SCHOLASTIC ACHIEVEMENT OF SSPC COLLEGE STUDENTS

GRADUATED FROM GENERAL HIGH SCHOOLS

AND VOCATIONAL HIGH SCHOOLS

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A Thesis

Presented to

The Faculty of the Graduate School

Samar State Polytechnic College

Catbalogan, Samar

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In Partial Fulfillment

of the Requirements for the Degree

Master of Arts in Education

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VICTORIA C. SABALZA

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APPROVAL SHEET

This thesis entitled "SCHOLASTIC ACHIEVEMENT OF SSPC COLLEGE STUDENTS GRADUATED FROM GENERAL HIGH SCHOOLS AND VOCATIONAL HIGH SCHOOLS, has been prepared and submitted by VICTORIA CUI SABALZA, who having passed the comprehensive examination, is hereby recommended for oral examination.

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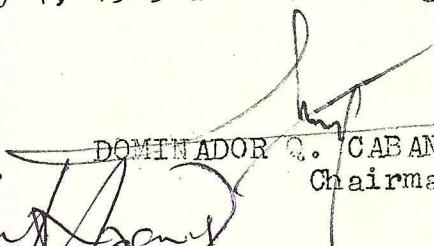
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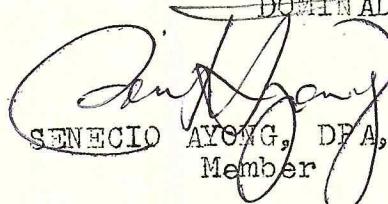
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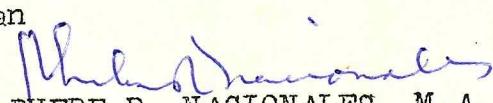
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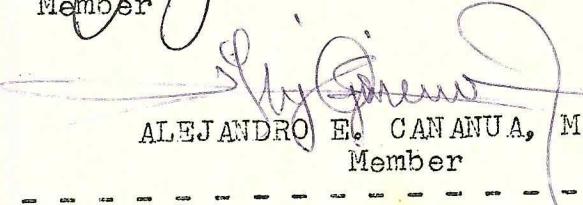
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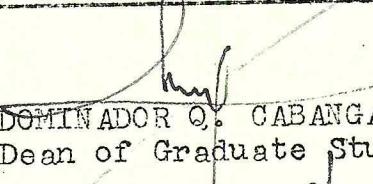
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VCS

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*            D E D I C A T I O N              *
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*                                             *
*       To Ian Lloyd C. Sabalza, fifth        *
*                                             *
*    and the father's most favorite among     *
*                                             *
*    his life's jewels, this work is dedica-  *
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ABSTRACT

This study attempted to compare the scholastic achievement of SSPC college students graduated from the general high schools and vocational high schools. The descriptive-analytical method of research was used in the study. Selection of samples was based on the students enrolled in the six courses. Purposive sampling was used to determine whether the students came from the general high schools or vocational high schools and for the researcher's intention to involve students who were consistently enrolled for two years, the time duration. The t-test of significance for uncorrelated means was used in treating the achievement ratings or the GPA of the college students. The t-test of significance at .05 level with ten degrees of freedom was employed to find out whether the obtained correlation falls within the region of acceptance or rejection. The following are the findings of this study: (1) the scholastic achievement level of the students who graduated from the general high schools is good, (2) the scholastic achievement level of the students who graduated from the vocational high schools is good, and (3) there is no significant difference between the students graduated from the general high schools and the vocational schools. Based on the findings, the following conclusions were drawn: (1) this study reveals a good scholastic performance of the college students graduated from the general high schools enrolled in Samar State Polytechnic College, (2) this study reveals good scholastic performance of college students graduated from the vocational high schools enrolled in Samar State Polytechnic College, and (3) this study further reveals

a minimal evidence for the two groups of students to be significantly different on scholastic achievement. Based on the findings and conclusions, the following recommendations are drawn: (1) a study toward policy reform for a comprehensive academic discipline integration for both vocational and general high schools through the tertiary or higher educational aims, (2) a study on group leadership of students in school, curricular or extracurricular, to consistently relate with superior scholastic achievement, (3) study on the same problem in other schools to further confirm validity of findings of the present study, and (4) a follow-through research on the same problem and venue ten years after for findings relevant to curriculum development schemes.

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Chapter 1

THE PROBLEM

Introduction

For many centuries, two types of education existed: education for culture (academic) and education for work which were widely separated from each other. As occupational life became more complex and the country's economic system needed to be developed, the schools were compelled to give more time to work education.[1] Today however, both cultural and work education are generally accepted as essential elements in the educational system. This was why, when the Education Act of 1982 was passed, it laid down the policy of the state on higher education, that is to achieve both equity and equality in all tertiary level institutions through program offerings that are relevant to national and regional development needs.[2] The attainment of these goals poses a great challenge to the education sector.

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[1] Jose R. Vergara, "Practical Arts Vs. Technical and Vocational Education", Education and Culture Journal, (MECS: 1985), p. 207.

[2] Antonio G. Dumlao, Quality in Higher Education Education and Culture Journal, (MECS: 1985), p. 49.

In the advent of current changes/trends on
progressive theories in education, the problem on
student's achievement has been raised a significant
issue. Scholastic achievement, an indicator of student
performance in a particular course, is characterized
by the grades objectively given or assigned by the
teachers as a result of the evaluation of knowledge
attained, skills developed, and value acquired in the
process of formal educational training. This sole
indicator of student achievement in particular disci-
pline is expressed in numerical rating in a report card
showing how much a student has achieved both in academic
and vocational subjects which generally aim to develop
knowledge and skills and work values necessary for the
individual toward a productive life.

Scholastic or curricular achievement is
identified as an end product of the many identifiable
or non-identifiable factors thrown into the learner's
world as he continuously strives to reach greater
heights. The learner, being insatiable, is never
contented with what he is or has. He has that innate
desire to attain higher goals when provided with the
right situation.

The present trend in education is the
development of the intellectual and personal potential

of the individual to the limits of his capacity. So to
foster his optimum development, the teacher must help
him maximize achievement in the classroom and provide
him opportunities for learning what is taught to the
level of mastery.[3] Thus the school, irrespective of
its type should show concern toward this aspect through
a careful analysis on some measures of educational
performance not only on student achievement but his
potentials for success in college.

Recent surveys on quality outputs, that of the
Philippine Commission to Survey Philippine Education
(PCSPE) for instance, showed a tremendous decline for
quality graduates expected in the field of work thereby
revealing their inadequacies and incompetencies on some
aspects necessary for work. Quality is defined in
terms of several indicators such as performance in
government/board examinations, performance in work
setting, employability and compensability with graduates
of the past and graduates of the other countries.[4]

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[3]Minda C. Sutaria, "Mastery Learning and the
Continuous Progression Scheme", New Thrusts in Philip-
pine Education, (Manila: Current Event Digest, Inc.,
1974), p. 305.

[4]Antonio G. Dumlao, "Problems and Issues in
Higher Education", Education and Culture Journal (MECS,
1985 Vol. 1, No. 2), p. 67.

While it is true that schools with different curricula offer different trainings, one can not deny the fact that all schools have the same objective, and that is the development of quality and versatile personality for the individual.

Such educational perspectives and thrusts redound to the many activities in school toward the attainment of valid goals. Apparent to these are varied means of assessment/evaluation of what has been learned and what is expected. The Samar State Polytechnic College, the focus of this study, caters to the needs of the students from various types of schools. As a vocational school, it programs activities which students could participate in, such as leadership, sports and skills trainings contributory to the moulding of the total well-being. It further gives due recognition to compensate their struggle for excellence. A question however is posed which group of students perform better, that from the general high schools or vocational high school? As observed by the researcher, students from the GHS perform better than students from the VHS. For the researcher to have a sound basis to conclude what underlying factors may have influenced their performance and to identify whether or not the schools where they come from could have affected their

performance, she was challenged to have this study.

Theoretical and Conceptual Framework

This study is anchored on the statement of

Romulo on quality education:

> The standard and criteria of excellence
> demanded by the universities created by the
> state-- the standard and intellectual and
> academic demands of UP for instance, should
> be the same quality expected of the students
> of other institutions.[5]

The implication of this statement holds true to

other institutions. However, one can not ignore the

existing imbalances of educational input among our

students. The fact of differences in school achievement

and the search for the explanation of these differences,

is one of the most controversial issues in education

today. It has been the focus of numerous researches and

the topic of many government reports. Yet it is still

almost far from reaching and understanding the actual

process of school achievement as it was ten years ago.

Despite disagreement however, one fact remains:

there are differences in the scholastic performance of

the students in schools. While some students can

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[5]Inocencia Elefanio, "Theories and Trends in
Education", Teachers' Professional Handbook, (Tacloban
City: Compiled, 1978), p. 18.

easily hurdle course requirements and make it to the top or to the upper scholastic bracket in the class, others, aside from the majority who are on the average, settle at the bottom. They may have just barely passed in all subjects or may have failed in some or all, resulting to low general averages.

This problem has grave social implications and efforts must be exerted towards investigating all factors that may influence it, particularly those prevailing in schools themselves.

Apart from these, lies a question: Are our colleges and universities well-fit to educate and value trained intelligence with excellence in instruction?

Guided with the theoretical framework, the researcher was able to conceptualize her study clearly as shown by the schema.

The schema shows the interplay of the factors involved in this study.

At the base is Samar State Polytechnic College representing the research environment. It mainstays for the six (6) curricular offering under the undergraduate program namely the Technical course, the DOT, the BSIT, the BSIE, the BSEE, and the BSCE. From these courses, an arrow is drawn to the center, the GPA as

Conceptual Framework


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                    ┌─────────────────┐
                    │    Quality      │
                    │    Graduates    │
                    └─────────────────┘

                    ┌─────────────────┐
                    │ Curricular  and │
                    │  Instructional  │
                    │   Redirection   │
                    └─────────────────┘

                    ┌─────────────────┐
                    │   Statistical   │
                    │   Comparison    │
                    │   of Variates   │
                    └─────────────────┘

    ┌─────────────┐      Variates      ┌─────────────┐
    │  Graduates  │        GPAs        │  Graduates  │
    │  from  GHS  │         of         │  from  VHS  │
    └─────────────┘      Students      └─────────────┘

    │ TECH'L │ DOT │ BSIT │ BSIE │ BSTE │ BSCE │

        Undergraduate Curricular Programs

        Samar State Polytechnic College
              Catbalogan, Samar
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Feedback   Feedback
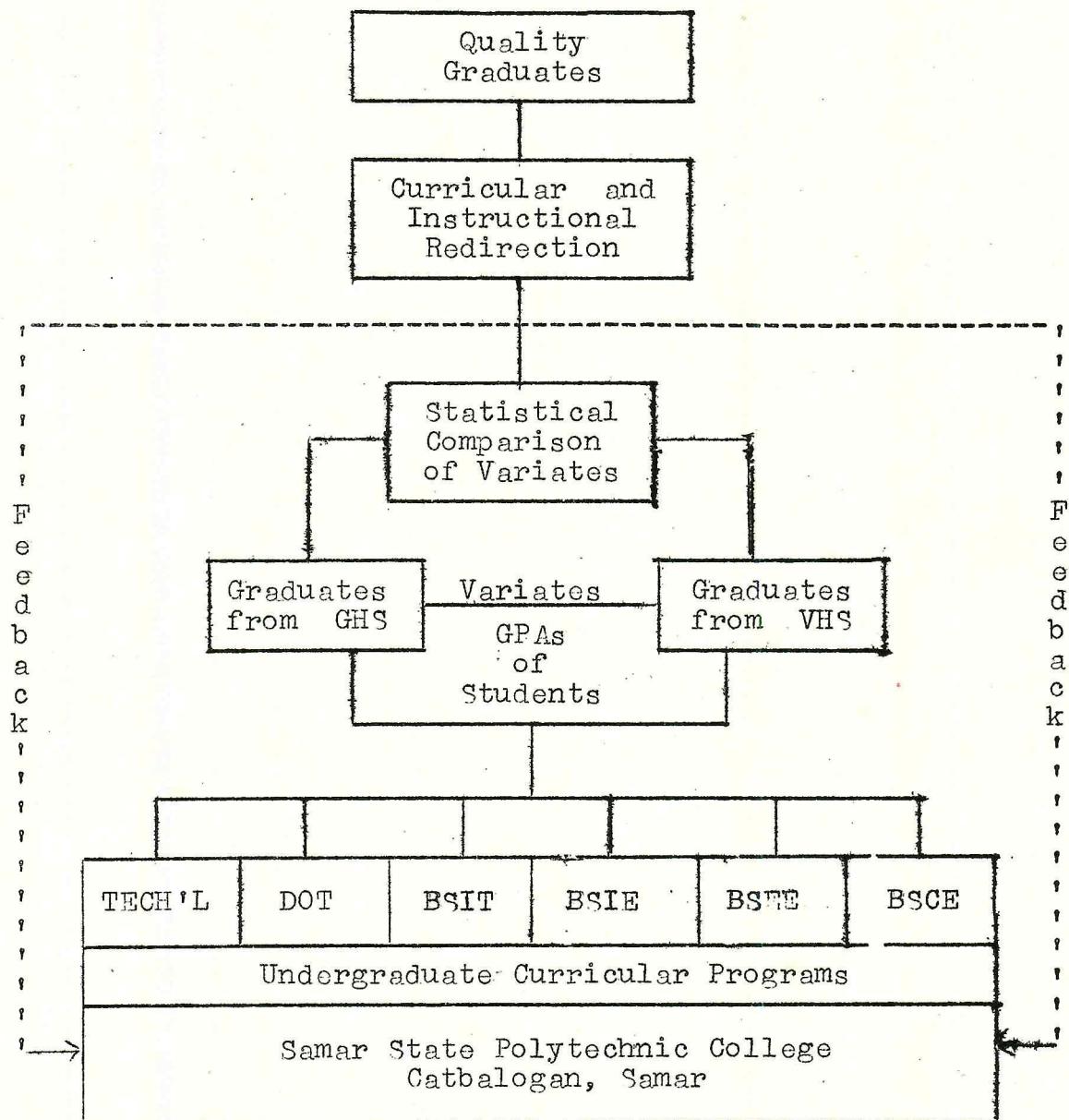
Figure 1.   Schema of the Conceptual Framework

variates shown between the GHS at the left and the VHS
at the right. These variates provide basis for comparison
and are subjected to a statistical treatment or
comparison, findings of which provide feedback to
SSPC where curriculum planners decide for curricular
and instructional redirection through implementation of
some measures that will enrich and improve the different
school factors in both secondary and the tertiary
levels, so that quality graduates as expected be made
possible.

Statement of the Problem

This study attempted to compare the scholastic
achievement of SSPC college students graduated from the
general high schools and the vocational high schools
for school year 1985-1986 to 1986-1987.

Specifically, it sought answers to the following
questions:

1. What is the scholastic achievement level of
the SSPC college students graduated from the general
high schools?

2. What is the scholastic achievement level
of the SSPC college students graduated from the
vocational high schools?

3. Is there a significant difference between

the scholastic achievement level of the SSPC college
students graduated from the general high schools and
those from the vocational high schools?

Hypothesis

This study attempted to test the null hypothesis
that there is no significant difference between the
scholastic achievement level of SSPC college students
graduated from the general high schools and those from
the vocational high schools.

Importance of the Study

This research was conducted because to date,
there has been no study made comparing scholastic
achievement of students from general high schools and
vocational high schools.

Ultimately, the result of this study is expected
to provide basis for an improved instruction in relation
to the scholastic achievement criteria for the secondary
and higher education departments of the Samar State
Polytechnic College, Catbalogan, Samar. For improved
instruction, the school has to consider factors of
minimum standards which are neither too high not too low
to be attained. These factors may include the curricular
content, the instructional facilities, the teaching
strategies, the faculty, the attitudes of the students

and other factors of learning contributory to raising the level of achievement of the students. From these, a much better output is expected.

To the teachers, this study will inspire them to initiate newly improved methodologies and procedures in evaluating students' learning, strive to avail of in-service trainings and scholarships which the college provides for the realization of its educational goals.

To the educational planners, this study will inspire them to discard or outrightly counteract unviable measures and instead, adopt means to maximize quality instruction, thereby turning out quality graduates.

To the parents, this study will guide them in the choice of more sensitive educational career opportunities for their children and motivate them in the development of desirable attitudes and values, so they may serve as models for both school and community.

Finally to the students, this study will encourage them to strive their best and enable them to excel in all areas of learning, reflected in their grades as quality indicator which indirectly put themselves on a firm commitment to the goal of excellence.

Scope and Delimitation

This study focused on the comparison of the
scholastic achievement of SSPC college students
graduated from the general high schools and the
vocational high schools for school year 1985-1986
and 1986-1987. The data used were the GPA during the
first two years of the college students enrolled in
the post secondary and the college degree programs such
as: (1) the two-year technical course, (2) the three-
year course leading to the Diploma of Technology (DOT),
(3) the four-year technician education course leading
to the degree of Bachelor of Science in Industrial
Technology (BSIT), (4) the four-year teacher education
course leading to the degree of Bachelor of Science in
Industrial Education (BSIE), (5) the five-year
Engineering course leading to the degree of Bachelor
of Science in Electrical Engineering (BSEE), and
(6) the five-year Engineering course leading to the
degree of Bachelor of Science in Civil Engineering
(BSCE).

A total of 100 students representing all the
courses mentioned above were taken as samples for this
study. It included 50 students who graduated from each
of the two types of schools, the GHS and the VHS
broken down as follows: 12 students from the technical,

6 from the DOT, 17 from the BSIT, 6 from the BSIE, 3 from the BSEE, and 4 from the BSCE. This number was limited to only 58 percent of the 173 total enrolees. The researcher desired to get 100 percent samples, however she found it difficult since more students came from the general high schools than from the vocational high schools. So, the lowest number among the VHS graduates having the possible counterpart was adopted as basis for sampling in order to match the number of samples in both variates.

Definition of Terms

In order to provide a uniform frame of reference, the following terms as operationally used in the study are defined using the Webster's Dictionary and other reference materials.

College environment. This term applies to the aspects of the institution that affect the student for example, its physical plant and facilities, its curriculum and content including methods of teaching, the attitudes of faculty and staff and others.

College student. This applies to a student enrolled in a course for special instruction, sometimes

profession often vocational or technical.[6] In this
study, it applies to anyone enrolled in the collegiate
department of SSPC for school year 1985-86 and 1986-87
under the six courses offered by the college.

Curricular offering. This refers to the pattern
of courses of study specifying the minimum amount of work
in each subject each school year.[7] In this study, it
refers to the courses offered namely: the 2-Year
Technical Education, the DOT, the BSIT, the BSIE, the
BSEE and the BSCE.

Curriculum. This refers to the group of courses
and planned experiences for the learner to actualize.[8]
In this study, it refers to the series of courses
leading to the completion of specific course goals.

General high school. This term applies to
types of schools that offer four-year pre-collegiate
courses in academic subjects for the purpose of fitting

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[6]The Random House, Dictionary of the English
Language, (New York: The Random House, 1967), p. 444.

[7]Carter V. Good, Dictionary of Education,
(New York: McGraw-Hill Book Co., 1973), p. 159.

[8]Ibid., p. 157.

out students for a higher level of learning or educational achievement.[9] As used in this study, this refers to secondary schools attended by the college students involved in the study whose curriculum puts more emphasis on academic subjects.

Grade point average (GPA). This is the numerical evaluation of scholastic achievement based upon a formula of equivalents that grant credits varying with the grade attained.[10] As used, this refers to the weighted average of the overall rating of the subjects taken in college for one year.

Mean. This refers to the sum of grades divided by the number of subjects/courses also termed average.[11] In this study, average is used where ratings obtained by the students for two consecutive years were added and divided by the total number of subjects taken.

Purposive sampling. This is a strategy of hand-picking the cases to be included in the samples, assuming that errors of judgment in the selection

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[9]Herman C. Gregorio, School Administration and Supervision, (Quezon City: RP Garcia Publishing Co.), p. 183.

[10]Good, op. cit., p. 35.

[11]Merriam Webster, New Students Dictionary, (USA: G & G Merriam and Company, 1974), p. 234.

will tend to counterbalance each other.[12]   As
applied in this study, this is the process employed
by the researcher in getting her samples from a
school population based on their equated grades.

Quality education. This term implies the
attainment of certain predetermined standards of
achievement, the utilization of quality faculty
facilities and other resource inputs brought to
bear on students who have the aptitudes to succeed
in whatever educational programs they may have
considered.[13] The researcher associates this term
with the student output through the marks/grades
indicated in their report cards.

Scholastic achievement. This refers to the
grades objectively given or assigned by the teacher as
a result of the evaluation of student's achievement in
terms of knowledge attained, skills developed in their
school subjects which are often expressed in numerical
ratings.[14] In this study, this term refers to the

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[12]Kidder and others, Research Methods in
Social Relations, (Holtz-Saunders International Edition,
1981), p. 427.

[13]Jaime C. Laya, "A Question of Quality and
other Papers", (Manila Educators Press, 1984), p. 3.

[14]Merriam Webster, International Dictionary,
(USA: Merriam Co., Springfield Mass., 1972), p. 168.

grades obtained by the college students of the Samar
State Polytechnic College for two consecutive years.

SSPC. This is the acronym for Samar State
Polytechnic College, the center of the study.

Variates. This term is synonymous with the
word variables, a symbol that stands for anyone in a
class of things. Variate refers to the college students
involved in this study.

Vocational high school (VHS). This term applies
to types of school whose emphasis is more on training
students on skills and working techniques that will
gear them toward a particular occupation.[15] As used
in this study, this applies to secondary schools
attended by the students whose curriculum allot
more hours on elective courses such as vocational
trades, agriculture, fishery, craft/industrial arts,
and the like.

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[15]Guiang and others, Administration and Super-
vision of the New Secondary Schools, (RD Garcia Publish-
ing Co. Quezon City, 1974), p. 26.

Chapter 2

REVIEW OF RELATED LITERATURE AND STUDIES

This chapter presents a review of some related literature and studies of authorities and researchers in the field of education and the allied fields available as materials closely related to the present study. This present study, however, demands originality, since it does not duplicate specifically any of the works reviewed. In no instance had the researcher discovered a study dealing definitely with the difference of scholastic achievements of students graduated from general and vocational high schools.

In the assessment of student achievement, which may be indicated by the grade point average (GPA) of all subjects taken, much have been written toward the identification of factors which led to correlate scholastic achievement consistently. Lavin[16] thoroughly discusses this criterion of performance, the GPA as:

In studies of academic achievement, the traditional criterion of performance is the students' grades. Other criteria are occasionally used... For example, some researcher

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[16]David E. Lavin, The Prediction of Academic Performance, (New York: Russel Sage Foundation, 1965), p. 6.

have been interested in predicting whether
students will graduate from college. Others
have been concerned with criteria such as
intellectual curiosity, acceptance in graduate
schools.... Despite the occasional use of
these criteria, in the overwhelming number of
cases, student grades are the sole index of
performance.

Hirch[17] discussed the external and internal

factors that influence the development of the individual

characteristics important for academic achievement.

External factors are defined as conditions which

influence a child's academic achievement by direct means,

either through the effect upon the school or the home or

upon the development of some of the individual child

factors. This is supported by the study of Suttiprapa[18]

on the school factors and other variables that have

influenced the academic performance of the four secondary

schools in Thailand which reveals that the grade point

average (GPA) was found related to the academic perfor-

mance of the students in all the four schools involved

in the study. GPA further indicates the students'

[17]S.C. Hirch, Individual Characteristics and
Academic Achievement, (USA: Charles Thomas Publishing
Co., Springfield, 1985), p. 68.

[18]Ronagarn Suttiprapa, "Lower Secondary School
Programs and Students Performance in Academic and Voca-
tional Streams in 4 Upper Secondary Schools of ROI-ET
Province, Thailand", (unpublished master's thesis, TUP:
Manila, 1987), p. 13.

choices as well as the factors of subjects and students' interests. Also, the findings of Salas' study reveal that the engineering freshmen of TUP obtained a substantial correlation value of .41 between the NCEE GSA scores and college GPA which was significant at the .05 level and the teacher education group on the other hand obtained a more substantial r of +.65 which was highly significant at the .001 level. These correlation coefficients generally imply that those who performed better in the NCEE, also performed better in college as indicated in their GPA.[19] While, that high school academic records proved to be the most effective single predictor of first year college grades, this is supported by the findings of McCormick and Asher.[20] They took singly and in combination the value of certain aspects of the high school record for predicting the grade average of students who completed the first semester work in several colleges. They found out that the high school

[19]Nilo B. Salas, "Relationship Between 1981 NCEE and Scholastic Achievement of TUP Engineering and Teacher Education Freshmen 1982-1983", (unpublished master's thesis, TUP: Manila, 1984), p. 11.

[20]James McCormick and William Asher, "Aspect of the High School Record Related to the First Semester College Grade Point Average", Personal and Guidance Journal, XLII (Manila, 1964), p. 690.

grade point average is one of the best predictors
of the first semester grade point average.

Internal factors are defined as characteristics
of the individual pupil which have some direct bearings
upon his school achievement. Hirch further cited some
factors affecting academic achievement which are also
known as the environmental and biological development
of the individual.

Scar and Wimberg[21] shed light on the influence
of family background on academic achievement. They
discussed the long term effects of family background
influences on adult intellectual, occupational, and
economic outcomes. Family environment and genetic
difference can account for some differences in adult
achievement. Half or more of the long term effects of
family background on children's intellectual attainment
depend upon genetic, not environmental transmission.
Meanwhile, Kapunan cited some environmental factors
possible to have influenced scholastic performance,
namely; (1) city children were found to be better than
country children because of availability of educational

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[21]S. Scar and R. Wimberg, "Influence of Family
Background on Intellectual Attainment", American
Society Review, Vol. 43, October, 1978.

facilities; (2) parent's occupation also has an influence
on scholastic achievement; (3) children in isolated and
backward sections do not acquire the kind of experience
in their home, school and community more than children
living in urban or progressive section do; and (4)
children of well-to-do parents have greater accessibility
to libraries, places of culture and other facilities than
those of poor parents.[22] This opinion is supported by
the findings of Santos' study where between college
students from rural and urban areas, results indicated
a significant difference in achievement motivation. It
further reveals that environmental climate forms a
dynamic linkage to scholastic achievement. The college
or university therefore, must be supportive in creating
and providing an environmental climate for a better
achievement.[23]

On the other hand, the study conducted to
identify the factors which influence the academic
performance of graduate students of TUP by Kagondechasak

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[22]Rocio Reyes Kapunan, Educational Psychology,
(Rex Printing Co., Manila: 1978), p. 48.

[23]Daniel S. Santos, "Motivation for Academic
Achievement Among College Students", (unpublished
master's thesis, College of Education, UP, Quezon City,
1980), p. 38.

revealed that achievement was influenced by a combination of economic, academic, and psycho-social factors in the Philippine environment with economic factor as the most related.[24] Academic performance here was measured in terms of study and grade point average. Thus, while other studies mentioned other factors as intelligence, family size, aspirations of both parents and children, socio-economic status and other characteristics of the child which were associated with school achievement, the present study is focused on the school environmental climate which plays a major role in the assessment of student achievement. This study therefore, did not delve into all the factors identified by some previous studies, but concentrated more on the few ones which in effect were deemed relevant to college students' achievement factors in Samar State Polytechnic College.

Specifically, in trying to identify what factor has greater influence on students' scholastic performance, it has been established that the school has an edge over the other factors. Therefore, the following aspects associated with the school factor believed to

[24] Somboon Kagondechasak, "Correlates of Academic Performance of the Students of the Graduate School of the TUP", (unpublished master's thesis, TUP, Manila, 1983), p. 4.

have implication in the pursuit of excellence are
hereby cited which include (a) curricular content,
(b) tools, equipment and facilities, (c) teacher quality,
(d) attitudes of students, and (e) instruction strategies.

Curricular Content

What is taught in school determines what is
learned, so that, an assessment of educational standard
begins with an examination of the curriculum.[25] For a
functional and comprehensive curriculum, it should
offer varied educational opportunities to discover and
develop the capabilities of the students. Navarro[26]
stressed the need for the curriculum to make the
individual productive not by just imparting knowledge
to him, but also by socializing him in various ways to
develop his productive achievement, motivation, and
his willingness to accept his responsibility, to take
orders for him as a value that will be applicable when
he is ready to assume his place in the field of work.

According to curriculum experts, secondary

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[25]Minda C. Sutaria, "Quality: Thrust of
Elementary Education", Education and Culture Journal,
MECS, p. 21.

[26]Josefina R. Navarro, "The Work-Oriented
Curriculum, New Thrusts in Philippine Education",
(Manila: CED, Inc., 1974), p. 54.

classified into GHS and VHS, ultimately aim to equip
the students with skills for a productive endeavor and/
or prepare them for tertiary schooling. While they
vary in curricular offerings and techniques, no
distinction is made between the vocational and general
or academic since the products of either are similarly
accepted as college freshmen.

Curricular content, however, accompanied with
learning experiences should be learnable and adaptable
to student's experiences. The learning experiences must
be varied as stepping stones toward the analysis of the
possible outcomes of learning. In short, the curri-
culum should provide the three kinds of behavioral
changes; the cognitive, the psychomotor and affective.[27]

Tools, Equipment and Facilities

Quality of instruction, particularly in
vocational or trade technical training, can best be
achieved if adequate and appropriate tools, equipment
and facilities are provided.

It is through the abundance and appropriate
instructional materials such as books, films, apparatus,

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[27]George J. Mouly, Readings in Educational
Psychology, (USA: Halt, Rinehart and Winston, Inc.,
1971), p. 12.

equipment, and other instructional materials that the
learner may be helped to cultivate competencies.
Support to this idea is cited by Jerdivitcha's study
where effective instruction is dependent primarily
upon the adequacy of tools and equipment that the
students utilize to satisfy the urge to manipulate,
create, beautify and express through a purposeful
activity.[28]

Schools, regardless of type, are designed to
train students in the use of necessary skills required
for national development; thus, we have to equip them
with the necessary tools, machineries and equipment.
Findings of Jerdivitcha's study revealed that of the
two schools offering the same vocational courses,
Nakornpathom Technical College under the Department of
Vocational Education was rated higher in terms of tools,
equipment, and facilities. It showed higher vocational
achievement of students when compared with Sampranttiwaya
under the Department of General Education. Such differ-
ence was significant at .05 and .01 level.

What further necessitates a relevant impli-
cation to any school training scheme is the primary

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[28] Cheotima Jerdivitcha, "A Comparison of Student
Achievement in the Department of Vocational and General
Education: A Case Study in Thailand", (unpublished
master's thesis, TUP, Manila, 1987), p. 29.

existence of auxillary facilities. Obviously, the
school objectives in this regard are towards develop-
ing a complete or adequate human resources development
that recognizes not the student or output in tools
manipulation but mastery of the student himself in a
world of vocational and technological orientation where
human factor still prevails over mobile sophistications.

Teacher Quality

According to Corson "If we want to improve
American education, we ought to aim first at improving
the quality of the faculty".[29]   The make up of the faculty
determines the educational program. Thus, the performance
of the student has some direct bearings on the kind of
faculty the school has. The competence of the teacher
remarkably enhances the development of the skills,
values and knowledge among the students.[30]   Educational
qualifications, teaching experiences and other related
trainings increase the teaching efficiency and effective-
ness of the teachers which are usually indicative of
students performance. In addition to these is the
teacher's personality which has an inculcative impact

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[29]John J. Corson, The Governance of Colleges
and Universities, (New York: McGraw-Hill Book Co.,
1975); p. 101.

[30]Suttiprapa, p. 14.

on the students to encourage and challenge them to
plant a sense of responsibility and perseverance and
to develop their imagination. Cited in a case study
in Singapore, teacher's personality attitude on personal
philosophy are salient causes of students' dropout and
enrolment. The teacher's lifeless presentation of the
various segment of a course could be a reason for
dropout. Although such reason is very subjective, it
could be of equal validity with the so called "objective
causes". As revealed in the case study in Non-Formal
Education in different countries, it showed that
inadequacy of vocational training of teacher handling
the program could be a ground for their dropout.
Studies reveal the need for closer supervision to
familiarize administration about the strengths and
weaknesses of teachers for the improvement of the
learning schemes.[31]

Student Attitudes

Interests/attitudes of students also provide
avenues for them to explore areas where they excel.
By attitude is meant a learned capability that affect

[31]Socorro Alkunio Rosales, "Performance of
Secondary Schools under Different Organizational
Dimensions", (unpublished master's thesis, University
of the Philippines, 1982), p. 72.

the learner's choice of personal action. It is an internal state that originates processes of executive control. These aspects are manifested in their hobbies, books they read, games they play and places they frequently visit.[32] Measures of study habits and attitudes influence students performance. The Survey of Study Habits and Attitudes (SSHA) independently accounts for some of the variations in college grades. The SSHA, an inventory used to measure or assess both study habits and attitudes, was developed by Brown and Holtzman. Both high school and college students used the inventory and findings showed correlations between the version of the SSHA and academic grades to be even higher than those generally obtained for the college edition, Form C. High school students obtained a higher correlation than the college students. The difference of correlation for the two groups was due to the greater heterogeneity of the high school students.[33] Ahmann and his associates had findings which were contrary to those cited. They observed that the inventory did not add significance to the battery of

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[32] John Corson, op. cit. p. 37.

[33] W.H. Holtzman and W.F. Brown, "Evaluating the Study Habits and Attitudes of High School Students", (Journal, Educational Psychology, 1960), p. 109-114.

intellective measure to find relationships.[34]

Studies however indicated that when ability was controlled, study habits were positively related to performance. As revealed by Carter, when ability was not controlled, it gave out similar findings.[35]

The results of studies on the relationship between study habits and attitudes toward academic performance point out two facts. First, measure of study habits are positively related to academic success even when ability is controlled. Secondly, positive attitudes toward school and education in general are also positively related to academic achievement.

Instructional Strategies/Approaches

Quality learning can best be achieved by enhancing the process of learning. "The goals that are to be realized through a system of education are educational objectives. If these objectives are

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[34]S.J. Ahmann and others, "Predicting Academic Success in College by Means of a Study Habits and Attitude Inventory", Educational and Psychological Measurement, (New York: Russel Sage Foundation, 1969), p. 34.

[35]Harold D. Carter, "Improving the Prediction of School Achievement by the Use of the California Study Methods", Educational Administration and Supervision, cited by Lavin, 1959, p. 66.

learned, they become more resistant to forgetting than
the mere recall of content. Such student behaviors,
besides being useful in the context in which they are
learned, are highly transferable to a variety of
circumstances.

In actual process, education today is geared
toward the recognition of the learner's potentials
and the possibility of harnessing these potentials
into abilities and capabilities versatile in
characteristic. This is simply a departure from the
traditional and subjective processes, such as subject-
centered, teacher-centered, and child-centered, for
the new educational dimensions of learner's potential
or ability-centered processes. So that, the subject
matter, the teacher, and the child factors are all
merged to be means for the educational or instructional
ends and toward learner's abilities or capabilities
enculturation, formation, maturation, which processes
are foundations of abilities and talents.

To carry out the two great themes of the "New
Education" which are intellectual excellence and
individualization, the school, the teacher in particular,
should be versatile and creative on the choice of the
teaching methods necessary for effective learning, for
not all individuals need different types of learning

activities for self-development. Hence, the overall
goal of education for intellectual excellence is to
produce a self-educating person who knows how to think,
learn, and make judgments independently. For indivi-
dualization, it requires that each student be conducted
through a program of studies that is expecially suited
to his learning needs, his learning capacities and his
rate of learning.[37] Considering the different aspects
discussed, the following additional related studies
seemed to be parallel with the present study, among
which is the research work conducted by Laluan[38] on the
performance of college students in the State University
in Region 1. In her study, she used the general averages
of the students based on the types of schools they
graduated from. The general average of each college
student was obtained by summing up the student's grades
in all subjects from first to second semester and its
summation was divided by the number of subjects. The
college grades were analyzed using the Analysis of
Variance for the purpose of verifying the result of

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[37]Elefanio, op. cit., p. 24.

[38]Erlinda B. Laluan, "Performance of Second Year
College Students in the State Universities in Region 1--
Its Relation to NCEE Scores and Some Selected Variables",
(Thesis, M.S., Baguio Central University, 1983), p. 38.

the previous findings indicated in the Duncan Multiple
Range Test (DMRT) where graduates from barangay high
schools showed lower performance than students from
other types of high schools. Results of the study
reveal that the students from barangay high schools
obtained a mean of 2.57; private high schools with a
mean of 2.53; national high schools with a mean of 2.67;
and technical high schools with a mean of 2.52. However,
despite the differences in mean, a t-value of 3.34 was
obtained which is very much lower than t-tabulated of
3.86 thus indicating an insignificant difference among
students graduated from other types of schools. It
shows then that the students had equal level of
performance as compared to the other graduates from
other schools, an indication that equal opportunities
were provided by the state institution in terms of
faculty and facilities.

The study of Limbo centered on the scholastic
performance of college students from different types of
high schools. Of the 597 students involved in her study,
396 came from the municipal high schools and 366 came
from private high schools which were sectarian (281)
and a non-sectarian (85). The information gathered
was on the type of high schools attended, location of
such schools, average grades of students in college for

the first semester and average grades of related subject matter areas. Of the items tested for significant relationship, types of high schools attended by the students showed a significant relationship with scholastic performance in college, using the Chi-Square Test.[39] A difference of this study, however, lies on the type of school, since Limbo's study classified the school as public and private whereas the researcher focused on the classification according to curriculum as general high school and vocational high school.

The study of Porcare conducted among college students of VISCA, showed that students from VHS and presently enrolled in vocational colleges achieved better than those from GHS or the general secondary curriculum. This result may be due to the fact that preparation in high school was more or less related to the orientation they received in college. The Chi-Square test obtained a value of 9.0 which was statistically significant at .05 level.[40]

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[39]Salvacion Limbo, "Factors Affecting the College Scholastic Performance of Students from Different Types of High School", (unpublished master's thesis, Central Mindanao University, 1975), p. 25.

[40]Alfredo Porcare, "Correlates of Scholastic Performance of VISCA College Freshmen". (unpublished master's thesis, M.S. Agri. Div. VISCA, Leyte, 1984) p. 36.

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Another is Bell's study on the comparison of
college grades received by college students who had
vocational-agriculture in the high school and those
who had none. Findings showed that those with voca-
tional-agriculture units did consistently better work
in college than those who had none.[41] Bunton's study,
however, indicated that students who finished agri-
culture in high school were prepared equally well for
work in the college of agriculture as those who had more
academic or college preparatory course.[42] This is
supported by the study of Santos conducted in North
Carolina State College where he concluded there was much
difference in the scholastic achievement between those
who had background in vocational agriculture than
those who had not. He also pointed out that there
was no evidence that taking high school vocational
agriculture was either an advantage or a disadvantage
measured by the grades of students in college in the

[41]Paul Albert Bell, "Comparison of College Grades
Received by Students Having and Not Having Vocational
Agriculture in the High School", (Research Problem,
M.S. Oklahoma College Library, Oklahoma, Stillmate), p. 19.

[42]John V. Bunton, "Effectiveness of Secondary
Vocational Agriculture", (Master's Report, Colorado and
Mechanical College, Fort Collins, Colorado, 1954), p. 19.

general agriculture education.[43]

Fabiana[44] conducted a study on the relationship
between high school academic performance of graduates
of vocationally oriented secondary program and
subsequent performance in college. Using the GPA,
findings showed that since high school students were
trained for work, it was expected that their grades
in the technical courses would correlate highly with
their high school grades but the coefficient of
correlation between high school grade average and
freshmen's grade average of students enrolled in the
technical courses was .348 only.

The study of Mess showed no significant
difference between the vocational and non-vocational
groups when their total grade point average for all
college work was compared. However, there was a

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[43]Bruno Santos, "Scholastic Achievement of North
Carolina State College of Students of Vocational Agri-
culture as Compared with Students Having no Vocational
Work in School", (Thesis, M.S. in Agriculture Education,
North Carolina State College, Raleigh North Carolina,
1950), p. 20.

[44]Angelina S. Fabiana, "A Study of the Relation-
ship Between High School and College Academic Perfor-
mance", (unpublished master's thesis, Central Phil.
University, Iloilo, 1968), p. 50.

slight difference in their grades in agriculture
subjects in favor of the group that had vocational
agriculture in high school.[45] Cunningham's study
revealed that boys who had high school training in
vocational agriculture did well or even better in the
college of agriculture than those who did not have
such preparation.[46] The study of Tangchai on the
scholastic performance of college students enrolled
at the college of agriculture found out that students
from different types of high school did not have statis-
tically significant difference in scholastic performance
during their first year college and that the difference
in performance among graduates of these types of high
schools were statistically significant in the second
year.[47] In addition, Rev. Fitzpatrick disclosed that

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[45]Noel L. Mess, "Vocational Agriculture Credits
From High School as a Basic for College of Agriculture
Work", (unpublished master's thesis, Technological
College, Dept. of Agriculture Education, Texas Techno-
logical College, Lubbock), p. 21.

[46]Clarence Cunningham, "Relationships of Selected
Pre-college Experiences to Scholastic Achievement in the
Ohio State University, (Thesis, M.S., Ohio State Univer-
sity, Columbus, Ohio, 1959), p. 17.

[47]Thiraphene Tangchai, "The Scholastic Performance
of College Students Enrolled at the Kasetsart University,
College of Agriculture during the SY 1954-55", (Thesis
M.S. College of Agriculture, University of the Philippines,
1962), p. 34.

no significant relationship exists between school achievement and variables such as type of school student body, type of high school training, and type of high school attended.[48] Such various finding could be attributed to Kee's opinion regarding variation of standards. Thus, one who excels in a certain school may not excel in another.[49] Generally, there are lower educational standards in the rural areas. Barangay high schoo l students are deprived culturally and socially. The study of Santos[50] showed that the environmental climate is referred to as the total college or university organizational set up conducive for scholastic achievement reflected in purpose, objectives and policy of the institution for the student's curricular and extra curricular programs, student welfare and services, student regulation and physical structure of the college. This was inferred from the responses of the 23 administrator

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[48] Rev. Robert J. Fitzpatrick, S.D., _Aptitude Testing and Prov'l. Studentry Fape Review_, Vol 5, (November, 1975), p. 51.

[49] Francis Wong Hoy Kee, "Comparative Studies in Southeast Asian Education", Heinemann Educational Books (Asia: Ltd., 1973), p. 20.

[50] Santos, op. cit., p. 48.

respondents to the 35 items in the Institutional
Assessment Measure. They cited the need for limited
enrolment and a sizeable budget allocation for facil-
ities necessary in creating an environmental climate
conducive for learning.

Relationship with the Present Study

The literature and studies mentioned in this
chapter are relevant to the present study because they
all deal with scholastic achievement. The studies
conducted were mostly toward the identification of
factors correlated with scholastic achievement. Compa-
rative emphasis on scholastic achievement of students
were considerably noted similar to the present study
the fact that the grades or GPAs were used as basis
for comparison. Differences however were noted on the
type of school last attended by the students, since
other studies classified the schools per funding as
public and private or per location as rural and urban.
Whereas in the present study, the researcher focused
on the type of school according to curriculum as general
high schools and vocational high schools. Still, other
studies compared achievement of college students who
had vocational exposure or orientation in the secondary

and those in the vocational institutions with college students having no vocational background at all. Slight similarity exists between the studies reviewed and the present study, since the researcher centered her study interest in a vocational institution where achievements of college students from schools with vocational and academic curricular offerings are compared accordingly with its broad but peculiar character such as that of SSPC.

Chapter 3

METHODOLOGY

This chapter presents the methods and procedures, the research design, the description of samples, the technique used in the gathering of data, and the statistical measure used in the treatment of data.

The Research Design

The researcher used analytical-descriptive method in her study. This research thus involves more than fact gathering and tabulation. It deals with the analysis and interpretation of the data which have been gathered for a specific purpose, for the understanding and solution of significant problems.[51]

This study included documentary analysis on the achievement of SSPC college students as reflected in their permanent records in the registrar's office.

The Subjects

The subjects of this study were students of SSPC enrolled in the six courses as shown in Figure 1

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[51]Gaudencio V. Aquino, "A Review of Methods of Research", Methods of Research, (Manila: Phoenix Publishing House, 1985), p. 7.

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namely: the two-year Technical Course, the three-year
course leading to the Diploma of Technician (DOT), the
four-year course leading to the degree of Bachelor of
Science in Industrial Technology (BSIT), the four-year
teacher education course leading to the degree of
Bachelor of Science in Industrial Education (BSIE), the
five-year engineering course leading to the degree of
Bachelor of Science in Electrical Engineering (BSEE),
and the five-year engineering course leading to the
degree of Bachelor of Science in Civil Engineering (BSCE).
The samples were chosen from among the college students
regularly enrolled during the school year 1985-1986 and
1986-1987 as described under the scope and delimitation.

Technique Used

The researcher mainly used documentary analysis
for the data in her study. First, the approval of the
College Dean was sought to review the students records
in the registrar's office. Upon approval of the request,
the researcher started to scrutinize 315 student permanent
records, 153 of which were of the two-year technical
students and the DOT students while 162 were of the BSIT,
BSIE, BSEE, and BSCE students enrolled during the school
year 1987-1988.

From these records, the schools last attended by

the students were determined whether general or vocational high schools through purposive sampling. The students who graduated from general high schools were classified as Case A, while those students graduated from vocational high schools were classified as Case B. Irregular students or those who have not completed their studies within the time delimitation (SY 1985-1986 to 1986-1987) were discarded by the researcher. Only those who stayed in the college for the time duration of two years were involeved. After classifying the students into two cases, Case A and Case B, their general grade point average were computed. (To compute the grade point average (GPA), please refer to Appendix G for sample computation). The students' ratings in the high school as reflected in the students' permanent record (Form 137-A) were added and divided by the number of subjects. For the rating in college, the mean of the grade point average for the first and second semester during their first year and the mean of the grade point average for first and second semesters during their second year were added and divided by two to get the average rating for two years.

After determining the number of samples by purposive sampling, the researcher compared the means

of the two groups, that is, the mean rating in high
school of Case A as well as the mean rating in high
school of Case B. A total of 100 samples were
selected, 50 for Case A and 50 for Case B which are
equal to 58 percent of the total number of regularly
enrolled students, in as much as more students enrolled
in SPC came from the general high schools than from
the vocational high schools.

Statistical Treatment of Data

The statistical method used in the treatment
of the data gathered was the t-test of significance of
the difference between the means of two independent
samples (uncorrelated data).

The mean was used in determining the average
rating obtained in the high school for each of the
samples so that the final ratings of each of the two
groups were obtained. This statistical method was used
in determining the scholastic ratings in college for
two years of the same samples, leading to the compu-
tation of the grand mean for each of the two groups.

The t-test of significance of the difference
between means for independent samples was used to test
the null hypothesis, that is, whether the means of the
two groups, the GHS group represented by Case A and

the VHS group represented by Case B are the same at .05
level of significance.

Formula used for t-test.[52]

$$t = \frac{\bar{X}_1 - \bar{X}_2}{\dfrac{(N_1-1)\ S_1^{\ 2} + (N_2-1)\ S_2^{\ 2}}{N_1 + N_2-2} \dfrac{(N_2+ N_1)}{N_1 N_2}}$$

Where:

t = computed statistical value

$\bar{X}_1$ = grand mean of scholastic achievement
of college students graduated from the
general high schools.

$\bar{X}_2$ = grand mean of scholastic achievement
of college students graduated from the
vocational high schools

S_1 = variance for the first group or Case A

S_2 = variance for the second group or Case B

N_1 = number of item means for the first group

N_2 = number of item means for the second group

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[52]W. Guilford and B. Frutcher, Fisher's t-test
for Uncorrelated Means, Fundamental Statistics in
Psychology and Education, (Tokyo: McGraw-Hill Kagashuka,
Ltd., Co., 1973), p. 36.

Chapter 4

PRESENTATION, ANALYSIS AND INTERPRETATION OF DATA

This chapter presents the findings, analysis, and interpretation of the data based on the specific questions raised. Appropraite tables were prepared for purposes of clarity in the interpretation of the data.

The Scholastic Achievement Level of SSPC College Students Graduated from the General High Schools.

Table 1 shows the mean scholastic rating of the 50 graduates from the general high schools who were regularly enrolled for two years. The mean scholastic rating of these students classified as Case A is 2.17. Under the technical curriculum, the average scholastic rating of the 12 graduates from the general high school is 2.44. The eight students enrolled under the DOT curriculum have an average scholastic rating of 2.02. For the six students under the BSIE curriculum, their average scholastic rating is 1.75. The three students under the BSEE curriculum have an average scholastic rating of 2.32 while under the BSCE curriculum, the average scholastic rating of the four students is 2.33. The total average scholastic ratings of the 50 students from the

general high schools were obtained from their two-year
stay in college. The ratings presented indicate that
the graduates from the general high schools under the
BSIE curriculum excelled a little over the other groups
of graduates in terms of scholastic achievement.

Table 1. Scholastic Achievement Level of SSPC College
Students Graduated From General High
Schools

Curricula	Number	Total Sch. Ratings First & Second Year	Average Ratings'
Technical	12	2.55 + 2.32	2.44
DOT	8	2.10 + 1.95	2.02
BSIT	17	2.24 + 2.15	2.20
BSIE	6	1.68 + 1.79	1.74
BSEE	3	2.41 + 2.23	2.32
BSCE	4	2.31 + 2.35	2.33
Mean Scholastic Rating for Case A			2.17

The Scholastic Achievement Level
    of SSPC College Students Graduated
    from the Vocational High Schools.

Shown in Table 2 is the mean scholastic rating
for the 50 graduates from the vocational high schools
regularly enrolled for two years. The mean scholastic
rating of these students classified as Case B is 2.22.

Table 2. Scholastic Achievement Level of SSPC College
          Students Graduated from Vocational
          High Schools

Curricula	Number	Total School Ratings First and Second Year	Average Ratings
Technical	12	2.33 + 2.44	2.39
DOT	8	2.28 + 2.12	2.20
BSIT	17	2.23 + 2.24	2.23
BSIE	6	1.82 + 1.81	1.82
BSEE	3	2.30 + 2.26	2.28
BSCE	4	2.38 + 2.40	2.39
Mean Scholastic Rating for Case B.			2.22

Under the technical curriculum, the average scholastic
rating of the 12 graduates from the vocational high
school is 2.39 while the eight students enrolled under the
DOT curriculum have an average scholastic rating of 2.20.
Under the BSIT curriculum, the average scholastic rating
of the 17 students is 2.23 while the six students under the
BSIE curriculum have an average scholastic rating of 1.82.
Under the BSEE curriculum, the three students have an average
scholastic rating of 2.28 while the four students under the
BSCE curriculum have an average scholastic ratings of the
50 students graduated from the vocational high schools

were obtained from their first two-year stay in college. The ratings presented indicate that the graduates from the vocational high schools under the BSIE curriculum excelled a little over the other groups in terms of scholastic achievement.

The Difference Between the Scholastic Achievement Level of the SSPC College Students Graduated from the General High Schools and Those from the Vocational High Schools.

The data in table 3 show the mean difference between the scholastic achievement of the 12 students graduated from the general high schools and the 12 students graduated from the vocational high schools under the technical curriculum.

Table 3 shows the graduates from the general high schools represented by Case A with a mean scholastic rating of 2.44 while the graduates from the vocational high schools represented by Case B have a mean scholastic rating of 2.39. The mean difference between them is equal to .05 (please refer to Appendix L-1 for computation). The t-computed is equal to 0.38. The number of degree of freedom is $N_1 + N_2 - 2$ or $12 + 12 - 2 = 22$. For 22 degrees of freedom, we require a t of 2.074 for the result to be significant at five percent level. Since the observed value of t which is 0.38 is

Table 3.   Difference Between the Scholastic Achievement
           Level of Students Graduated From the GHS
           and the VHS (Technical Curriculum)

Case A (GHS)	Case B (VHS)
2.56	2.585
2.255	2.265
2.385	2.36
2.45	3.285
2.305	2.825
2.35	2.245
2.47	2.094
3.15	2.43
2.18	2.19
2.56	2.26
2.5	2.22
2.125	1.925
Total 29.29	28.684
MSR X= 2.44	X= 2.39

Mean Difference = .05

t computed   = .38

degree of freedom = 22

tabular t   = 2.07

level of significance = .05

interpretation   = not significant

less than the table value of 2.074, it can be said that the difference between Case A and Case B is not significant. This means that the type of school where the students have been graduated from does not have much to do with scholastic achievement.

Table 4 presents the mean difference between the eight students graduated from the general high schools and the eight students graduated from the vocational high schools under the DOT curriculum.

The graduates from the general high schools represented by Case A have a mean scholastic rating of 2.02 while the graduates from the vocational high schools represented by Case B have a mean scholastic rating of 2.20. The mean difference between them is equal to 0.08 (Please refer to Appendix L-2 for computation). The t-computed is equal to 1.43. The number of degrees of freedom is $N_1 + N_2 - 2$ or 8+8-2=14. For 14 degrees of freedom, it requires a t of 2.14 for significance at five percent level. Since the observed value of t= 1.43 is less than the tabular value of 2.14 it can be said that the difference between Case A and Case B is not significant.

Table 5 shows the mean difference between the 17 students graduated from the general high schools and the 17 students graduated from the vocational

Table 4.   Difference Between the Scholastic Achievement
           Level of Students Graduated from the GHS
           and the VHS (DOT Curriculum)

Case A (GHS)	Case B (VHS)
1.87	2.331
2.195	2.141
1.96	2.115
1.71	2.7
2.195	2.155
2.54	1.905
1.88	2.135
1.85	2.13
Total 16.18	17.61
Mean X = 2.02	X = 2.20

Mean Difference   = .08

t computed   = 1.43

degree of freedom = 14

tabular t = 2.14

level of significance = .05

interpretation = not significant

Table 5. Difference Between the Scholastic Achievement
Level of Students Graduated from the GHS
and VHS (BSIT Curriculum)

Case A (GHS)	Case B (VHS)
2.32	1.895
2.265	2.335
2.255	2.09
1.98	2.025
2.47	2.49
2.18	1.88
2.35	2.37
2.085	2.24
1.895	2.095
2.045	2.4
2.125	2.48
2.175	2.375
2.235	2.32
2.495	2.215
2.24	2.415
2.185	2.215
2.025	2.1

EX = 37.325   EX = 37.94

$\overline{X}$ = 2.20 $\overline{X}$ = 2.23

Mean Difference = -0.03

t computed = -0.49

degrees of freedom = 32

tabular t = 1.696

level of significance = .05

interpretation = not significant

53

high schools under the BSIT curriculum.

These graduates from the general high schools represented by Case A have a mean scholastic rating of 2.20 while the mean scholastic rating of the graduates from the vocational high schools represented by Case B have a mean scholastic rating of 2.23. The mean difference between them is equal to .03. (Please refer to Appendix L-3 for computation). The t computed is equal to .49. The number of degree of freedom is $N_1 + N_2 - 2$ or 17+17-2=32. For 32 degrees of freedom, we require a t of 1.696 for the result to be significant at five percent level. Since the observed value of t=0.49 is much less than the table value of t=1.696, therefore, the difference between Case A and Case B is not significant.

The data in table 6 show the mean difference between the scholastic achievement of six students graduated from the general high schools and the six students graduated from the vocational high schools under the BSIE curriculum.

These graduates from the general high schools represented by Case A have a mean scholastic rating of 1.73 while the graduates from the vocational high schools represented by Case B have a mean scholastic rating of

Table 6. Difference Between the Scholastic Achievement
          Level of Students Graduated from the GHS
          and the VHS (BSIE Curriculum)

Case A (GHS)	Case B (VHS)
1.73	1.89
1.8	2.12
1.6605	1.815
1.805	1.6
1.8	1.71
1.8	1.775
EX = 10.396	EX = 10.81
$\overline{X}_1$ = 1.73	$\overline{X}_2$ = 1.82

Mean Difference = -0.09

t computed = 1.07

degrees of freedom = 10

tabular t = 2.23

level of significance = .05

interpretation = not significant

1.82. The mean difference between them is equal to
.09. (Please refer to Appendix L-4 for computation).
The t computed is equal to 1.07. The number of degree
of freedom is N_1+ N_2-2 or 6+6-2 = 10. For 10 degrees of
freedom, we require a t of 2.23 for the result to be

significant at the five percent level. Since the
observed value of t=1.07 is less than the table value of
2.23, it can be said that the difference between Case A
and Case B is not significant.

Table 7 indicates the mean difference between
the three students graduated from the general high
schools and the three students graduated from the
vocational high schools under the BSEE curriculum.

Table 7. Difference Between the Scholastic Achievement
Level of Students Graduated from the GHS
and the VHS (BSEE Curriculum)

Case A (GHS)	Case B (VHS)
2.52	2.325
2.185	2.11
2.25	2.4
EX_1 = 6.96	EX_2 = 6.835
$\overline{X}_1$ = 2.32	$\overline{X}_2$ = 2.28

Mean Difference = .04

t computed = .03

degrees of freedom = 4

tabular t = 2.78

level of significance = .05

interpretation = not significant

The graduates from the general high schools represented by Case A have a mean scholastic rating of 2.32 while the graduates from the vocational high schools represented by Case B have a mean scholastic rating of 2.28. The mean difference between them is equal to .04 (Please see Appendix L-5 for computation). The t computed is equal to .30. The number of degrees of freedom is $N_1 + N_2 - 2$ or $3+3-2=4$. For four degrees of freedom, we require a t of 2.78 to be significant at five percent level. Since the observed value of t-.30 is less than the table value of t=2.78, it can be said that a difference between Case A and B is not significant.

Table 8 reflects the mean difference between the 4 graduates from the general high schools and the 4 graduates from the vocational high schools under the BSCE curriculum.

The graduates from the general high schools represented by Case A have a mean scholastic rating of 2.33 while the graduates from the vocational high schools represented by Case B have a mean scholastic rating of 2.39. The mean difference between them is equal to .06. The t computed is equal to .33. (Please see Appendix L-6 for computation). The number of degrees of freedom is $N_1 + N_2 - 2$ or $4+4-2=6$. For

Table 8. Difference Between the Scholastic Achievement
Level of Students Graduated from the GHS
and the VHS (BSCE Curriculum)

Case A (GHS)	Case B (VHS)
2.42	2.455
2.725	2.58
2.085	2.395
2.08	2.115
EX_1 = 9.31	EX_2 = 9.545
$\overline{X}_1$ = 2.33	$\overline{X}_2$ = 2.39

Mean Difference = -0.06

t computed = -0.33

degrees of freedom = 6

tabular t = 2.45

level of significance = .05

interpretation = insignificant

6 degrees of freedom, we require a t of 2.45 for the
result to be significant at 5 percent level. Since
the observed value of t which is .33 is less than the
table value of t=2.45, it can be said that the
difference between Case A and Case B is not
Significant.

Table 9 reflects the comparison in summary of the computation of t-test of the mean scholastic ratings of the two groups of graduates according to curriculum.

Table 9. Difference Between the Scholastic Achievement Level of the Students Graduated from the GHS and the VHS

Curriculum	Case A	Case B
Technical	2.44	2.39
DOT	2.02	2.20
BSIT	2.20	2.23
BSIE	1.73	1.82
BSEE	2.32	2.28
BSCE	2.33	2.39
T o t a l	2.17	2.22

Mean Difference = .05

t computed = .37

degrees of freedom = 10

tabular t = 2.23

level of significance = .05

interpretation = insignificant

The overall data of the 50 graduates from the general high schools represented by Case A has a mean

scholastic rating of 2.17 while the 50 graduates from

the vocational high schools represented by Case B has

a mean scholastic rating of 2.22. The ratings of

these two groups yielded a mean difference of .05.

(Please see Appendix L-7 for computation). The t

computed is equal to .37. The number of degrees

of freedom is $N_1 + N_2 - 2$ or 6+6-2=10. For 10 degrees

of freedom, we require a t of 2.23 to be significant

at 5 percent level. The observed value of t=.37 is

less than the table value of 2.23 which means that

the overall mean difference between Case A and

Case B is not significant. Therefore, the type of

school the students graduated from had no influence

over their scholastic achievement while in the SSPC.

Chapter 5

SUMMARY, CONCLUSION AND RECOMMENDATION

This chapter shows the summary of findings, conclusions and recommendations of this study.

Summary

This study aimed to determine the difference between the scholastic achievement of SSPC college students graduated from the general high schools and vocational high schools for two consecutive years, particularly from school year 1985-86 to school year 1986-87. Specifically, this study sought answers to the questions on the achievement levels of SSPC college students from the two types of schools, the general and the vocational high schools.

The descriptive method of research was employed in this study using documentary analysis of the Form 137-A and Form 137-T (permanent records) of 100 college students. To enrich its content, an informal interview was conducted with teachers who taught the college subjects from 1985-1987. A review of several books, unpublished masteral thesis, periodicals and other publications, both local and foreign, were also scanned to gather informations

60

relevant to the study.

The subjects used in this study were college students enrolled for school year 1985-86 to 1986-87 in the first and second year respectively.

The data gathered were recorded and tabulated as shown in the preceding chapter. They were analyzed and interpreted using the mean and t-test to measure the significance of the difference between the two means of independent samples at .05 level of significance.

Findings

Based on the analysis and interpretation, the following findings were highlighted:

1. The obtained mean scholastic rating of the 50 students who graduated from the general high schools was computed according to courses as follows: Technical 2.44 - good; DOT 2.02 - good; BSIT 2.20 - good; BSIE 1.73 - good; BSEE 2.32 - good; BSCE 2.33 - good. Overall, it yielded an average scholastic mean rating of 2.17 revealing a satisfactory achievement of the said students.

2. The obtained mean scholastic rating of the 50 students graduated from the vocational high schools was computed according to courses as follows: Technical 2.39 - good; DOT 2.20 - good; BSIT 2.23 - good;

BSIE 1.82 - good; BSEE 2.28 - good; BSCE 2.39 - good.
Overall, it yielded an average mean scholastic rating
of 2.17 revealing satisfactory achievement of the
said students.

3. The obtained value of the difference
between the scholastic achievement level obtained by
the graduates from the general high schools and
vocational high schools was -0.37. The result is too
small than the critical value of 2.23 at .05 level of
significance. The researcher, therefore, has basis
for accepting the null hypothesis that there is no
significant difference between the scholastic
achievement level of SSPC college students graduated
from the vocational and the general high schools.

Conclusions

The following conclusions were derived from
the foregoing findings:

1. The scholastic achievement level of SSPC
college students graduated from the general high schools
revealed a satisfactory mark. This means that despite
the difference in curriculum and other factors of
learning, the subjects were able to cope with the
standard requirement set by the college which revealed
a kind of flexible educational experience in them.

2. The scholastic achievement level of GSPC
college students graduated from the vocational high
schools revealed a satisfactory mark. This means that
these college students had the same interest level in
coping with the standard criteria set by the college.

3. The general scholastic achievement level
of the college students who graduated from the VHS and
GHS revealed no significant difference. Therefore,
the null hypothesis is accepted that the type of
school where the students come from does not have
much to do with scholastic achievement.

Recommendations

After a thorough study of the scholastic
achievement of both the GHS and the VHS graduates,
and based on the findings of this study, the researcher
recommends the following:

1. A study is recommended toward policy reform
for a comprehensive discipline integration for both
vocational and general high schools curricula through
the tertiary or higher educational aims;

2. A study on whether group leadership of
students in school, curricular or extra-curricular,
consistently relates with superior scholastic
achievement, or merely, that leadership is an affective

or common group personality/norm projection for
scholastic achievers;

3. A study on the same problem is recommended
in other schools to further confirm validity of findings
of the present study; and

4. A follow-through study on the same problem
and research venue is recommended ten years after for
findings relevant to educational or curricular planning
and development schemes.

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APPENDICES

APPENDIX A

SAMAR STATE POLYTECHNIC COLLEGE
Catbalogan, Samar

April 21, 1986

The Dean of Graduate Studies
Samar State Polytechnic College
Catbalogan, Samar

S i r :

The following research problems/proposals are
hereby submitted for appropriate action of this Office;
preferably for topic number one:

1. SCHOLASTIC ACHIEVEMENT OF SSPC COLLEGE
STUDENTS GRADUATED FROM GENERAL HIGH
SCHOOLS AND VOCATIONAL HIGH SCHOOLS

2. THE PERCENTAGE OF FAILURE OF ALL SSPC
SECONDARY STUDENTS FROM FIRST YEAR
TO FOURTH YEAR IN SCHOOL YEAR
1985-1986

3. A SURVEY ON RELEVANCE OF THE COURSES OFFERED
IN SSPC TO THE MANPOWER NEEDS OF SAMAR

Early and favorable action on this matter will
be highly appreciated.

Very truly yours,

(SGD.) VICTORIA C. SABALZA
Researcher

Recommending Approval:

(SGD.) ALEJANDRO E. CANANUA, M. Ed.
Head, Research and Development

APPROVED:

(SGD.) DOMINADOR Q. CABANGANAN, Ed. D.
Dean, Graduate Studies

APPENDIX B

Republic of the Philippines
SAMAR STATE POLYTECHNIC COLLEGE
Catbalogan, Samar

GRADUATE SCHOOL

APPLICATION FOR ASSIGNMENT OF ADVISER

NAME <u>SABALZA,   VICTORIA   CUI</u>
         Family Name   First Name   Middle Name

CANDIDATE FOR DEGREE IN <u>Master of Arts in Education</u>

AREA OF SPECIALIZATION <u>Administration and Supervision</u>

TITLE OF PROPOSED THESIS <u>THE SCHOLASTIC ACHIEVEMENT</u>

<u>OF SSPC COLLEGE STUDENTS GRADUATED FROM GENERAL</u>

<u>HIGH SCHOOLS AND VOCATIONAL HIGH SCHOOLS</u>

_____

NAME OF REQUESTED ADVISER <u>DR. BERNARDO S. OLIVA</u>

APPROVAL OF ADVISER _____ DISAPPROVAL _____

(SGD.) BERNARDO S. OLIVA, Ph. D.
Adviser

Date <u>12/ 7 /86</u>

APPROVED:

(SGD.) DOMINADOR Q. CABANGANAN, Ed. D.
Dean, Graduate Studies

APPENDIX C

Republic of the Philippines
SAMAR STATE POLYTECHNIC COLLEGE
Catbalogan, Samar

January 28, 1987

The Dean of Graduate Studies
Samar State Polytechnic College
Catbalogan, Samar

S i r :

I have the honor to request permission
that I be allowed to review with the Registrar's
Office the records of college students for SY 1985-
87 who have been selected as study samples for my
research on: "THE SCHOLASTIC ACHIEVEMENTS OF SSPC
COLLEGE STUDENTS GRADUATED FROM GENERAL HIGH SCHOOLS
AND VOCATIONAL HIGH SCHOOLS".

The foregoing research activity shall start
January 30, 1987.

Your favorable action on this request is
anticipated.

Very truly yours,

(SGD.) VICTORIA C. SABALZA
Researcher

APPROVED:

(SGD.) DOMINADOR Q. CABANGANAN, Ed. D.
Dean of Graduate Studies

APPENDIX D

SAMAR STATE POLYTECHNIC COLLEGE
Catbalogan, Samar

January 9, 1988

The Dean of Graduate Studies
Samar State Polytechnic College
Catbalogan, Samar

S i r :

I have the honor to submit herewith for perusal
five (5) copies of my thesis proposal : "THE SCHOLASTIC
ACHIEVEMENTS OF SSPC COLLEGE STUDENTS GRADUATED FROM THE
GENERAL HIGH SCHOOLS AND VOCATIONAL HIGH SCHOOLS".

In this connection, a schedule for defense of
the above thesis proposal is requested.

Your early action on this request will be
highly appreciated.

Very truly yours,

VICTORIA C. SABALZA
Researcher

Recommending Approval:

(SGD.) BERNARDO S. OLIVA, Ph. D.
Adviser

APPROVED:

(SGD.) DOMINADOR Q. CABANGANAN, Ed. D.
Dean of Graduate School

APPENDIX E

SAMAR STATE POLYTECHNIC COLLEGE
Catbalogan, Samar

January 21, 1989

The Dean of Graduate Studies
Samar State Polytechnic College
Catbalogan, Samar

S i r :

I have the honor to request that I be
scheduled February 7, 1989 to defend my thesis
entitled: "SCHOLASTIC ACHIEVEMENT OF SSPC COLLEGE
STUDENTS GRADUATED FROM GENERAL HIGH SCHOOLS AND
VOCATIONAL HIGH SCHOOLS".

In this connection, I am submitting herewith
six copies of my thesis for review with my adviser,
the chairman and with the members of the panel of
examiners.

I hope for your early and favorable action
on this request.

Very truly yours,

(SGD.) VICTORIA C. SABALZA
Researcher

Recommending Approval:

(SGD.) BERNARDO S. OLIVA, Ph. D.
Adviser

APPROVED:

(SGD.) DOMINADOR Q. CABANGANAN, Ed. D.
Dean of Graduate Studies

APPENDIX F

RATING SYSTEM ADOPTED BY THE COLLEGE

1.0	Excellent
1.1 - 1.5	Superior
1.6 - 2.0	Very Good
2.1 - 2.5	Good
2.6 - 3.0	Fair or Passing
3.1 - 4.0	Conditional Failure
4.1 - 5.0	Failure
Inc.	Incomplete

APPENDIX G

SAMPLE COMPUTATION FOR GPA

Formula Used:

$$GPA = \frac{R_1 + R_2}{2}$$

GPA = Grade Point Average

R_1 = Rating for First Semester

R_2 = Rating for Second Semester

$$R_1 = 2.22$$

$$R_2 = 2.00$$

$$GPA = \frac{2.22 + 2.00}{2}$$

$$= 4.22$$

$$= 2.11$$

APPENDIX H-1

SCHOOLS WHERE STUDENTS GRADUATED
(General High Schools)

1. Eastern Samar National Comprehensive High School
2. Pagsanghan Community High School
3. Pinabacdao Community High School
4. Guintarcan Barangay High School
5. Costa Rica Barangay High School
6. San Andres Barangay High School
7. Calbiga Community High School
8. Sta. Rita Community High School
9. Daram Community High School
10. Samar National High School
11. Wright Community High School
12. Basey National High School
13. Laongan Barangay High School
14. Rawis Barangay High School
15. Bohol National High School
16. Bagacay Barangay High School
17. Chitongo High School
18. St. Joseph Academy
19. Fr. Seno Memorial School
20. St. Anthony Academy

APPENDIX H-1
(Cont'd.)

21. Pearl Island Academy

22. Samar College

23. Holy Cross Academy

24. Northern Academy

25. St. Francis of Assisi

APPENDIX H-2

SCHOOLS WHERE STUDENTS GRADUATED
(Vocational High Schools)

1. Basey National Agricultural School

2. Bobon School of Fisheries

3. Cabucgayan National School of Arts and Trades

4. Clarencio Calagos Memorial School of Fisheries

5. Nena School of Craftsmanship

6. Samar National Agricultural School

7. Samar National School of Arts and Trades

8. Samar State Polytechnic College

9. Samar Regional School of Fisheries

10. University of Eastern Philippines

11. Wright Community High School

APPENDIX I

Secondary Student Permanent Record

B.P.S. Form 137-A

SAMAR SCHOOL OF ARTS AND TRADES
Catbalogan, Samar

Secondary Student's Permanent Record

Copy of this record sent to
principal of _____
School on _____

_____
Principal

Name_____ Date of birth: Year_____ Month_____ Day_____
Place of birth: Province_____, Town_____, Barrio_____
Parent or Guardian_____ Occupation_____
Address of parent or guardian _____
Intermediate course completed (School) _____ Year_____ General Average_____

CLASSIFIED AS _____ YEAR   Total number of years in school to complete elementary course_____
School _____ School Year 19____-19____

Curri-culum Year	SUBJECT	GRADING PERIODS				C. S. Average	Action Taken	Credits Earned
		1	2	3	4			

	JUNE	JULY	AUG.	SEPT.	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APRIL	TOTAL
Days of school												
Days present												

CLASSIFIED AS _____ YEAR   Total number of years in school to date_____
School_____ School Year 19____-19____

Curri-culum Year	SUBJECT	GRADING PERIODS				C. S. Average	Action Taken	Credits Earned
		1	2	3	4			

	JUNE	JULY	AUG.	SEPT.	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APRIL	TOTAL
Days of school												
Days present												

CLASSIFIED AS _____ YEAR   Total number of years in school to date_____
School_____ School Year 19____-19____

Curri-culum Year	SUBJECT	GRADING PERIODS				C. S. Average	Action Taken	Credits Earned
		1	2	3	4			

	JUNE	JULY	AUG.	SEPT.	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APRIL	TOTAL
Days of school												
Days present												

Principal

REMARKS

Remarks on the health, character, and habits of the student

APPENDIX J

College Student Permanent Record

SSPC Form 137-T
(Adopted 1976)

Republic of the Philippines
SAMAR STATE POLYTECHNIC COLLEGE
Catbalogan, Samar

CURRICULUM_____ Course_____

STUDENT PERMANENT RECORD

Name_____ Civil Status (Married/Sing'o/Widow):_____
Date of Birth_____ Place of Birth_____
Home Address_____ Catbalogan; Address_____
Name of Guardian_____ Address of Guardian_____
Secondary School from where Graduated_____
Address of Secondary School:_____
Course Completed:_____ NCEE Rating_____ Exam. No._____ Yr. Taken_____

FIRST YEAR

School Year _____ Year & Section _____

FIRST SEMESTER				SECOND SEMESTER			
Subjects	Ratings Final	Removal	Credits	Subjects	Ratings Final	Removal	Credits

Adviser _____
(Signature over printed name)

Adviser _____
(Signature over printed name)

SECOND YEAR

School Year _____ Year & Section _____

FIRST SEMESTER				SECOND SEMESTER			
Subjects	Ratings Final	Removal	Credits	Subjects	Ratings Final	Removal	Credits

Adviser _____
(Signature over printed name)

Adviser _____
(Signature over printed name)

APPENDIX K-1

COMPUTATION FOR FINDING THE MEAN AND GROUP VARIANCE OF THE GENERAL HIGH SCHOOL RESPONDENTS UNDER THE TECHNICAL CURRICULUM

X	X^2
2.56	6.5536
2.255	5.085025
2.385	5.688225
2.45	6.0025
2.305	5.313025
2.35	5.5225
2.47	6.1009
3.15	9.9225
2.18	4.7524
2.56	6.5536
2.5	6.25
2.125	4.515625
$EX = 29.29$	$EX^2 = 72.2599$

$X = 2.44$

$$s^2 = \frac{N\ (EX^2 - (EX)^2}{N\ (N - 1)}$$

$$= \frac{12\ (72.25996) - 29.29}{12\ \ \ (12 - 1)}$$

$$= \frac{867.1188 - 587.9041}{132}$$

$$= \frac{9.2147}{132}$$

$$= .0698083$$

APPENDIX K-2

COMPUTATION FOR FINDING THE MEAN AND GROUP VARIANCE
OF THE GENERAL HIGH SCHOOL RESPONDENTS UNDER
THE DOT CURRICULUM

X	X^2
1.87	3.4969
2.195	4.818025
1.96	3.8416
2.195	4.818025
2.71	2.9245
2.54	6.4516
1.86	3.4596
1.85	3.4225

$EX = 16.18$ $EX^2 = 33.23235$

$\bar{X} = 2.02$

$$s^2 = \frac{N(EX^2) - (EX)^2}{N(N-1)}$$

$$= \frac{8(33.23235) - (16.18)^2}{8\ (8-1)}$$

$$= \frac{265.8588 - 261.7924}{56}$$

$$= \frac{4.0664}{56}$$

$$= .0726145$$

APPENDIX K-3

COMPUTATION FOR FINDING THE MEAN AND GROUP VARIANCE
OF THE GENERAL HIGH SCHOOL RESPONDENTS UNDER
THE BSIT CURRICULUM

X	X^2
2.32	5.3824
2.265	5.130225
2.255	5.085025
1.98	3.9204
2.47	6.1009
2.18	4.7524
2.35	5.5225
2.085	4.347225
1.895	3.591025
2.045	4.182025
2.125	4.515625
2.175	4.730625
2.235	4.995225
2.495	6.225025
2.24	5.0176
2.185	4.774235
2.025	4.100625

$\Sigma X = 37.325 \qquad \Sigma X^2 = 82.373075$

$\overline{X} = 2.20$

$$s^2 = \frac{N(\Sigma X^2) - (\Sigma X)^2}{N(N-1)}$$

$$= \frac{17(82.373075) - (37.325)^2}{17(17-1)}$$

$$= \frac{1400.3423 - 1393.1556}{272}$$

$$= \frac{7.18665}{272}$$

$$= .0264215$$

APPENDIX K-4

COMPUTATION FOR FINDING THE MEAN AND GROUP VARIANCE
OF THE GENERAL HIGH SCHOOL RESPONDENTS UNDER
THE BSIE CURRICULUM

X	X^2
1.73	2.9929
1.9	3.61
1.6605	2.7572603
1.605	2.576025
1.7	2.89
1.8	3.24

$EX = 10.3955$ $EX_1^2 = 18.066135$

$\bar{X} = 1.73$

$$S^2 = \frac{N(EX^2) - (EX)^2}{N(N-1)}$$

$$= \frac{6(18.066185) - (10.3955)^2}{6(6-1)}$$

$$= \frac{108.3971 - 108.16}{30}$$

$$= \frac{.23711}{30}$$

$$= .0110230$$

APPENDIX K-5

COMPUTATION FOR FINDING THE MEAN AND GROUP VARIANCE
OF THE GENERAL HIGH SCHOOL RESPONDENTS UNDER
THE BSEE CURRICULUM

X	X^2
2.52	6.3504
2.185	4.774225
2.25	5.0625
$EX = 6.955$	$EX^2 = 16.187125$

$\overline{X} = 2.32$

$$S^2 = \frac{N\ (EX^2) - (EX)^2}{N\ (N-1)}$$

$$= \frac{13\ (16.187125) - (6.955)^2}{6}$$

$$= \frac{48.561375 - 48.372025}{6}$$

$$= \frac{.18935}{6}$$

$$= .0315583$$

APPENDIX K-6

COMPUTATION FOR FINDING THE MEAN AND GROUP VARIANCE
OF THE GENERAL HIGH SCHOOL RESPONDENTS   UNDER
THE BSCE CURRICULUM

X	X^2
2.42	5.8564
2.725	7.425625
2.085	4.347225
2.08	4.3264
$\Sigma X = 9.31$	$\Sigma X^2 = 21.95565$

$\bar{X} = 2.33$

$$S^2 = \frac{N(\Sigma X^2) - (\Sigma X)^2}{N(N-1)}$$

$$= \frac{4(21.95565)-(9.31)^2}{4(4-1)}$$

$$= \frac{87.8226 - 86.6761}{12}$$

$$= \frac{1.1465}{12}$$

$$= .0955417$$

APPENDIX K-7

COMPUTATION FOR FINDING THE MEAN AND GROUP VARIANCE
OF THE VOCATIONAL HIGH SCHOOL RESPONDENTS
UNDER THE TECHNICAL CURRICULUM

X	X^2
2.585	6.68225
2.265	5.130225
2.36	5.5696
3.285	10.791225
2.825	7.980625
2.245	5.040025
2.09	4.3681
2.43	5.9049
2.19	3.70562
2.26	4.9284
2.22	4.7961
1.925	5.1076

$\Sigma X = 28.68 \qquad \Sigma X^2 = 70.004675$

$\bar{X} = 2.39$

$$S^2 = \frac{N(\Sigma X^2) - (\Sigma X)^2}{N(N-1)}$$

$$= \frac{12(70.004675)-(28.68)^2}{12\ (12-1)}$$

$$= \frac{840.0558 - 822.5424}{132}$$

$$= \frac{17.5134}{132}$$

$$= 0.1326773$$

APPENDIX K-8

COMPUTATION FOR FINDING THE MEAN AND GROUP VARIANCE
OF THE VOCATIONAL HIGH SCHOOL RESPONDENTS
UNDER THE DOT CURRICULUM

X	x^2
2.331	5.433561
2.141	4.583881
2.115	4.473225
2.155	4.644025
2.7	7.29
1.905	3.629025
2.133	4.558225
2.13	4.5369

$EX = 17.612$ $EX^2 = 39.148842$

$\bar{X} = 2.20$

$$S^2 = \frac{N\ (EX^2) - (EX)^2}{N\ (N-1)}$$

$$= \frac{8\ (39.148842) - (17.612)^2}{8\ (8-1)}$$

$$= \frac{313.19074 - 310.18254}{56}$$

$$= \frac{3.08192}{56}$$

$$= .0537177$$

APPENDIX K-9

COMPUTATION FOR FINDING THE MEAN AND GROUP VARIANCE
OF THE VOCATIONAL HIGH SCHOOL RESPONDENTS
UNDER THE BSIT CURRICULUM

X	x^2
1.895	3.591025
2.335	5.452225
2.09	4.3681
2.025	4.100625
2.49	6.2001
1.88	3.5344
2.37	5.6169
2.24	5.0176
2.095	4.389025
2.4	5.76
2.48	6.1504
2.375	5.640625
2.32	5.3824
2.215	4.906225
2.415	5.832225
2.215	4.906225
2.1	4.41

$EX = 37.94$ $EX^2\ 85.2581$

$\overline{X} = 2.23$

$$s^2 = \frac{N\,(EX^2) - (EX)^2}{N\,(N-1)}$$

$$= \frac{17(85.2581) - (37.94)^2}{17\,(17-1)}$$

$$= \frac{1449.3877 - 1439.4436}{272}$$

$$= \frac{9.9441}{272}$$

$$= .365592$$

APPENDIX K-10

COMPUTATION FOR FINDING THE MEAN AND GROUP VARIANCE
OF THE VOCATIONAL HIGH SCHOOL RESPONDENTS
UNDER THE BSIE CURRICULUM

X	X^2
1.89	3.5721
2.12	4.4444
1.815	3.294225
1.6	2.56
1.71	3.150625
1.775	2.9241
$EX = 10.91$	$EX^2 = 19.99545$

$\overline{X} = 1.82$

$$S^2 = \frac{N(EX)^2 - (EX)^2}{N(N-1)}$$

$$= \frac{6(19.99545) - 10.91^2}{6(6-1)}$$

$$= \frac{119.9727 - 119.0281}{30}$$

$$= \frac{.9446}{30}$$

$$= .0314867$$

APPENDIX K-11

COMPUTATION FOR FINDING THE MEAN AND GROUP VARIANCE
OF THE VOCATIONAL HIGH SCHOOL RESPONDENTS
UNDER THE BSEE CURRICULUM

X	X^2
2.325	5.405615
2.11	4.4521
2.4	5.76
$EX = 6.835$	$EX^2 = 15.617725$

$\bar{X} = 2.28$

$$s^2 = \frac{N(EX^2) - (EX)^2}{N(N-1)}$$

$$= \frac{3(15.617725)-(6.835)^2}{3(3-1)}$$

$$= \frac{46.853175 - 46.717225}{6}$$

$$= \frac{.13595}{6}$$

$$= .0226583$$

APPENDIX K-12

COMPUTATION FOR FINDING THE MEAN AND GROUP VARIANCE
OF THE VOCATIONAL HIGH SCHOOL RESPONDENTS
UNDER THE BSCE CURRICULUM

X	X^2
2.455	6.027025
2.58	6.6564
2.395	5.736025
2.115	4.473225
$EX = 9.545$	$EX^2 = 22.892675$

$\overline{X} = 2.39$

$$S^2 = \frac{N\,(EX^2) - (EX)^2}{N\,(N-1)}$$

$$= \frac{4\,(22.892675) - (9.545)^2}{4\,(4-1)}$$

$$= \frac{91.5707 - 91.107025}{12}$$

$$= \frac{.463675}{12}$$

$$= .0386396$$

APPENDIX K-13

COMPUTATION FOR FINDING THE MEAN AND GROUP VARIANCE
OF THE RESPONDENTS FROM GHS AND VHS

Case A			Case B		
2.44	=	5.9536	2.39	=	5.7121
2.02	=	4.0804	2.20	=	4.84
2.20	=	4.84	2.23	=	4.9729
1.73	=	2.9756	1.82	=	3.3124
2.33	=	5.4289	2.28	=	5.1984
2.32	=	5.3824	2.39	=	5.7121

$EX_1 = 13.04 \qquad EX_1^2 = 28.6650354 \qquad EX_2 = 13.3073578 \qquad EX_2^2 = 29.74$

$\bar{X}_1 = 2.17 \qquad\qquad\qquad\qquad \bar{X}_2 = 2.22$

$$S_1^2 = \frac{N_1(EX_1^2) - (EX_1)^2}{N_1(N_1 - 1)} \qquad S_2^2 = \frac{N_2(EX_2^2) - (EX_2)^2}{N_2(N_2 - 1)}$$

$$= \frac{6(28.6650354) - 13.0380548^2}{6(6-1)} \qquad = \frac{6(29.73605631) - 13.3073578^2}{6(6-1)}$$

$$= \frac{171.99021 - 169.99088}{30} \qquad = \frac{178.4163 - 177.08578}{30}$$

$$= \frac{1.99933}{30} \qquad = \frac{1.33056}{30}$$

$$= .0666443 \qquad = .044352$$

APPENDIX L-1

COMPUTATION FOR FINDING THE T VALUE OF ACHIEVEMENT
OF RESPONDENTS – TECHNICAL CURRICULUM

$$t_c = \frac{\overline{X}_1 - \overline{X}_2}{\sqrt{\left[\frac{(N_1-1)S_1{}^2+(N_2-1)S_2{}^2}{N_1 + N_2 - 2}\right]\left[\frac{N_2 + N_1}{N_1\ (N_2)}\right]}}$$

$$= \frac{2.44 - 2.39}{\sqrt{\left[\frac{11\ (.0698083) + 11\ (.1326773)}{22}\right]\left[\frac{12 + 12}{12\ (12)}\right]}}$$

$$= \frac{.05}{\sqrt{\left[\frac{2.2273416}{22}\right]\left[.1666666\right]}}$$

$$= \frac{.05}{\sqrt{.0168737}}$$

$$= \frac{.05}{.1298991}$$

$$= .38$$

APPENDIX L-2

COMPUTATION FOR FINDING THE T VALUE OF ACHIEVEMENT OF RESPONDENTS OF THE DOT CURRICULUM

$$t_c = \frac{\bar{X}_1 - \bar{X}_2}{\sqrt{\left[\frac{(N_1-1)S_1^2 + (N_2-1)S_2^2}{N_1 + N_2 - 2}\right]\left[\frac{N_2 + N_1}{N_1(N_2)}\right]}}$$

$$= \frac{}{\sqrt{\left[\frac{7(.0726143) \div (7)(.0537177)}{8 + 8 - 2}\right]\left[\frac{8+8}{8(8)}\right]}}$$

$$= \frac{-.18}{\sqrt{.063166 \quad (.25)}}$$

$$= \frac{-.18}{.1256642}$$

$$= -1.43$$

APPENDIX L-3

COMPUTATION FOR FINDING THE T VALUE OF ACHIEVEMENT
OF RESPONDENTS OF THE BSIT CURRICULUM

$$t_c = \frac{\overline{X}_1 - \overline{X}_2}{\sqrt{\left[\frac{(N_1-1)\,S_1^{\,2} + (N_2-1)\,S_2^{\,2}}{N_1 + N_2 - 2}\right]\left[\frac{N_2 + N_1}{N_1 \quad N_2}\right]}}$$

$$= \frac{2.20 - 2.23}{\sqrt{\left[\frac{16\,(.0264215) + 16\,(.0365592)}{17 + 17 - 2}\right]\left[\frac{17 + 17}{17\,(17)}\right]}}$$

$$= \frac{-.03}{\sqrt{\frac{1.0076396}{32} \cdot \quad (.117647)}}$$

$$= \frac{-.03}{\sqrt{3.70473 \quad -.03}}$$

$$= \frac{-.03}{.068666}$$

$$= -0.49$$

APPENDIX L-4

COMPUTATION FOR FINDING THE T VALUE OF ACHIEVEMENT
OF RESPONDENTS OF THE BSIE CURRICULUM

$$t_c = \frac{\bar{\bar{X}}_1 - \bar{\bar{X}}_2}{\sqrt{\left[\frac{(N_1-1)\,S_1^{\,2} + (N_2-1)\,S_2^{\,2}}{N_1 + N_2 - 2}\right]\left[\frac{(N_1 + N_2)}{N_1\,N_2}\right]}}$$

$$= \frac{1.75 - 1.82}{\sqrt{\left[\frac{5\,(.0110230 + 3(.0314867)}{6 + 6 - 2}\right]\left[\frac{6 + 6}{6(6)}\right]}}$$

$$= \frac{-0.09}{\sqrt{\frac{.055115 + .1574335}{10}\left[\frac{12}{16}\right]}}$$

$$= \frac{-0.09}{\sqrt{\frac{.2125485}{10}\ (.333333)}}$$

$$= \frac{-0.09}{.0841721}$$

$$= -1.07$$

APPENDIX L-5

COMPUTATION FOR FINDING THE T VALUE OF ACHIEVEMENT
OF RESPONDENTS OF THE BSEE CURRICULUM

$$t_c = \frac{\bar{X}_1 - \bar{X}_2}{\sqrt{\left[\dfrac{(N_1 - 1)\,S_1^{\,2} + (N_2 - 1)\,S_2^{\,2}}{N_1 + N_2 - 2}\right]\left[\dfrac{N_2 + N_1}{N_1\,N_2}\right]}}$$

$$= \frac{2.32 - 2.28}{\sqrt{\left[\dfrac{2\,(.0315583) + 2(2.0226583)}{3 + 3 - 2}\right]\left[\dfrac{3 + 3}{3(3)}\right]}}$$

$$= \frac{.04}{\sqrt{\dfrac{1.0631166 + .0453166}{4}\left(\dfrac{6}{9}\right)}}$$

$$= \frac{.04}{\sqrt{.0180721}}$$

$$= \frac{.04}{.1344328}$$

$$= .30$$

APPENDIX L-6

COMPUTATION FOR FINDING THE T VALUE OF ACHIEVEMENT
OF RESPONDENTS OF THE BSCE CURRICULUM

$$t_c = \frac{\bar{X}_1 - \bar{X}_2}{\sqrt{\left[\dfrac{(N_1 - 1)\, S_1^{\,2} + (N_2 - 1)\, S_2^{\,2}}{N_1 + N_2 - 2}\right]\left[\dfrac{N_2 + N_1}{N_1 \quad N_2}\right]}}$$

$$= \frac{}{\sqrt{\left[\dfrac{3(.0955417) + 3(.386396)}{4 + 4 - 2}\right]\left[\dfrac{4 + 4}{4(4)}\right]}}$$

$$= \frac{-.06}{\sqrt{\dfrac{.4205436}{6}\ (.5)}}$$

$$= \frac{-.06}{\sqrt{.0670906\ (.5)}}$$

$$= \frac{-.06}{.18315377}$$

$$= \quad -.33$$

APPENDIX L-7

COMPUTATION FOR FINDING THE OVERALL T VALUE OF
RESPONDENTS FROM GHS AND VHS

$$t_c = \frac{\bar{X}_1 - \bar{X}_2}{\sqrt{\left[\dfrac{(N_1 - 1) S_1^2 + (N_2 - 1) S_2^2}{N_1 + N_2 - 2}\right]\left[\dfrac{N_2 + N_1}{N_1 \; N_2}\right]}}$$

$$= \frac{2.17 - 2.22}{\sqrt{\left[\dfrac{5(.0666443 + 5(.044352)}{10}\right]\left[\dfrac{6 + 6}{6(6)}\right]}}$$

$$= \frac{-.05}{\sqrt{\left[\dfrac{.3332215 + .22176}{10}\right]\left[\dfrac{12}{36}\right]}}$$

$$= \frac{-.05}{\sqrt{.0554981 \quad (.3333333)}}$$

$$= \frac{-.05}{.1360123}$$

$$= -0.37$$

CURRICULUM VITAE

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CIVIL SERVICE ELIGIBILITY

Presidential Decree 907, April 7, 1976

LIST OF FIGURES AND TABLES
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