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A SURVEY ON SCIENCE AND MATHEMATICS SUPERVISORS



Science Education Institute (SEI)
Department of Science and Technology (DOST)

November 2001

A Survey on Science and Mathematics Supervisors

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Published by the
SCIENCE EDUCATION INSTITUTE (SEI)
Department of Science and Technology (DOST)

Printed by the
SCIENCE EDUCATION INSTITUTE (SEI)
Department of Science and Technology (DOST)
Bicutan, Taguig, Metro Manila

November 2001

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FOREWORD

The quality of supervision provided to science and mathematics (S&M) teachers is considered a factor having an impact on the quality of science and technology (S&T) education in the country. It is therefore important that S&M supervisors be equipped with appropriate knowledge and supervision skills so they can play an important role in providing technical assistance to teachers.

A study on S&M supervisors conducted in 1993 revealed that majority of science and mathematics supervisors did not have appropriate background and training in S&M. In 1998, the Science Education Institute of the Department of Science and Technology conducted a follow-up survey. The survey aimed to gather information on the capabilities of supervisors and determine the bulk of qualified S&M supervisors whose field of specialization matched that of the subject areas they are supervising.

It is hoped that the information on S&M supervisors presented in this study will be used as basis by policy makers, researchers, planners and implementors of S&M education programs in developing appropriate policies, trainings, and intervention programs for the improvement of S&M supervision and education in the country.



ESTER B. OGENA
Director

INTRODUCTION

In 1993, the Science Education Institute of the Department of Science and Technology (SEI-DOST) conducted a study on science and mathematics (S&M) supervisors. The study was conceived as an initial effort to establish a context for designing training programs and formulating policies along supervision in S&M education. It also aimed to determine the percentage of qualified S&M supervisors whose field of specialization matched with the subject area they are supervising. The results of the study showed that, of the 241 S&M supervisors studied, 27% and 25% are qualified as mathematics and science supervisors, respectively.

In 1998, SEI conducted a follow-up to the study done in 1993. The study covers 246 S&M supervisors nationwide. It presents a broad perspective on the profile of S&M supervisors as to their field or subjects handled, undergraduate major and minor field of studies/specializations, graduate level degrees obtained/units earned, areas of specialization, years in classroom teaching, subjects areas taught and trainings attended.

METHODOLOGY

The survey questionnaire was developed in consultation with experts in the field of S&M.

The questionnaires were mailed to the S&M supervisors on December 15, 1998. To facilitate retrieval, business reply envelopes were provided. Follow-up letters were sent to those who failed to submit the accomplished questionnaires on time. The retrieval rate was 76% or 186 out of 246 S&M supervisors surveyed (Figure 1).

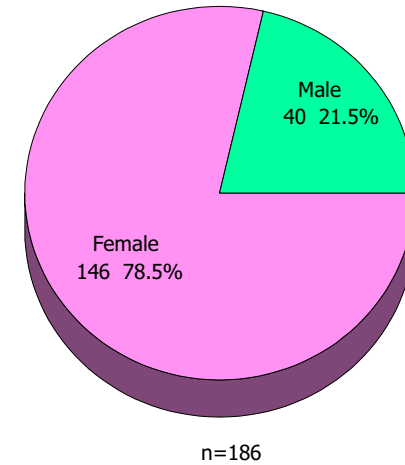
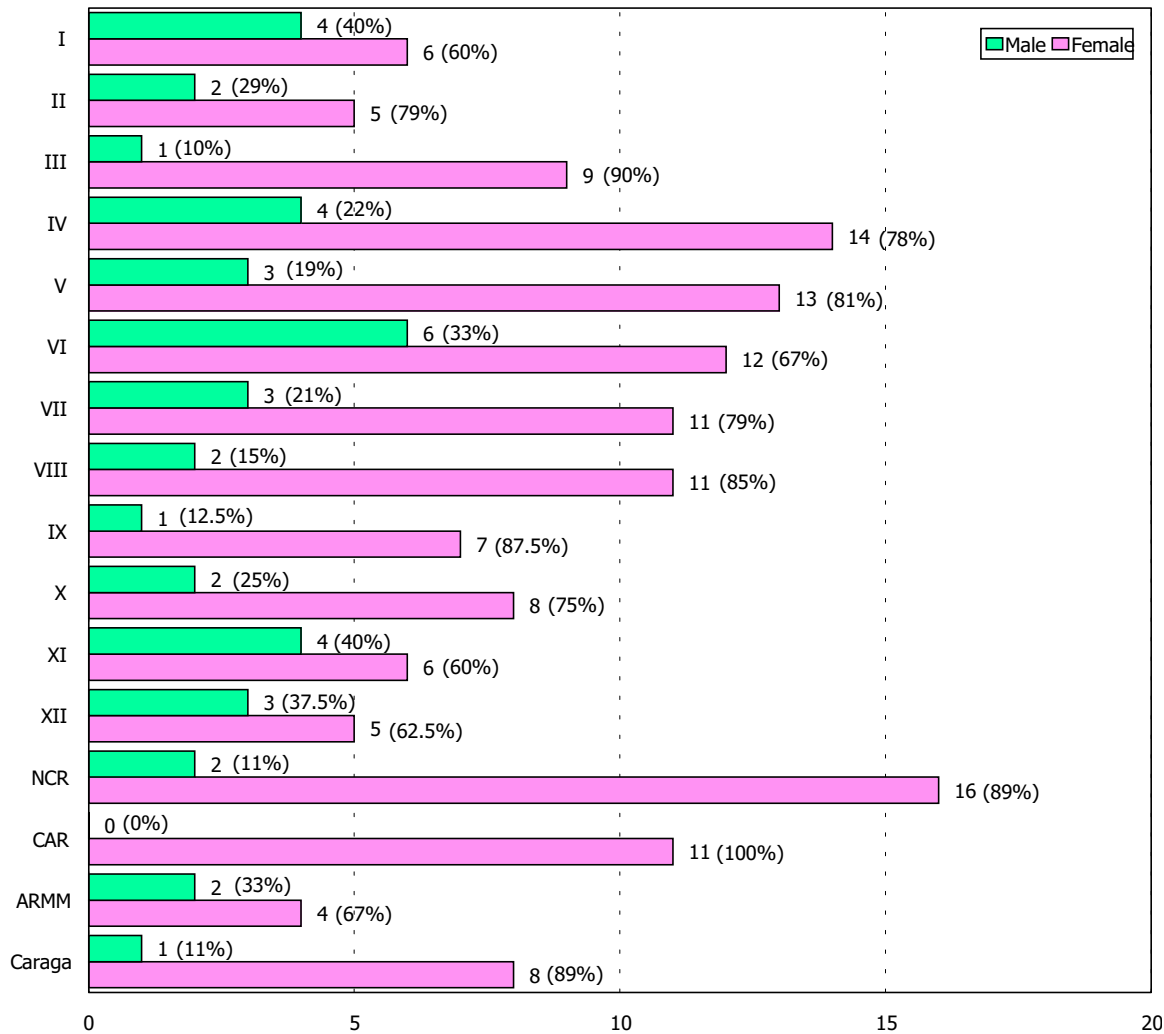
SURVEY RESULTS

This paper presents the results of the survey based on frequencies of responses to items in the questionnaire. The results are highlighted in graphs with brief descriptive texts.



SURVEY RESULTS

Survey Results

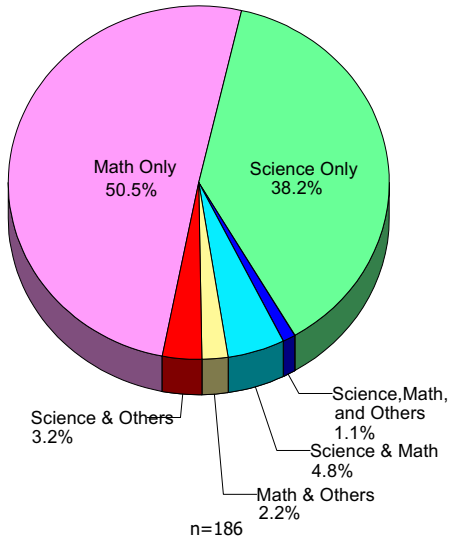
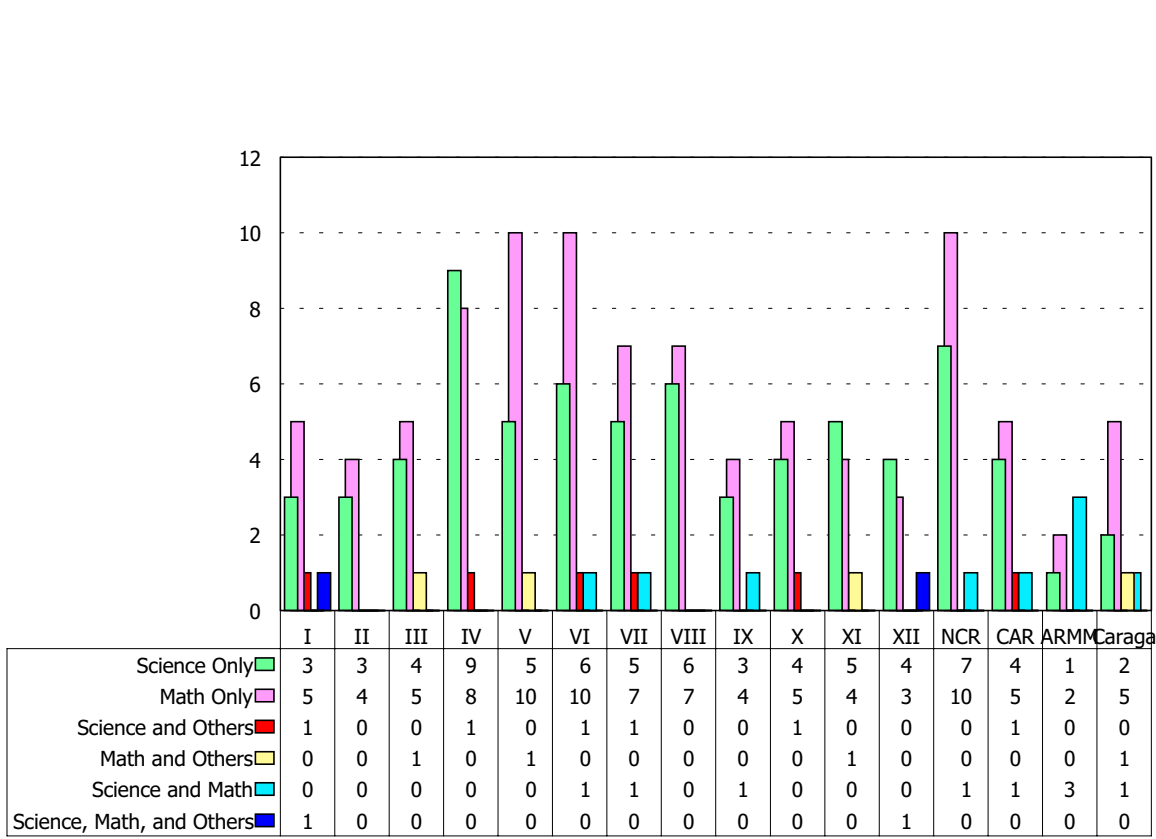


Of the 186 supervisors that responded to the survey, 78.5% are females and 21.5% are males.

In all regions, science and mathematics (S&M) supervision is dominated by females. The highest (100%) proportion of female supervisors vis-à-vis male supervisors is in CAR.

Figure 1. Supervisors by Region and Gender

Survey Results

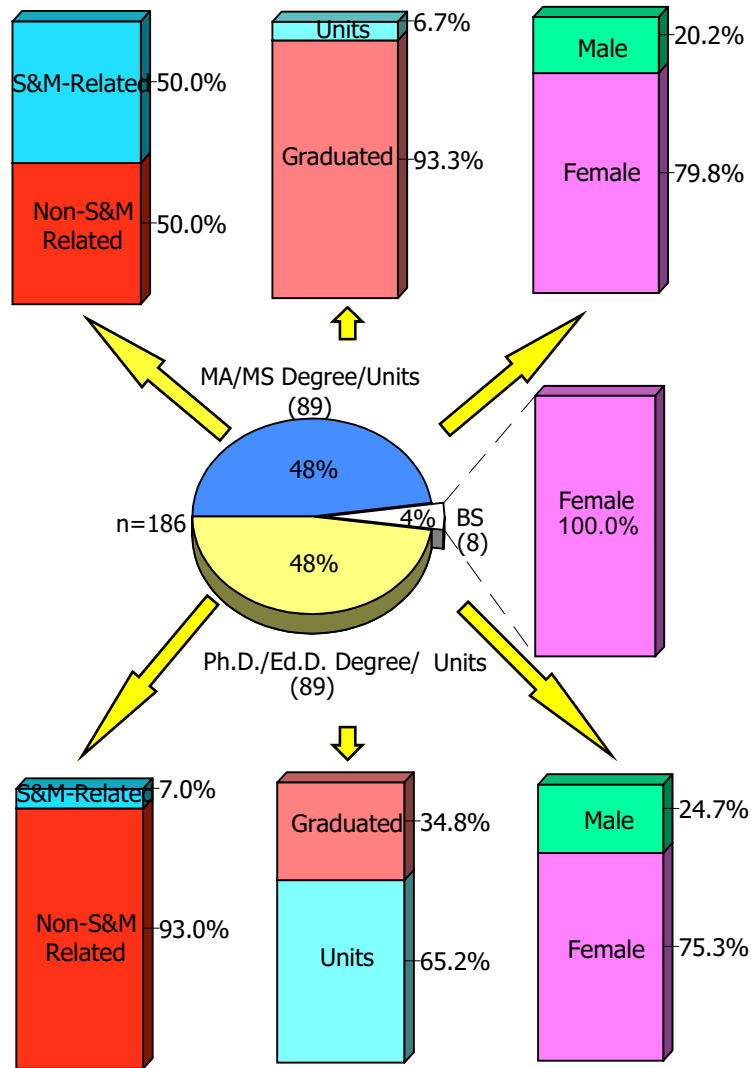


Of the 186 respondents, majority (50.5%) are supervising mathematics only, followed by science only (38.2%), combination of S&M (4.8%), science and other fields (3.2%), mathematics and other fields (2.2%), and the least is the combination of science, mathematics, and other fields (1.1%).

Among the regions, the highest number (10 each) of mathematics supervisors are in Regions V, VI, and NCR. Region IV, however, has the highest number (9) of science supervisors.

Figure 2. Fields/Subjects of Supervision by Region

Survey Results



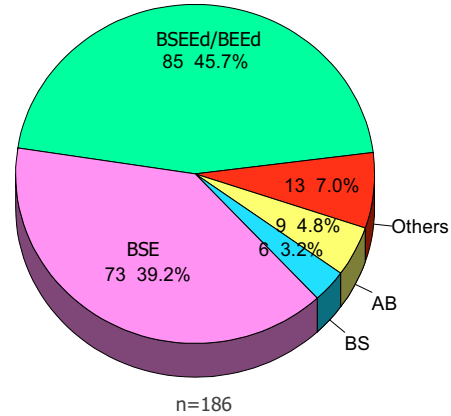
Of the 186 supervisors, 89 (48%) are either currently taking up or are graduates of MS/MA degrees while another 89 (48%) are either pursuing or graduates of Ph.D./Ed.D degrees. Only 8 (4%) of the supervisors are bachelor's degree holders.

For supervisors whose highest level of educational attainment is MA/MS, majority (93.3%) are graduates of their respective courses; only 6.7% of them are currently taking up their master's degree. Almost four-fifth of them (79.8%) are females. Fifty percent (50%) of these supervisors have S&M-related specializations; the other 50% have non-S&M related specializations.

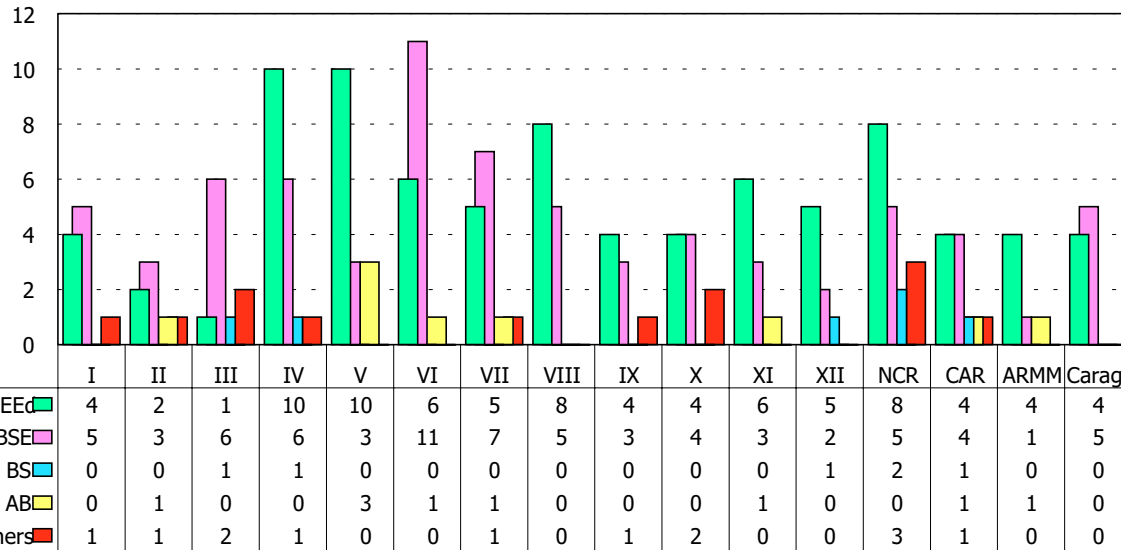
At the Ph.D./Ed.D. level, 65.2% are currently pursuing their degrees while 34.8% of them graduated from the program. Of these, 75.3% are females and 24.7% are males. A large majority (93%) have non-S&M related specializations. Only 7% of them have S&M-related specializations.

Figure 3. Level of Highest Educational Attainment and Specializations by Gender (National)

Survey Results



Most of the 186 supervisors have BSEEd/BEEd (45.7%) and BSE (39.2%) as their bachelor's degrees.



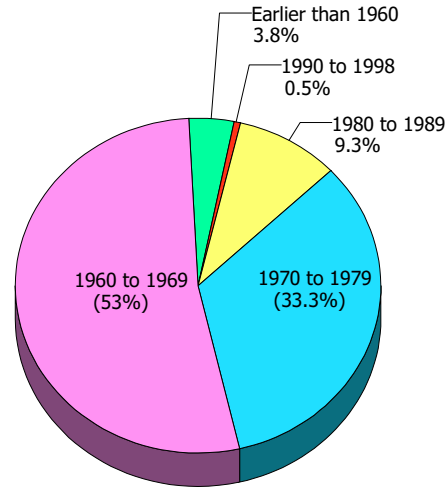
Regions IV and V have the most number of BSEEd/BEEd graduates; Region III, the least.

On the other hand, Region VI has the most number of BSE graduates while the least is from ARMM.

The NCR has the highest number (2) of BS graduates while Region V has the highest number (3) of AB graduates.

Figure 4. Bachelor's Degree Obtained by Region

Survey Results



Of the 186 supervisors, 182 indicated the year they obtained their bachelor's degrees. Of these, more than one-half (53%) obtained their bachelor's degrees between 1960 and 1969; with the most number coming from Regions IV and VI.

For those who graduated between 1970 and 1979 (33.3%), majority came from Region VIII.

Regions I, III, V, VI, VII and IX have supervisors who finished their bachelor's degrees earlier than 1960 while Region IV has a supervisor who graduated in 1992.

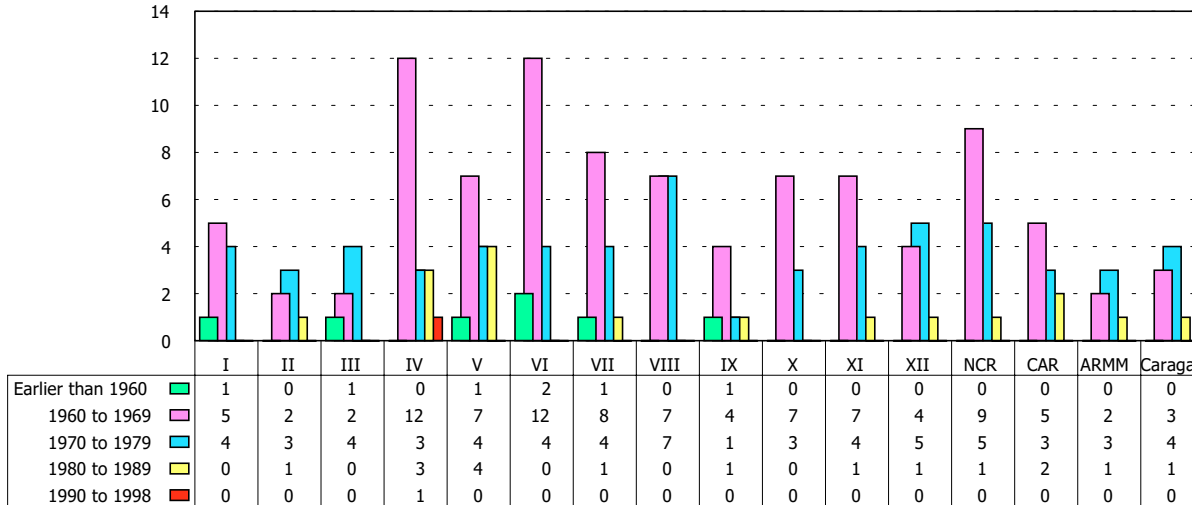
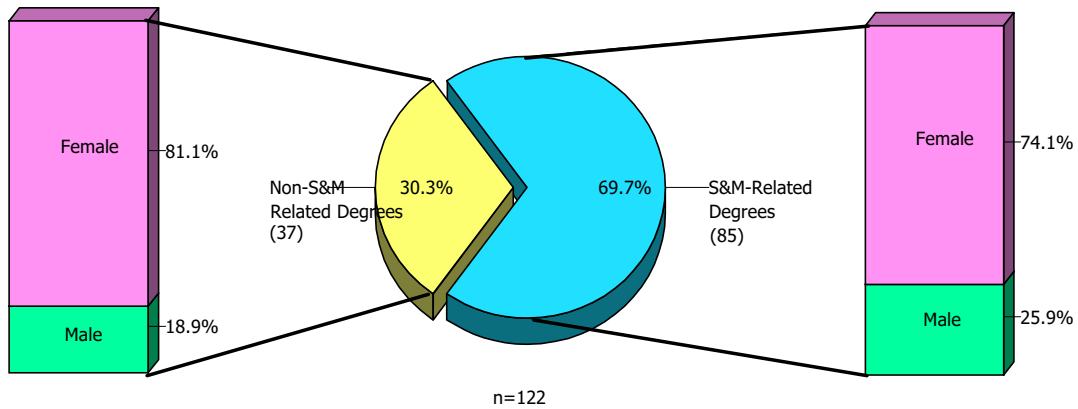


Figure 5. Year Bachelor's Degree Was Obtained by Region

Survey Results



Note: No information = 64

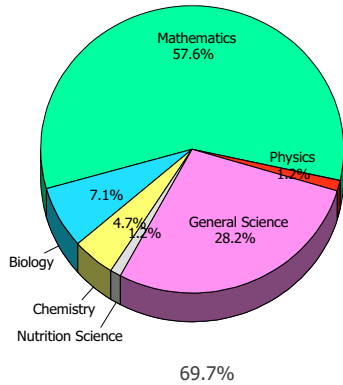
Most (69.7%) of the supervisors specialized in S&M-related fields in their bachelor's degrees. About 30.3% specialized in non-S&M fields.

In both, females outnumbered the males.

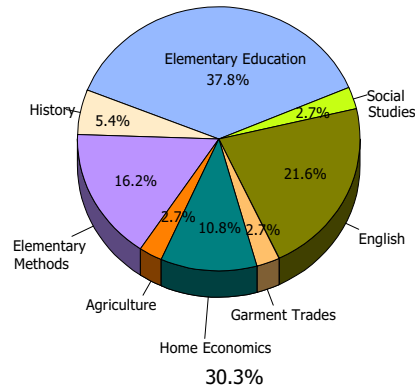
Figure 6. Class of Field of Studies of BS/AB Graduates by Gender (National)

Survey Results

With S&M-Related Degrees



Without S&M-Related Degrees



The chart on the left shows that of the 69.7% supervisors with S&M degrees in their undergraduate studies, majority (57.6%) specialized in mathematics while the least (1.2%) ,in physics.

In all regions except ARMM, most of the supervisors have majors in mathematics with Region V having the highest number (7).

The chart on the right indicates that of the 30.3% supervisors with non-S&M degrees, 37.8% specialized Elementary Education; 21.6%, English; and 16.2%, Elementary Methods.

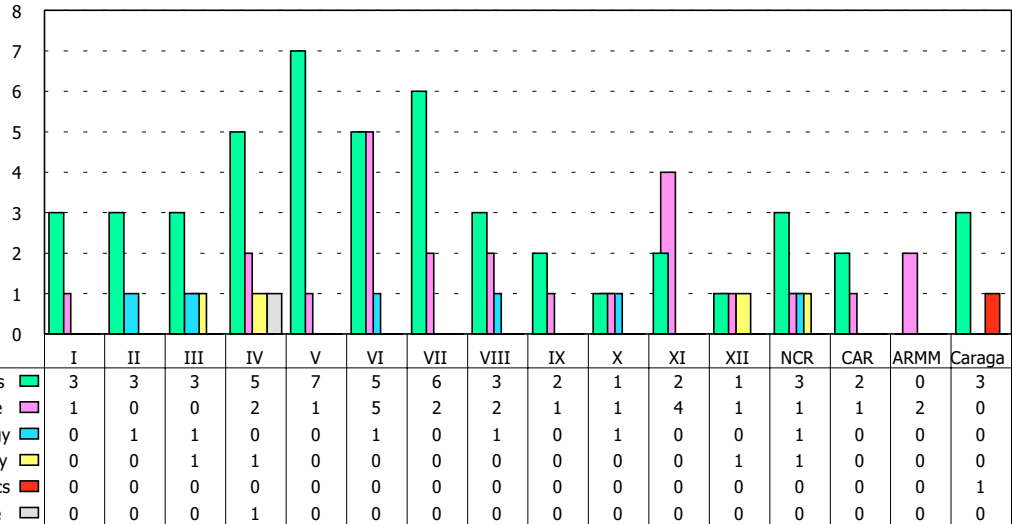
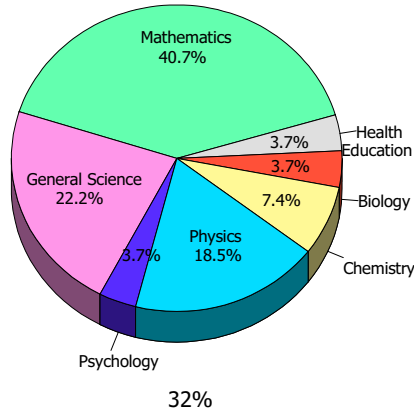


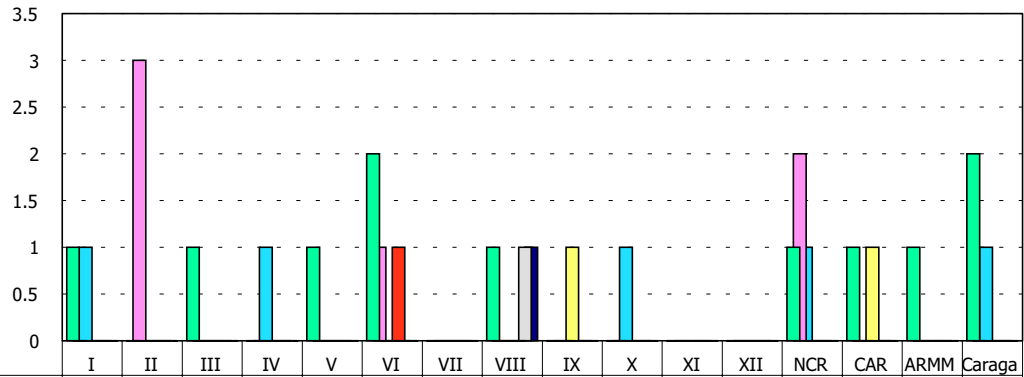
Figure 7. Major Field of Studies of BS/AB Graduates With S&M and Non-S&M Degrees by Region

Survey Results



Of the 85 supervisors with S&M degrees, 32% indicated their minor field of studies. Of these, majority (40.7%) indicated mathematics as their minor field of study followed by those who minored in General Science (22.2%), and Physics (18.5%).

Region VI and Caraga posted the highest number of supervisors graduating with minor field of study in mathematics.



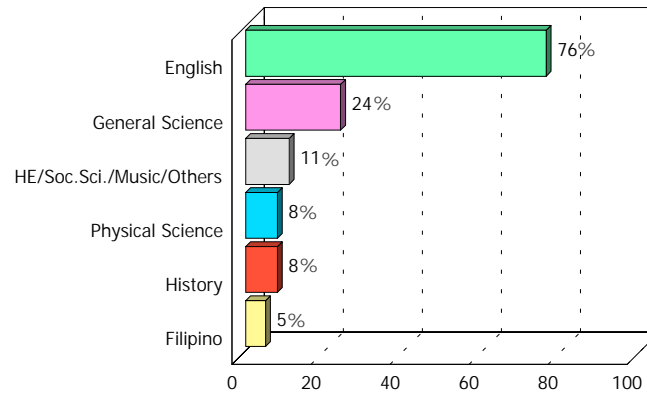
Region II, on the other hand, has the most number of supervisors graduating with general science as minor field of study.

In all regions except for IX and CAR, majority of the supervisors have no minor in chemistry.

Only one of the supervisors from Region VI has a minor in biology. The same is true with Region VIII where each of the two supervisors minored in health education and psychology, respectively.

Figure 8. Minor Field of Studies of BS/AB Graduates With S&M Degrees by Region

Survey Results



Among the 37 supervisors with non-S&M degree, 12 have double minors.

More than three fourths (28 or 76%) of the 37 supervisors had pursued English as their minor field of study.

Region VI has the highest number of supervisors graduating with English as their minor field of study while the least is from CAR.

Regions V, VII, and VIII, on the other hand, have the most number of supervisors graduating with general science as their minor field of study.

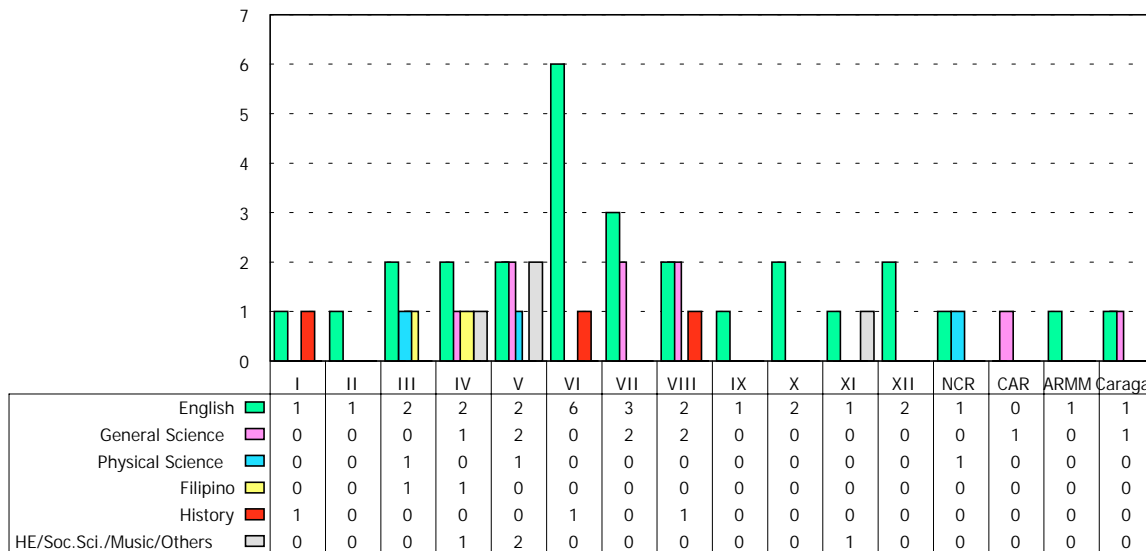
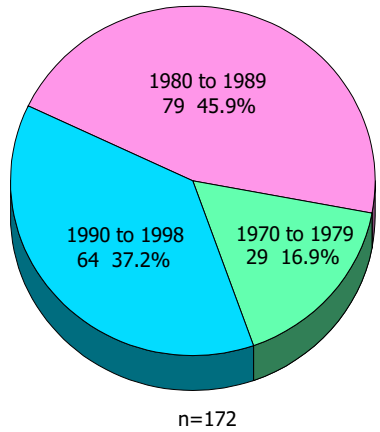


Figure 9. Minor Field of Studies of BS/AB Graduates With Non-S&M Degrees by Region

Survey Results



Of the 178 supervisors who earned master's degrees/units, 172 (97%) indicated the year they obtained their degrees/units. Of these, majority (45.9%) enrolled or obtained their degrees between 1980 and 1989.

Region VI has the most number of supervisors graduating with master's degrees or pursuing their master's units between 1980 and 1989 while the least are from Region IV, CAR, and ARMM.

On the other hand, Region IV has the most number of supervisors who received their master's degrees or pursuing their degrees between 1990 and 1998 while Region V and X, between 1970 and 1979.

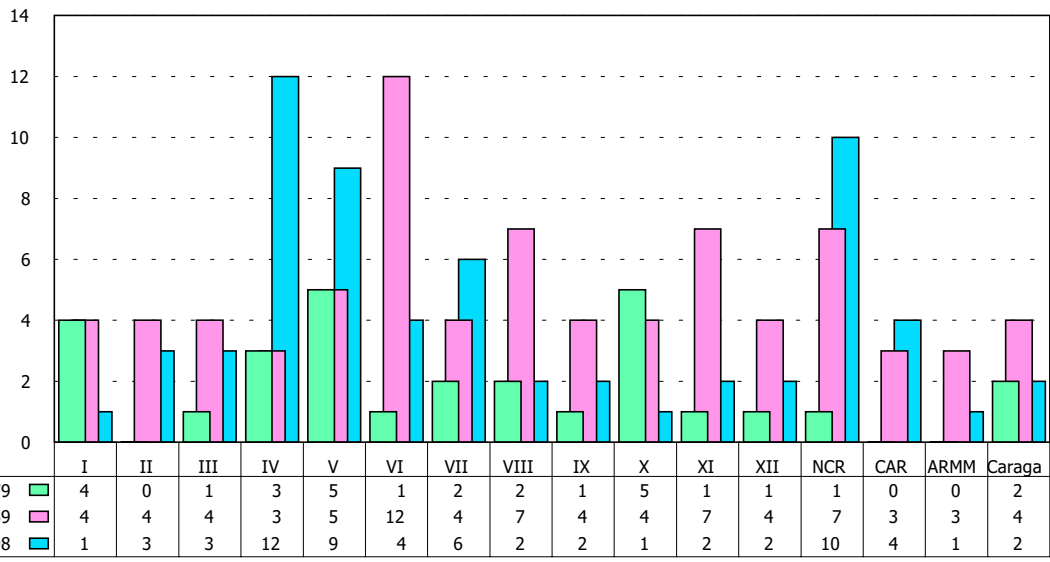
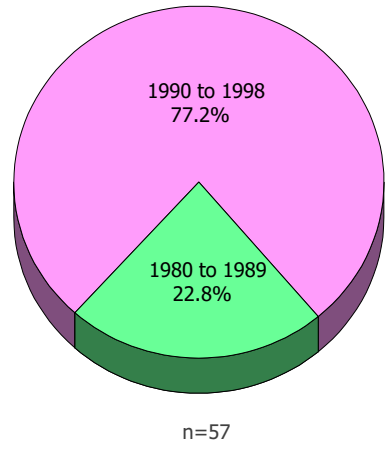


Figure 10. Year Master's Degree Was Obtained/Units Were Earned by Region

Survey Results



Of the 89 supervisors with doctoral degrees/units earned, 57 (64%) indicated the year they obtained their degrees/units. Of these, majority (77.2%) obtained their doctoral degrees/units between 1990 and 1998.

Region II and NCR have the most number of supervisors who obtained their doctoral degrees/units between 1990 and 1998 while Region I, between 1980 and 1989.

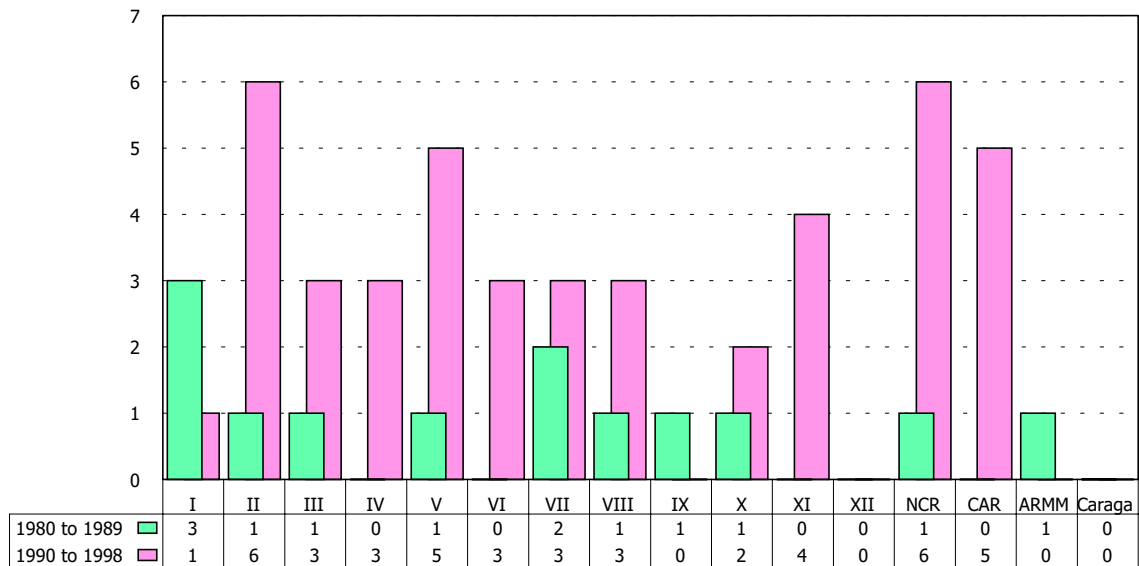
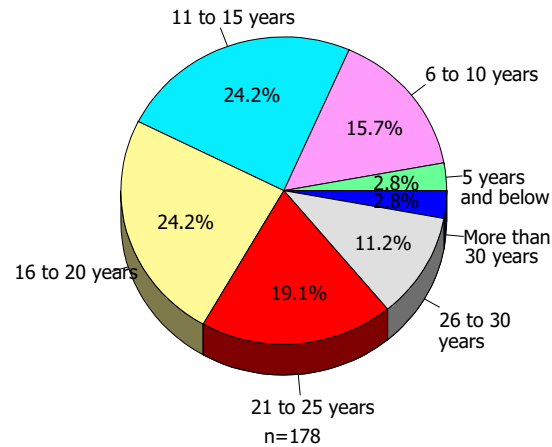


Figure 11. Year Doctoral Degree Was Obtained/Units Were Earned by Region

Survey Results



Of the 186 supervisors, 178 (96%) indicated their teaching years and 8 (4%) did not.

Those who taught for 11 to 15 years (24.2%) and 16 to 20 years (24.2%) comprised almost half of the 178 supervisors.

Only 2.8% taught for 5 years and below and another 2.8% for more than 30 years.

Region VII has the most number of supervisors who taught between 11 and 15 years. Regions I, II, III, and VIII have supervisors who taught for 5 years and below while Regions VIII, IX, NCR, and CAR have supervisors who were teachers for more than 30 years.

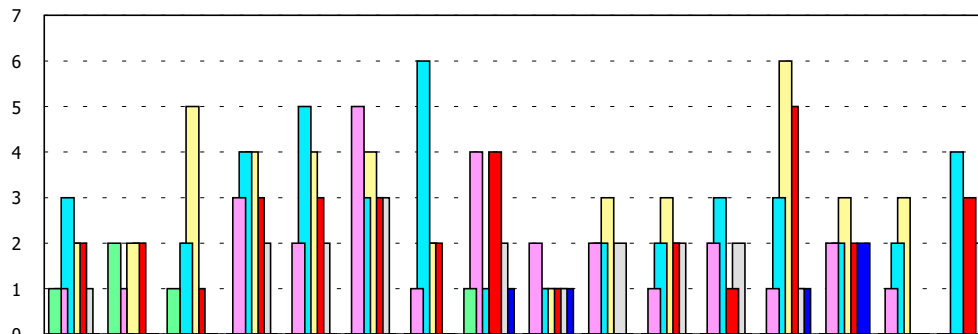
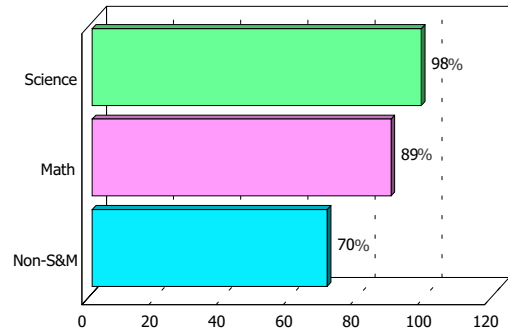
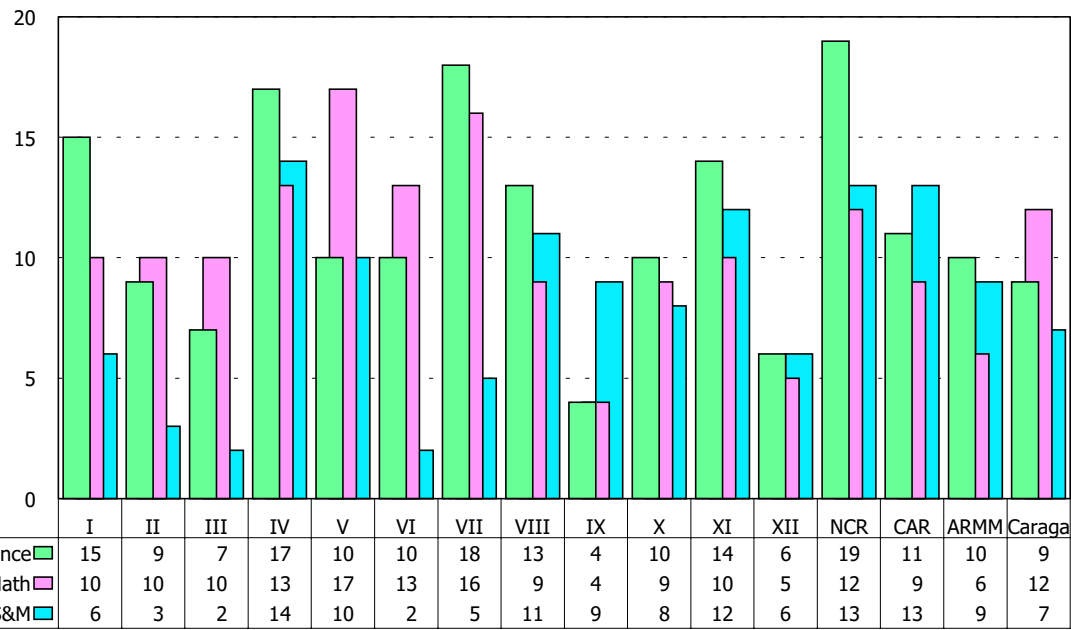


Figure 12. Number of Years in Classroom Teaching by Region

Survey Results



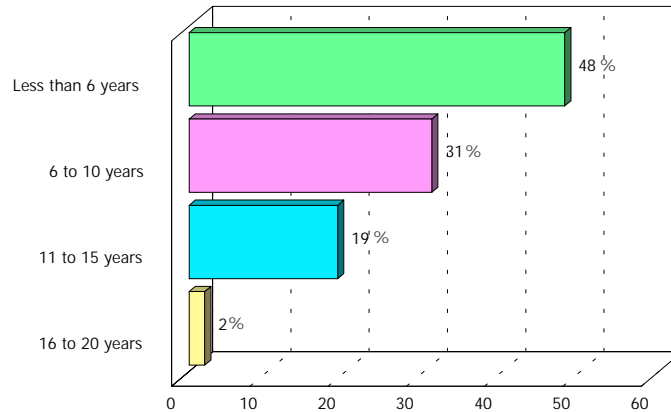
Of the 186 supervisors, 182 (98%) indicated science as the subject they once taught; 165 (89%), mathematics; and 130 (70%), non-S&M.



Among the regions, NCR has the most number of supervisors who once taught science; Region IX, the least. Region V has the most number of supervisors who taught mathematics before; Region IX again, the least.

Figure 13. Subjects Taught by Region

Survey Results



Of the 186 supervisors, 106 (57%) indicated that they served as school principals. Of these, 48% were school principals for less than 6 years; 31%, 6 to 10 years; 19%, 11 to 15 years; and 2%, 16 to 20 years.

Region V has the most number of supervisors who served as principals for less than 6 years while Region VII, for 6 to 10 years. Moreover, Regions XI, XII, NCR, and CAR have the most number of supervisors who served as principals between 11 and 15 years.

Regions I and IV have supervisors who served as school principals between 16 and 20 years.

Eighty (80) or 43% of the supervisors did not serve as school principals but rather as department heads, district supervisors, head teachers, and etc.

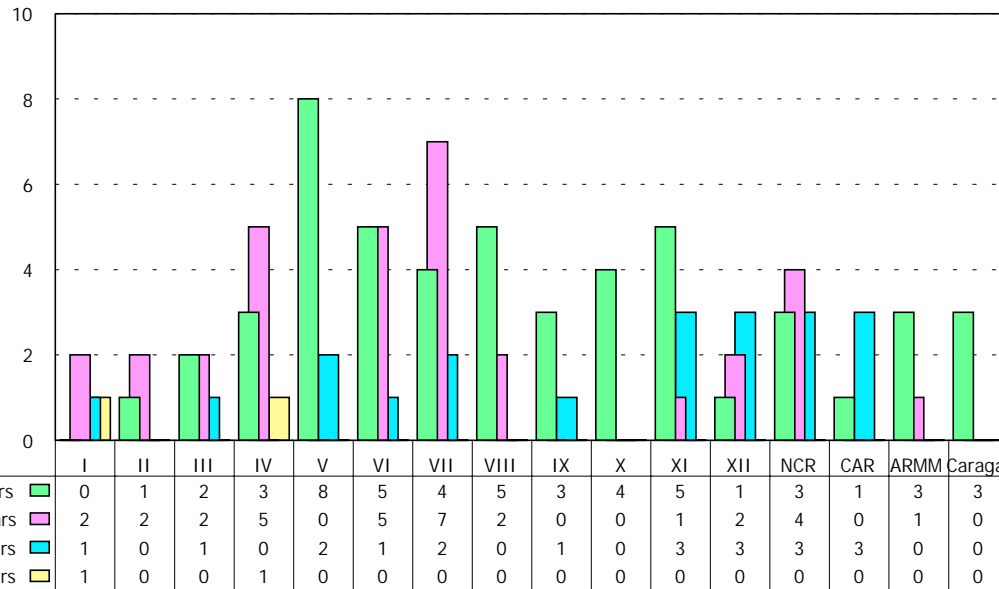
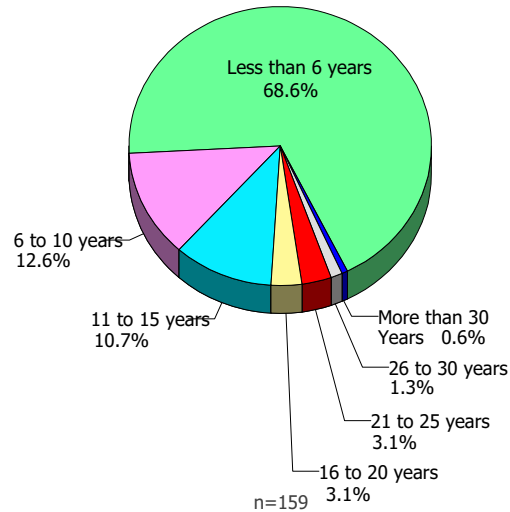


Figure 14. Number of Years as School Principal by Region

Survey Results



Of the 186 supervisors, 159 (85.48%) indicated their number of years as S&M supervisors and 27 (14.52%) did not. Of these, majority (68.6%) have been serving as S&M supervisors for less than 6 years. Only 1 (0.6%) has been serving for more than 30 years.

In all regions, a big majority of their supervisors have been serving for less than 6 years with NCR having the most number.

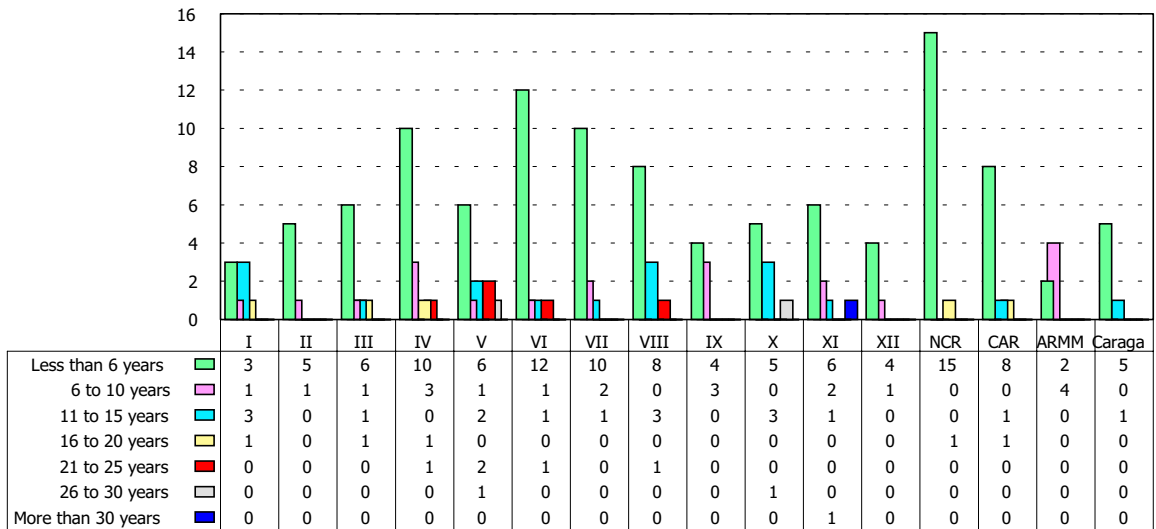
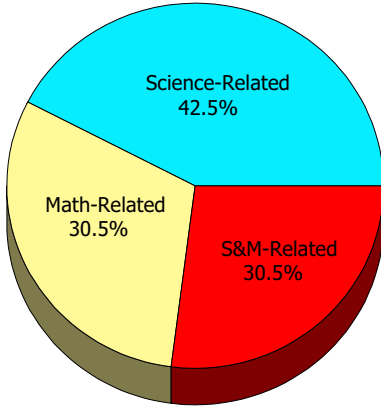
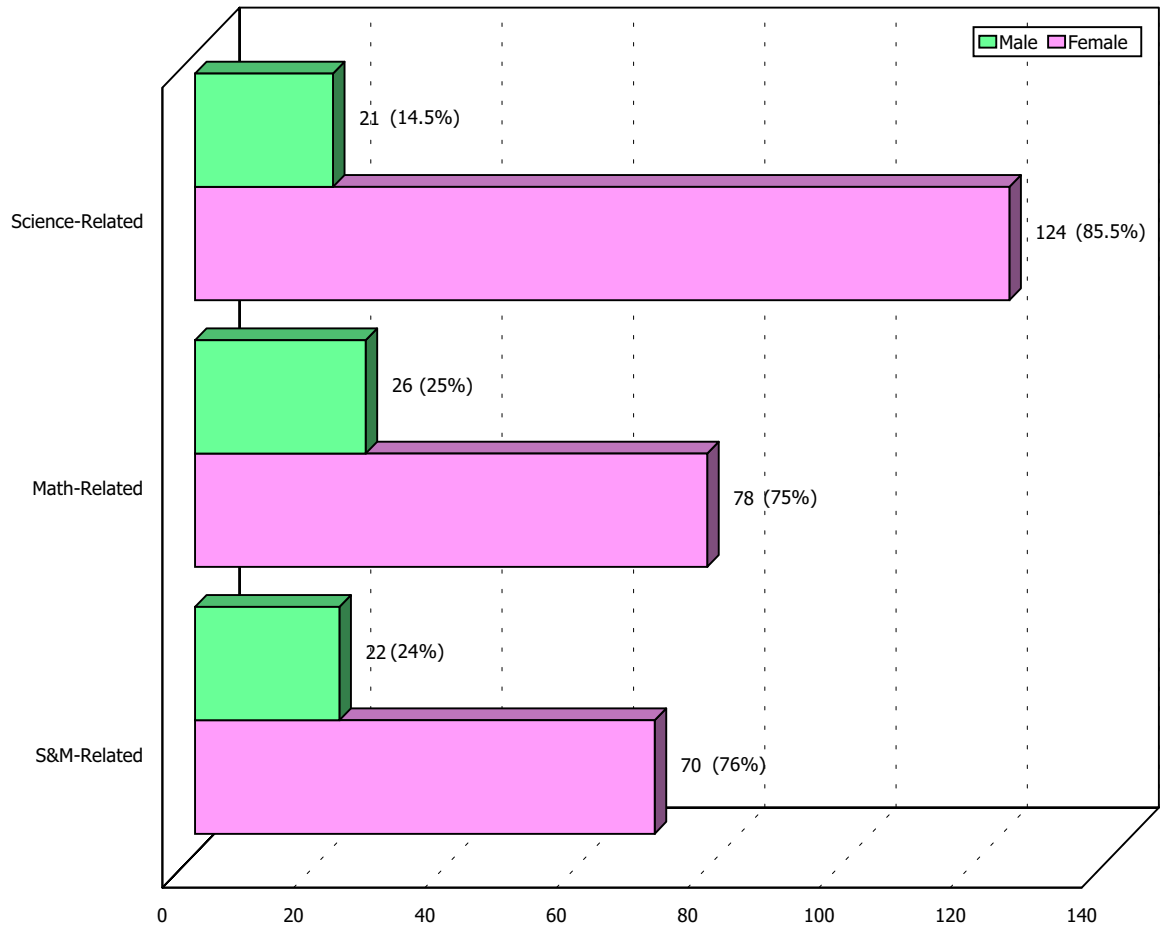


Figure 15. Number of Years as S&M Supervisor by Region

Survey Results



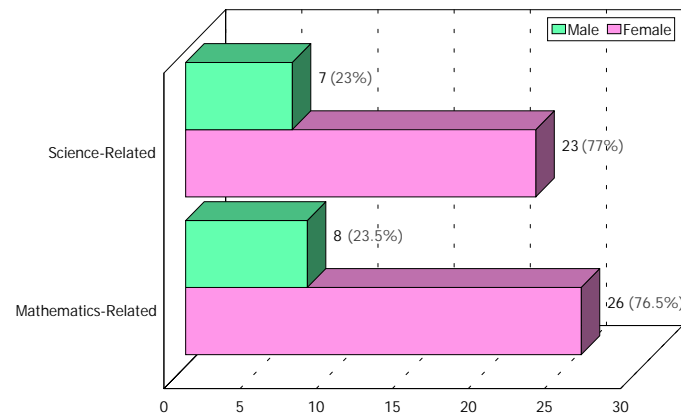
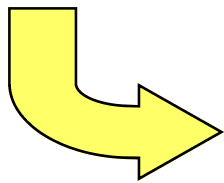
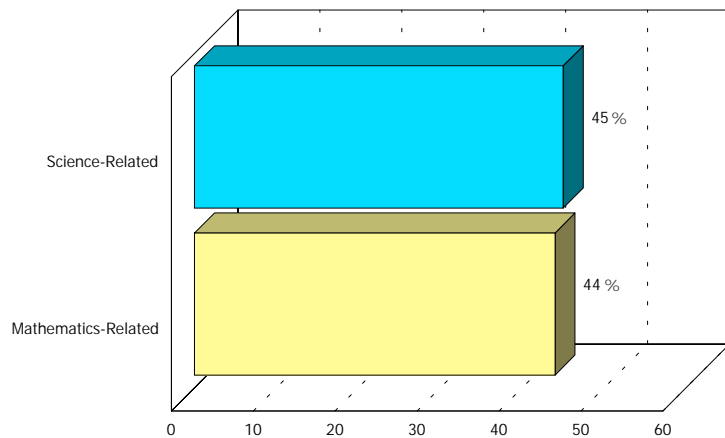
Of the 186 supervisors, 145 (78%) attended a total of 341 trainings. Majority (42.5%) of these trainings are on science-related areas.

The highest proportion of female supervisors who attended trainings are on science-related areas.

Forty-one (41) or 22% of the supervisors did not indicate any information on the area of trainings they attended or participated in.

Figure 16. Area of Trainings Attended for the Last 5 Years (1993-98) by Gender (National)

Survey Results



Supervisors with relevant educational background are those whose fields/subjects of supervision matched with their areas of specialization at either BS/AB, MA/MS, or Ph.D./Ed.D. levels. Hence, supervisors with relevant educational background are those whose area of specialization is science at either BS/AB, MA/MS, or Ph.D./Ed.D. levels.

Forty-five percent (45%) have relevant educational background in science-related areas ; 44%, mathematics.

Females dominated the males in both fields.

Figure 17. Percentage of S&M Supervisors with Relevant Educational Background

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