>Negro</td>
<td>Per Cent</td>
<td>White</td>
<td>Number</td>
<td>Per Cent</td>
</tr>
<tr>
<td>1964</td>
<td>3</td>
<td>5.8</td>
<td>39</td>
<td>73.5</td>
<td>1</td>
<td>1.9</td>
<td>10</td>
<td>18.8</td>
</tr>
<tr>
<td>1965</td>
<td>6</td>
<td>10.0</td>
<td>34</td>
<td>56.6</td>
<td>3</td>
<td>5.0</td>
<td>17</td>
<td>28.3</td>
</tr>
<tr>
<td>1966</td>
<td>4</td>
<td>6.8</td>
<td>33</td>
<td>55.9</td>
<td>5</td>
<td>8.5</td>
<td>17</td>
<td>28.8</td>
</tr>
<tr>
<td>1967</td>
<td>16</td>
<td>16.7</td>
<td>43</td>
<td>44.8</td>
<td>14</td>
<td>14.6</td>
<td>23</td>
<td>24.0</td>
</tr>
<tr>
<td>1968</td>
<td>4</td>
<td>3.8</td>
<td>48</td>
<td>46.2</td>
<td>13</td>
<td>12.5</td>
<td>39</td>
<td>37.5</td>
</tr>
</tbody>
</table>
were white men science teachers and 37.5 per cent were white women. Thus, a significant change in the per cent of white men and women science teachers entering the profession had occurred.

The number of Negro science teachers who entered the profession during the years 1964-68 showed an erratic increase. In 1964, only 5.8 per cent of the fifty-three teachers entering the profession were Negro men science teachers and only 1.9 per cent were Negro women science teachers. The per cent of Negro men science teachers entering the profession increased to 16.7 in 1967, but fell to 3.8 per cent in 1968. The per cent increase of the Negro women science teachers who entered the profession each year was less erratic than the per cent increase for Negro men science teachers entering the profession during the same time.

AREAS OF CERTIFICATION IN SCIENCE

The areas of science certification for persons who entered teaching during the years 1964-68 are given in Table III. The data showed an increase in the number of certified persons entering teaching in each area of science from 1964 through 1968. The increase in certification was most evident in the fields of biology, general science, and physics, where almost twice as many certified persons entered in 1968 as did in 1964. The number of persons certified in chemistry had increased during the period in question, but not to the extent of the number certified in other science areas.

The areas of specialization attracting the most people had not changed since Garrett's investigation in 1957, when general science and biology were the most frequent areas of preparation.  

3Garrett, op. cit., p. 29.
TABLE III
AREAS OF CERTIFICATION OF SCIENCE TEACHERS WHO ENTERED TEACHING IN LOUISIANA BY RACE AND YEAR

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Biology</td>
<td>4</td>
<td>42</td>
<td>7</td>
<td>42</td>
<td>4</td>
<td>32</td>
<td>12</td>
<td>55</td>
<td>6</td>
<td>74</td>
</tr>
<tr>
<td>Chemistry</td>
<td>4</td>
<td>27</td>
<td>7</td>
<td>27</td>
<td>2</td>
<td>22</td>
<td>7</td>
<td>29</td>
<td>1</td>
<td>39</td>
</tr>
<tr>
<td>General Science</td>
<td>4</td>
<td>45</td>
<td>8</td>
<td>47</td>
<td>9</td>
<td>48</td>
<td>28</td>
<td>63</td>
<td>17</td>
<td>79</td>
</tr>
<tr>
<td>Physics</td>
<td>0</td>
<td>15</td>
<td>3</td>
<td>16</td>
<td>0</td>
<td>16</td>
<td>1</td>
<td>18</td>
<td>1</td>
<td>26</td>
</tr>
<tr>
<td>Earth Science</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Total</td>
<td>12</td>
<td>129</td>
<td>25</td>
<td>132</td>
<td>15</td>
<td>118</td>
<td>48</td>
<td>165</td>
<td>25</td>
<td>219</td>
</tr>
</tbody>
</table>
Few Negroes were prepared in each of the subject areas, most notably in the areas of chemistry and physics. Only twenty-one Negro teachers were certified in chemistry and only five were certified in physics during the years 1964-68.

There was a marked decrease in the number of persons entering teaching in 1966. Following 1966, there was a large increase in the number of persons certified in science who entered teaching in Louisiana.

A disparity may be noted between the total number entering the profession and the total shown to be certified according to subject areas. This difference in numbers was due to the fact that some persons were certified in more than one area.

SEX AND RACE AS RELATED TO AREA OF CERTIFICATION

Data pertaining to the sex and race of science teachers who entered the teaching profession in Louisiana are given in Tables IV and V.

When examined on a sex and race group basis, general science was the most common area of certification, with over ninety-two per cent of the persons in each group being certified in this area. Biology was the second most popular area of certification, followed by chemistry and physics, respectively. Staring's study in 1957 also found that general science, followed by biology, chemistry, and physics, respectively, were the most frequent areas of certification.

Among the women science teachers, the white science teachers were more often certified in the areas of physics and chemistry than

---

4Staring, op. cit., pp. 15, 39.
TABLE IV

SEX AND RACE OF SCIENCE TEACHERS AS RELATED TO AREAS OF SCIENCE PREPARATION*

<table>
<thead>
<tr>
<th>Area</th>
<th>Male</th>
<th></th>
<th></th>
<th>Female</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Negro</td>
<td>Per Cent</td>
<td>White</td>
<td>Per Cent</td>
<td>Negro</td>
<td>Per Cent</td>
</tr>
<tr>
<td>Biology</td>
<td>17</td>
<td>51.5</td>
<td>163</td>
<td>81.1</td>
<td>16</td>
<td>44.4</td>
</tr>
<tr>
<td>Chemistry</td>
<td>11</td>
<td>33.3</td>
<td>92</td>
<td>45.8</td>
<td>10</td>
<td>27.8</td>
</tr>
<tr>
<td>General Science</td>
<td>31</td>
<td>93.9</td>
<td>188</td>
<td>93.5</td>
<td>35</td>
<td>97.2</td>
</tr>
<tr>
<td>Physics</td>
<td>3</td>
<td>9.1</td>
<td>59</td>
<td>29.4</td>
<td>2</td>
<td>5.6</td>
</tr>
<tr>
<td>Earth Science</td>
<td>0</td>
<td>0.0</td>
<td>1</td>
<td>0.5</td>
<td>0</td>
<td>0.0</td>
</tr>
</tbody>
</table>

* Per cents expressed as parts of each racial and sexual group
TABLE V

SEX AND RACE OF SCIENCE TEACHERS AS RELATED TO AREAS OF SCIENCE PREPARATION*

<table>
<thead>
<tr>
<th>Area</th>
<th>Male</th>
<th>Female</th>
<th>Totals</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Negro</td>
<td>Per Cent</td>
<td>White</td>
</tr>
<tr>
<td>Biology</td>
<td>17</td>
<td>6.6</td>
<td>163</td>
</tr>
<tr>
<td>Chemistry</td>
<td>11</td>
<td>6.6</td>
<td>92</td>
</tr>
<tr>
<td>General Science</td>
<td>31</td>
<td>8.8</td>
<td>188</td>
</tr>
<tr>
<td>Physics</td>
<td>3</td>
<td>3.1</td>
<td>59</td>
</tr>
<tr>
<td>Earth Science</td>
<td>0</td>
<td>0.0</td>
<td>1</td>
</tr>
</tbody>
</table>

* Per cents expressed as parts of the total number certified in each area
were the Negro women science teachers. The per cent of Negroes, men and
women, certified in physics was low with only 5.6 per cent of the Negro
women and 9.1 per cent of the Negro men being certified in this area.

Among the white science teachers who entered teaching, 29.4 per
cent of the men and 29.9 per cent of the women were certified in physics.
Only one person was certified in earth science. It should be noted that
earth science was a recently added area of certification.

INSTITUTIONS GRANTING DEGREES

Data relative to the institutions granting degrees to persons
who later entered science teaching in Louisiana are found in Table VI.

A total of 412 teachers was certified and entered the teaching
profession in Louisiana during the years 1964-68. Only 377 were consid­
ered in this table since complete data were not available on 35 of the
teachers. Five of the 377 who entered received their bachelor's degree
in earlier years, but completed a program in science education during
this period.

Southeastern Louisiana College produced the largest number of
science teachers entering the profession in Louisiana each year except
1967, when Southern University produced a larger number. Eighty-seven
of the 412 science teachers who entered the profession graduated from
Southeastern Louisiana College. Southern University, with forty-four
graduates entering teaching, and Louisiana Polytechnic Institute with
forty-two ranked second and third in the total number of science educa­
tion graduates who entered the profession in Louisiana. In 1957 Garrett
found that Southeastern Louisiana College and Louisiana Polytechnic
Institute ranked second and third in the number of science teachers
TABLE VI

DISTRIBUTION OF TEACHERS CERTIFIED IN SCIENCE WHO ENTERED TEACHING IN LOUISIANA, 1964-68, ACCORDING TO DEGREE GRANTING INSTITUTION

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Number Per Cent</td>
<td>Number Per Cent</td>
<td>Number Per Cent</td>
<td>Number Per Cent</td>
<td>Number Per Cent</td>
</tr>
<tr>
<td>Grambling College</td>
<td>4</td>
<td>7.5</td>
<td>4</td>
<td>6.7</td>
<td>1</td>
</tr>
<tr>
<td>Louisiana Poly-Technic Institute</td>
<td>9</td>
<td>17.0</td>
<td>3</td>
<td>5.0</td>
<td>5</td>
</tr>
<tr>
<td>Louisiana State University (B.R.)</td>
<td>3</td>
<td>5.7</td>
<td>7</td>
<td>11.7</td>
<td>7</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Louisiana State University (N.O.)</td>
<td>4</td>
<td>7.5</td>
<td>3</td>
<td>5.0</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>McNeese State College</td>
<td>5</td>
<td>9.4</td>
<td>4</td>
<td>6.7</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Nicholls State College</td>
<td>1</td>
<td>1.9</td>
<td>1</td>
<td>1.7</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Northeast Louisiana State College</td>
<td>0</td>
<td>0.0</td>
<td>3</td>
<td>5.0</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Northwestern State College</td>
<td>1</td>
<td>1.9</td>
<td>4</td>
<td>6.7</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>-------------------------------------</td>
<td>-------------</td>
<td>---------------</td>
<td>-------------</td>
<td>---------------</td>
<td>-------------</td>
</tr>
<tr>
<td>Southeastern Louisiana College</td>
<td>15</td>
<td>28.3</td>
<td>16</td>
<td>26.7</td>
<td>15</td>
</tr>
<tr>
<td>Southern University (B.R.)</td>
<td>0</td>
<td>0.0</td>
<td>1</td>
<td>1.7</td>
<td>7</td>
</tr>
<tr>
<td>Southern University (N.O.)</td>
<td>0</td>
<td>0.0</td>
<td>0</td>
<td>0.0</td>
<td>0</td>
</tr>
<tr>
<td>University of Southwestern Louisiana</td>
<td>8</td>
<td>15.1</td>
<td>9</td>
<td>15.0</td>
<td>8</td>
</tr>
<tr>
<td>Centenary College</td>
<td>0</td>
<td>0.0</td>
<td>1</td>
<td>1.7</td>
<td>2</td>
</tr>
<tr>
<td>Dillard University</td>
<td>0</td>
<td>0.0</td>
<td>0</td>
<td>0.0</td>
<td>0</td>
</tr>
<tr>
<td>Louisiana College</td>
<td>3</td>
<td>5.7</td>
<td>4</td>
<td>6.7</td>
<td>5</td>
</tr>
<tr>
<td>Loyola University (N.O.)</td>
<td>0</td>
<td>0.0</td>
<td>0</td>
<td>0.0</td>
<td>0</td>
</tr>
<tr>
<td>St. Mary's Dominican College</td>
<td>0</td>
<td>0.0</td>
<td>0</td>
<td>0.0</td>
<td>0</td>
</tr>
<tr>
<td>-------------------</td>
<td>-------------</td>
<td>---------------</td>
<td>-------------</td>
<td>---------------</td>
<td>-------------</td>
</tr>
<tr>
<td>Tulane University</td>
<td>0</td>
<td>0.0</td>
<td>0</td>
<td>0.0</td>
<td>0</td>
</tr>
<tr>
<td>Xavier University</td>
<td>0</td>
<td>0.0</td>
<td>0</td>
<td>0.0</td>
<td>1</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>53</strong></td>
<td><strong>100.0</strong></td>
<td><strong>60</strong></td>
<td><strong>100.3</strong></td>
<td><strong>59</strong></td>
</tr>
</tbody>
</table>
prepared. Southern University was not included, since Garrett’s study dealt only with white science teachers.  

Louisiana College prepared more science education graduates who entered the profession than did any other private institution in Louisiana. Three of the private institutions had no science education graduates who entered teaching during this time. Eight of the sixteen institutions that prepared science education graduates who entered teaching showed an increase in the number of graduates prepared each year from 1964 through 1968. The most notable increase occurred at Southern University and Louisiana State University, Baton Rouge.

EMPLOYMENT HISTORIES OF SCIENCE TEACHERS

The employment records of persons certified in science who entered teaching in Louisiana are shown in Table VII. The science teachers were divided into three groups according to employment status: those with unbroken employment records since entering; those with broken employment records but who were teaching in 1968; and those who left the profession. The employment histories of Negroes and whites were compared. Among the teachers with unbroken employment records, the Negro teachers were more stable than the white science teachers with 69.6 per cent having unbroken employment records, while 66.2 per cent of the white teachers had unbroken employment records.

Thirteen per cent of the Negro teachers and 12.7 per cent of the white teachers had broken employment records but were teaching in 1968. The greatest contrast between Negro and white teachers existed among

TABLE VII

EMPLOYMENT HISTORIES OF SCIENCE TEACHERS WHO ENTERED THE PROFESSION DURING 1964-68

<table>
<thead>
<tr>
<th>Sex</th>
<th>Persons With Unbroken Employment Records</th>
<th>Persons With Broken Employment Records but Employed in 1968</th>
<th>Persons Who Left the Profession</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Negro</td>
<td>White</td>
<td>Total</td>
</tr>
<tr>
<td></td>
<td>Num-Per</td>
<td>Num-Per</td>
<td>Num-Per</td>
</tr>
<tr>
<td>Male</td>
<td>19</td>
<td>133</td>
<td>152</td>
</tr>
<tr>
<td>Female</td>
<td>29</td>
<td>71</td>
<td>100</td>
</tr>
<tr>
<td>Total</td>
<td>48</td>
<td>204</td>
<td>252</td>
</tr>
</tbody>
</table>
those who left the profession. Only 17.3 per cent of the Negroes who entered teaching left the profession as compared to 21.1 per cent of the white teachers.

In an attempt to gain a better understanding of the employment status of science teachers who entered teaching during the period of this study, the employment histories were analyzed with regard to race and sex. This division revealed that 66.2 per cent of the white men science teachers had unbroken employment records, as compared to 57.6 per cent of the Negro men science teachers. Negro women showed the greatest tendency to remain in the profession with 80.6 per cent having unbroken employment records. Negro men composed the largest per cent of teachers with intermittent employment records with 21.2 per cent leaving the profession and returning at a later time. Negro women science teachers tended to stay in the profession with only 13.9 per cent leaving. White women most often left the profession with 24.3 per cent leaving.

The combined totals for each of the groups were different from the totals shown by Garrett in 1957. During the ten-year period, 1947-56, a total of 18.0 per cent of the teachers who entered the profession in Louisiana later withdrew. This per cent had increased to 20.4 per cent who left during the years 1964-68. The per cent of persons with intermittent employment records was similar, with 10.6 per cent of those in Garrett's study possessing such records and 12.7 per cent of the teachers in this study showing intermittent records. 6

6 Ibid., p. 81.
SUBJECT AREA ANALYSIS OF PERSONS WHO LEFT TEACHING

Of the 377 elementary, junior high, and secondary science teachers who entered teaching in Louisiana during the years 1964-68, 77 left the profession and had not returned to teaching in 1968.

Table VIII shows a subject area analysis of those teachers who left the profession. Seventy, or 90.9 per cent of the seventy-seven teachers, were certified in general science; 79.2 per cent in biology; 54.5 per cent in chemistry; and 23.4 per cent in physics. The large number leaving the profession with preparation in general science was not unusual since most science teachers were prepared in general science along with another science area.

When an analysis of the number of teachers who left the profession and their science area of preparation was related to the total number of teachers prepared and entering in each subject area, it was shown that the largest per cent of teachers who left the profession were prepared in chemistry, followed by biology, general science, and physics, respectively.

HIGHEST DEGREE HELD BY SCIENCE TEACHERS

The distribution of the highest degrees held by those persons entering teaching during the years 1964-68 is found in Tables IX and X.

The degree held most frequently by science teachers was the bachelor's degree. Of the 377 elementary, junior high, and secondary teachers for whom complete data were available, 350, or 92.7 per cent, held the bachelor's degree. The remaining 7.1 per cent held the master's degree with the Master of Education being most frequently held.
### TABLE VIII
AREAS OF SPECIALIZATION OF THE 77 SCIENCE TEACHERS WHO LEFT THE PROFESSION

<table>
<thead>
<tr>
<th>Certified In</th>
<th>Male</th>
<th>Female</th>
<th>Total Certified In Each Area Who Left</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Negro</td>
<td>White</td>
<td>Negro</td>
</tr>
<tr>
<td>Biology</td>
<td>4</td>
<td>30</td>
<td>5</td>
</tr>
<tr>
<td>Chemistry</td>
<td>2</td>
<td>21</td>
<td>5</td>
</tr>
<tr>
<td>General Science</td>
<td>5</td>
<td>35</td>
<td>5</td>
</tr>
<tr>
<td>Physics</td>
<td>0</td>
<td>12</td>
<td>1</td>
</tr>
<tr>
<td>Earth Science</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>
### TABLE IX

HIGHEST DEGREES HELD IN 1968 BY SCIENCE TEACHERS WHO ENTERED TEACHING DURING THE YEARS 1964-68

<table>
<thead>
<tr>
<th>Degree</th>
<th>Male</th>
<th>Female</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Negro</td>
<td>White</td>
<td>Negro</td>
</tr>
<tr>
<td>M.A.</td>
<td>0</td>
<td>4</td>
<td>0</td>
</tr>
<tr>
<td>M.Ed.</td>
<td>1</td>
<td>13</td>
<td>0</td>
</tr>
<tr>
<td>M.S.</td>
<td>0</td>
<td>4</td>
<td>0</td>
</tr>
<tr>
<td>B.A.</td>
<td>1</td>
<td>48</td>
<td>1</td>
</tr>
<tr>
<td>B.S.</td>
<td>31</td>
<td>132</td>
<td>35</td>
</tr>
</tbody>
</table>
TABLE X
HIGHEST DEGREES HELD IN 1968 BY SCIENCE TEACHERS WHO ENTERED TEACHING DURING THE YEARS 1964-68, ACCORDING TO SEX AND RACE

<table>
<thead>
<tr>
<th>Degree</th>
<th>Male</th>
<th></th>
<th></th>
<th>Female</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Negro Per Cent</td>
<td>White Per Cent</td>
<td>Negro Per Cent</td>
<td>White Per Cent</td>
<td></td>
<td></td>
</tr>
<tr>
<td>M.A.</td>
<td>0</td>
<td>4</td>
<td>2.0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>M.Ed.</td>
<td>1</td>
<td>13</td>
<td>6.5</td>
<td>0</td>
<td>0</td>
<td>4</td>
</tr>
<tr>
<td>M.S.</td>
<td>0</td>
<td>4</td>
<td>2.0</td>
<td>0</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>B.A.</td>
<td>1</td>
<td>48</td>
<td>23.9</td>
<td>1</td>
<td>2.8</td>
<td>25</td>
</tr>
<tr>
<td>B.S.</td>
<td>31</td>
<td>132</td>
<td>65.7</td>
<td>35</td>
<td>97.2</td>
<td>77</td>
</tr>
<tr>
<td>Total</td>
<td>33</td>
<td>201</td>
<td>100.1</td>
<td>36</td>
<td>100.0</td>
<td>107</td>
</tr>
</tbody>
</table>
When examined on a racial basis, the per cent of Negroes holding the bachelor's degree was much higher than the per cent of whites with this degree. Of the sixty-nine Negroes involved in this study, only one had earned a master's degree.

A somewhat similar situation existed in 1957 when Staring found that 84.2 per cent of the Negro teachers held a bachelor's degree and 31.5 per cent held advanced degrees.7

HIGHEST DEGREES HELD BY NEGRO TEACHERS AS RELATED TO TEACHING AREA

The data from Table XI showed that a majority of Negroes teaching in each science area held a bachelor's degree. In the areas of chemistry and physics, all of the Negro teachers had the bachelor's degree. Over ninety-five per cent of the Negro biology teachers held the bachelor's degree and 91.8 per cent of the Negro general science teachers held the bachelor's degree. Of those with advanced degrees, the largest number were teaching biology and general science. Nearly five per cent of the Negro biology teachers held the Master of Education degree, while 2.7 per cent of those teaching general science had a Master of Education degree. None of the Negro science teachers held a Master of science or Master of Arts degree.

HIGHEST DEGREES HELD BY WHITE SCIENCE TEACHERS AS RELATED TO TEACHING AREA

An analysis of Table XII showed the bachelor's degree as the degree held most frequently by white men and women teaching in each

7Staring, op. cit., p. 45.
TABLE XI

HIGHEST DEGREES HELD IN 1968 BY NEGRO SCIENCE TEACHERS

AS RELATED TO SCIENCE TEACHING AREAS

<table>
<thead>
<tr>
<th>Area</th>
<th>M.Ed.</th>
<th></th>
<th>M.S.</th>
<th></th>
<th>M.A.</th>
<th></th>
<th>B.A.</th>
<th></th>
<th>B.S.</th>
<th></th>
<th>Total</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Number</td>
<td>Per Cent</td>
<td>Number</td>
<td>Per Cent</td>
<td>Number</td>
<td>Per Cent</td>
<td>Number</td>
<td>Per Cent</td>
<td>Number</td>
<td>Per Cent</td>
<td>Number</td>
<td>Per Cent</td>
</tr>
<tr>
<td>Biology</td>
<td>1</td>
<td>4.5</td>
<td>0</td>
<td>0.0</td>
<td>0</td>
<td>0.0</td>
<td>0</td>
<td>0.0</td>
<td>21</td>
<td>95.5</td>
<td>22</td>
<td>100.0</td>
</tr>
<tr>
<td>Chemistry</td>
<td>0</td>
<td>0.0</td>
<td>0</td>
<td>0.0</td>
<td>0</td>
<td>0.0</td>
<td>0</td>
<td>0.0</td>
<td>9</td>
<td>100.0</td>
<td>9</td>
<td>100.0</td>
</tr>
<tr>
<td>General Science</td>
<td>1</td>
<td>2.7</td>
<td>0</td>
<td>0.0</td>
<td>0</td>
<td>0.0</td>
<td>2</td>
<td>5.4</td>
<td>34</td>
<td>91.8</td>
<td>37</td>
<td>99.9</td>
</tr>
<tr>
<td>Physics</td>
<td>0</td>
<td>0.0</td>
<td>0</td>
<td>0.0</td>
<td>0</td>
<td>0.0</td>
<td>0</td>
<td>0.0</td>
<td>2</td>
<td>100.0</td>
<td>2</td>
<td>100.0</td>
</tr>
<tr>
<td>Earth Science</td>
<td>0</td>
<td>0.0</td>
<td>0</td>
<td>0.0</td>
<td>0</td>
<td>0.0</td>
<td>0</td>
<td>0.0</td>
<td>0</td>
<td>0.0</td>
<td>0</td>
<td>0.0</td>
</tr>
<tr>
<td>Area</td>
<td>M.Ed. Number</td>
<td>M.Ed. Per Cent</td>
<td>M.S. Number</td>
<td>M.S. Per Cent</td>
<td>M.A. Number</td>
<td>M.A. Per Cent</td>
<td>B.A. Number</td>
<td>B.A. Per Cent</td>
<td>B.S. Number</td>
<td>B.S. Per Cent</td>
<td>Total Number</td>
<td>Total Per Cent</td>
</tr>
<tr>
<td>-----------------</td>
<td>--------------</td>
<td>----------------</td>
<td>--------------</td>
<td>---------------</td>
<td>--------------</td>
<td>---------------</td>
<td>--------------</td>
<td>---------------</td>
<td>--------------</td>
<td>---------------</td>
<td>--------------</td>
<td>----------------</td>
</tr>
<tr>
<td>Biology</td>
<td>6</td>
<td>6.9</td>
<td>2</td>
<td>2.3</td>
<td>1</td>
<td>1.1</td>
<td>20</td>
<td>22.9</td>
<td>58</td>
<td>66.6</td>
<td>87</td>
<td>99.8</td>
</tr>
<tr>
<td>Chemistry</td>
<td>2</td>
<td>5.7</td>
<td>0</td>
<td>0.0</td>
<td>0</td>
<td>0.0</td>
<td>5</td>
<td>14.3</td>
<td>28</td>
<td>80.0</td>
<td>35</td>
<td>100.0</td>
</tr>
<tr>
<td>General Science</td>
<td>7</td>
<td>6.0</td>
<td>2</td>
<td>1.7</td>
<td>1</td>
<td>0.9</td>
<td>27</td>
<td>23.2</td>
<td>79</td>
<td>68.1</td>
<td>116</td>
<td>99.9</td>
</tr>
<tr>
<td>Physics</td>
<td>2</td>
<td>7.7</td>
<td>0</td>
<td>0.0</td>
<td>1</td>
<td>3.8</td>
<td>2</td>
<td>7.7</td>
<td>21</td>
<td>80.7</td>
<td>26</td>
<td>99.9</td>
</tr>
<tr>
<td>Earth Science</td>
<td>0</td>
<td>0.0</td>
<td>0</td>
<td>0.0</td>
<td>0</td>
<td>0.0</td>
<td>0</td>
<td>0.0</td>
<td>1</td>
<td>100.0</td>
<td>1</td>
<td>100.0</td>
</tr>
</tbody>
</table>
science area. Among the subject areas, the chemistry teachers most frequently held the bachelor's degree with 94.3 per cent holding the Bachelor of Arts or Bachelor of Science degrees. Those persons teaching physics most often had advanced degrees, with 11.5 per cent holding either the Master of Arts, Master of Education, or Master of Science degrees. The Master of Education degree was the advanced degree most frequently held by white teachers.

SCHOOL POSITIONS HELD

Table XIII is used to indicate the school positions held by the four hundred persons for whom data were available and who were certified in some area of science during the years of this study. The largest number, 350, or 87.5 per cent, were classroom teachers at either the secondary, junior high, or elementary levels. The remaining 12.5 per cent were employed as coaches, college teachers, school administrators, trade school teachers, federal program advisors, and supervisors in the State Department of Education. Athletic coaches composed 6.7 per cent of those not teaching science. Only 0.25 per cent were employed in administrative positions.

In contrast, Hester found that 2.2 per cent of the science teachers in 1934 held administrative positions. However, the present study was limited to those certified during the five-year period, 1964-68; thus, there was not sufficient time for many teachers to move into administrative positions.

---

<table>
<thead>
<tr>
<th>Position</th>
<th>Male Negro</th>
<th>Male White</th>
<th>Female Negro</th>
<th>Female White</th>
<th>Totals Number</th>
<th>Totals Per Cent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Administration</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>0.25</td>
</tr>
<tr>
<td>Coaching</td>
<td>2</td>
<td>15</td>
<td>3</td>
<td>7</td>
<td>27</td>
<td>6.70</td>
</tr>
<tr>
<td>College Teaching</td>
<td>0</td>
<td>11</td>
<td>1</td>
<td>3</td>
<td>15</td>
<td>3.80</td>
</tr>
<tr>
<td>Federal Programs</td>
<td>0</td>
<td>1</td>
<td>1</td>
<td>0</td>
<td>2</td>
<td>0.50</td>
</tr>
<tr>
<td>State Department of Education</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>0.25</td>
</tr>
<tr>
<td>Teaching</td>
<td>31</td>
<td>186</td>
<td>33</td>
<td>100</td>
<td>350</td>
<td>87.50</td>
</tr>
<tr>
<td>Trade Schools</td>
<td>1</td>
<td>3</td>
<td>0</td>
<td>0</td>
<td>4</td>
<td>1.00</td>
</tr>
</tbody>
</table>
Negro men showed the least diversification of any racial group with only three Negro men employed in positions other than classroom teaching. Negro women were more diverse than Negro men with five persons occupying positions outside the classroom.

**TYPES OF SCHOOLS IN WHICH SCIENCE TEACHERS WERE EMPLOYED**

The types of schools in which science teachers who entered teaching during 1964-68 were employed is given in Table XIV.

The majority of the science-certified teachers, 80.1 per cent, were teaching in secondary schools. Junior high schools employed 10.3 per cent of the science teachers, while 4.5 per cent were employed in elementary schools. The remaining 4.9 per cent of the teachers were either teaching in college or were employed outside the public school organization.

Negro teachers, both men and women, were primarily employed in secondary schools. No Negro men and only two Negro women were teaching at the elementary, junior high, or college levels.

White men were employed at all levels. Thirteen per cent of the white men were teaching at the junior high school level and 4.4 per cent were teaching in elementary schools. A significant per cent of the white women were also employed at the junior high and elementary levels, with 11.2 per cent teaching in junior high schools and 6.4 per cent teaching in elementary schools.

The total number of persons teaching at various levels was greater than the number entering the profession, since some teachers were teaching in two or three levels in the same school.
TABLE XIV

TYPES OF SCHOOLS IN WHICH SCIENCE TEACHERS WHO ENTERED TEACHING

DURING 1964-68 WERE EMPLOYED

<table>
<thead>
<tr>
<th>School</th>
<th>Male</th>
<th></th>
<th></th>
<th>Female</th>
<th></th>
<th></th>
<th>Totals</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Negro</td>
<td>Per Cent</td>
<td>White</td>
<td>Per Cent</td>
<td>Negro</td>
<td>Per Cent</td>
<td>White</td>
</tr>
<tr>
<td>Elementary</td>
<td>0</td>
<td>0.0</td>
<td>11</td>
<td>4.4</td>
<td>1</td>
<td>2.6</td>
<td>8</td>
</tr>
<tr>
<td>Junior High</td>
<td>0</td>
<td>0.0</td>
<td>32</td>
<td>13.0</td>
<td>0</td>
<td>0.0</td>
<td>14</td>
</tr>
<tr>
<td>Secondary</td>
<td>33</td>
<td>97.1</td>
<td>186</td>
<td>75.6</td>
<td>36</td>
<td>94.7</td>
<td>100</td>
</tr>
<tr>
<td>Colleges</td>
<td>0</td>
<td>0.0</td>
<td>11</td>
<td>4.4</td>
<td>1</td>
<td>2.6</td>
<td>3</td>
</tr>
<tr>
<td>Other</td>
<td>1</td>
<td>2.9</td>
<td>6</td>
<td>2.4</td>
<td>0</td>
<td>0.0</td>
<td>0</td>
</tr>
<tr>
<td>Total</td>
<td>34</td>
<td>100.0</td>
<td>246</td>
<td>99.8</td>
<td>38</td>
<td>99.9</td>
<td>125</td>
</tr>
</tbody>
</table>
NUMBER OF PERSONS TEACHING IN THEIR AREA OF CERTIFICATION

During the five years of this study, a total of 281 persons was certified to teach biology, 165 to teach chemistry, 353 to teach general science, 96 to teach physics, and 1 to teach earth science. Tables XV through XIX are used to show the number and per cent of persons teaching in their areas of certification. Of the 281 persons certified to teach biology, only 108, or 38.4 per cent, were teaching in this field.

An analysis of the group of persons certified in chemistry showed the per cent of persons teaching in this area of science to be lower than was the case in biology. Only forty, or 24.2 per cent, of the persons certified in chemistry were teaching in this area. Only 25.0 per cent of the white men certified in chemistry were actually teaching in this field, and only 19.2 per cent of the white women certified in chemistry were teaching in this area. As in biology, a greater per cent of Negroes were teaching chemistry than whites. The largest per cent of persons certified in chemistry who were teaching the subject were Negro women.

A larger per cent of those persons certified in general science were teaching in this area than was true in other fields. Over fifty per cent of the persons certified in general science were teaching in this area of certification. Negro men certified in general science were most often found teaching in this field, while white women with certification in general science were least often found teaching in this area.

Of the ninety-six persons certified in physics, only twenty-one, or 21.8 per cent, were teaching physics. While the Negroes were most often found teaching in their area of certification in the areas of
TABLE XV
NUMBER AND PER CENT OF SCIENCE TEACHERS PREPARED IN BIOLOGY
WHO WERE TEACHING BIOLOGY IN 1968

<table>
<thead>
<tr>
<th></th>
<th>Male</th>
<th></th>
<th>Female</th>
<th></th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Negro</td>
<td>White</td>
<td>Negro</td>
<td>White</td>
<td></td>
</tr>
<tr>
<td>Number Certified in Biology</td>
<td>17</td>
<td>163</td>
<td>16</td>
<td>85</td>
<td>281</td>
</tr>
<tr>
<td>Number and Per Cent of Persons Teaching Biology</td>
<td>11</td>
<td>64.7</td>
<td>6.1</td>
<td>37.4</td>
<td></td>
</tr>
<tr>
<td></td>
<td>10</td>
<td>62.5</td>
<td>26</td>
<td>30.6</td>
<td>108</td>
</tr>
<tr>
<td>Number and Per Cent of Persons Teaching Biology</td>
<td>108</td>
<td>38.4</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Number Certified in Chemistry</td>
<td>Male</td>
<td>Female</td>
<td>Total</td>
<td></td>
<td></td>
</tr>
<tr>
<td>-----------------------------</td>
<td>------</td>
<td>--------</td>
<td>-------</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Negro</td>
<td>11</td>
<td>10</td>
<td>165</td>
<td></td>
<td></td>
</tr>
<tr>
<td>White</td>
<td>92</td>
<td>52</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Number and Per Cent of Persons Teaching Chemistry</th>
<th>Male Number</th>
<th>Male Per Cent</th>
<th>Female Number</th>
<th>Female Per Cent</th>
<th>Total Number</th>
<th>Total Per Cent</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>3</td>
<td>27.3</td>
<td>4</td>
<td>40.0</td>
<td>40</td>
<td>24.2</td>
</tr>
<tr>
<td></td>
<td>23</td>
<td>25.0</td>
<td>10</td>
<td>19.2</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
TABLE XVII

NUMBER AND PER CENT OF SCIENCE TEACHERS PREPARED IN GENERAL SCIENCE WHO WERE TEACHING GENERAL SCIENCE IN 1968

<table>
<thead>
<tr>
<th></th>
<th>Male</th>
<th></th>
<th>Female</th>
<th></th>
<th>Total</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Negro</td>
<td>White</td>
<td>Negro</td>
<td>White</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Number Certified in</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>General Science</td>
<td>31</td>
<td>188</td>
<td>35</td>
<td>99</td>
<td>353</td>
<td></td>
</tr>
<tr>
<td>Number and Per Cent</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>of Persons Teaching</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>General Science</td>
<td>Number</td>
<td>Per Cent</td>
<td>Number</td>
<td>Per Cent</td>
<td>Number</td>
<td>Per Cent</td>
</tr>
<tr>
<td></td>
<td>17</td>
<td>54.8</td>
<td>81</td>
<td>43.1</td>
<td>19</td>
<td>54.3</td>
</tr>
<tr>
<td></td>
<td>179</td>
<td>50.7</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
TABLE XVIII

NUMBER AND PER CENT OF SCIENCE TEACHERS PREPARED IN PHYSICS WHO WERE TEACHING PHYSICS IN 1968

<table>
<thead>
<tr>
<th></th>
<th>Male</th>
<th></th>
<th>Female</th>
<th></th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Negro</td>
<td>White</td>
<td>Negro</td>
<td>White</td>
<td></td>
</tr>
<tr>
<td>Number Certified</td>
<td>3</td>
<td>59</td>
<td>2</td>
<td>32</td>
<td>96</td>
</tr>
<tr>
<td>Number and Per Cent of Persons Teaching Physics</td>
<td>Number</td>
<td>Per Cent</td>
<td>Number</td>
<td>Per Cent</td>
<td>Number</td>
</tr>
<tr>
<td></td>
<td>0</td>
<td>0.0</td>
<td>15</td>
<td>25.4</td>
<td>0</td>
</tr>
</tbody>
</table>
TABLE XIX

NUMBER AND PER CENT OF SCIENCE TEACHERS PREPARED IN EARTH SCIENCE
WHO WERE TEACHING EARTH SCIENCE IN 1968

<table>
<thead>
<tr>
<th></th>
<th>Male</th>
<th></th>
<th>Female</th>
<th></th>
<th>Total</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Negro</td>
<td>White</td>
<td>Negro</td>
<td>White</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Number Certified in Earth Science</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Number and Per Cent of Persons Teaching Earth Science</td>
<td>0 0.0</td>
<td>1 100.0</td>
<td>0 0.0</td>
<td>0 0.0</td>
<td>1 100.0</td>
<td></td>
</tr>
</tbody>
</table>
biology, chemistry, and general science, this was not the case in physics. Only five Negroes were certified in physics and none were teaching physics. Among the white teachers, men were more often teaching physics than were women.

A similar situation was reported by Garrett in 1957, when less than one half of the persons certified in science were teaching in their area of certification during their first year of teaching.9

PERSONS TEACHING OUTSIDE THEIR AREA OF CERTIFICATION

Data in Table XX revealed that only sixteen science teachers who were certified and entered teaching during 1964-68 were teaching in a science area for which they were not certified.

The science area containing the largest number of uncertified persons was physics, with a total of seven. Five of the seven uncertified physics teachers were white men.

Only two science teachers who were not prepared to teach biology were teaching biology in 1968.

Further analysis of those persons teaching in areas for which they were not certified revealed that fewer Negro science teachers than whites were teaching in areas for which they were not certified. Only one Negro uncertified in biology was teaching in this area. The same was true for general science where only one uncertified Negro teacher was teaching.

The findings of this study, along with the findings of Garrett in 1957, indicated that science teachers were being utilized in their areas

9Garrett, op. cit., p. 87.
TABLE XX

NUMBER AND PER CENT OF SCIENCE TEACHERS WHO, IN 1968, WERE TEACHING
IN AN AREA FOR WHICH THEY WERE NOT CERTIFIED

<table>
<thead>
<tr>
<th>Number Teaching and Not Certified</th>
<th>Male</th>
<th></th>
<th></th>
<th></th>
<th>Female</th>
<th></th>
<th></th>
<th></th>
<th>Totals</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Negro</td>
<td>Per Cent</td>
<td>White</td>
<td>Per Cent</td>
<td>Negro</td>
<td>Per Cent</td>
<td>White</td>
<td>Per Cent</td>
<td>Number</td>
</tr>
<tr>
<td>Biology</td>
<td>1</td>
<td>50.0</td>
<td>1</td>
<td>50.0</td>
<td>0</td>
<td>0.0</td>
<td>0</td>
<td>0.0</td>
<td>2</td>
</tr>
<tr>
<td>Chemistry</td>
<td>0</td>
<td>0.0</td>
<td>1</td>
<td>25.0</td>
<td>2</td>
<td>50.0</td>
<td>1</td>
<td>25.0</td>
<td>4</td>
</tr>
<tr>
<td>General Science</td>
<td>1</td>
<td>33.3</td>
<td>2</td>
<td>66.7</td>
<td>0</td>
<td>0.0</td>
<td>0</td>
<td>0.0</td>
<td>3</td>
</tr>
<tr>
<td>Physics</td>
<td>1</td>
<td>14.3</td>
<td>5</td>
<td>71.4</td>
<td>1</td>
<td>14.3</td>
<td>0</td>
<td>0.0</td>
<td>7</td>
</tr>
<tr>
<td>Earth Science</td>
<td>0</td>
<td>0.0</td>
<td>0</td>
<td>0.0</td>
<td>0</td>
<td>0.0</td>
<td>0</td>
<td>0.0</td>
<td>0</td>
</tr>
</tbody>
</table>
of certification and were seldom teaching science subjects for which they were not certified.\textsuperscript{10}

\section*{PERSONS CERTIFIED IN SCIENCE BUT NOT TEACHING SCIENCE}

Table XXI is used to show the subject area certification of the ninety-two persons certified in science who were teaching in other subject areas, but were not teaching science in 1968. The certification most frequently possessed by non-science teaching persons was general science. The second most common area of certification was biology, followed by chemistry and physics, respectively.

White teachers comprised a majority, 76.1 per cent, of the persons certified in science who were not teaching science in 1968. The number of white men not teaching any science was slightly higher than the number of white women. Among the Negro teachers, more women prepared in science were not teaching science than men.

In view of the small number of Negroes certified in physics, it was significant that 40.0 per cent of the Negroes certified to teach physics were teaching in other areas.

The data in Table XXI indicated that there was no significant pattern with regard to area of science specialization and the number of teachers not teaching any science.

\section*{YEARS OF EXPERIENCE IN POSITION HELD IN 1968}

The years of experience in the position held in 1968 were

\textsuperscript{10}Ibid., pp. 83, 89, 90.
<table>
<thead>
<tr>
<th>Area</th>
<th>Male</th>
<th></th>
<th>Female</th>
<th></th>
<th>Totals</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Negro</td>
<td>Per Cent</td>
<td>White</td>
<td>Per Cent</td>
<td>Negro</td>
<td>Per Cent</td>
<td>White</td>
</tr>
<tr>
<td>Biology</td>
<td>0</td>
<td>0.0</td>
<td>26</td>
<td>52.0</td>
<td>1</td>
<td>2.0</td>
<td>23</td>
</tr>
<tr>
<td>Chemistry</td>
<td>2</td>
<td>7.4</td>
<td>13</td>
<td>48.1</td>
<td>0</td>
<td>0.0</td>
<td>12</td>
</tr>
<tr>
<td>General Science</td>
<td>10</td>
<td>11.6</td>
<td>32</td>
<td>37.2</td>
<td>12</td>
<td>14.0</td>
<td>32</td>
</tr>
<tr>
<td>Physics</td>
<td>1</td>
<td>5.6</td>
<td>10</td>
<td>55.6</td>
<td>1</td>
<td>5.6</td>
<td>6</td>
</tr>
<tr>
<td>Earth Science</td>
<td>0</td>
<td>0.0</td>
<td>0</td>
<td>0.0</td>
<td>0</td>
<td>0.0</td>
<td>0</td>
</tr>
</tbody>
</table>
### TABLE XXII

YEARS OF EXPERIENCE IN POSITION HELD IN 1968 BY PERSONS CERTIFIED IN SCIENCE DURING THE YEARS 1964-68

<table>
<thead>
<tr>
<th>Years</th>
<th>Male</th>
<th>Female</th>
<th>Totals</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Negro</td>
<td>White</td>
<td>Per Cent</td>
</tr>
<tr>
<td>5 years</td>
<td>0</td>
<td>0.0</td>
<td>11</td>
</tr>
<tr>
<td>4 years</td>
<td>0</td>
<td>0.0</td>
<td>17</td>
</tr>
<tr>
<td>3 years</td>
<td>5</td>
<td>15.2</td>
<td>29</td>
</tr>
<tr>
<td>2 years</td>
<td>16</td>
<td>48.5</td>
<td>43</td>
</tr>
<tr>
<td>1 year</td>
<td>12</td>
<td>36.4</td>
<td>101</td>
</tr>
<tr>
<td>Total</td>
<td>33</td>
<td>100.0</td>
<td>201</td>
</tr>
</tbody>
</table>

Mean Years of Experience: 1.975
examined in Table XXII. Fifty-two per cent of the science teachers were new to their positions in 1968. Over eighty-nine per cent had three years or less of experience. This per cent was much higher than the 35.4 per cent of teachers with three years or less experience in 1957.\footnote{Staring, op. cit., pp. 16, 40.} Only 3.4 per cent of all those who entered teaching had five years of experience in the same position. No Negro men and only one Negro woman had as much as four years of experience in the same job. White men science teachers seemed to be the most stable group as 8.5 per cent had four years of experience and 5.5 per cent had five years of experience. Negro men science teachers had held the same jobs longer than Negro women, and white men science teachers had held their jobs longer than white women science teachers.

The mean experience in the same position for the teachers in this study was 1.975 years. While earlier studies indicated much greater mean years of experience in the same position, it must be remembered that those studies were not limited to a given number of years for entry into the profession.

TOTAL YEARS OF EXPERIENCE

The total years of experience for science teachers certified during the years of this study are found in Table XXIII.

The greatest number of teachers were those with only one year of experience. Forty-two per cent of the 377 elementary, junior high, and secondary science teachers were in this category. As the total years of experience increased, the per cent of persons with corresponding years
### TABLE XXIII

**TOTAL YEARS OF EXPERIENCE (1968) OF SCIENCE TEACHERS**

**CERTIFIED IN SCIENCE DURING THE YEARS 1964-68**

<table>
<thead>
<tr>
<th>Years</th>
<th>Male</th>
<th>Female</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Negro Per Cent</td>
<td>White Per Cent</td>
<td>Negro Per Cent</td>
</tr>
<tr>
<td>Over 5 years</td>
<td>1 3.0 6 3.0</td>
<td>0 0.0 2 1.8</td>
<td>9 2.4</td>
</tr>
<tr>
<td>5 years</td>
<td>1 3.0 18 9.0</td>
<td>0 0.0 5 4.7</td>
<td>24 6.3</td>
</tr>
<tr>
<td>4 years</td>
<td>3 9.1 28 13.9</td>
<td>1 2.8 9 8.4</td>
<td>41 10.8</td>
</tr>
<tr>
<td>3 years</td>
<td>7 21.2 27 13.4</td>
<td>3 8.3 10 9.3</td>
<td>47 12.4</td>
</tr>
<tr>
<td>2 years</td>
<td>14 42.4 40 19.9</td>
<td>14 38.9 29 27.1</td>
<td>97 25.7</td>
</tr>
<tr>
<td>1 year</td>
<td>7 21.2 82 40.8</td>
<td>18 50.0 52 48.6</td>
<td>159 42.0</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>33 100.0</strong></td>
<td><strong>201 100.0</strong></td>
<td><strong>377 99.6</strong></td>
</tr>
</tbody>
</table>

**Mean Years of Experience: 2.432**
of experience decreased until it was shown that only 6.3 per cent of the persons had five years of experience. A sixth category was necessary for those persons with over five years of experience, since some of the graduates had taught prior to receiving a degree.

Within each racial and sexual group, with the exception of Negro men, a majority of persons had only one year of experience. Among the Negro men science teachers, more were found with two years of experience due to the large number who entered the profession in 1967.

The mean total experience for this group was 2.432 years.

TEACHING COMBINATIONS OF SCIENCE TEACHERS

The teaching combinations of persons certified in science are found in Tables XXIV and XXV. Of the 412 persons prepared in science who entered teaching, 285 were teaching science. The largest group of science teachers, 162, or 56.8 per cent, was teaching science in combination with one other subject. The second largest group of persons teaching science was teaching only science. One hundred four persons, or 36.5 per cent, were teaching science only. The teaching combination of science and two other subjects was the assignment of 6.6 per cent of those teaching science.

When the science teachers were divided into groups according to race and sex, it was found that Negro men and women taught only science more often than white science teachers. Over seventy per cent of the Negro women taught science only, as compared to 41.1 per cent of the white women teaching only science. Slightly over forty-seven per cent of the Negro men taught only science. Among the Negro men, only 4.3 per cent taught more than one subject in combination with science, while 9.7
<table>
<thead>
<tr>
<th>Combination</th>
<th>Male</th>
<th>Female</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Negro Per Cent</td>
<td>White Per Cent</td>
<td>Negro Per Cent</td>
</tr>
<tr>
<td>Science Only</td>
<td>11</td>
<td>10.5</td>
<td>17</td>
</tr>
<tr>
<td>Science and 1 Other</td>
<td>11</td>
<td>6.8</td>
<td>6</td>
</tr>
<tr>
<td>Science and 2 Others</td>
<td>1</td>
<td>6.3</td>
<td>1</td>
</tr>
<tr>
<td>Science and 3 Others</td>
<td>0</td>
<td>0.0</td>
<td>0</td>
</tr>
<tr>
<td>Science and 4 Others</td>
<td>0</td>
<td>0.0</td>
<td>0</td>
</tr>
</tbody>
</table>

*Per cents expressed as parts of total number teaching each science combination*
<table>
<thead>
<tr>
<th>Science</th>
<th>Male</th>
<th>Female</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Negro</td>
<td>Per Cent</td>
<td>White</td>
</tr>
<tr>
<td>Only</td>
<td>11</td>
<td>47.8</td>
<td>46</td>
</tr>
<tr>
<td>And 1 Other Subject</td>
<td>11</td>
<td>47.8</td>
<td>103</td>
</tr>
<tr>
<td>And 2 Other Subjects</td>
<td>1</td>
<td>4.3</td>
<td>13</td>
</tr>
<tr>
<td>And 3 Other Subjects</td>
<td>0</td>
<td>0.0</td>
<td>2</td>
</tr>
<tr>
<td>And 4 Other Subjects</td>
<td>0</td>
<td>0.0</td>
<td>1</td>
</tr>
<tr>
<td>Total</td>
<td>23</td>
<td>99.9</td>
<td>165</td>
</tr>
</tbody>
</table>

*Per cents expressed as parts of each racial and sexual group
per cent of the white men taught science in combination with two or more subjects. This trend was reversed with women teachers. Only 1.4 per cent of the white women were teaching science in combination with two other subjects, while 4.2 per cent of the Negro women were teaching science in combination with two other subjects.

The white teachers, both male and female, most frequently taught science and one other subject.

Previous studies have indicated much smaller per cents of persons teaching only science. Staring, in 1957, found less than twenty per cent of the teachers certified in each area of science devoting their time to teaching only science.\textsuperscript{12}

\begin{footnotesize}
\textsuperscript{12}Ibid., pp. 49, 50, 52, 53.
\end{footnotesize}
Chapter IV

SUMMARY AND CONCLUSIONS

INTRODUCTION

This study was made to determine the areas of preparation and the employment status of the 412 science teachers who entered teaching in Louisiana during the years 1964-68. The results are presented in the following order:

1. Number of graduates who entered the profession in each subject area.
2. Sex of science teachers entering teaching.
3. Institutions preparing science teachers.
4. Employment histories of those who entered the profession.
5. Teaching assignments of science teachers who remained in the profession and who left the profession.
6. Highest degrees held by science teachers.
7. School positions held by science teachers.
8. Teaching assignment as related to area of certification in science.
9. Years of experience of science teachers.
10. Teaching combinations of science teachers.

NUMBER OF GRADUATES WHO ENTERED THE PROFESSION

The number of science teachers, 104, who entered the profession in 1968 almost doubled the number who entered teaching in 1964. The number of teachers prepared in general science, biology, and physics increased significantly from 1964 through 1968, while the number prepared in chemistry showed only a slight increase.

A comparison of Negro and white science teachers showed that fewer Negro teachers were prepared in chemistry and physics than white science teachers. The Negroes were most frequently prepared to teach
general science and biology. The predominant areas of preparation for white science teachers were also general science and biology.

SEX OF SCIENCE TEACHERS ENTERING TEACHING

The ratio of the total number of men to the total number of women who entered teaching during the years 1964-68 had changed little since 1957. However, when the ratios of men to women entering teaching each year was considered, there were significant differences. The per cent of white women science teachers who entered teaching each year had increased from 18.8 per cent in 1964 to 37.5 per cent in 1968. The per cent of white men science teachers entering each year had decreased from 73.5 per cent in 1964 to 46.2 per cent in 1968. The per cent of Negro science teachers entering the profession each year was erratic, but had increased from 1964 to 1968.

INSTITUTIONS PREPARING SCIENCE TEACHERS

Among the state institutions of higher learning, Southeastern Louisiana College prepared the greatest number of science teachers who entered the profession during the years 1964-68. This institution also produced the largest number of science teachers who entered the profession every year, except 1967, when Southern University (Baton Rouge) prepared the greatest number. Southern University (Baton Rouge) led in the preparation of Negro science teachers and was second only to Southeastern Louisiana College in the total number of science teachers prepared. Among the private institutions, Louisiana College graduated the largest number of science teachers who entered the profession during 1964-68.

Eight of the sixteen institutions preparing science teachers
showed an overall increase in the number of graduates who entered teaching during the years 1964-68. Louisiana Polytechnic Institute and Louisiana State University (Baton Rouge) had the greatest increase in the number of graduates entering teaching during these years.

EMPLOYMENT HISTORIES OF THOSE WHO ENTERED THE PROFESSION

When the employment histories of the science teachers entering teaching from 1964-68 were examined, the largest group had unbroken employment records. A total of 252, or 66.8 per cent, had not left teaching since their initial entry into the profession. The next largest group of science teachers was those who left the profession. A total of seventy-seven, or 20.4 per cent, were in this category. The smallest per cent of persons had broken employment records, but were teaching in 1968.

When examined on a racial basis, it was found that 69.6 per cent of the Negro teachers had been employed continuously. Negro women science teachers accounted for much of this stability, with 80.6 per cent maintaining continuous employment in the same job.

When the number of persons who left the profession was examined, it was found that fewer Negro science teachers had left than white teachers. Among the Negro science teachers who left teaching, the largest per cent were men. Among the white teachers, a larger per cent of white women left the profession than white men.

The per cents of Negro and white teachers with intermittent employment records were approximately the same, with 13.0 per cent of the Negro science teachers and 12.7 per cent of the white science teachers having intermittent or broken employment records.
TEACHING ASSIGNMENTS OF SCIENCE TEACHERS WHO REMAINED IN THE PROFESSION AND WHO LEFT THE PROFESSION

The major teaching areas of those persons who remained in the profession were general science and biology. Over eighty-nine per cent of the teachers fell in this category. When examined on a racial basis, almost one half, 116 of 235, of the white science teachers were teaching general science, while 87 of the 235 white science teachers were teaching biology. Among the Negro teachers, thirty-seven of the sixty-eight science teachers were teaching general science, while twenty-two of the sixty-eight science teachers were teaching biology. The number of science teachers teaching physics was low for both whites and Negroes. Only two Negroes and twenty-one whites were teaching physics in 1968.

Among the seventy-seven teachers who left the profession, seventy were certified in general science and sixty-one were certified in biology.

The science area losing the largest per cent of certified teachers was chemistry. Approximately twenty-six per cent of the teachers prepared in this area later left the profession.

The smallest per cent of teachers to leave the profession were prepared in physics. Only 18.7 per cent of the physics teachers left the profession.

HIGHEST DEGREES HELD

The baccalaureate degree was the degree most frequently held by science teachers who entered teaching during the years, 1964-68. Approximately ninety-three per cent of the teachers held this degree. Two hundred seventy-five, or 72.9 per cent, held the Bachelor of Science degree, and seventy-five, or 19.8 per cent, held the Bachelor of Arts
degree. The remaining 7.7 per cent of the science teachers who entered teaching during this period held the master's degree. Over one half of the teachers holding master's degrees had earned Master of Education degrees. Only one of the seventy-two Negro science teachers, a male, prepared during this period held a master's degree. Among the white science teachers, 39.6 per cent of the men and 95.4 per cent of the women held the bachelor's degree. Twenty-one, or 10.5 per cent of the white men science teachers, had earned master's degrees. Only five, or 4.6 per cent of the women had earned this degree.

SCHOOL POSITIONS HELD

The majority, 87.5 per cent of those persons prepared as science teachers and who entered teaching in Louisiana during the years 1964-68, held teaching positions in elementary, junior high, or secondary schools. Over eighty per cent of these persons were teaching in secondary schools, while 10.3 per cent were teaching in junior high, and 4.5 per cent in elementary schools. All of the Negro science teachers, except one, were employed at the secondary level. The per cents of white men and white women science teachers employed at the junior high and elementary levels were similar, with slightly more women at the elementary level and slightly more men teaching at the junior high school level. Twenty-seven, or 6.70 per cent of the science teachers, were serving as athletic coaches. Of this number, only two Negro men and three Negro women were coaching. Fifteen of the twenty-seven science teachers involved in coaching were white men.

In addition to the jobs of classroom teaching and coaching, a small number of science teachers was involved in college teaching, trade
school teaching, federal programs, State Department of Education supervision, and administration.

TEACHING ASSIGNMENT AS RELATED TO AREA OF CERTIFICATION IN SCIENCE

Of the 281 persons certified to teach biology, only 108, or 38.4 per cent were teaching biology in 1968.

One hundred sixty-five teachers involved in this study were prepared to teach chemistry. Of this number, forty or 24.2 per cent, were teaching in this subject area.

The largest per cent of persons employed in their area of certification were those prepared in general science. Slightly over one half, 50.7 per cent, of the teachers prepared in general science were teaching this subject.

Only 21.8 per cent of the persons prepared to teach physics were teaching in this area.

Generally, Negro science teachers were more frequently employed in their area of certification than white science teachers. This was true in the areas of biology, chemistry, and general science.

YEARS OF EXPERIENCE

Over one half, 52.0 per cent of the science teachers included in this study, were, in 1968, in their positions for the first time. Another 25.7 per cent of the teachers were in their present positions for the second year.

None of the Negro science teachers had five years of experience in the jobs they were holding in 1968, and only one Negro teacher had as much as four years of experience in the same teaching job. The number of
white science teachers with four or five years of experience was also small, but was significantly larger than the number of Negroes with four or five years of experience.

The total years of experience for science teachers in 1968 showed 42.0 per cent of the teachers to be in their first year of teaching, while slightly over one fourth, 25.7 per cent, were in their second year of teaching. The per cent of teachers with four and five years of experience was 10.8 and 6.3 per cent, respectively. A sixth category for those persons with over five years of experience was necessary since some teachers had taught prior to receiving a degree.

Comparisons of the years of experience of white science teachers and Negro science teachers showed that white teachers had more experience in the jobs they held in 1968 than did the Negro teachers.

TEACHING COMBINATIONS OF SCIENCE TEACHERS

The largest per cent of science teachers, 56.8 per cent, were teaching science and one other subject in 1968. Another 36.5 per cent of the teachers were teaching science subjects only. Thus 93.3 per cent of the teachers were concentrating their teaching efforts in the area in which they were prepared.

When comparisons of Negro and white science teaching patterns were made, a larger per cent of the Negro teachers were teaching science subjects only. White science teachers were teaching most frequently science and one other subject.

Only three science teachers, all of whom were white men, were teaching science in combination with three or more other subjects.
CONCLUSIONS

The following conclusions are based upon the findings of this study:

1. The total number of persons prepared in science during the years 1964-68 increased significantly over the number prepared in the ten-year period, 1947-56. This increase may be explained by the emphasis given the training of science teachers in the post-Sputnik era, since no relaxation of the requirements for certification had occurred since the last study in 1957.

2. While the per cent of men science teachers in the profession remained high, the per cent of women science teachers entering the profession each year since 1964 increased. The per cent of Negro teachers entering the profession each year was erratic, although a tendency toward a larger number of Negro science teachers entering the profession was shown.

3. The major areas of preparation in science for both Negro and white teachers were general science and biology. The major teaching areas for Negroes and whites were also general science and biology. This is the continuation of a trend that started during the ten-year period 1947-56.

4. No significant differences were noted in the employment records of Negro and white teachers.

5. Many of the persons who were certified in science were not teaching science in 1968.

6. Among the Negro teachers, there was a definite pattern of persons teaching only science. White teachers were often required to teach other subject areas in addition to science.
BIBLIOGRAPHY

A. PUBLICATIONS OF THE GOVERNMENT, LEARNED SOCIETIES, AND OTHER ORGANIZATIONS


B. PERIODICALS


C. UNPUBLISHED MATERIALS


BIOGRAPHY

Jerry Wayne Andrews was born on August 4, 1940 in Bernice, Louisiana. He graduated from the Summerfield High School in 1958 and attended Louisiana Polytechnic Institute where he received the Bachelor of Science degree in 1962.

He began his teaching career in the Winnsboro High School in 1962. He remained in this position until 1965. In 1963 he entered graduate school at Louisiana Polytechnic Institute where he received the Master of Science degree in 1965. From 1965 through 1970, he was employed as science supervisor in the University Laboratory School.

He married Patricia Morgan in August, 1968.
Candidate: Jerry Wayne Andrews

Major Field: Education

Title of Thesis: The Preparation and Employment Status of Science Teachers Who Graduated from Louisiana Colleges and Universities, 1964-68

Approved:

[Signatures]

Major Professor and Chairman

Dean of the Graduate School

EXAMINING COMMITTEE:

[Signatures]

Date of Examination: June 23, 1970