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**A REVIEW OF EDUCATIONAL BALANCE AND ITS RELATIONSHIP TO THE
DAILY SCHEDULE IN EIGHTEEN SEVENTH-DAY ADVENTIST RESIDENCE
ACADEMIES IN THE UNITED STATES**

Andrews University

Ed.D. 1986

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RESIDENCE ACADEMIES IN THE
UNITED STATES

A Dissertation
Presented in Partial Fulfillment
of the Requirements for the Degree
Doctor of Education

by
Eugene W. Rau
August 1986

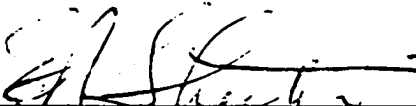
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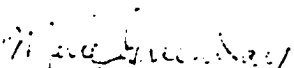
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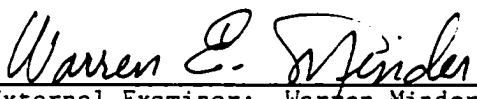

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ABSTRACT

A REVIEW OF EDUCATIONAL BALANCE AND ITS
RELATIONSHIP TO THE DAILY SCHEDULE IN
EIGHTEEN SEVENTH-DAY ADVENTIST
RESIDENCE ACADEMIES IN THE
UNITED STATES

by

Eugene W. Rau

Chairman: Edward A. Streeter, Ed.D.

ABSTRACT OF GRADUATE STUDENT RESEARCH

Dissertation

Andrews University

Department of Education

Title: A REVIEW OF EDUCATIONAL BALANCE AND ITS RELATIONSHIP TO
THE DAILY SCHEDULE IN EIGHTEEN SEVENTH-DAY ADVENTIST
RESIDENCE ACADEMIES IN THE UNITED STATES

Name of researcher: Eugene W. Rau

Name and title of faculty advisor: Edward A. Streeter, Ed.D.

Date completed: June 1986

Problem

Within the time constraints of the 24-hour day and the seven-day week, and under the pressure of the increased number of units to be earned before graduation from Seventh-day Adventist (SDA) residence academies, it was doubtful that students were experiencing educational balance. The number of and time for activities in which a student could be engaged, plus the content and emphasis on daily functions, were studied and reported under five areas of educational balance: academic achievement, vocational and professional interests, social growth, physical activities, and religious experience.

Method

Representing grades ten, eleven, and twelve in 18 out of 36 SDA residence academies in the United States, 1,997 students completed a pilot-tested questionnaire consisting of 99 items; 55 administrators from these schools selected time provisions for 27 student activities; and the principals completed a short questionnaire designed to give demographic information for their schools. Responses from students were scored using a panel-prescribed weighting schedule and percentages calculated for each reply. These scores were used as possible indicators of educational balance.

Results

In academic achievement, social growth, and religious experience the students rated above the mean ideal expectancy for educational balance. In physical activities the students rated slightly above this mean, but in vocational and professional interests the rating was slightly below the mean ideal expectancy. Time provisions for daily student activities exceeded the 24-hour day time limit, a constraint that had to be removed to insure educational balance. To accomplish this goal seven of the 24 total activities were placed into a variable category to be set by advisors, counselors, and work coordinators, according to individual student academic and work needs.

Conclusions

Teachers were perhaps responsible for requiring their students to think, the depth depending on the students; for allowing, as opposed to requiring, their students to get everything done on

time; and for encouraging temperance and good posture. Students chose to pay tithe and to make prayer a part of their daily life, two actions probably reinforced by tangible results promised by God. Student desires may have conflicted with time-limited activities such as increased study load and work. Students may have been guilty of time robbery, causing inability to meet with the guidance counselor and lack of devotional time. Time adjustments for student activities were shown to be necessary, complicated, and delicately interrelated to prevent imbalance from occurring.

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CHAPTER I

INTRODUCTION

There are forces in existence that exert an influence on curriculum and instruction in the schools of the United States which, in turn, have effects upon the students. Some of these forces are governmental agencies, accrediting bodies, national curriculum projects, college entrance requirements, public opinion, television, special interest groups, authors and publishers, testing programs, foundations, and tradition. These forces have been active both within and without the educational system of the nation.

An example of the force of tradition is the Carnegie unit. This unit has sometimes limited changes in course design and has reduced instructional methods available to the teacher. Not until the year 1960 did the Carnegie unit come under careful scrutiny as an element destined for alteration or possible abandonment (American Association of School Administration, 1970; Saylor and Alexander, 1974).

Nevertheless, the Carnegie unit and its imposed time requirements are still present in course credit evaluation in the nation's schools and has been since 1906. Having changed only slightly since its inception, the Carnegie unit is now defined as that amount of credit which is given to a class that meets for five forty-minute sessions a week for 36 weeks (Henson, 1974, p. 92). The unit is a

measure of exposure time to courses of study as opposed to a measure of achievement or mastery of content.

The unit itself has come under attack by educators, but the gradual increase in the number of units required for graduation has been relatively unchallenged. Graduation requirements for students grew from 16.0 units in 1950 to 22.5 units in 1980 (Parish, 1980) to 24.0 units in 1984 (Pipho, 1984). Seventh-day Adventist (SDA) high schools, commonly referred to as academies, have also experienced this increase and the resultant time pressure.

Seventh-day Adventist educational philosophy, goals, mission, and emphases on evangelism have influenced the music and physical education curriculums to such an extent that they have been given a prominent position in 93 percent of its academies (Rau, 1982, p.44). Although any class under either one of these areas may satisfy the Carnegie unit time requirement, fractional credit is granted to the enrolled student. Thus a study load stated in Carnegie units may not give a true picture of the actual class contact hours experienced by the student.

It is a tenet of SDA educational philosophy that every student should work during a portion of each school day. Work provides potential career orientation and preparation, job discipline, and an opportunity to defray part of a pupil's school expenses. It may be sedentary or physically active. A work assignment may occupy from one to twenty hours a week. Work, then, is another part of the student's curriculum for which time must be allotted. Twelve out of forty SDA academies surveyed in 1981 granted academic credit for work, usually a half Carnegie unit per school year. Correlated

written assignments were to be completed, and a grade for these was averaged with work performance level (Rau, 1982, pp. 44-45).

Time and opportunities for social growth are provided by the academies through classroom encounters, during meals in the cafeteria, at religious meetings, at school banquets, and during other formal or informally organized functions. Group activities are promoted and encouraged by the schools.

Attendance is required at all weekend religious services, weekday chapels (assemblies), two and sometimes three annual Weeks of Prayer with meetings twice daily, and daily dormitory worships (Rau, 1982, p. 11). On a voluntary basis, students may join prayer circles and Christian witnessing groups, and may help in church worship services and Bible study periods. These activities are intended to form an integral part of a student's education, but they add items to be accomplished within certain time limits.

Statement of the Problem

Within the time constraints of the 24-hour day and the seven-day week, and under the pressure of the increased number of units to be earned before graduation from academy, it is doubtful that students are experiencing educational balance. This state of uncertainty exists, because no proportion of time and content has been suggested among five of the entities of educational balance, namely: academic achievement, vocational and professional interests, social growth, physical activities, and religious experience.

Students and staff of academies have not clearly identified time needs for basic, everyday activities that should comprise SDA

Christian education. Academy administrators concentrate time and emphasis in the construction of class schedules, but little time in building a daily schedule, especially one that identifies and includes class and extra-class activities throughout each entire day of every week.

No study was found by this researcher that addressed these problems. No instructions or formulae were found to construct or produce a daily schedule in general, or that provide educational balance within the constraints of the fixed 24-hour day and seven-day week in particular.

Purposes of the Study

This study was composed of two purposes. The first purpose was to investigate the educational program of students in SDA residence academies to determine the present and desired states of educational balance in each and the total of the following areas: academic achievement, vocational and professional interests, social growth, physical activities, and religious experience.

The second purpose of this study was to construct a daily schedule for a typical seven-day week, during which students would be experiencing educational balance. This schedule would make provision for a time period of total classroom contact, but not provide a schedule of the individual courses of instruction.

Information from the investigation into the five areas of educational balance, the review of the literature, time needs as expressed by students, and time provisions selected by administrators served as material with which to build the daily schedule. To

achieve this objective the organization of information from these four sources preceded the construction of the daily schedule.

To guide the fulfillment of the purposes of this study, the following questions were submitted. These questions are not necessarily placed in the order of their importance.

How much time and emphasis was being given by students and staff to each of the five areas of educational balance? Was sufficient time being relegated to work in order to satisfy the SDA ethic for the balanced employment of a student and his/her time, and what was the relation between work time and other time demands placed upon students? What out-of-classroom needs expressed by students were and were not being satisfied? What is the religious experience of students who attend a Seventh-day Adventist academy, and how may this experience be enriched?

Need for the Study

In a study of a Seventh-day Adventist residence academy board of trustees, Opp (1975, p. 54) suggested, among several other recommendations for further research, that "A study be done regarding the entire daily schedule of the academy and its relation to the growth of the students mentally, physically, socially, and spiritually." No research was found on this topic that had been done for an academy, or for any group of academics.

An action taken by the Curriculum Committee for the North American Division of the General Conference of SDA (General Conference, 1973) was pertinent to academy time needs:

Whereas, over the years there has been a continuing addition to school curriculum (K-12), and

Whereas, there is no available empirical evidence to indicate a significant relationship between the amount of learning and the number of formal class periods per week, and

Whereas, there is an expressed need for opportunity to present areas of learning not directly related to present subject matter areas, and

Whereas, there is a need for flexibility in the school program which will enhance student learning, it is

Recommended: That Union Conference Curriculum Committees reassess the time priorities of the school week to determine more effective curricular and time arrangements at both elementary and secondary levels. (Action No. C73.4)

Discussion by the researcher with teachers revealed that they experienced a dilemma in finding enough time for students to adequately pursue everything that pressed for attention in the daily school schedule. Administrators were not certain that appropriate time allotments to needed activities were occurring in a proportion which results in a balanced educational program. They were not always aware of innovations in other schools that may have been of help to their school's personnel, because they themselves did not have the time to do the necessary research.

Assumptions

There were five basic assumptions made in the process of this study, which are delineated as follows:

1. That each academy had as one of its goals the achievement of educational balance for its students
2. That religious objectives and ethical values were promoted on each campus
3. That work was a recognized part of SDA education

4. That it was possible to plan a balanced educational program for any student in any SDA boarding academy in the United States
5. That academic achievement, vocational and professional interests, social growth, physical activities, and religious experience encompassed the total educational encounter of a student

Delimitations

This study was delimited to the construction of a daily schedule based on (1) the perceived time needs of students and administrators in SDA residence academies in the United States, and (2) the material cited in applicable literature. This schedule may serve as a guide to principals in developing their schools' own, particular daily program.

No attempt was undertaken to present a financial plan accruing from a program of educational balance.

There was no attempt to prescribe a class schedule or to empirically research the relationship between the amount of learning and the number of formal class periods per week.

Individual academies were not identified in this study, as a pledge of anonymity between the researcher and the academies.

Definitions of Terms

The following definitions are brief descriptions of words and terms used throughout the research. Parts of chapter 2, Review of the Literature, elaborate more fully on them.

Academic achievement is the attainment of standards of excellence in mental development built on a solid foundation of

subject curricula, cultural studies, and an appreciation of the fine arts. It is the ability to think and not simply be a reflector of what others have thought (White, 1952, p. 17).

A class schedule is a graphic device coordinating each subject of the curriculum with an appointed time, designated location, and an assigned teacher.

A daily schedule is the day-by-day designation of the time for opening and closing formal instruction, including time for meals, chapel (student assembly) periods, dormitory worship hours, work, study periods, play periods, and sleep.

Educational balance is realized when a student's (1) academic achievement, (2) vocational and professional interests, (3) social growth, (4) physical activities, and (5) religious experience are developing proportionately. Equal time for each may not imply educational balance. Balance is more concerned with the proportionate interaction among the five categories.

Physical activities for students include exercise and diet, with the knowledge to care for these two factors properly. Students should know when and where to exercise, what exercise is best for a particular purpose, and why exercise is essential.

A religious experience is a developing relationship with Christ. Prayer to God is a vital component of a religious experience and will shield a person from yielding to temptation to do wrong (Matthew 26:41). A relationship with Christ is strengthened by experiment (Psalm 34:8); it is demonstrated by a person returning his tithe and offerings to God (Malachi 3:10). A religious experience is fortified by a study of the Bible (Ephesians 6:11),

sanctified through meditation (Psalm 19:14), exemplified in service for others (Matthew 24:40), revealed through the life of a Christian (1 Peter 4:13), assured by the grace of Christ (Ephesians 2:8), and solemnized by a personal commitment to God (Mark 16:16).

A Seventh-day Adventist residence academy is a secondary school owned and operated by the SDA church in the USA. Grades nine through twelve are included in the instructional program. These schools are coeducational and have dormitory facilities that serve as residences for students who live at too great a distance from the school to commute. A cafeteria is an important center on each campus, providing three vegetarian meals a day. Throughout this study these schools will be identified as academies.

Social growth has developed in a student who is seen to have coped effectively with social pressures, has a set of acceptable social goals, and can smoothly adapt to social change. Social growth is evident in students who have accepted their physiques and sex roles, who have developed skills and concepts for civic competence, and who are prepared for marriage and family life (Bernard, 1965, pp. 263-265).

Schools should develop vocational and professional interests by bringing to the attention of their students the many and varied occupations in order to stimulate a desire for career preparation.

Work is physical or mental exertion to accomplish a goal (General Conference, 1963, p. 58). It is employment in on-campus labor, in an industry owned by the school, or in a privately managed business.

Organization of the Study

In this chapter a short introduction to the research is followed by the statement of the problem, the purposes of the study, and the need for it. Assumptions, delimitations, and the definitions of terms compose the latter part of the chapter.

The review of literature in chapter 2 is divided into five sections, plus an introduction and a summary. The first section introduces Mrs. Ellen G. White, an author who has written articles and books on the topic of Christian education. The second section is given to educational balance in general, while a subsection includes five topics related specifically to time as a factor of educational balance. The remaining two sections are applied to a discussion of work experience and the daily schedule.

The survey method of research was utilized throughout this study, and its steps are outlined in chapter 3. The chapter also describes the pilot study used to perfect the Student Questionnaire, and outlines the work of a panel of six professional educators.

An analysis and interpretation of the data associated with the five areas of educational balance and other pertinent information obtained in this study forms chapter 4. A determination of educational balance is outlined in this chapter, using the Student Questionnaire and recommendations of the panel of educators specially selected as judges for this task.

Student time uses, needs, pressures, and opportunities are presented and analyzed in chapter 5. This material and the conclusions from chapter 4 formed the basis for the synthesis of a daily schedule.

Chapter 6 contains a summary of the entire study, statements in conclusion, and recommendations for the improvement of educational balance and further study.

CHAPTER II

REVIEW OF THE LITERATURE

Introduction

The review of the literature begins with a section intended to introduce an author, Ellen G. White, who has written articles and books on the topic of Christian education in and for the Seventh-day Adventist church. Her writings are cited in this review for reasons outlined in the first section below.

The second section of this review is given to educational balance which includes discussion of five topics relegated to time: efficiency, needs, occupation, opportunities, and pressures. This section is followed by one on work experience, and the review closes with a section devoted to the daily schedule.

Ellen G. White

Ellen G. White wrote enough material on education that it requires forty-eight page-columns of references to the topic in the official index (Board of Trustees, 1962) to her literature. Two separate books on education were written by her: Education (1903) and Counsels to Teachers, Parents, and Students Regarding Christian Education (1913). Since her death in 1915, two additional books on education have been compiled from portions of her previous books and

articles: Fundamentals of Christian Education (1923) and Counsels on Education (1968).

In the Seventh-day Adventist Encyclopedia (1976), Ellen White is claimed as the "cofounder of the SDA Church," and noted as a "writer, lecturer, and counselor." She is reported as "the denomination's first and major writer on education theory." The philosophy of SDA education is quoted from page 13 of Ellen White's book Education (1952). Rene Noorbergen (1972) stated that "so tremendous is the appeal of her writings that some of her books—all hardbacks—have been sold in the millions, and have been translated into more than one hundred languages." Her literary works consist of over 100,000 pages (SDA Encyclopedia, 1976, p. 1592).

Educational Balance

Educational balance is realized when a student's (1) academic achievement, (2) vocational and professional interests, (3) social growth, (4) physical activities, and (5) religious experience are developing proportionately. White (T5:522, 1943)* wrote with concern about balanced, symmetrical, and proportioned education in the following words:

Every power—physical, mental, and moral—needs to be trained, disciplined, and developed, that it may render its highest service; for unless all are equally developed, one faculty cannot do its work thoroughly, without overtaxing some part of the human machinery.

None of the five categories is to receive attention to the detriment

*In this chapter the letter "T" refers to White's series of books titled Testimonies for the Church. The digit following the letter "T" indicates volume number; pagination follows the colon.

of the other. By using the words "equally developed" White did not imply that equal time spent on each area would satisfy the balance to which she was referring.

Curriculum workers think of the whole range of experiences which pupils should have as learners. In doing this they must consider the problems of scope, sequence, continuity, and balance (Doll, 1970). Doll defined scope as the latitude or breadth of the curriculum; sequence as the time ordering of educational events or experiences; continuity as the rate of recurrence of experiences over a period of time; and balance as the "fit" of the curriculum in providing varied but appropriate amounts of learning experiences for students at given times in their development. Some of these learning experiences are gained in the classroom, media center, cafeteria, dormitory, church, and in the outdoors. A balanced curriculum should include these experiences.

In the 1961 Yearbook of the Association for Supervision and Curriculum Development, Paul Halverson wrote (p. 4) that as a means toward balance, a curriculum should have structure and order in its sequence, and that as an end it should lead to the achievement of educational objectives. Curriculum balance has to do with the needs of the individual, and there must be an appropriate balance between society's needs and the psychological needs of the student (Alexander, 1967). Halverson stated that all parts of the school day "ought to be organized in terms of productive learning experiences which contribute to balanced intellectual, physical, social and emotional growth of students" (p. 11). His statement is a challenge to the construction of a workable, balanced, daily

schedule. It is the work of this study to provide the structure for educational balance of which a daily schedule is composed.

A school that is working toward educational balance (Doll, 1970) should place major emphases on communication skills, problem solving opportunities, understanding man, knowledge of citizen and homemaker activities, ability to care for one's own physical and mental health, interest in aesthetics, and recognition of specialized interests. Herein is some of the content of a balanced curriculum. Part of this study was to determine whether or not this content was set within the curricula of the academies and to inquire into its adequacy.

White enjoined instruction in the basics of education, what she termed "the common branches" (1942, p. 402). In the same book she said that the youth "should have industrial training that will make them men and women of practical ability, fitted for the duties of everyday life" (Ibid.). With this instruction there should be training and practical experience "in various lines of missionary effort" (Ibid.). The injunctions written by White concerning education seem to place great emphasis on the practical application of knowledge for balanced or symmetrical character development.

Leighbody and Weinrich (ASCD Yearbook, 1961) stressed the importance of adequate, professional guidance for students to develop to their optimum. These authors also emphasized that true balance will be possible only through the efforts of a staff who want to achieve it, and who will want to expend the time and energy to make it a reality. Therefore, another part of this study was to

determine, from administrators and students, the time needed for daily student activities within each of the five areas of educational balance.

Moore (1976) used the concept of equal time to mean balance. He divided the day into one 12-hour block for personal use and the other 12-hour block for school. The time block for school was divided into four hours for each of the developmental phases: physical, mental, and spiritual. Moore did not specify the ages or grade levels that are served by this plan. Although he did not specify content within each of these phases, it can be seen that four hours of work could be possible for an academy student, plus four hours of study and classroom contact. Four hours spent spiritually might include social activities, meal time, worship services in the dormitory, and personal devotions. This was not specified by Moore, however. Such time entities could be classed as personal and thus be placed within the 12-hour block of personal time. Time provisions needed specification in order to be useful.

Symmetry implies balance and White used the word in conjunction with the physical, mental, and spiritual phases mentioned by Moore. In the following sentences by White, focus was placed on the right use of the brain to maintain personal balance.

Education is but a preparation of the physical, intellectual and spiritual powers, for the best performance of the duties of life. The powers of endurance, and the strength and activity of the brain, are lessened or increased by the way in which they are employed. The mind should be so disciplined that all its powers will be symmetrically developed. (Youth's Instructor, October, 1902, p. 313).

According to White the mind has great potential, but it can be overworked or as White says, it can be "overtaxed." She wrote

concerning such imbalance in these words: "If the physical powers are not taxed equally with the mental, too much strain is brought upon the latter" (T5:522, 1943).

Conclusion number four from the Eight Year Study (Tanner, 1972) was applicable to this research and to SDA education in general. This conclusion set forth the principle that "the life and work of the school should contribute in every possible way to the physical, mental, and emotional health of every student" (Ibid., p. 339). For this goal to become a reality for students, White said that they must abstain from using alcohol, tobacco, and harmful drugs (1952, p. 202). White advised against the use of tea and coffee, condiments, confectionery, and pastries because they "are all active causes of indigestion" (Ibid., p. 203). White urged the use of temperance in all things, a necessary constituent of balanced living. To her, balanced living was harmony, not discord; it was agreement in action, not abandonment of direction; it was the right use of one's self. "It enables us to make the best use of brain, bone, and muscle, of body, mind, and heart" (1942, p. 398).

White (1952, p. 13) defined the words "true education" as the "harmonious development of the physical, the mental, and the moral powers." According to Webster (1959) the word "harmonious" means "freedom from discord; having parts adapted and proportional to each other; agreement in action." From this definition the "physical, mental, and moral powers" should have "agreement in action," which implies a dynamic process as opposed to a static state of coexistence. Further, Funk and Wagnalls (1965) placed "balance" as synonymous to "harmonious proportion," and defined

"education" as "the systematic development and cultivation of the mind and other natural powers." True education, then, specifies that the mind, the physical, and the moral powers must be harmoniously developed.

Not only is true education the harmonious (balanced) development of the physical, mental, and moral powers of an individual, but it is also the training of youth "to be thinkers, and not mere reflectors of other men's thought" (White, 1952, p. 17). Students who have this education will assume responsibilities, leadership, and the training of others in a balanced unselfish manner (Ibid., pp. 16-17).

Brown (1980, p. 5) stated that "balanced education should combine the intellectual, the practical, and the spiritual, while the spiritual at the same time, must be an integral part of the first two." Hilde (1980, p. 44) emphasized that "balance must be achieved in the transmission phase of the curriculum--in the teaching."

In this section educational balance was specified to include the existence of the correct subjects of study in the student's curriculum; the availability of professional guidance for youth; the ability of a student to handle social needs, problems, and pressures; the knowledge to care for one's mental and physical health; and spiritual and moral values that improve the individual. According to the authors cited, the school, community, and students should work together to achieve this balance. The next section ties time balance to this topic of educational balance.

Time Factors of Educational Balance

In this section attention is focused on time efficiency, time needs, the occupation of time (what should or may fill available time), opportunities for activities that would make good use of time, and time pressures or constraints. The order in which these topics are presented was not intended to indicate degrees of importance.

Time Efficiency

The same 24-hour time period is available to everyone on planet earth. It is a resource that is available to all. Time is unlike other resources, however, because all a person can do is spend it (Douglass and Douglass, 1980, p. 3). If time is not spent, it is gone anyway. Thus the value of this resource depends on how well it is used. The better it is used the more time efficient a person becomes.

According to White (T9:48, 1937) "Every hour, every minute is precious." "Time is golden" (1905). "The value of time is beyond computation. Time squandered can never be recovered" (1899). Focusing further on the value of time, White said "Every moment is golden, and altogether too precious to be devoted merely to self-serving" (T9:117, 1937).

White admonished youth to "make the most of (their) time and opportunities, in order to develop a symmetrical character" (1894). Appropriate portions of time, then, are to be budgeted for career, vocational, or professional preparation.

Inefficient use of time is a waste. Weber (1972) said that

one of the biggest wastes of time results from having too much of it. A challenge in the allocation of time in the daily schedule of an academy is to provide the optimum time period for activities to insure quality of experience. Too little time could lead to a waste of effort and lack of quality.

Time Needs

Physical exertion promotes the appetite for food and rest. Added to these needs are education and personal devotional study.

Physical exertion and bodily exercise are important to a person's mental and physical health. Vigorous exercise should be experienced and practiced daily (White, 1952, p. 144). Concerning the amount of time to be spent in daily exercise as manual labor, White said "A few hours of manual labor each day would tend to renew bodily vigor, and rest and relax the mind" (T4:265, 1938). This time spent in physical exercise and manual labor is well worth the student's effort, and greater efficiency in the function of the body and the mind is the result (White, 1943, p. 295). Swengross (1971) stated that benefits from physical exercise are not for the present only but for a life of health and physical fitness.

Exercise should be regular and performed a minimum of three to five days per week (Pollock, et al, 1978). The duration should be from 15 to 60 minutes of continuous exercise, and the mode of activity may include running, jogging, walking, bicycling, or swimming. The important factor is to do what is enjoyable, tolerable, and appropriate to a student's time demands (Ibid., pp. 119, 121.)

The time to eat and when to eat should be planned carefully into a person's daily schedule. The eating rate of an individual is urged to be slow, as expressed in the following reference:

In order to secure healthy digestion, food should be eaten slowly. . . . If your time to eat is limited, do not bolt your food, but eat less, and masticate slowly. The benefit derived from food does not depend so much on the quantity eaten as on its thorough digestion; nor the gratification of taste so much on the amount of food swallowed as on the length of time it remains in the mouth (White, 1938, p. 107).

Eating too frequently "destroys the healthy action of the digestive organs, affects the brain, and perverts the judgment, preventing rational, calm, healthy thinking and acting" (White, 1954, p. 398). White (1942, p. 304) advocated a time lapse of five or six hours between each meal.

Time for sleep should be regular and not encroached upon by study requirements (White, 1952, p. 205). The time for study "should be regulated to certain hours" (T3:138, 1938), and no one should "engage in severe study or violent physical exercise immediately after eating," because of the possible hindrance to the work of digestion (White, 1942, p. 240). White admonished students to not burn the "midnight oil: and to turn lights off at "half past nine" (White, 1952, p. 205).

The number of hours required for sleep varies by age (Anderson, 1970). Students between the ages of 12 years and 14 years should get eight to nine hours of sleep per night; students between the ages of 15 years and 17 years should get seven to eight hours of sleep each night (Ibid., p. 227). Using this as a criteria,

freshmen should receive one more hour of sleep nightly than older schoolmates.

Youth should attend school until they have gone "through the proper period of thorough discipline and study of the common branches and the Bible" and until they have "reached an age of more mature and reliable judgment" (White, 1943, p. 219). According to White (1952, p. 213), "The student who desires to put the work of two years into one should not be permitted to have his own way. To undertake to do double work means, with man, overtaxation of the mind and neglect of physical exercise." There are individual differences to consider and this may be why White stated "with many" and did not write or imply that everyone is included in the statement.

Time Occupation

By 1915 (Joint Council, 1915, p. 239) the General Conference of Seventh-day Adventists through its Educational Department had adopted a "Unit" as a standard measure for graduation from academy. Graduates had to have earned 14 to 16 of these units in literary subjects and two units in manual arts. For each literary subject a student was to spend 75 minutes in study and 45 minutes in class per day for 36 weeks to earn a unit of credit. Further, this Council stipulated that physical labor could earn one-quarter unit each year, if the student worked 15 hours per week and attended the class in physical culture at least once a week.

In 1947 the requirement for graduation from an academy was 16 Carnegie units, and students were not to exceed five such units

as a class load in one school year. Four units were considered a normal load. The length of the class period was reduced to 40 minutes, but the 180 days for the length of the nine-month school year remained unchanged (General Conference of SDA, pp. 21, 12)

In the General Conference manual for 1961 (p. 21), the length of the classroom contact time was specified as 5.5 hours. This was a new approach to limiting a student's study load. This time included a lunch period. The length of class periods varied between laboratory and nonlaboratory subjects. Laboratory classes were scheduled to meet a minimum of 275 minutes per week, while nonlaboratory classes were scheduled for 200 minutes. Each class subject earned one unit of credit for 36 weeks of five days each.

Time Opportunity

A time for personal, religious study is to be provided daily in what White terms a "thoughtful hour" (1940, p. 83). Besides personal study into religious and biblical sources, students were urged to be sure to attend religious services. White specified (T4:425, 1938) that students should in no case deprive themselves of religious privileges.

Many students have made their studies the first great object, and have neglected prayer, and have absented themselves from the Sabbath School and the prayer meeting. . . . A most important part of their education has been neglected. . . . The student must have time to become conversant with his Bible. He needs time for this (Ibid., p. 435).

These are statements both for the need of time for students to utilize and for the proper use of that time which is provided.

Two statements by White apply to time opportunity: "While

a part of each day is devoted to mental improvement, let a stated portion be given to physical labor, and a suitable time to devotional exercise and the study of the Scriptures" (June 29, 1882). Youth need to learn "when to eat, how many hours to give to study, and how much time to spend in physical exercise" (Ibid.). The correct use of time appears to be the responsibility of everyone, especially students.

Time Pressure

Time pressure is experienced by any person who is trying to accomplish a goal within a specified time range, and the goal requires a quantity performance in a time that is too short for its completion. "It is because our days are too full and because they move too fast that we seem never quite to catch up with ourselves," an observation noted by Baker (1983, p. 25). This lack of time produces stress in the behavior of people. Time for leisure or rest becomes important to compensate for or relieve this stress.

This rest is found in the Sabbath of the Bible (Exodus 20:8-11). Bacchiochi (1980) expressed this rest as freedom from the tyranny of work, human exploitation, and greediness. After Sabbath observance a person can begin a new week with renewed zest and strength (Ibid., p.94). Academy students are taught to observe the Sabbath as part of their curriculum. They have this rest.

Stress from time pressure and other sources may be reduced or eliminated by proper exercise and diet, as mentioned in preceding paragraphs. Work as labor is also an essential ingredient to relief from stress (White, 1943).

Students may experience time pressure when their schedule prevents an appointment with a teacher, counselor, or an administrator. Administration should provide adequate time in which the guidance counselor may work and perform his/her function. Staff are not to be so loaded with chores that students are inhibited from receiving help when they need it (Anderson and Van Dyke, 1972, p. 199).

Work Experience

Work experience in an SDA residence academy (Office of Education, 1981, "Work Experience," p. 21)

1. Provides an organized, supervised program for students to experience the world of work.
2. Correlates success in work experience with high morale and academic achievement.
3. Contributes and strengthens academic excellence.
4. Assists the student to acquire job entry level skills.
5. Provides for learning practical duties of life through a structured work program.
6. Expands opportunities for students to participate in financing their education costs.
7. Provides a setting where students can develop an appreciation for and understanding of the value and dignity of work.
8. Provides a setting for the development of interpersonal skills through student-teacher-employer relationships.

Classified as on-campus labor are such jobs as clerks, janitors, cafeteria helpers, dormitory monitors, and workers in all types of maintenance. School owned industries are operated mainly to supply job opportunities for students who are 16 years old or older. Private industries operate on campus also, but are under different management from the school, their reason for existence being the same as for school owned industries. There are a few academies able to furnish light industrial labor for those students who are 14-16 years old.

In 1980 the 40 SDA residence academies in the United States provided work for students in 29 different industries (Rau, 1982). Every academy had at least one industry on or near the campus. Twelve academies from the 40 schools studied granted academic credit for work experience. In this study (see table 3, p. 56), nine out of the 18 academies studied granted academic (or graduation) credit for work experience. The practice may have been increasing.

Work as part of education has been important in the curriculum of SDA schools since their founding, because of the counsel given by White from the time of the first school that the denomination established. White (T3:153, 1938) wrote that "in order to preserve the balance of the mind, labor and study should be united in the school." White (1923, p. 228) emphasized the practical and useful aspects of work in these words: "Some hours of each day should be devoted to useful education in lines of work that will help the students in learning the duties of practical life, which are essential for all youth." White also specified that youth who do not need to work to pay their expenses should work for their health and moral good (T3:151, 1938).

The nation's schools and school systems have a history of active work experience for students, also. In 1940 a nation-wide study of 64,805 National Youth in Action students (Adams and Stephens, 1970), the grade point average for working students was found to be higher than that for nonworking students. This appears to be another benefit to working students, in addition to learning a job skill and ability to pay school expenses.

Churchill and Rothman (1958) completed a study under the

sponsorship of the National Society for the Study of Education from which it was concluded that

Work experience is effective because of its clear structure. The student tends to be easily task-oriented. The readily apparent organization of the work-world and the task requirement of a job are appealing to the student. In addition the work experience may provide a sense of achievement which is often lacking in the school program. The accomplishment is immediate and recognizable as opposed to the often intangible or deferred value of classroom study. It is not strange, then, to find that students and parents find that work-experience results in better attitudes toward learning, better habits of time use, more interest in the outside world, and more responsible behavior. (Ibid., p. 134)

These appear to be worthy outcomes that could become goals for any school system, public, private, or parochial.

In research undertaken by Tucker (1945, pp. 21-24), he presented ten cardinal principles of work for students in SDA academies:

1. The work program should include students and teachers
2. The work status should be dignified
3. Work should provide physical exercise
4. Work should develop bodily health and vigor
5. Work should develop skills and abilities
6. Work should be vocationally oriented
7. All students should work some part of each day regardless of financial status
8. Good work habits are to be formed
9. Work is to reduce school expense
10. There is a broadening of the student's knowledge of the occupational world and of working conditions in their communities

These authors listed benefits to the school, to the employer, and

to the community that are consequences of a work-experience program in a school (Ibid., pp. 5-6). It is because of these many benefits that work and work experience are part of the balanced curriculum in Seventh-day Adventist residence academies.

The Daily Schedule

Drafting the daily schedule, which includes the class schedule as a major factor, is one of the most difficult and time consuming tasks of a principal. It is not the purpose of the study to prescribe a class schedule, but to present a daily program into which a specific class schedule could be inserted at the discretion of an administrator and his staff.

In any schedule design there are prime considerations to keep in mind (Austin and Gividen, 1960, pp. 15-25). The schedule design must promote the most effective utilization of the resources of the school; it must insure a variety and breadth of educational experiences for each student; it should increase the opportunity for students and teachers to interact, focusing upon the personalized nature of learning; and it should minimize conflicts and facilitate an attitude supporting change.

A committee of educators (General Conference, 1963, p. 18) drafted a model schedule for academies to use in an attempt to supply a four-hour block for student labor or work experience. This was a traditional block-of-time schedule, but it included an 85 minute provision for a science laboratory each Sunday. Two full sessions were planned for each school day, one in the morning beginning at 7:00 a.m. and the other beginning after lunch. When this schedule

was suggested, the number of units required for graduation was 18.

Oak Park Academy (General Conference, Appendix V, 1973) presented a report of its innovations in education to a large group of church educators. At that time the academy operated on three separate quarters of 11 weeks each. This had the advantages of allowing for course re-naming in order to retain student interest, shorter grading periods than the semester, and lack of the holiday carry-over problem for subject continuity. Further, the school was nongraded, with intermingling of all age categories in classes. This aided the students in meeting work appointments and added more maturity to class discussions and decorum. At the time of the report, Oak Park was using modular scheduling, but the plan had to be dropped later due to dissatisfaction on behalf of the board, parents, and teachers. The faculty admitted inability to occupy each student's time and to motivate the students to initiate study on their own, so the academy resumed the traditional schedule.

Forehand and Watkins (1979, pp. 749-750) reported a scheduling model being used in a small high school in Manchester, Georgia. In this school the academic year was divided into three 12 week quarters. The students studied and completed two subjects per quarter. This required large blocks of time daily to earn one Carnegie unit of credit each quarter for each subject. As a result of adopting this program, Manchester High School had been able to increase its course offerings from 40 to 75. In this plan, sectioned classes were divided over the school year, allowing for a reduction in the number of required textbooks at any one time. The attitudes

of parents, students, and faculty toward this program, after four years of operation, were positive and supportive.

Another innovation in scheduling is the year round school. There are many variations of this plan, but the American Association of School Administrators (1970) has classified them into four basic types:

1. Four quarters of school for a total of 48 weeks with students attending three of the four quarters
2. Four quarters of school for students and teachers for 48 weeks with about 30 days of vacation for students and teachers at the same time
3. The regular program of 36 to 40 weeks with extra courses offered during the summer that are not a regular part of the school curriculum
4. A program similar to the latter, only teachers are assigned to enroll in workshops, curriculum studies, and other professional meetings

In the four quarter system mentioned above, the Carnegie unit is abandoned in favor of the more flexible "credit hour." This plan is modeled after the college quarter hour. A course which meets five hours each week for a 12 week quarter carries five quarter hours credit. Fifteen quarter hours represent one Carnegie unit (Henson, 1974).

Wood and others (1979, p. 277) centered attention on the daily schedule as the vehicle for representing the objectives of the school as well as freeing the staff for optimum achievement. It was further emphasized that the schedule should be dynamic and

flexible to meet the needs of a reliable faculty and an energetic student body. When nontechnical aspects of the schedule are being determined, parents and students should be involved (Jones et al., 1969). The position of these people may be that of evaluators of programs, services, and activities of the school. To avoid needless confusion and apprehension among teachers, the faculty must also be included in the structuring of the schedule (Saville, 1973).

In the report by the National Commission on Excellence in Education (1983, p. 22), it was revealed that in England and other industrial countries students attend school for eight hours per day for a school year of 220 days. In the United States a student attends school for six hours a day for a school year of 180 days.

After their report, this committee made several recommendations for the improvement of education in America. One of these (Ibid., p. 26) stated that "the high school curriculum should . . . provide students with programs requiring vigorous effort in subjects that advance students' personal, educational, and occupational goals." The committee also recommended that school districts should strongly consider a 7-hour school day for a school year of from 200 to 220 days (Ibid., p. 29). The adoption of seven hours of classroom contact per day for academy students would greatly alter the daily schedule in general and perhaps the work component especially.

Summary

From the review of the literature it was apparent that a variety of factors contribute to balanced education. Among these were ample and regular sleep, correct diet, regular eating habits,

physical exertion, work complementing mental taxation, efficient use of time, certain hours for study, a Bible study hour, temperance, and a cheerful attitude.

The daily school schedule is a regulatory device, external to the student, in determining balance in the educational program. Within this time calendar the schedule of classes has been seen to have experienced several modifications in an attempt to present students with a balanced education.

Balance is to be dynamically maintained among the physical, mental, and spiritual aspects of a person. As defined in this review, educational balance includes five categories of whole-student development: academic achievement, vocational and professional interests, social growth, physical needs, and religious experience.

It appears that White did not specify a time calendar for daily usage by students. Mention is made of a "thoughtful hour" in devotions, a "few" and "some" hours of work, five to six hours between meals, ample sleep, and enough physical exertion to balance mental taxation. To gain such specifics, this research called upon questionnaires and opinionnaires from students and administrators to determine what precise time provisions constitute educational balance in the daily schedule of SDA residence academies.

CHAPTER III

RESEARCH DESIGN AND METHODOLOGY

As stated in chapter 1, this study was composed of two purposes. The first purpose was to investigate the educational program of students in SDA residence academies to determine the present and desired states of educational balance in each and in the total of the following areas: academic achievement, vocational and professional interests, social growth, physical activities, and religious experience. The second purpose was to construct a daily schedule for a typical seven-day week of school, during which students were to be experiencing educational balance. This chapter delineates the development of the surveys that were administered to students, administrators, and principals; notes the structure of each instrument used; and describes the methodology applied to fulfill the purposes of the study.

Development of the Questionnaires

Because no appropriate survey instruments were found to obtain the information for this study, three questionnaires were developed by the researcher. The steps in this task are outlined below.

In preparation for a previously published article (Rau, 1982), the researcher requested a class schedule and the completion

of a time questionnaire (appendix C) from the principals of the 40 SDA academies then in operation in the United States. Twenty seven questionnaires were returned, supplying information for daily activities that involved students during one week of school. These responses were used to formulate the time guide lines in the Student Questionnaire and in the Administration Questionnaire.

The definitions of terms in chapter 1 and the literature cited in chapter 2 formed the basis for the Student Questionnaire (appendix D). For instance, in the definitions, it was stated that social growth was evident in students who were prepared for marriage and family life. From this question 61 was derived, "My school has helped me to be prepared for marriage and family life." In chapter 2, Doll (1960) specified that a school that was working toward educational balance should place major emphasis on the ability to care for one's own physical health. Question 75 therefore states: "At my school we study human physiology and hygiene."

Questions concerning the status of balanced education, as placed in the Student Questionnaire, were similar in style to those found in published temperament inventories. However, for this study multiple subjects within a question were avoided. Single-thought questions were of the forced answer type, requiring the respondent to select the best reply from three to five choices.

Because of the potentially large population of respondents across the United States, the questions were designed to allow for ease of scoring. Consequently, though many questions were asked, the replies were easily and quickly tabulated and evaluated.

An effort was made to include a proportionate number of questions relating to each of the five areas of educational balance (i.e., academic achievement, vocational and professional interests, social growth, physical activities, and religious experience), not intending in any way to diminish one or to monopolize another. However, results of the pilot study reduced the number of questions, changing the original proportions but maintaining content.

Prior to its use in the pilot study the questionnaire was proofread by three colleagues: a vice-principal who had lived in an academy dormitory, an English teacher, and a guidance counselor who had been an academy dean of girls.

The questionnaire devised for administrators (see appendix E) was concerned with the time needs of the average student. Time notations listed in the middle column were means of the time provisions stated by the 27 principals mentioned above. Two time provisions above these means and two below were developed by the researcher and were intended to be consistent with estimates of student needs and clock time available. These variations were inserted to provide choices for the convenience of the responding administrators and the researcher.

A questionnaire designed specifically for principals (see appendix F) was used to obtain demographic data for this study. Information was requested concerning staff sponsorship of student functions in the areas of work, religion, social growth, and academic affairs. Principals were also questioned regarding student usage of time and time activities planned for the students by the school.

Pilot Study

Because the Student Questionnaire was developed by the researcher, it was necessary to test it by a pilot study. Kingsway College was selected as the school for this task, because it was geographically close to the home of the researcher and was similar in curriculum and operation to academies in the United States.

Kingsway College is a Seventh-day Adventist boarding academy located in Oshawa, Ontario, Canada. Course credits offer the student a curriculum from grade nine through grade thirteen. Except for several subjects designed on a spiral approach and one additional year of education beyond grade twelve, Kingsway College's curriculum is very similar to that of an SDA boarding academy in the United States. The college manages several on-campus industries that furnish work for its students, and it also provides work of various kinds in its several departments, dormitories, and administrative areas. The school is denominationally accredited by the same criteria and standards as are its associated schools in the United States, and its student population is of average size by comparison.

As stated below under Selection of Respondents, only students in grades ten through twelve were to participate in the study. Therefore, only students in these grades at Kingsway College received the trial questionnaire. Adequate space was provided for the respondents to write their reactions and suggested changes to questions and/or the response choices.

Because the questionnaires were to be sent to each school and administered by someone other than the researcher, the same procedure was followed in the pilot study. Through the school

principal a satisfactory, responsible person was selected to administer the material to the students. Instructions for administering the questionnaire were supplied to each proctor. Participating in this study were 64 boys and 58 girls from grades ten through twelve. The returned questionnaires were examined for items left blank, items yielding no useful information, misinterpreted items, or ambiguous items. Comments were read and studied to determine advisable changes. The average time needed to complete the questionnaire was 45 minutes.

Following the analysis described above appropriate additions, deletions, and modifications were made. The revised Student Questionnaire is located in appendix D.

Selection of Respondents

A letter of invitation (see appendix A) to participate in this study was sent with a supporting letter from the Department of Education of the General Conference of SDA and a stamped, self-addressed postal card to the principals of 36 academies then in operation in the United States. Eighteen academies responded affirmatively, indicating the readiness of their students in grades ten through twelve to complete the Student Questionnaire, committing the administrators to respond to the Administration Questionnaire, and pledging the help of the principal to answer the Principals Questionnaire.

The 18 academies (Appendix B) represented four geographical areas in the United States. Five schools were in the west, six in the mid-west, six in the south-southeast, and one in the east.

Students in grade nine were not included in the study, because they were experiencing their first year away from home, it was their first year of high school, and the questions asked were not applicable to them.

All sophomores, juniors, and seniors were polled in order to insure a sufficient cross-section of students pursuing different career directions, to include students in each of the various lines of on and off-campus labor, to draw information from students of diverse educational foundations, and to involve students within the full spectrum of academic grade average.

Gathering of Data

The package of materials sent to each of the 18 academies contained the requested number of Student Questionnaires with answer sheets, six Administration Questionnaires (i.e., one for the principal, one for a vice-principal, if applicable, and one for each dormitory dean and their possible associates, to total four in number), and one Principals Questionnaire.

Returned Student Questionnaires totaled 1,997; Administration Questionnaires totaled 55; and all 18 principals responded to the Principals Questionnaire. These materials were subjected to tabulation and analyses as described in the section on methodology at the end of this chapter.

Questionnaire Weighting by Panel

A panel was selected to obtain a weighting of the responses of questions 19 through 99 in the revised Student Questionnaire. Their task was one of supplying a weight on a scale of 0 to 5 to

each response choice provided, as it applied to the question or statement.

The panel consisted of an educational superintendent who was once an administrator in an SDA boarding academy, an educational superintendent who was once a teacher in a boarding academy, a professional guidance counselor who was dean of girls in an academy, a church pastor who was formerly an SDA boarding academy principal, a college dean of students who was formerly a dean of boys in an academy, and a former coordinator of academy student labor. Thus, the panel included six professional educators, each having been connected with an academy for more than three years.

Because presently active principals and other administrators were involved in the completion of questionnaires as a part of this study, the selection of the panel was made from those who had previously held positions in SDA boarding academies. Active principals and their administrative teams completed questionnaires specifically designed for them. These are discussed and evaluated later in this study.

A weighted rating of 5 given to a reply to any question indicated the highest degree of balance in education according to the panel, whereas a 0 rating suggested a situation of imbalance in the educational experience of the student. Weights assigned to replies between these two extremes were of value when they fell close to either end of the spectrum; midrange responses may have indicated a state of no-growth or regression by the student regarding his educational program.

The response weights received from the six panel members

were totaled for each question beginning with statement 19 and ending with statement 99. A weight of 5 was then substituted for the highest total, followed by whole number weights of 4, 3, 2, and 1 in place of the remaining parallel sums. When a tie occurred between two weights, the closest whole number in sequence was given the closest, non-repetitive whole number. This process was practiced for questions 41, 62, 89, 91, and 94. This procedure provided for ease of cataloging the weights and furnished whole number weighted percentages and scores throughout the research. The adjusted response weights for the reply choices from "a" through "e" are displayed in table 1.

Student Questionnaire

Questions 1 through 18 were informational in content. The provision of academic grade average as an independent variable was secured from question 2. Two additional independent variables, sex and year in school, were obtained from the answer sheets.

A typographical omission in the preparation of question 6 necessitated that it be discarded. The question was originally intended to ask how many subjects would have been completed in physical education during a respondent's four years in academy. Due to the wording of the question as printed, all students chose "d" (7 or more) as their reply (i.e., any student would take more than 7 total subjects before graduation).

The present and desired state of educational balance formed the content of questions 19 through 99. The questions were grouped according to the five areas of educational balance addressed in this

TABLE 1

WEIGHTS APPLIED BY PANEL TO STUDENT
QUESTIONNAIRE RESPONSE OPTIONS

Question Number	Weight					Question Number	Weight					Question Number	Weight				
	a	b	c	d	e		a	b	c	d	e		a	b	c	d	e
19	5	4	3	2	1	46	5	4	3	2	1	73	5	4	3	2	1
20	5	4	3	2	1	47	5	4	3	1	2	74	5	4	3	1	2
21	5	4	3	2	1	48	5	4	2	1	3	75	2	5	4	3	1
22	5	4	3	2	1	49	5	4	3	2	1	76	5	4	3	1	2
23	5	4	3	1	2	50	5	4	2	3	1	77	5	4	3	1	2
24	2	3	4	5	1	51	5	4	3	2	1	78	5	4	3	2	1
25	5	4	3	1	2	52	5	4	3	2	1	79	2	3	4	1	5
26	5	4	3	1	2	53	5	4	3	1	2	80	5	4	3	2	1
27	5	4	3	1	2	54	5	4	3	2	1	81	5	4	3	1	2
28	5	4	3	1	2	55	4	5	3	2	1	82	5	4	3	1	2
29	5	4	3	1	2	56	5	4	3	1	2	83	5	4	3	1	2
30	5	4	3	2	1	57	5	4	3	1	2	84	5	4	3	2	1
31	5	4	3	2	1	58	5	4	3	1	2	85	5	4	3	1	2
32	5	4	2	3	1	59	5	4	3	1	2	86	2	5	4	3	1
33	5	4	3	1	2	60	5	4	3	1	2	87	5	4	3	1	2
34	5	4	3	1	2	61	5	4	3	1	2	88	5	4	3	1	2
35	1	3	4	5	2	62	5	4	3	2	1	89	2	3	4	5	1
36	5	4	3	1	2	63	5	4	3	2	1	90	4	5	3	1	2
37	5	4	3	1	2	64	5	4	3	2	1	91	5	4	3	1	2
38	5	4	3	1	2	65	1	3	4	5	2	92	5	4	3	2	1
39	2	3	4	5	1	66	1	2	4	5	3	93	5	4	3	2	1
40	5	4	3	1	2	67	5	4	3	1	2	94	5	4	3	1	2
41	5	4	3	2	1	68	5	4	3	2	1	95	5	4	3	2	1
42	5	4	3	2	1	69	5	4	3	1	2	96	5	4	3	1	2
43	5	4	3	2	1	70	5	4	3	2	1	97	5	4	3	1	2
44	5	4	3	2	1	71	5	4	3	1	2	98	5	4	3	1	2
45	5	4	1	3	2	72	5	4	3	1	2	99	5	4	3	2	1

study: (1) academic achievement, questions 19 through 31; (2) vocational and professional interests, questions 32 through 44; (3) social growth, questions 45 through 65; (4) physical activities, questions 66 through 78; and (5) religious experience, questions 79 through 99.

Because the highest weight was 5, the maximum weighted score per question was 500, the product of the percentage of students responding and the weight. Similarly, for the lowest weight of 1 the minimum score was 100. Student replies, one per question, were divided among the five choices for each statement, necessitating the calculation of a mean of the resulting five weighted scores per question to arrive at the term "weighted score" used throughout the remainder of this study.

Of the 81 questions in the second section of the questionnaire, 45 offered the response choices (a) Yes, (b) Mostly, (c) Somewhat, (d) No, (e) Not sure. Only choice (e) is changed from this pattern in four questions: number 32, which changed "Not sure" to "I don't plan to go to college"; number 48, which substituted "I have none"; and number 56, that substituted "I have not held a student office." A similar change was made to number 65. Three questions lumped together, numbers 50 to 52, changed the replies (c), (d), and (e) to "Yes and no," "Some," and "No" respectively.

There were five questions with the reply choices: (a) Always, (b) Almost always, (c) Somewhat, (d) No, and (e) Not sure. Numbers 81, 82, 83, 85, and 89 fell into this category. Replies (c) and (d) were changed in six other questions, numbers 69, 71, 74, 76, 90, and 91, with (c) supplying the reply "Almost never" and (d) offering

the reply choice "Never." Question number 80 was included in this category, and it changed the (c), (d), and (e) answers to "Sometimes," "Rarely," and "Never" respectively; while these last three were changed to "(c) Rarely, (d) Never, and (e) I am not a member of one" in 94, and the last two to "(d) Not on school earnings, and (e) Not on any earnings" in number 99. Question number 70 was similar, changing "Rarely" to "Almost never."

In the rating category there were four questions, numbers 22, 43, 44, and 49. The suggested possible answers in numbers 43, 44, and 49 were (a) Very good, (b) Good, (c) Average, (d) Poor, and (e) Very poor; only answer (c) was changed to "the same" from "Average" in number 22. Included in this group were questions 75 and 86, with the reply choices (a) Too much, (b) A lot, (c) Enough, (d) Little, and (e) No.

The other questions, namely numbers 30, 31, 45, 46, 78, 84, and 95, were distinctive and did not belong to any of the above groups. For referral purposes these questions and their reply choices may be found in the tables of chapter 4 and in appendix D.

Administration Questionnaire

The Administration Questionnaire (appendix E) was composed entirely of time or frequency related questions. Time needs for students were modified according to the convictions of principals, vice-principals, and dormitory deans. In larger academies there were often two deans for each dormitory, resulting in as many as six questionnaires completed and returned from such schools. Fifty-five questionnaires were returned from the 18 academies.

The middle column of the questionnaire totals 168 hours, the number of clock hours in a seven-day week, when the times shown were multiplied by certain frequencies. Frequencies of one included time questions 8, 9, 15, 16, and 20-25; a frequency of two for only number 3; a frequency multiple of five for numbers 4, 6, 7, 10, 11 17, and 18; a frequency of six for numbers 2 and 5; a frequency of seven for numbers 12, 13, 14, and 19; and a frequency of twenty-one for the first time entry. The time provided for band and choir practice sessions, although not specified in the questionnaire, was 40 minutes. A choice of three such practices per week would necessitate the provision of two hours of time in the student's schedule, for instance.

Principals Questionnaire

The Principals Questionnaire (appendix F) was completed by all eighteen academy principals in this study. Questions 1 through 4 were included to determine what effect, if any, staff coordinators may have had on the balance of the educational program of a school in the areas of vocational professional interests, religious experience, social growth, and academic achievement. Question 5 was another in the area of religious experience, number 6 was mostly directed to social growth, and the remaining questions, numbers 7 through 13, pertained to the area of academic achievement.

Methodology

In response to the Student Questionnaire, 1,997 answer sheets were returned by students from 18 academies across the United States. Each participating academy was given a number, which was marked on

each answer sheet prior to being "read" by the Trans-Optic reader at the Andrews University computing center. The replies from each answer sheet were stored by academy number in the main computer at the university, ready for retrieval and analyses.

The computer program supplying the frequency, the corresponding cell, and the cumulative percentage for each selection per question, gave also the number and percentage of those who did not reply to a statement. Because no cell frequencies of zero were used in this study, new cell percentages for each frequency had to be calculated and recorded for each variable used. New percentage calculations also had to be done for questions 1 and 5 for which students inadvertently replied with a response choice on the answer sheet that was not provided on the questionnaire. Under the variable of grade in academy, one student indicated grade nine level and one grade thirteen level, neither of which were to have been included. Consequently, these data were discarded and revised calculations were completed for the set of 99 questions in the questionnaire.

The Five Areas of Educational Balance

For questions 19 through 99 of the Student Questionnaire, the weights supplied by the panel were multiplied by the response choice percentages. Thus, a hypothetical response pattern of (a) 20%, (b) 30%, (c) 35%, (d) 10%, and (e) 5%, with corresponding weights of 5, 4, 3, 2, and 1, resulted in a weighted score calculated as follows: $(5 \times 20) + (4 \times 30) + (3 \times 35) + (2 \times 10) + (1 \times 5) = 350$. All calculations were checked and rechecked for accuracy. The weighted scores derived in this manner, using table 1 and the calculated

response percentages as multipliers, were ranked from the highest to the lowest value for all questions in each of the five areas of educational balance to determine agreement or disagreement between the students and the panel.

Weighted scores determined in this manner were used to draw comparisons of educational balance between male and female students, among academies, among grade levels (i.e., sophomores as grade ten, juniors as grade eleven, and seniors as grade twelve), and between and among questions with all students studied as a whole. Ranking of academies in any area of educational balance was avoided, but anonymous comparisons among the schools were displayed graphically as indicators of differences in perception.

Present conditions of educational balance were determined question by question and area by area. For each question the maximum score attainable was 500, using the response weights of the panel. Thus scores between 500 and 450 were interpreted to favor the response of weight 5; those between 449 and 350, a weight of 4; those between 349 and 250, a weight of 3; and those between 249 and 150, a weight of 2. No scores fell below 150. Desired states of balance occurred for those questions that held scores between 350 and 500 and/or were supported by material cited in the review of literature. Scores below 350 were considered as partially indicative of imbalance or tending toward that status.

Academic grade averages, as estimated by the students, were ascertained through question 2. A comparison of this rating with question 21, ability to achieve, as perceived by students, was

displayed in graphical form, and relationships were noted between and among independent variables.

In the area of vocational and professional interests, questions 36, 37, and 42 were used to determine other than financial benefits derived from work. The adequacy of career information services of the schools was made apparent through questions 34, 35, and 41. Out-of-classroom activities that affected career choices or provided career information were revealed in questions 38, 40, 43, and 44. Within the area of social growth in the academies, student attainments were manifested in their replies to questions 49, 52, 56, 57, and 59-64 inclusive. Indicators of methods or processes to increase or improve social growth were apparent in questions 48, 55, and 58.

Constraints on physical exercise were identified in questions 67 and 68. Expectancies for student knowledge regarding physical activities and needs were studied in questions 70-72 and 74-78 inclusive, and one question, number 69, was used to determine the existence of school planned physical activities for students on Sabbath. Student reactions to work as a substitute for daily exercise were revealed in the replies to question 68.

Possible benefits to the SDA church from their provision of religious instruction and Christian education for its youth were examined in question 82, 92, 94, 95, 97, and 99. Benefits to the youth themselves were found in questions 91, 93, 95, 96, and 98. Religious activities chosen by students were indicated in questions 94, 95, 97, and 99. It can be seen that some questions served more than one purpose in this section.

For each of the five areas of educational balance the mean of the weighted scores was calculated as a tangible measure of standing when compared to the desired level. These means also allowed comparisons to be made among the areas of balance.

From the data for questions 1 through 4 furnished by the Principals Questionnaire, a table was formed allowing for comparisons of coordinators' time between and among academies for the departments of work, religious activities, social activities, and academic affairs. The information obtained in questions 7 through 13 was recorded under the topic of area one, question 5 under the topic of area five, and question 6 under the topic of area three, all within chapter 4.

The Daily Schedule

For the development of the daily schedule in chapter 5 information was taken from four sources: (1) the investigation into five areas of educational balance in chapter 4; (2) the literature cited in chapter 2; (3) time needs expressed by students in questions 7, 8, 9, 11, 13, 15, 16, 17, and 18 of the Student Questionnaire; and (4) the time provisions expressed in the Administration Questionnaire. The named activities in the Administration Questionnaire were selected as those to use in composing the daily schedule.

For the same activity, students' mean time needs were averaged with the mean time provided by administrators. Resulting time periods were then subject to changes suggested by sources (1) and (2) in the preceding paragraph. Activities for which only administrators submitted a time length were given the mean time

period from the Administration Questionnaire. These periods, as above, were also subject to changes necessary to the provisions of educational balance.

In relation to possible time changes influenced by the second section of the Student Questionnaire, the following comparisons were applied. In the area of academic achievement question 19 of the Student Questionnaire was compared with activity number 1 of the Administration Questionnaire; and in the same order, questions 23, and 26 with activities 7, 17, and 20; question 24 with activities 7, 17, and 20; and question 30 with activity 11. In the area of vocational and professional interests, question 39 was compared with activity 6. In area three, social growth, question 46 was compared to activity 6; question 50 with activity 14; question 53 with activities 1-6, 8-11, 14-16, and 22-25; and question 54 with activity 25. Time for sleep, question 66 under area 4, was compared with activity 19. In the area of religious experience questions 79 and 80 were compared with activity 12, and question 91 with activity 8.

Adjustments to time, not mentioned previously, in the daily schedule had to be considered in reference to questions 27, 29, 31, 65, 69, 85, 89, and 90. Changes in timed activities were made only when feasible.

In the area of academic achievement questions 23, 26, and 30 were examined to determine the factors that existed for the provision of a broad scope of information and subject material. Time constraints and opportunities that students experienced while seeking career information and career guidance were revealed for question 39.

Potential time constraints to social growth were observed for questions 45, 46, 50, 51, 53, 54, and 66.

Class schedules, as opposed to daily schedules, are the work of individual schools as they coordinate their class curricula. The class schedule is part of the daily schedule and must function within the time provision of activity number 11, classroom contact each day, of the Administration Questionnaire.

Summary

In this chapter the development of the Student Questionnaire was traced through a pilot study at Kingsway College, the application of weights to response choices by a panel of six professional educators, and the final structure of 99 statements. Selecting responses to each question became the task of 1,997 students in 18 academies in the United States.

The Administration Questionnaire, to which 55 school administrators responded, grew out of an earlier study conducted among 27 academy principals to ascertain student time needs. The Principals Questionnaire was completed by 18 academy principals and was a short document requesting demographic data pertinent to the operation of each school.

The methodology in determining the present and desired conditions of educational balance within the areas of academic achievement, vocational and professional interests, social growth, physical activities, and religious experience was outlined. A method of scoring each question was devised that used the cell percentages and corresponding weights for each response choice

for questions 19 through 99 of the Student Questionnaire.

To construct a daily schedule for a typical seven-day week of school, during which academy students may experience educational balance, information was drawn from investigation into the five areas of educational balance, from cited literature, from time needs expressed by students, and from time provisions selected by administrators. The methodology for this process was outlined.

CHAPTER IV

PRESENTATION AND ANALYSIS OF DATA FOR THE FIVE AREAS OF EDUCATIONAL BALANCE

Three instruments were used to obtain pertinent information from students and administrators for this study. The largest questionnaire was that presented to the students, of whom 1,997 completed and returned their answer sheets. All 18 principals, representing the 18 academies that participated, plus 37 additional administrators from these schools, responded to surveys designed for them and their work place.

The intent of this chapter is to present and analyze the data collected from the above named sources to determine the five area balance of education. Specific to this was the use of four independent variables: sex, year in academy, academy, and all students considered as a whole. These independent variables functioned within each of the five areas of educational balance used to guide this research. The data from the two sections of the Student Questionnaire and the work of the panel were relied upon for this determination.

The topics mentioned are delineated below to provide direction for this chapter.

1. Introduction to the Five Areas
2. Area One: Academic Achievement

3. Area Two: Vocational/Professional Interests
4. Area Three: Social Growth
5. Area Four: Physical Activities
6. Area Five: Religious Experience

Introduction to Five Areas

Educational balance is realized when a student's (1) academic achievement, (2) vocational and professional interests, (3) social growth, (4) physical activities, and (5) religious experience are developing and interacting proportionately. None of the five areas is to receive attention to the detriment of any other.

The criteria used to furnish a measuring instrument for balance was supplied through the work of the panel. Ideal response choices received a weight[#] of 5 and the least sought reply a weight of 1, with the numbers 4, 3, and 2 applied on a descending scale for the remaining response options to each statement. Since the highest frequency possible for any response is 100%*, the highest weighted score is 500, and similarly the lowest is 100. Student agreement with the panel, therefore, would be indicated by weighted scores near 500 and disagreement by weighted scores near 100. A weighted score of 300 to any statement may indicate a neutrality manifested by students toward it.

As part of the discussion of the subject of educational balance, the responses to the Principals Questionnaire were summarized

[#]Response weights are indicated by a single underline of the digit.

*In this chapter the percent sign will replace the written symbol where possible.

in tables 2 and 3. Table 2 contains the percentages of total work time that coordinators from each academy gave toward four parallel functions with areas of educational balance: student work with vocational/professional interests, religious activities with religious experience, social activities with social growth, and academic affairs with academic achievement. The data listed was considered below under their respective area titles. In table 3 the replies by academy to question 5 were left for discussion under religious activities, question 6 under social growth, and questions 7 through 13 under academic achievement.

Each of the five areas was examined in detail below. The use of tables and graphs aided in the discussion. Weighted scores were used in the ranking of questions among the areas and for comparison purposes with the ideals set by the panel.

Academic Achievement

From table 2 it can be seen that every academy had a coordinator of academic affairs. In one school this person was the principal. Three schools had coordinators that met regularly with a committee that governed and monitored the academic matters of their schools. Such committees in the remaining fifteen academies met when called to do so by their coordinator/chairman. Other information from this table will be referred to later in this chapter.

In comparing the number of times per year that any academy had school on Sunday, as shown in table 3, with each question in the area of academic achievement, a correlation was found between this

TABLE 2

STAFF ASSIGNMENT TO AREAS OF EDUCATIONAL BALANCE
BY ACADEMY

Academy	Percent of Time as Coordinator			
	Student Work	Religious Activities	Social Activities	Academic Affairs
1	25	20	10	Y*
2	25	20	20	Y*
3	25	20	10	Y*
4	25	20	15	Y
5	50	10#	10	Y*
6	15	20	N	Y*
7	12	30	N	Y
8	25	20	10	Y*
9	50	30	N	Y
10	15	10	2	Y*
11	25	50**	10	Y*
12	10	10	10	Y*
13	10	20	10	Y*
14	25	40	20	Y*
15	25	10	N	Y*
16	N	N	N	Y*
17	25	N	10	Y*
18	15	40	10	Y*

Y = Yes, percent not specified

N = No coordinator

* = Committee meets on call

= Also has full time task force worker

** = Task force worker

TABLE 3
PRINCIPALS' REPLIES BY ACADEMY TO THE LAST
SECTION OF THE PRINCIPALS QUESTIONNAIRE

Question	Academy																	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
5. Students present services in churches	y	y	y	y	y	y	y	y	y	y	y	y	y	y	y	y	y	y
6. School has a once/year fund raising drive	n	n	y	y	y	n	y	f	y	y	y	n	y	n	n	y	n	y
7. Number of times/year for Sunday as a school day	0	d	b	d	c	d	b	a	d	c	b	d	d	c	c	c	c	0
8. Graduation credit for work experience	y	y	y	y	y	n	y	n	n	n	y	n	y	y	n	n	n	n
9. Number of hours the school library is open on Sunday	0	g	0	g	g	g	3	0	g	0	0	0	g	g	g	0	2	g
11. Students pay extra for class overload	n	?	n	n	y	n	y	y	n	n	n	n	n	n	n	y	n	n
12. Graduation credit for a subject by passing a test without classwork	y	n	n	y	n	n	n	y	y	y	y	y	y	y	y	n	n	y
Students/year who do this	a			a				a	d	a	a	a	b	a	?			a
Is this an acceptable plan?	y			y		n		y	y	y	y	n	y	y	y			y
13. Number of units to graduate	20	20	20	e	e	20	e	e	20	21	e	18	21	e	20	e	e	e
Mean graduation units earned by students	23	23	23	23	22	22	23	23	24	23	24	24	23	23	22	22	22	22

y = yes, n = no, a = 1-2, b = 3-4, c = 5-6, d = 7+, e = 22+, f = every 2 to 3 years, g = only open on school Sundays

variable and good grades as the school's top emphasis for its students (number 24). Academies with a lesser weighted score for this question, indicating high emphasis on grades, conducted school on Sundays more than those who did not. Conversely, a higher weighted score, indicating a lesser emphasis on grades, was recorded for those academies which had school less often on Sunday. No other question in this area exhibited this phenomenon.

From table 3 it can be seen that nine academies gave graduation credit for work experience. It did not appear to vary by school enrollment or by geographical location. These observations held true for the variability of library hours on Sunday also.

Graduation credit earned by passing a test on a subject without classwork is granted to its students by eleven academies, with one of these being dissatisfied with the plan. One academy had seven or more of its students participating in this program each year. There appeared to be no difference by geographical area as to whether or not the program was offered to students. Its use or disuse was evidently dependent on the wishes of the school operating boards and/or administration.

Graduation credit goals did not appear to change appreciably by grade level or between males and females. The academy with the lowest graduation credit requirement disclosed the highest percentage of those intending to graduate with 25 units or more, rising 8% above the next highest school in this category. Only 4% of all students chose to graduate with the minimum required of them.

Questions 19 through 31 of the Student Questionnaire were specifically directed to the area of academic achievement as an

entity contributing to educational balance. The ranking of these questions by weighted score for all students is exhibited in table 4. In addition to the response percentages for all students, five other variables were included in table 4 for comparative purposes. The variables are sex (male and female) and year in academy (sophomore, junior, and senior).

For this study the number of males was 887, the number of females was 1,099, and 11 students failed to designate their sex. The number of sophomores was 576, the number of juniors was 694, and the number of seniors was 709. One respondent classified himself/herself as a freshman, and one marked grade 13 as his/her year in school. Sixteen students did not indicate their grade level. The term "all students" was indicative of the number responding to any question. Not all 1,997 students replied to each and every question. The percentages are of the number who selected a reply choice in response to a question or statement. The mean number of abstainers was 2%.

Academic Grade Average

More than half (54%, range 46%-63%) of the students in this study (question 2) stated that their grade average was good. A very good rating was supplied by 28% (range 15%-34%), and 11% (range 3%-24%) reported their average to be excellent. By comparison only 7% (range 4%-19%) admitted that their grades were poor, and a small 0.5% thought they were very poor. The ratio of boys to girls on the excellent/very good side of good grades was nearly inverted on the poor and very poor side. These are subjective evaluations formulated

TABLE 4
RANKED QUESTIONS IN ACADEMIC ACHIEVEMENT FOR SIX VARIABLES

Rank Order	Question Number	Statements	Response Choices	Percentage by Variable and Weighted response						
				Response Weights	All Students	Male	Female	Sophomore	Junior	Senior
1	28	My teachers require me to think	(a) Yes	<u>5</u>	43	39	46	50	44	37
			(b) Mostly	<u>4</u>	32	31	33	29	32	35
			(c) Somewhat	<u>3</u>	19	21	17	16	17	22
			(d) No	<u>1</u>	5	7	3	4	5	5
			(e) Not sure	<u>2</u>	1	2	1	1	2	1
			Score			407	393	418	420	408
2	30	To earn my diploma from academy I would be in favor of	(a) many subjects with much to be learned in each	<u>5</u>	41	39	43	44	42	38
			(b) few subjects with more to be learned in each	<u>4</u>	31	29	32	27	30	35
			(c) undecided	<u>3</u>	22	23	21	22	24	19
			(d) many subjects with little to be learned in each	<u>2</u>	4	6	3	5	3	6
			(e) few subjects with little to be learned in each	<u>1</u>	2	3	1	2	1	2
			Score			405	395	413	406	409

TABLE 4--Continued

Rank Order	Question Number	Statements	Response Choices	Percentage by Variable and Weighted Response						
				Response Weights	All Students	Male	Female	Sophomore	Junior	Senior
3	19	The time in question 18 is available to me	(a) Yes	<u>5</u>	39	39	39	40	37	41
			(b) Mostly	<u>4</u>	23	25	22	24	23	23
			(c) Somewhat	<u>3</u>	23	25	22	24	23	23
			(d) No	<u>2</u>	15	15	15	15	15	14
			(e) Not sure	<u>1</u>	2	3	1	3	2	2
			Score			382	382	383	383	378
4	26	My teachers are reasonable in the time limits they place on getting assignments done	(a) Yes	<u>5</u>	25	26	23	24	23	27
			(b) Mostly	<u>4</u>	39	36	42	40	38	40
			(c) Somewhat	<u>3</u>	24	25	24	23	26	22
			(d) No	<u>1</u>	10	11	9	11	11	10
			(e) Not sure	<u>2</u>	2	2	2	2	2	1
			Score			367	364	368	364	360

TABLE 4--Continued

Rank Order	Question Number	Statements	Response Choices	Response Weights	Percentage by Variable and Weighted Response					
					All Students	Male	Female	Sophomore	Junior	Senior
5	22	Compared to my use of time for study last year, my time usage now is	(a) very good	<u>5</u>	15	15	15	16	15	15
			(b) good	<u>4</u>	38	38	38	39	38	38
			(c) the same	<u>3</u>	29	27	31	25	29	32
			(d) poor	<u>2</u>	15	15	14	17	15	12
			(e) very poor	<u>1</u>	3	5	2	3	3	3
			Score		347	343	350	348	347	350
6	23	I find enough study time each day to be prepared for my classes	(a) Yes	<u>5</u>	17	19	16	12	21	18
			(b) Mostly	<u>4</u>	34	31	36	35	34	32
			(c) Somewhat	<u>3</u>	23	23	23	23	24	23
			(d) No	<u>1</u>	19	20	18	17	22	17
			(e) Not sure	<u>2</u>	1	1	1	1	1	1
			Score		341	340	343	348	327	349

TABLE 4--Continued

Rank Order	Question Number	Statements	Response Choices	Percentage by Variable and Weighted Response						
				Response Weights	All Students	Male	Female	Sophomore	Junior	Senior
7	24	My school's top emphasis for its students is to get good grades	(a) Yes	<u>2</u>	18	19	16	22	16	16
			(b) Mostly	<u>3</u>	30	31	30	29	30	31
			(c) Somewhat	<u>4</u>	29	26	31	31	27	30
			(d) No	<u>5</u>	17	19	16	12	21	18
			(e) Not sure	<u>1</u>	6	5	7	6	6	5
			Score		333	335	333	321	341	340
8	20	My present grades are an improvement over those for last year	(a) Yes	<u>5</u>	26	28	24	23	24	30
			(b) Mostly	<u>4</u>	17	16	18	17	16	18
			(c) Somewhat	<u>3</u>	25	24	26	25	25	24
			(d) No	<u>2</u>	27	27	28	30	29	25
			(e) Not sure	<u>1</u>	5	5	4	5	6	3
			Score		332	335	330	323	323	347

TABLE 4--Continued

Rank Order	Question Number	Statements	Response Choices	Response Weights	Percentage by Variable and Weighted Response					
					All Students	Male	Female	Sophomore	Junior	Senior
9	21	My grades are an indication of my ability to achieve	(a) Yes	5	22	19	25	24	21	21
			(b) Mostly	4	20	17	21	20	18	21
			(c) Somewhat	3	27	27	27	26	29	26
			(d) No	2	27	34	22	25	27	30
			(e) Not sure	1	4	3	5	5	5	2
			Score		329	315	339	333	323	329
10	25	I view my academy classes as exploratory for what I might want to study in college	(a) Yes	5	27	27	27	35	25	23
			(b) Mostly	4	19	18	20	19	22	17
			(c) Somewhat	3	30	30	30	24	29	34
			(d) No	1	21	22	20	17	20	25
			(e) Not sure	2	3	3	3	5	4	1
			Score		328	325	331	350	328	312

TABLE 4--Continued

Rank Order	Question Number	Statements	Response Choices	Response Weights	Percentage by Variable and Weighted Response					
					All Students	Male	Female	Sophomore	Junior	Senior
11	29	My school offers plenty of electives	(a) Yes	5	26	28	25	28	26	26
			(b) Mostly	4	22	21	23	22	22	23
			(c) Somewhat	3	26	24	27	23	27	26
			(d) No	1	24	24	24	24	23	23
			(e) Not sure	2	2	3	1	3	2	2
			Score	324	326	324	327	326	327	
12	31	I value my music credits in importance to me as	(a) very high	5	17	15	19	17	16	17
			(b) high	4	23	18	26	14	21	23
			(c) average	3	30	27	33	30	31	31
			(d) low	2	13	16	10	13	13	13
			(e) very low	1	17	24	12	16	19	16
			Score	310	284	330	313	302	312	

TABLE 4--Continued

Rank Order	Question Number	Statements	Response Choices	Percentage by Variable and Weighted Response						
				Response Weights	All Students	Male	Female	Sophomore	Junior	Senior
13	27	I receive adequate instruction at my school regarding diseases and their causes	(a) Yes	5	17	18	16	22	13	17
			(b) Mostly	4	19	17	20	19	17	21
			(c) Somewhat	3	26	24	27	26	27	23
			(d) No	1	30	33	28	24	35	31
			(e) Not sure	2	8	8	9	9	8	8
Score					285	279	287	306	265	285

according to a student's self-rating of his academic standing. For instance, a student might rate his grades of "above average" as poor, if he strongly feels that he could have grades of "superior" or "excellent" rating. More concrete evaluations would have to be obtained from school transcripts of academic records to receive more objective information.

In grade evaluation by students a variation was observed between males and females. Girls claimed higher grade averages than boys. No appreciable variations were observed for year in academy or among individual schools pertaining to this data.

No reports of very poor grades were recorded for ten academies, and eleven students from the remaining eight schools rated themselves as earning such grades. Also, there was no appreciable variation observable among size of school enrollment or geographical location that might influence this data.

A graphical comparison of grade average for each question in the area of academic achievement is recorded in figure 1. The widest difference in weighted scores was found for question 21 (grades versus ability to achieve). Other wide differences, as shown for questions 23, 25, 26, and 30, were selected for discussion with table 14 of chapter 5. The closest agreement was reached by the four divisions of academic grade average for question 27, in which each student was requested to choose the amount of instruction that his school gave regarding diseases and their causes.

Students with poor grades consistently held the lowest spot for each question in figure 1, while students with good grades remained in third place except in the grade averages for question 20.

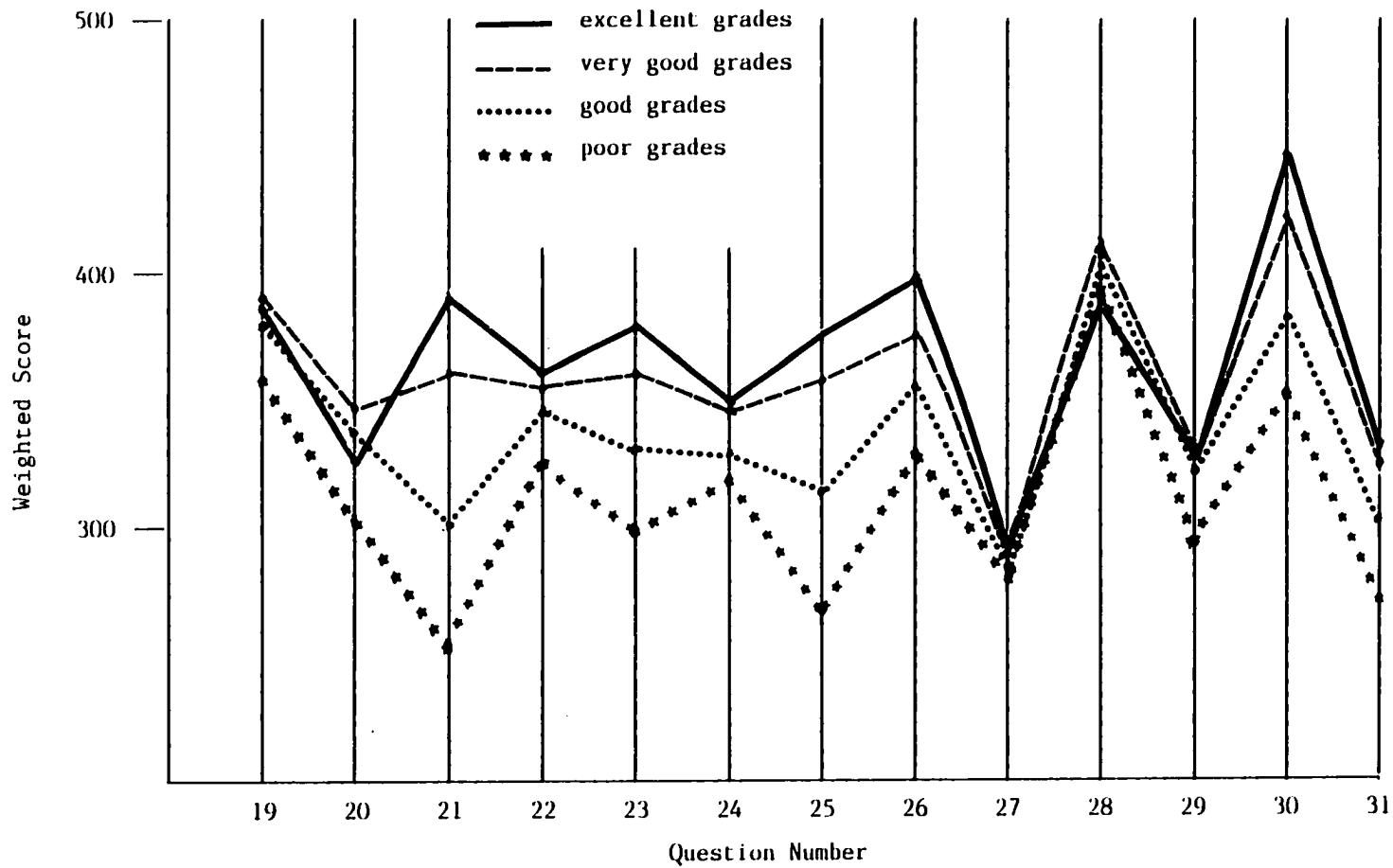


Fig. 1. Weighted scores in academic achievement for four grade levels.

Second place standing by students with very good grades jumped to first place for question 19, 20, and 28. A loss of first place was displayed for these same questions by students with excellent grades.

The academy with the highest weighted score (377) for question 24, "My school's top emphasis for its students is to get good grades," was also highest (419) for question 23, "I find enough study time each day to be prepared for my classes." Also, the lowest score (266) for question 24 was earned by the same academy that scored lowest for question 23. This parallel broke down for the remaining 16 schools, however.

Ability to Achieve

A growth-regression pattern for question 21, ability to achieve as indicated by grades earned, versus question 2, which requests an estimate of grade average, is recorded in figure 2. Students who rated themselves as possessors of excellent grades seemed certain of their ability to achieve. Those with very good grades expressed similar inclinations, but showed a lower degree of certainty. Uncertainty and negativeness increased with decreased perception of ability to achieve. The poorer students were much less certain about their ability to achieve than were the better students, and they were more certain than excellent students in believing that they could not achieve, as seen from the graph.

Whereas the weighted score for question 21 was 329 for 1,994 students, one academy of 95 students showed a weighted score of 365 with 29% answering "yes" as the mode. Seven other schools hovered

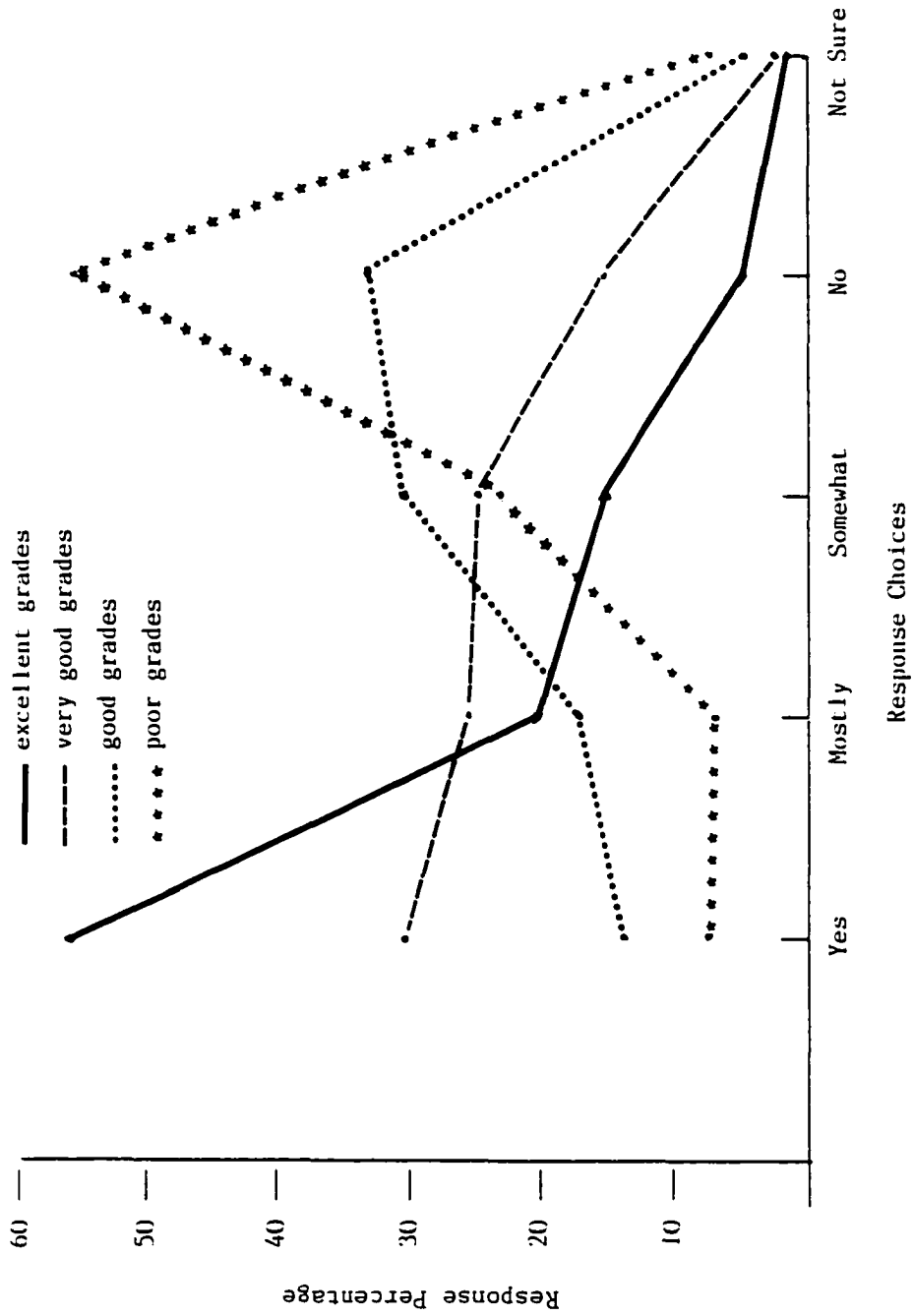


Fig. 2. Growth pattern for grade average versus ability to achieve.

within 5 points of the 329 score. The minimum recorded was 277 for an academy whose mode was 54% for students who felt that their grades were not an indication of their ability to achieve.

Ranking of Academies

A scattergram of weighted scores for each of the 13 questions in academic achievement for the 18 academies is found in figure 3. It can be seen that 11 of the scores lie above 300, and that the scores for two questions fall below this number, namely questions 27 and 29. Question 27 ranked last in area one with 30% of the respondents from all academies revealing that they did not receive adequate instruction regarding diseases and their causes. Sophomores with their score of 306 nearly reached that of 322 for the highest academy. In contrast to juniors and seniors this class may have been studying the subject of diseases or had recently completed it.

The lowest standing by any academy in this area is seen in figure 3 to have been placed at a score of 182 for question 29 (enough electives), the fourth minimum to have been recorded for the same academy. The range (228 points) for this question was the widest of any of the 13 questions under academic achievement.

The maximum scores recorded for questions 19 (desired meal time available), 26 (reasonable time to do assignments), and 30 (more subjects with more learning) were attained by the same academy. Students with less time problems requested additional study subjects with more to be learned in each. The school with the highest weighted score (439) in this area, see figure 3 question 28, earned no other maximum rating.

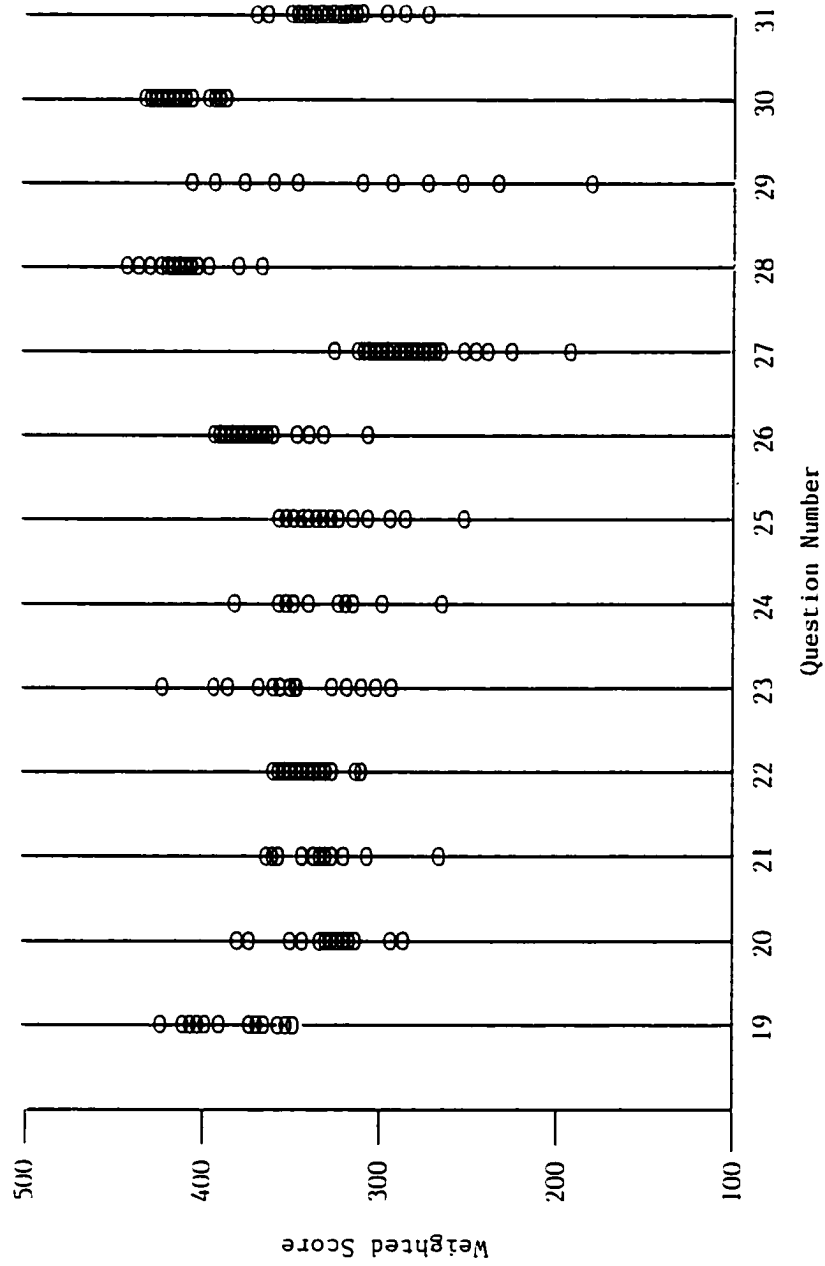


Fig. 3. Scattergram of weighted scores in academic achievement by academy.

Minimum scores for questions 19 (meal time), 22 (study time use, present versus past), 26 (reasonable time for assignments), 27 (adequate instruction regarding diseases), and 29 (enough electives) occurred for the same academy. The first three questions are concerned with time usage and needs, which may have been a problem for this school. Another recorded the lowest scores for questions 23 (enough study time), 24 (good grade emphasis) and 31 (value of music credits). A low score for question 24 is indicative of a high emphasis on getting good grades, and this may have been a reason that students did not have enough study time. The greater academic emphasis may also explain the low valuation placed upon music credits. The same school that exhibited these three minimum scores reached the highest for questions 22 (study time improvement) and 28 (my teachers require me to think). High grade emphasis may have motivated improvement of study time usage.

Area One Balance

The status of educational balance for all students in this study was moderately high in the areas of academic achievement. The ideals set by the panel were quite well supported by the students as they logged scores between 300 and 400 points. Only one question, number 27 (adequate instruction in diseases) fell below the 300 level to 285. The mean of weighted scores for the 13 questions in this area was 345, which could be interpreted to lie between "Somewhat" and "Mostly," when these were the options from which to choose. Or, if a score of 300 were considered as average, then the mean score of 345 could be interpreted as above average, favoring weight 3.

Vocational and Professional Interests

The investigation into vocational and professional interests on behalf of academy students was directed to the availability of adequate information to aid them in the intelligent selection of a vocation or profession. It was not a fact finding collection of career choices, but the study did seek to determine whether or not decisions had been made and why.

A vocation was considered to be employment in any occupation or work for remuneration, but a profession was understood as employment in a special occupation requiring a highly trained skill or higher education. All questions regarding career choices and employment aspirations in this second area of educational balance were based upon these definitions.

Career and College Decisions

As registered in table 5, it can be seen that the first ranking question in area two, vocational and professional interests, was number 32. The decision for a major in college had been made by 70% of the respondents, but 26% had not yet made that choice. The 4% who did not plan to attend college is the same percentage that responded negatively to question one. This statistic was increased to 6% by males and reduced to 2% by females, indicating that boys seemed less inclined to seek a college education than girls. Students with a high academic grade average had decided what college major they were going to pursue, but those who rated themselves low in academic standing had not yet made that decision.

It was seen in question 1 that 1,698 (85% of 1,993) students

TABLE 5
RANKED QUESTIONS IN VOCATIONAL./PROFESSIONAL. INTERESTS FOR SIX VARIABLES

Rank Order	Question Number	Statements	Response Choices	Response Weights	Percentage by Variable and Weighted Response					
					All Students	Male	Female	Sophomore	Junior	Senior
1	32	I have decided what my major will be in college	(a) Yes	<u>5</u>	28	26	30	22	24	38
			(b) Mostly	<u>4</u>	21	22	21	20	21	22
			(c) Somewhat	<u>2</u>	21	21	21	23	23	17
			(d) No	<u>3</u>	26	25	27	31	28	19
			(e) I don't plan to attend college	<u>1</u>	4	6	2	4	4	4
			Score		348	341	356	333	338	373
2	33	I have decided what my career will be	(a) Yes	<u>5</u>	28	26	30	24	29	31
			(b) Mostly	<u>4</u>	24	24	23	25	19	28
			(c) Somewhat	<u>3</u>	20	20	19	22	20	17
			(d) No	<u>1</u>	18	20	17	18	20	16
			(e) Uncertain	<u>2</u>	10	10	11	11	12	8
			Score		334	326	338	326	325	350

TABLE 5--Continued

Rank Order	Question Number	Statements	Response Choices	Percentage by Variable and Weighted Response						
				Response Weights	All Students	Male	Female	Sophomore	Junior	Senior
3	39	It is a problem for me to find time to talk with the guidance counselor about careers and professions	(a) Yes	2	35	33	37	35	41	30
			(b) Mostly	3	9	8	9	9	9	9
			(c) Somewhat	4	19	20	18	18	17	22
			(d) No	5	30	32	29	28	27	35
			(e) Not sure	1	7	7	7	10	6	4
			Score		330	337	325	319	318	354
4	41	My school library contains material helpful in vocational and career information	(a) Yes	5	25	25	24	26	19	30
			(b) Mostly	4	13	14	13	12	11	15
			(c) Somewhat	3	25	27	24	22	25	28
			(d) No	2	19	19	18	15	20	20
			(e) Not sure	1	18	15	21	25	25	7
			Score		308	315	301	299	279	341

TABLE 5 --Continued

Rank Order	Question Number	Statements	Response Choices	Percents by Variable and Weighted Response						
				Response Weights	All Students	Male	Female	Sophomore	Junior	Senior
5	34	I feel that my school is giving me adequate career and vocational guidance	(a) Yes	5	17	18	16	15	13	22
			(b) Mostly	4	23	24	23	22	21	28
			(c) Somewhat	3	28	27	29	31	28	25
			(d) No	1	27	26	27	25	33	23
			(e) Not sure	2	5	5	5	7	5	2
			Score	298	303	296	295	276	324	
6	42	My work experience at school has helped me to obtain a summer job	(a) Yes	5	25	24	25	26	25	22
			(b) Mostly	4	6	7	6	6	7	6
			(c) Somewhat	3	12	13	11	11	12	13
			(d) No	2	47	47	47	44	46	51
			(e) Not sure	1	10	9	11	13	10	8
			Score	289	290	287	288	291	283	

TABLE 5--Continued

Rank Order	Question Number	Statements	Response Choices	Percentage by Variable and Weighted Response						
				Response Weights	All Students	Male	Female	Sophomore	Junior	Senior
7	37	Working in one or more of the departments of the school is/was of help in preparing me for a career	(a) Yes	<u>5</u>	24	22	25	25	22	24
			(b) Mostly	<u>4</u>	10	10	10	10	10	10
			(c) Somewhat	<u>3</u>	26	25	27	27	25	26
			(d) No	<u>1</u>	33	35	32	30	36	33
			(e) Not sure	<u>2</u>	7	8	6	8	7	7
			Score	285	276	290	292	275	285	
8	40	My parents were the greatest help to me in making a career choice	(a) Yes	<u>5</u>	16	18	14	16	16	14
			(b) Mostly	<u>4</u>	15	13	16	14	18	13
			(c) Somewhat	<u>3</u>	27	28	26	25	26	28
			(d) No	<u>1</u>	35	35	36	35	33	39
			(e) Not sure	<u>2</u>	7	6	8	10	7	6
			Score	280	286	280	266	277	257	

TABLE 5--Continued

Rank Order	Question Number	Statements	Response Choices	Percentage by Variable and Weighted Response						
				Response Weights	All Students	Male	Female	Sophomore	Junior	Senior
9	38	Being a member of one or more school organization is/was of help to me in preparing for a career	(a) Yes	5	20	20	19	19	19	21
			(b) Mostly	4	11	9	12	10	11	11
			(c) Somewhat	3	25	26	25	25	25	26
			(d) No	1	36	36	36	33	38	37
			(e) Not sure	2	8	9	8	13	7	5
			Score	271	268	270	269	266	274	
10	35	I require more career information than my school provides	(a) Yes	1	41	40	42	38	47	37
			(b) Mostly	3	11	11	11	12	12	10
			(c) Somewhat	4	20	22	19	19	18	23
			(d) No	5	18	18	17	17	14	22
			(e) Not sure	2	10	9	11	14	9	8
			Score	264	269	258	263	243	285	

TABLE 5 --Continued

Rank Order	Question Number	Statements	Response Choices	Percentage by Variable and Weighted Response						
				Response Weights	All Students	Male	Female	Sophomore	Junior	Senior
11	43	In helping me to make a career choice, I rate chapels as	(a) very good	<u>5</u>	4	3	4	4	4	3
			(b) good	<u>4</u>	15	15	15	18	16	11
			(c) average	<u>3</u>	37	30	43	39	36	36
			(d) poor	<u>2</u>	24	25	23	22	24	26
			(e) very poor	<u>1</u>	20	27	16	17	20	24
			Score	259	242	268	270	260	243	
12	36	Working in one or more of the school's industries is/was of help in preparing me for a career	(a) Yes	<u>5</u>	20	22	18	20	19	21
			(b) Mostly	<u>4</u>	7	9	6	8	7	7
			(c) Somewhat	<u>3</u>	22	22	22	21	22	22
			(d) No	<u>1</u>	46	43	49	44	48	46
			(e) Not sure	<u>2</u>	5	4	5	7	4	4
			Score	250	261	239	253	245	253	

TABLE 5--Continued

Rank Order	Question Number	Statements	Response Choices	Percentage by Variable and Weighted Response						
				Response Weights	All Students	Male	Female	Sophomore	Junior	Senior
12	44	In helping me to make a career choice, I rate dorm worships as	(a) very good	5	4	5	3	4	3	5
			(b) good	4	14	16	13	17	15	10
			(c) average	3	34	28	39	36	35	32
			(d) poor	2	24	23	25	23	24	24
			(e) very poor	1	24	29	20	20	23	28
			Score	250	243	254	262	251	239	

planned to go on to college or university after graduation from academy. A small 4% stated that they did not plan to go on to college, and 11% were undecided. Size of school enrollment appeared to have no relationship to these statistics. However, 88% of the girls and 83% of the boys were positive about attending college; 88% of the seniors, 87% of the juniors, and 80% of the sophomores disclosed their intention to attend college; and uncertainty percentages were 8%, 9%, and 15% respectively.

The same percentage of students who had definitely decided on a college major were certain of a career choice (question 33). Ten percent of all students were undecided regarding a career choice. Uncertainty about a career was highest for juniors with a 12% grouping, but this figure was reduced to 8% for seniors, who indicated greater positiveness, less negativeness, and less uncertainty than students below them in school grade standing.

Work Experience Benefits

The greatest set of percentages for the "No" response option in table 5 was recorded for question 42, where 47% of the students declared that their work experience at school had not helped them to obtain a summer job. The 51% negative response from seniors to this question was countered by a frequency of 41% who stated positively that work at school had aided their placement into a job for the summer. For the sophomores and juniors, the positive replies neutralized the negative response to this question.

Academic grade average of students influenced responses to question 37 (work in department and career choice) and question 38

(school organizations and career choice) in this area enough to cause their placement in table 6. An inversion of percentages is visible between the positive reply of "Yes" and the negative response of "No." Consequently the weighted scores dropped steadily from 335 for excellent students to 237 for poor students, producing a range of 98 points. The eleven questions not selected for tabular presentation did not exhibit sufficiently wide differences according to grade average to warrant their presentation for discussion. Ranges for these questions, for instance, stayed within an average of 25 points.

Working in a school industry was of less help to students in preparing for a career (question 36) than working in a department of the school (question 37). Boys rated departments with a score of 276 and girls rated them at 290; boys rated industries with a score of 261 and girls rated them at 239. Work experience in industries helped boys to be prepared for a career more than did departments in their schools. Girls were better prepared for a career through departmental work than through work in an industry.

Career Choice

Parents could have done more in helping their children to make a career choice. The weighted score for this question, number 40, was low (280) for all students.

School organizations such as band, choir, clubs, and student associations were of help to 56% of all students in preparing for a career (question 38). Those students who did not receive any help from these groups totaled 36%. The data for

TABLE 6
SELECTED QUESTIONS IN VOCATIONAL/PROFESSIONAL INTERESTS VERSUS ACADEMIC GRADE AVERAGE

Question Number	Statements	Response Choices	Response Percentage by Grade Average			
			Excellent	Very Good	Good	Poor
37	Working in one or more of the departments of the school is/was of help in preparing me for a career	(a) Yes	35	29	19	17
		(b) Mostly	9	9	11	6
		(c) Somewhat	30	28	25	22
		(d) No	17	29	37	49
		(e) Not sure	9	5	8	6
		Weighted Score	335	305	270	237
38	Being a member of one or more school organization is/was of help to me in preparing for a career	(a) Yes	33	25	16	10
		(b) Mostly	13	11	10	10
		(c) Somewhat	28	25	26	19
		(d) No	19	33	39	51
		(e) Not sure	7	6	9	10
		Weighted Score	335	287	256	217

each variable was in its numerical pattern as seen in table 5.

Career choices were addressed in questions 43 (chapels) and 44 (dorm worships). The weighted scores were 259 and 250 respectively, below average ratings for both questions, and the modal replies were the "average" choice. Chapels (assemblies) would perhaps be of service to the students by the inclusion of career topics. To place career topics into dorm worships may be inappropriate to the intent of these services. A reversal of weights for this question renders a revised score of 350, a little above average rating, possibly reflecting the true state of balance in the academies regarding this subject. The panel was unified in their weight placements, but their intentions were not requested to be explained.

Balance in Vocational and Professional Interests

The mean of weighted scores for area two, vocational/professional interests, was 290, a score that indicates disagreement with the panel. Ten of the 13 questions were school regulated, so the academies would have the bigger part to play in improving this score and satisfying the needs of their students.

The position of each academy with respect to its weighted score for each question in area two is exhibited in figure 4. No academy scored 400 points or above, and two of the 18 fell below 200, as seen from the graph for question 35. A sinusoidal pattern was observed for the scattergram by scoring the total, consecutive display from question 32 through question 44.

The lowest scores for one academy occurred for these sets of questions: 33 (career decision made), 34 (career guidance adequacy),

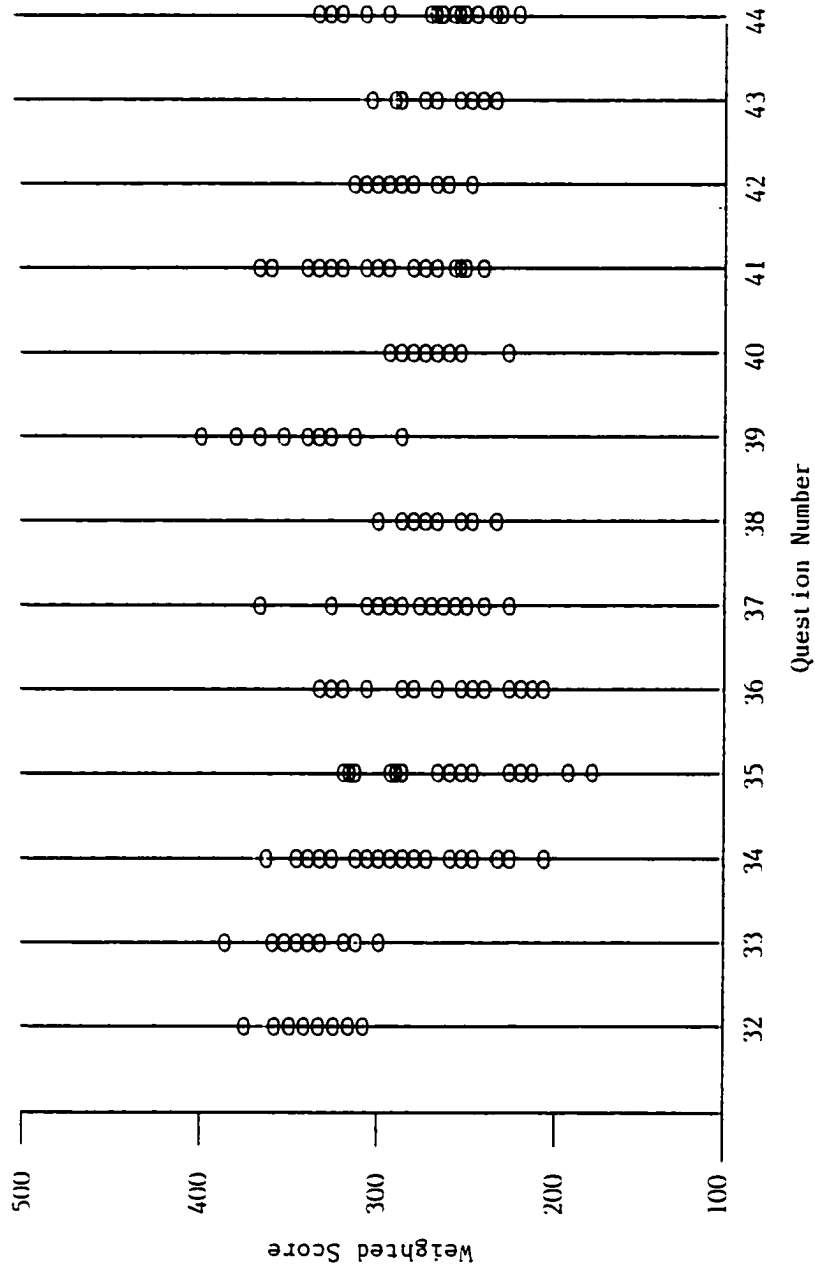


Fig. 4. Scattergram of weighted scores in vocational/professional interests by academy.

35 (adequate career information at school), 39 (no time with guidance counselor), and 41 (career information in school library); and to another academy for these questions: 38 (member of organization helped career preparation), 40 (parents greatest help in career choice), 42 (work helped get summer job), and 43 (chapels helped career choice). The first academy managed to reach the maximum for question 40 (parents greatest help in career choice), but had few students making a career decision, because they had little or no information upon which to base it. These students did receive help from their parents in choosing a career, however. The second academy had few of its students receive help from their parents or from chapels in making a career choice.

The closest agreement among the academies in this area of educational balance was found for question 32 (decision for college major) with a range of 50 points, occurring entirely within the 300 and 400 point levels. The decision for a college major was positive for 1,499 students.

The greatest disagreement among the academies was recorded for question 34, which rated the adequacy of career and vocational guidance of the schools. The range of scores for this question was between 216 and 367, a width of 151 points. The academy which placed at the bottom saw 48% of its students answer "No" to this statement of inquiry, rating 10% and more over the scores of the other schools for this same reply. By contrast, the top academy had 87% of its students, the most of any other school, express a positive feeling that their academy had given them adequate career direction. No demographic data appeared to have any effect on the scores in this area.

Social Growth

The third area in educational balance was concerned with the social growth of the students. In the Student Questionnaire there were 21 questions pertaining to this area, specifically questions 45 through 65. These questions are ranked according to the weighted scores for all students in table 7.

Social Attainments of Students

Ranking in highest place was question 64, "I like making my own decisions." The weighted score for all students was 449, and males scored 452, eight points higher than the attainment of females, indicating a little more independence exerted by boys. A steady increase in preference for individual decision making was observed as students gained more education, with sophomores scoring 444, juniors 449, and seniors 456. The highest score of any academy for this question was 476, and this school managed to attain the highest position in five additional questions in social growth. The lowest score was 434. The range of scores for this question lay well within the standards expected by the panel of judges.

Seniors rated themselves at 445, 25 points higher than sophomores in believing that they could handle daily problems that arose (question 62), and juniors were 10 points below the seniors in this belief. Males were more confident than females in believing that they could handle daily problems.

From table 7, question 50, it can be seen that students were prompt in meeting appointments. Not an appreciable variation was evident among the variables. To obtain more concrete information

TABLE 7

RANKED QUESTIONS IN SOCIAL GROWTH FOR SIX VARIABLES

Rank Order	Question Number	Statements	Response Choices	Percentage by Variable and Weighted Response						Score	
				All Students	Male	Female	Sophomore	Junior	Senior		
1	64	I like making my own decisions	(a) Yes	5	65	69	61	60	65	69	449
			(b) Mostly	4	23	19	26	26	22	22	
			(c) Sometimes	3	9	8	10	12	10	6	
			(d) No	2	2	3	2	2	3	2	
			(e) Not sure	1	1	1	1	0	0	1	
				Score	449	452	444	444	449	456	
2	62	I believe that I can handle daily problems that arise	(a) Yes	5	53	56	50	44	52	61	443
			(b) Mostly	4	32	30	35	37	35	27	
			(c) Somewhat	3	11	10	12	15	10	9	
			(d) No	2	3	3	2	3	2	2	
			(e) Not sure	1	1	1	1	1	1	1	
				Score	443	437	431	420	435	445	

TABLE 7--Continued

Ranked Order	Question Number	Statements	Response Choices	Percentage by Variable and Weighted Response						
				Response Weights	All Students	Male	Female	Sophomore	Junior	Senior
3	50	I meet my appointments on time	(a) Yes	<u>5</u>	51	49	52	54	49	50
			(b) Mostly	<u>4</u>	38	38	37	35	40	38
			(c) Yes and no	<u>2</u>	8	9	8	9	8	9
			(d) Some	<u>3</u>	2	2	2	1	2	2
			(e) No	<u>1</u>	1	2	1	1	1	1
			Score			430	423	431	432	428
4	57	Being in academy has helped to improve my relationship with my peers	(a) Yes	<u>5</u>	52	48	55	49	51	56
			(b) Mostly	<u>4</u>	16	17	15	16	16	15
			(c) Somewhat	<u>3</u>	20	21	19	20	20	19
			(d) No	<u>1</u>	9	11	8	10	10	8
			(e) Not sure	<u>2</u>	3	3	3	5	3	2
			Score			399	388	406	389	395

TABLE 7--Continued

Rank Order	Question Number	Statements	Response Choices	Response Weights	Percentage by Variable and Weighted Response					
					All Students	Male	Female	Sophomore	Junior	Senior
5	47	Living in a dormitory has helped me to grow socially	(a) Yes	5	54	49	58	53	51	57
			(b) Mostly	4	13	13	12	12	15	11
			(c) Somewhat	3	17	18	16	17	19	16
			(d) No	1	10	12	9	10	10	11
			(e) Not sure	2	6	8	5	8	5	5
			Score	395	379	405	390	392	398	
5	51	I get everything done that is required of me	(a) Yes	5	27	24	28	26	25	29
			(b) Mostly	4	48	47	49	48	51	45
			(c) Yes and no	3	20	21	19	19	20	20
			(d) Some	2	3	4	3	4	3	3
			(e) No	1	2	4	1	3	1	3
			Score	395	383	400	388	396	394	

TABLE 7--Continued

Rank Order	Question Number	Statements	Response Choices	Percentage by Variable and Weighted Response						
				Response Weights	All Students	Male	Female	Sophomore	Junior	Senior
6	49	I rate my communication with my parents as	(a) very good	<u>5</u>	37	33	40	36	37	37
			(b) good	<u>4</u>	32	35	31	32	32	34
			(c) average	<u>3</u>	19	19	18	19	20	17
			(d) poor	<u>2</u>	8	9	7	8	8	8
			(e) very poor	<u>1</u>	4	4	4	5	3	4
			Score		390	384	396	386	392	392
7	59	My school has helped me to understand people better	(a) Yes	<u>5</u>	40	37	43	39	39	44
			(b) Mostly	<u>4</u>	17	18	16	19	16	16
			(c) Somewhat	<u>3</u>	28	28	28	26	29	28
			(d) No	<u>1</u>	13	15	11	13	14	11
			(e) Not sure	<u>2</u>	2	2	2	3	2	1
			Score		369	360	378	368	364	381

TABLE 7--Continued

Rank Order	Question Number	Statements	Response Choices	Response Weights	Percentage by Variable and Weighted Response					
					All Students	Male	Female	Sophomore	Junior	Senior
8	46	My time for leisure seems to be	(a) about right	5	29	29	30	32	23	32
			(b) little	4	25	23	26	25	24	25
			(c) too little	3	30	31	30	31	35	26
			(d) too much	2	3	4	2	2	3	4
			(e) nonexistent	1	13	13	12	10	15	12
			Score	354	351	360	367	337	363	
9	48	It has helped me to grow socially to have a roommate	(a) Yes	5	43	36	49	40	40	48
			(b) Mostly	4	12	14	11	12	14	10
			(c) Somewhat	2	17	18	15	17	18	15
			(d) No	1	14	16	12	16	14	13
			(e) I have none	3	14	16	12	16	14	13
			Score	353	336	370	343	348	365	

TABLE 7--Continued

Rank Order	Question Number	Statements	Response Choices	Percentage by Variable and Weighted Response						
				Response Weights	All Students	Male	Female	Sophomore	Junior	Senior
10	60	My school has helped me to know how to make good decisions	(a) Yes	<u>5</u>	22	21	22	21	19	24
			(b) Mostly	<u>4</u>	24	23	26	23	24	25
			(c) Somewhat	<u>3</u>	32	32	31	33	33	31
			(d) No	<u>1</u>	19	20	18	20	20	18
			(e) Not sure	<u>2</u>	3	4	3	3	4	2
			Score		327	321	331	322	318	335
11	58	Class attendance aids my social growth	(a) Yes	<u>5</u>	27	22	31	29	27	26
			(b) Mostly	<u>4</u>	16	17	15	17	16	14
			(c) Somewhat	<u>3</u>	28	31	26	26	28	31
			(d) No	<u>1</u>	21	23	19	19	22	21
			(e) Not sure	<u>2</u>	8	7	9	9	7	8
			Score		320	308	328	328	319	316

TABLE 7--Continued

Rank Order	Question Number	Statements	Response Choices	Percentage by Variable and Weighted Response						
				Response Weights	All Students	Male	Female	Sophomore	Junior	Senior
12	45	The time the school recommends for me to get up in the morning is	(a) about right	5	29	29	29	30	27	29
			(b) early	4	31	28	33	32	31	30
			(c) too early	1	37	39	35	34	39	37
			(d) late	3	2	3	2	3	2	2
			(e) too late	2	1	1	1	1	1	2
			Score	314	307	320	323	306	312	
13	54	My school provides an adequate amount of entertainment	(a) Yes	5	11	11	11	13	8	12
			(b) Mostly	4	21	18	23	22	20	20
			(c) Sometimes	3	34	33	35	36	35	32
			(d) No	2	32	26	29	27	35	34
			(e) Not sure	1	2	2	2	2	2	2
			Score	307	300	312	317	297	306	

TABLE 7--Continued

Rank Order	Question Number	Statements	Response Choices	Percentage by Variable and Weighted Response						
				Response Weights	All Students	Male	Female	Sophomore	Junior	Senior
14	52	I plan each day how to use my time	(a) Yes	5	14	14	15	15	14	15
			(b) Mostly	4	23	21	24	20	25	22
			(c) Yes and no	3	30	28	32	29	30	31
			(d) Some	2	17	18	16	19	16	16
			(e) No	1	16	19	13	17	15	16
			Score		302	293	312	282	307	304
15	61	My school has helped me to be prepared for marriage and family life	(a) Yes	5	22	19	25	15	11	37
			(b) Mostly	4	15	15	16	14	14	18
			(c) Somewhat	3	30	28	30	30	31	28
			(d) No	1	28	32	25	33	39	14
			(e) Not sure	2	5	6	4	8	5	3
			Score		298	283	312	270	253	361

TABLE 7--Continued

Rank Order	Question Number	Statements	Response Choices	Response Weights	Percentage by Variable and Weighted Response					
					All Students	Male	Female	Sophomore	Junior	Senior
16	63	I know what government services are available to me	(a) Yes	<u>5</u>	17	20	14	15	16	19
			(b) Mostly	<u>4</u>	13	14	13	9	10	20
			(c) Somewhat	<u>3</u>	26	26	25	21	24	31
			(d) No	<u>2</u>	35	32	37	40	41	24
			(e) Not sure	<u>1</u>	9	8	11	15	9	6
			Score		294	306	282	269	283	322
17	56	Holding a student office has helped me to learn how to work with people	(a) Yes	<u>5</u>	25	10	29	19	14	31
			(b) Mostly	<u>4</u>	6	6	6	3	6	8
			(c) Somewhat	<u>3</u>	15	18	12	14	14	16
			(d) No	<u>1</u>	9	13	7	9	9	11
			(e) I have not held a student office	<u>2</u>	45	43	46	55	47	34
			Score		293	277	304	268	289	314

TABLE 7--Continued

Rank Order	Question Number	Statements	Response Choices	Percentage by Variable						
				Response Weights	All Students	Male	Female	Sophomore	Junior	Senior
18	53	My school provides enough time for social interaction	(a) Yes	5	15	14	16	18	10	18
			(b) Mostly	4	20	18	23	20	18	23
			(c) Somewhat	3	32	31	33	34	33	30
			(d) No	1	30	35	25	25	36	27
			(e) Not sure	2	6	2	3	3	3	2
			Score	287	274	302	303	263	303	
19	65	Holding a student office takes study time away from me	(a) Yes	1	11	11	11	7	9	15
			(b) Mostly	3	3	3	2	2	2	4
			(c) Sometimes	4	18	16	20	15	18	20
			(d) No	5	15	17	14	15	14	18
			(e) I don't hold an office	2	53	53	53	61	57	43
			Score	273	275	273	270	271	283	

TABLE 7--Continued

Rank Order	Question Number	Statements	Response Choices	Percentage by Variable and Weighted Response						
				Response Weights	All Students	Male	Female	Sophomore	Junior	Senior
20	55	At my school we have assigned seating in the cafeteria	(a) Yes	4	1	2	1	2	1	2
			(b) Mostly	5	3	3	2	3	2	3
			(c) Sometimes	3	5	5	5	5	4	5
			(d) No	2	89	87	91	89	90	88
			(e) Not sure	1	2	3	1	1	3	2
			Score	214	215	212	217	209	216	

regarding tardinesses, one would have to compare these subjective results with those from the attendance officers of the academies.

By reference to table 8, it can be seen that grade average quite measurably influenced the replies by students to question 51 (ability to accomplish the required). The weighted score of 446 for excellent pupils was 51 points above that for all students and 46 points higher than the maximum for the six variables in table 7, and the weighted score of 422 for very good pupils was also higher. Good and poor students both fell below the mean scores for this question tallied for sex and year in academy. Poor students had a ten times greater likelihood of not getting everything done than any of their other three academically grouped peers.

It seemed paradoxical that students could get everything done that was required of them (see question 51) and yet not have planned ahead to accomplish a goal for time usage (see question 52). The reduction in score for question 52, which was 93 points less than the score for question 51, was due to a shift in percentages from heavier to lighter weighted response choices. Another factor was the 10% increase in the mediocre "Yes and no" reply proceeding from question 51 to question 52. Also girls planned for time usage better than boys in the same proportion as assignments were accomplished.

Other social attainments of students were: good communication with parents, a rating by 88% of the students; ability to understand people, supported by 85% of the students; and knowledge of available government services, positive by 56% and negative by 35%. It can be seen from table 7 that knowledge of available government services

TABLE 8
SELECTED QUESTIONS IN SOCIAL GROWTH VERSUS ACADEMIC GRADE AVERAGE

Question Number	Statements	Response Choices	Response Percentage by Grade Average			
			Excellent	Very Good	Good	Poor
51	I get everything done that is required of me	(a) Yes	56	37	18	10
		(b) Mostly	35	51	52	32
		(c) Yes and no	8	9	25	37
		(d) Some	0	2	4	11
		(e) No	1	1	1	10
		Weighted Score	446	422	346	319
56	Holding a student office has helped me to learn how to work with people	(a) Yes	42	32	20	8
		(b) Mostly	7	7	6	4
		(c) Somewhat	17	14	14	18
		(d) No	3	7	11	16
		(e) I have not held a student office	31	40	49	54
		Weighted Score	355	316	276	236

increased from freshmen (269) to juniors (283) to seniors (322).

Improved Social Growth

Peer relationships improved steadily from year to year (question 57). As seen from table 7, juniors showed a 6 score-point better relationship than sophomores, and seniors jumped to a weighted score of 409, which was 14 points better than the juniors. The score for females (406) was 18 points higher than that for males (388) due to a 7% greater "Yes" response and 3% less uncertainty.

Living in a dormitory may have been a causal factor in the improvement of peer relationships. In question 47 students claimed that this was quite true, by presenting an average of "Mostly," supported by scores close to 400 for each of the six groups, except for boys. Social growth enhanced by a dormitory experience was 26 points higher for girls (405) than for boys (379).

Although the percentages for the responses "No" and "I have none" are the same for question 48 (social growth from roommate), the same persons did not duplicate these options. For those who had roommates (72%) there were signs of social growth. Almost this same number (71%) believed that class attendance aided their social growth (question 58).

One other question, number 60, requested the students to indicate the degree to which their school had helped them to know how to make good decisions. The ranking was tenth and the score for all students was 327, which is 122 points below the total of 449 for question 64 (I like making decisions). Of the 1,976 students who replied to each of these questions, 19% stated that their

academies had not helped them to make good decisions, and a small 3% were uncertain about the matter. More than three-fourths (78%) were positive and girls tended to credit their schools higher by 10% over the rating given by boys. Demographic information and academic grade average appeared to be of no consequence to the data discussed for questions 60 and 64.

No other question in area three was more opposed to the ideal envisioned by the panel than was number 55, a statement concerned with assigned seating in the cafeteria. By assigning a weight of 5 to the "Mostly" response the panel conveyed their tolerance of occasions for which assigned seating would be omitted. There were answers from a few students that did not agree with the 89% majority. Perhaps these did not understand the question, or some may have been village students who do not reside in the dormitories or eat meals in the cafeteria. Some may have understood the statement to mean that students sit in the same place each day like a classroom.

Social Growth by Academy

The weighted scores for all students in each of the 18 academies for each of the 21 questions in area three, social growth, are found in graphical form as a scattergram in figure 5. The groups of scores are seen to oscillate between and among question numbers, and score placements expand and contract between and among the academies.

Highest positions were reached by ten academies for the 21 questions in area three. No relationship was found between these

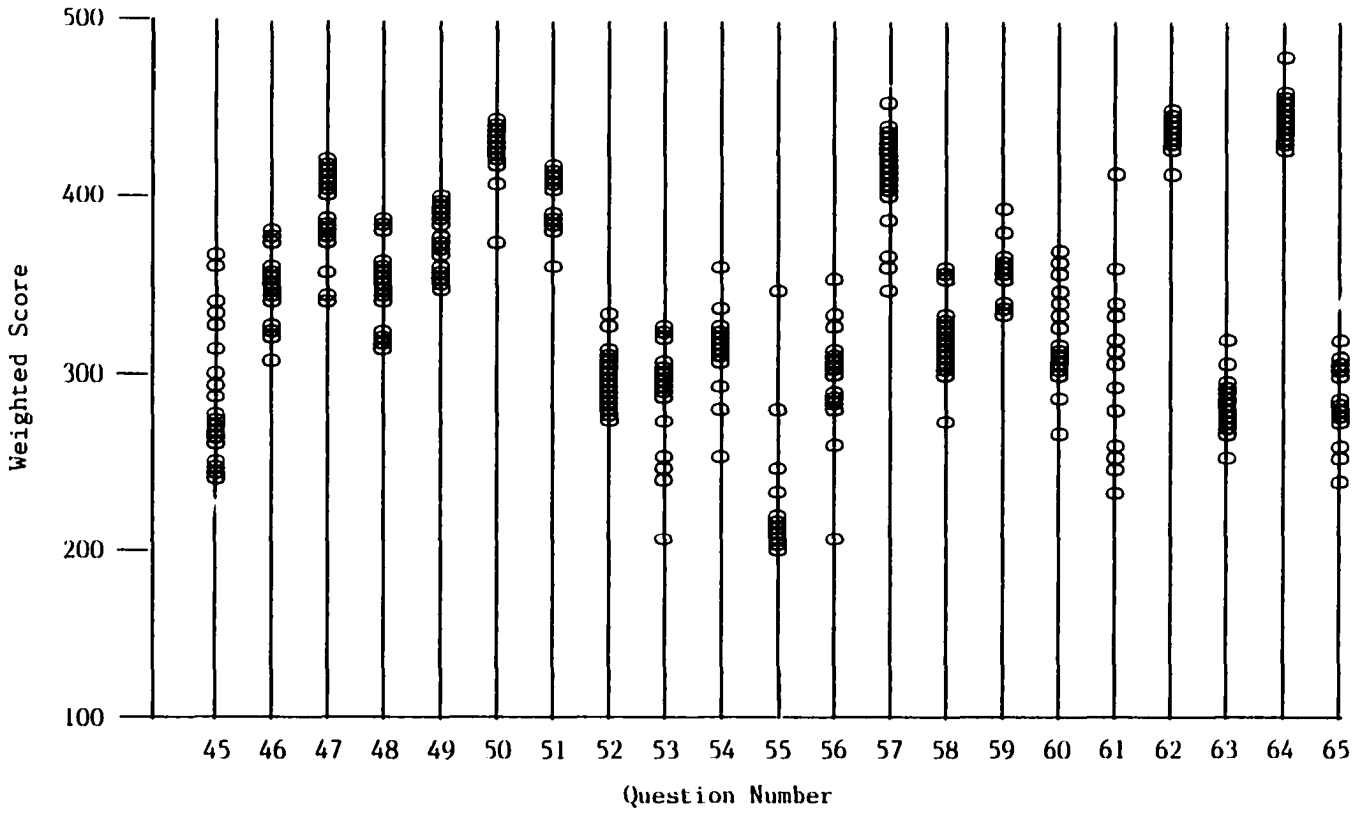


Fig. 5. Scattergram of weighted scores in social growth by academy.

maximum scores and any minimum scores recorded. Grouped questions in both high and low score categories were not related in any way.

Balance in Social Growth

The mean weighted score for all questions in social growth was 343, with the top position by question going to number 64 (I like making my own decisions) with a score of 449, and the lowest place taken by question 55 (assigned seating in cafeteria) with a score of 214. Three questions, numbers 64 (like making decisions), 62 (ability to handle problems), and 50 (I meet appointments on time) each scored over 400, which interprets into a word description between "Mostly" and "Yes," a positive position in educational balance with a mean score of 437. Scoring in the three hundreds were twelve questions with a mean score of 352, which in words lies between "Somewhat" and "Mostly," except for questions 49 (communication with parents as average), 46 (time for leisure as too little), and 45 (morning rising time as too early). The remaining six questions had scores in the two hundreds with a mean of 277.

The low weighted score of 214 for question 55 (assigned seating in cafeteria) prompted by the high percentage of "No" responses, set this question apart from the whole block of statements in area three. One academy digressed from the mode of "No" to that of "Sometimes," netting a score of 340. Omitting this question from the area of social growth results in an adjusted mean of 350, seven points higher than the pre-adjusted mean of 343. Also, the mean score in the two hundreds changes from 277 to 289.

Having a social activities coordinator on campus (see table 2) working part time in this task did not appear to increase or decrease weighted scores in this area. This is not to discredit their work in any way. Also a yearly fund raising drive, a social function mostly, conducted by ten academies (see table 3) did not appear to raise or lower the weighted scores in this area for any school.

The status of social growth in the eighteen academies was more than somewhat satisfactory, approaching a condition where most of the requirements had been met. However, in the disclosure of data composing this area of educational balance, topics of concern were revealed, some solvable by students, and others to be addressed by the schools. These topics are left for discussion in chapter 6.

Physical Activities

Area four of educational balance includes student activities that require physical exertion, and daily procedures which affect the body and control its proper function. This area was covered by thirteen questions, numbers 66 through 78, from the Student Questionnaire. The ranking of these questions according to the weighted score for all students, with comparative scores for five additional variables is found in table 9.

Constraints to Physical Activities

To determine a possible constraint to physical activities, students were asked if they got vigorous physical exercise outdoors every day (question 67). This question ranked last in this area of educational balance. Those who did not get this exercise represented

TABLE 9
RANKED QUESTIONS IN PHYSICAL ACTIVITIES FOR SIX VARIABLES

Rank Order	Question Number	Statements	Response Choices	Percentage by Variable and Weighted Response						
				Response Weights	All Students	Male	Female	Sophomore	Junior	Senior
1	72	I have the knowledge to select a healthful diet for myself	(a) Yes	<u>5</u>	48	48	47	47	47	48
			(b) Mostly	<u>4</u>	23	19	26	23	23	23
			(c) Somewhat	<u>3</u>	16	16	16	17	15	17
			(d) No	<u>1</u>	10	13	9	10	11	10
			(e) Not sure	<u>2</u>	3	4	2	3	4	2
			Score	396	385	400	394	391	397	
2	76	I practice temperance in my life style	(a) Always	<u>5</u>	20	21	20	22	22	18
			(b) Almost always	<u>4</u>	55	49	59	54	54	56
			(c) Almost never	<u>3</u>	11	12	10	9	10	8
			(d) Never	<u>1</u>	5	8	3	6	5	4
			(e) Not sure	<u>2</u>	9	10	8	9	10	8
			Score	376	365	385	377	378	376	

TABLE 9--Continued

Ranked Order	Question Number	Statements	Response Choices	Percentage by Variable and Weighted Response						
				Response Weights	All Students	Male	Female	Sophomore	Junior	Senior
3	71	I have a good attitude toward my school	(a) Always	5	13	12	13	14	11	13
			(b) Almost always	4	62	58	66	61	63	62
			(c) Almost never	3	14	17	11	13	14	14
			(d) Never	1	5	7	3	5	5	5
			(e) Not sure	2	6	6	7	7	7	6
			Score		372	362	379	372	368	372
4	74	I practice good posture	(a) Always	5	11	10	11	9	11	12
			(b) Almost always	4	54	50	58	53	59	52
			(c) Almost never	3	20	23	18	22	18	21
			(d) Never	1	6	8	5	7	4	6
			(e) Not sure	2	9	9	8	9	8	9
			Score		355	345	362	348	365	355

TABLE 9--Continued

Rank Order	Question Number	Statements	Response Choices	Percentage by Variable and Weighted Response						
				Response Weights	All Students	Male	Female	Sophomore	Junior	Senior
5	77	I feel that physical education classes help/helped me to balance my academy education	(a) Yes	<u>5</u>	36	36	36	34	36	38
			(b) Mostly	<u>4</u>	17	17	16	18	15	16
			(c) Somewhat	<u>3</u>	22	21	24	24	23	21
			(d) No	<u>1</u>	19	21	18	17	21	20
			(e) Not sure	<u>2</u>	6	5	6	7	5	5
			Score	345	342	346	345	340	347	
6	75	At my school we study human physiology and hygiene	(a) Too much	<u>2</u>	3	4	2	3	2	4
			(b) A lot	<u>5</u>	8	8	8	9	5	9
			(c) Enough	<u>4</u>	42	40	43	44	40	42
			(d) Little	<u>3</u>	32	30	33	29	35	32
			(e) No	<u>1</u>	15	18	14	15	18	13
			Score	325	316	329	332	312	359	

TABLE 9--Continued

Rank Order	Question Number	Statements	Response Choices	Percentage by Variable and Weighted Response						
				Response Weights	All Students	Male	Female	Sophomore	Junior	Senior
7	70	I avoid eating between meals	(a) Always	<u>5</u>	7	7	8	6	7	9
			(b) Almost always	<u>4</u>	33	26	38	33	34	32
			(c) Sometimes	<u>3</u>	39	39	38	38	39	38
			(d) Almost never	<u>2</u>	11	14	9	12	9	12
			(e) Never	<u>1</u>	10	14	7	11	11	9
			Score	316	298	331	311	317	320	
8	69	My school sponsors physical activities for students on Sabbath	(a) Always	<u>5</u>	4	5	4	5	3	5
			(b) Almost always	<u>4</u>	26	25	27	26	24	27
			(c) Almost never	<u>3</u>	41	38	42	37	44	40
			(d) Never	<u>1</u>	15	19	12	15	16	14
			(e) Not sure	<u>2</u>	14	13	15	17	13	14
			Score	290	284	296	289	285	295	

TABLE 9--Continued

Rank Order	Question Number	Statements	Response Choices	Percentage by Variable and Weighted Response						
				Response Weights	All Students	Male	Female	Sophomore	Junior	Senior
9	78	Compared to when I was at home, my health at school is	(a) much better	<u>5</u>	7	7	6	7	8	5
			(b) better	<u>4</u>	16	18	15	16	18	15
			(c) the same	<u>3</u>	42	43	41	44	38	45
			(d) poorer	<u>2</u>	27	24	29	24	28	27
			(e) much poorer	<u>1</u>	8	8	9	9	8	8
			Score	287	292	280	288	290	282	
10	66	I find it difficult to get the number of hours of sleep I need	(a) Yes	<u>1</u>	38	36	39	38	40	36
			(b) Mostly	<u>2</u>	11	11	11	10	11	11
			(c) Sometimes	<u>4</u>	34	32	36	33	34	36
			(d) No	<u>5</u>	16	20	13	17	14	16
			(e) Not sure	<u>3</u>	1	1	1	2	1	1
			Score	279	289	273	281	271	285	

TABLE 9--Continued

Rank Order	Question Number	Statements	Response Choices	Percentage by Variable and Weighted Response						
				Response Weights	All Students	Male	Female	Sophomore	Junior	Senior
11	73	This knowledge (see #72) was obtained by me in classroom study	(a) Yes	<u>5</u>	7	8	6	8	6	7
			(b) Mostly	<u>4</u>	11	10	12	10	10	12
			(c) Somewhat	<u>3</u>	27	25	28	26	27	28
			(d) No	<u>2</u>	51	52	50	50	53	49
			(e) Not sure	<u>1</u>	4	5	4	6	4	4
			Score	266	264	266	264	261	269	
12	68	My work assignment gives me all the daily exercise that I need	(a) Yes	<u>5</u>	6	10	4	7	6	5
			(b) Mostly	<u>4</u>	9	12	6	9	8	9
			(c) Somewhat	<u>3</u>	18	19	17	19	20	16
			(d) No	<u>2</u>	65	57	71	63	63	68
			(e) Not sure	<u>1</u>	2	2	2	2	3	2
			Score	252	271	239	256	251	247	

TABLE 9--Continued

Rank Order	Question Number	Statements	Response Choices	Percentage by Variable and Weighted Response						
				Response Weights	All Students	Male	Female	Sophomore	Junior	Senior
13	67	Each day I get vigorous physical exercise in the open air	(a) Yes	5	10	13	8	12	8	10
			(b) Mostly	4	14	18	11	17	12	14
			(c) Somewhat	3	30	30	29	31	29	28
			(d) No	1	45	38	51	38	50	47
			(e) Not sure	2	1	1	1	2	1	1
			Score	243	267	224	263	227	239	

45% of the students who answered. Of the girls 51% responded negatively, while less boys (38%) were not involved, causing the score to rise from 224 for girls to 267 for boys. The score for all students (243) was very low, an indication of an imbalanced phase of physical activities for students. This activity was not governed by climate or by any other determinable factors from the study.

Student Knowledge

Having the knowledge to select a healthful diet at the school cafeteria (question 72) ranked first among the thirteen questions with a score of 396, which interprets into a "Mostly" situation. An implied assumption was that a healthful diet was available, and the positive replies from the students confirm this. Not an appreciable difference was found among the three class grades. More than half (51%) the students claimed that this knowledge was not obtained in the classroom, although others (45%) did express a positive degree of help as seen in table 9. The weighted scores for all variables in question 73 were within single digit differences from each other, indicating close agreement on the topic.

Practicing temperance in their life style (question 76) was followed consistently by 20% of the respondents and 55% almost always did so. The remaining 25% were negative or not sure concerning their position. Females were 9% more positive (79%-70%), 7% less negative (20%-13%), and 2% more decided (10%-8%) than males regarding this question. No appreciable difference was registered among the class grades.

Closely allied to temperance is question 70, "I avoid eating

between meals." This statement ranked seventh out of the 13 in area four. The mode stood at 39% for reply "Sometimes," but the option "Almost always" was not far behind at 33%. The percentage of boys who didn't try to avoid eating between meals (14%) was twice that for girls (7%), and boys were 12% less positive (84%-76%) in their behavior than girls. These placements caused the girls to score 33 points above the boys' 298. Small increases in weighted scores from sophomores to juniors and from juniors to seniors were observable, indicating a slight increase in abstinence from eating between meals as a student matures. The highest score by any academy was 6 points above that for the girls, and the minimum was 8 points below that for the boys.

Knowledge put into practice was evidenced somewhat from the replies to question 74, "I practice good posture." A majority of 65% practiced good posture, but 26% did not. The students who were not sure (9%) may have needed instruction in what constitutes good posture. Juniors (365) did better than seniors (355), and seniors topped the sophomores (348). Girls (362) were more conscientious than boys in this practice (345). Every academy had at least one student answer "Never" to this question. The highest score was 8 points higher than the girls' total, and the lowest was 12 points lower than the boys' score of 345.

Work and Daily Exercise

In question 68 students were requested to rate their work assignment as fulfilling their need for daily physical exercise. This question ranked low (252) in educational balance, but the boys

scored 271 and the girls dropped to 239. Boys were perhaps involved in work assignments that were active, and girls had a sedentary type of employment. Sixty-five percent of all students revealed that they did not get all the physical exercise from their work that they needed.

Physical Activities by Academy

In the scattergram of weighted scores by academy (figure 6), a periodic rise and fall is observed in their placement from question to question. The closest cohesiveness was evident in question 74 concerning the practice of good posture. The greatest diversity was shown regarding school sponsored activities on Sabbath (question 69). Weighted scores in this area that went over 400 were seen for question 71 (good attitude toward school) by one academy, for question 72 (knowledge to select a healthful diet) by eight, and for question 76 (practicing temperance in life style) by one. Otherwise, all the scores lay between 200 and 300 points with one academy falling below 200 for question 69 (activities on Sabbath). Top scores were reached by one school for questions 69 (activities on Sabbath), 71 (good attitude toward school), 73 (knowledge for proper diet obtained in classroom), 75 (do study human physiology and hygiene), 76 (practice temperance), and 78 (health at school better than at home). Students at this academy were taught good health habits, which were put into practice and enjoyed by students and their school staff. One school was at the bottom for questions 67, 70, 71, and 76. Students at this school didn't get daily physical exercise (question 67), they didn't avoid eating between meals (question 70), they certainly

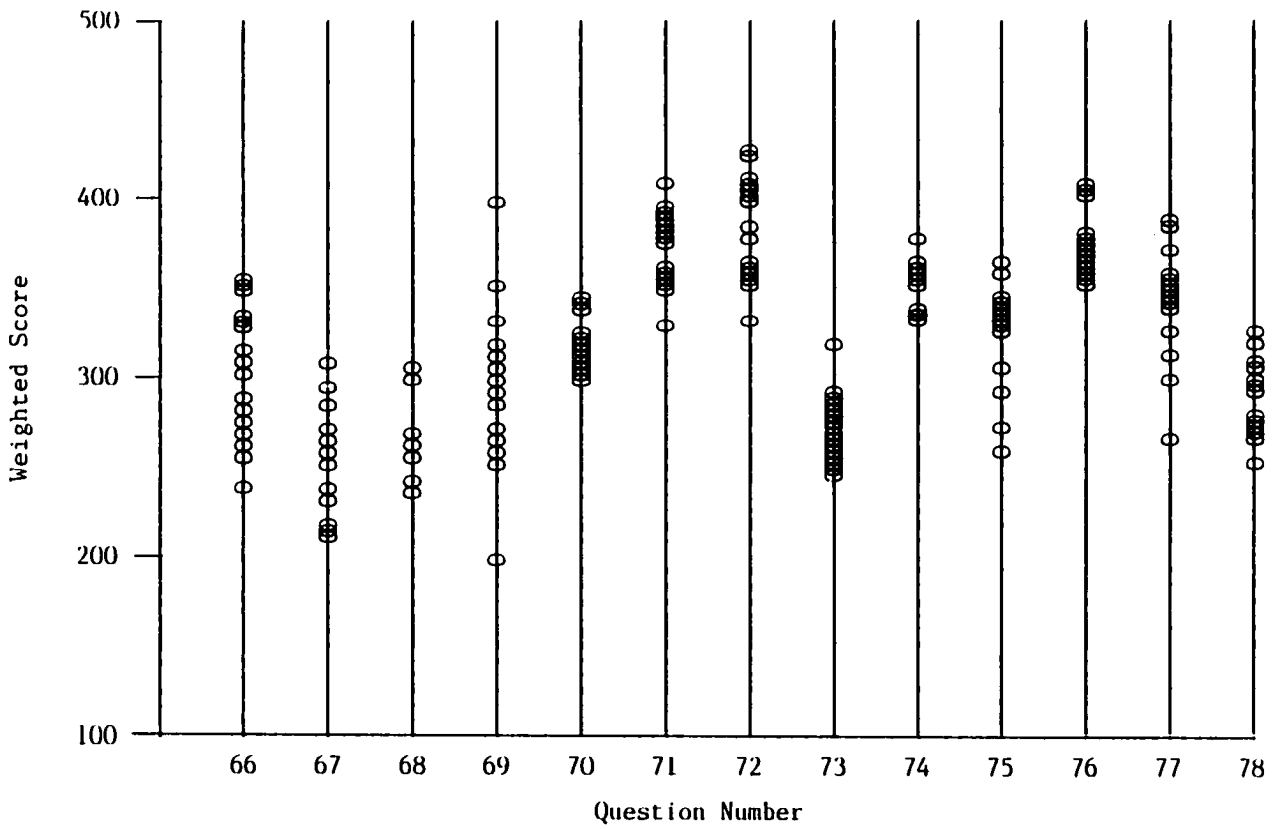


Fig. 6. Scattergram of weighted scores in physical activities by academy.

weren't practicing temperance in their life style (question 76), and they had a poor attitude toward their school (question 71).

The question with the widest range of scores by academy in physical activities was number 69, "My school sponsors physical activities for students on Sabbath." This statement ranked in eighth position, as seen from table 9. The highest score attained was 395 and the lowest was 193, causing a difference of 202 points. Next widest in range were questions 66 and 77, registering 110 points difference each. Contributing to the wide range found for question 69, was the difference of 43 points between the top and next highest scores plus a 64 point gap from 193 to the second lowest score. No demographic or school enrollment information appeared to correlate with this phenomenon. The 14% uncertainty recorded for all students answering this question may have included those who did not reside in a dormitory and consequently were not on campus on Saturday. For the academy with a score 193, there were 29% in the uncertainty category, the largest number of all the schools.

Physical Activities Balance

The mean of weighted scores in this area of educational balance was 316, a low score compared to 500 as a possibility. The highest score for any question in this area was 396, a figure that was low in itself. In this area the mean frequency of student choices for responses of weight 5 was 15%, for weight 4 responses the frequency was 30%, for weight 3 responses the frequency was 24%, for weight 2 responses the frequency was 17%, and for the weight 1 responses it was 14%. Higher percentages in the weighted 5 and 4

response options would have caused a higher weighted mean score. A relatively flat curve existed for the frequencies, when the ideal would have been a curve high at 5, declining rapidly for weights 4, 3, 2, and 1.

Religious Experience

The purpose in area five was to examine the religious experience of students as it relates to teachers, the Bible, their school, church doctrines, and a personal commitment to Christianity. The 21 questions in this area were not purported to have exhausted the subject of religious experience, but were set as a sample to cover the components of a broad topic. Questions 79 through 99 were ranked in table 10. The percentage for six variables by weighted response, with weighted scores for each variable, was also placed in this table.

Benefits to the SDA Church

Consistent tithe payers were found to compose 67% of all students, and 8% did not give tithe on any earnings (see question 99). Consequently, 92% did pay a tithe in various ways and methods. Girls were 6% more likely to give a tithe unhesitatingly than boys (78%-72%). This difference is reflected in those boys who rarely paid tithe (11%) compared with 5% of the girls. The highest score by any academy was 478 and the lowest was 308 by another school, resulting in a wide range of 170 points. Scores progressed from the minimum as follows: 326, 328, and 386. From this it can be seen that the first three of the lowest ratings were quite far removed from the mean of 417. When the above

TABLE 10
RANKED QUESTIONS IN RELIGIOUS EXPERIENCE FOR SIX VARIABLES

Rank Order	Question Number	Statements	Response Choices	Response Weights	Percentage by Variable and Weighted Response					
					All Students	Male	Female	Sophomore	Junior	Senior
1	84	The ratio of my teachers who believe that the Bible is the most important book	(a) all	<u>5</u>	65	62	67	70	66	61
			(b) 3/4	<u>4</u>	22	21	23	19	23	23
			(c) 1/2	<u>3</u>	8	10	7	8	7	10
			(d) 1/4	<u>2</u>	4	5	2	2	3	5
			(e) 0	<u>1</u>	1	2	1	1	1	1
			Score		446	436	453	455	450	438
2	99	I give tithe on my earnings here at school (or I gave permission for tithe to be deducted from my earnings)	(a) Always	<u>5</u>	67	62	71	66	66	68
			(b) Almost always	<u>4</u>	8	10	7	9	8	8
			(c) Rarely	<u>3</u>	8	11	5	8	9	7
			(d) Not on school earnings	<u>2</u>	9	8	10	9	9	9
			(e) Not on any earnings	<u>1</u>	8	9	7	8	8	8
			Score		417	408	425	416	416	419

TABLE 10--Continued

Rank Order	Question Number	Statements	Response Choices	Response Weights	Percentage by Variable and Weighted Response					
					All Students	Male	Female	Sophomore	Junior	Senior
3	82	For me the Bible is the most important book	(a) Always	<u>5</u>	48	42	53	49	49	46
			(b) Almost always	<u>4</u>	21	22	20	21	21	21
			(c) Somewhat	<u>3</u>	19	20	17	20	17	19
			(d) No	<u>1</u>	8	11	6	5	9	9
			(e) Not sure	<u>2</u>	4	5	4	5	4	5
			Score		397	379	410	404	397	390
4	95	Prayer is a part of my daily life	(a) Yes	<u>5</u>	48	40	54	44	49	49
			(b) Often	<u>4</u>	20	19	20	23	20	18
			(c) Sometimes	<u>3</u>	16	20	14	17	15	17
			(d) Rarely	<u>2</u>	12	15	9	12	11	12
			(e) Never	<u>1</u>	4	6	3	4	5	4
			Score		396	372	433	391	397	396

TABLE 10--Continued

Rank Order	Question Number	Statements	Response Choices	Percentage by Variable and Weighted Response						
				Response Weights	All Students	Male	Female	Sophomore	Junior	Senior
5	85	My school's top emphasis is Christianity	(a) Always	<u>5</u>	39	37	40	43	41	34
			(b) Almost always	<u>4</u>	32	29	35	33	31	33
			(c) Somewhat	<u>3</u>	19	21	17	17	17	21
			(d) No	<u>1</u>	6	8	5	4	7	8
			(e) Not sure	<u>2</u>	4	5	3	3	4	4
			Score		394	382	402	408	395	381
6	33	The most important book in my school is the Bible	(a) Always	<u>5</u>	40	33	46	42	44	35
			(b) Almost always	<u>4</u>	20	21	20	23	18	21
			(c) Somewhat	<u>3</u>	22	24	20	19	21	25
			(d) No	<u>1</u>	11	14	9	10	11	12
			(e) Not sure	<u>2</u>	7	8	5	6	6	7
			Score		371	351	389	381	378	360

TABLE 10--Continued

Rank Order	Question Number	Statements	Response Choices	Percentage by Variable and Weighted Response						
				Response Weights	All Students	Male	Female	Sophomore	Junior	Senior
7	97	Serving others is one of my daily goals	(a) Yes	5	26	21	29	23	27	26
			(b) Mostly	4	28	26	30	27	28	28
			(c) Somewhat	3	32	35	31	35	31	32
			(d) No	1	11	15	7	12	11	11
			(e) Not sure	2	3	3	3	3	3	3
			Score	355	355	371	346	357	355	
8	96	Prayer shields me from yielding to temptation to do wrong	(a) Yes	5	26	26	26	26	27	25
			(b) Mostly	4	29	24	34	29	29	30
			(c) Somewhat	3	26	28	24	26	24	27
			(d) No	1	12	14	10	10	14	12
			(e) Not sure	2	7	8	6	9	6	6
			Score	350	340	360	352	349	350	

TABLE 10--Continued

Rank Order	Question Number	Statements	Response Choices	Percentage by Variable and Weighted Response						
				Response Weights	All Students	Male	Female	Sophomore	Junior	Senior
9	98	I am maintaining a personal commitment to Christ	(a) Yes	<u>5</u>	24	20	27	21	27	25
			(b) Mostly	<u>4</u>	29	27	21	21	28	28
			(c) Somewhat	<u>3</u>	29	33	26	30	29	28
			(d) No	<u>1</u>	13	16	10	11	12	14
			(e) Not sure	<u>2</u>	5	4	6	7	4	5
			Score	346	331	359	344	354	345	
10	89	Even though I could perform the duty, lack of time to do so would prevent me from holding a church or Sabbath School office	(a) Always	<u>2</u>	16	15	16	18	16	15
			(b) Almost always	<u>3</u>	12	14	11	11	15	11
			(c) Somewhat	<u>4</u>	26	24	28	25	25	27
			(d) No	<u>5</u>	31	32	30	27	31	34
			(e) Not sure	<u>1</u>	15	15	15	19	13	13
			Score	342	343	342	323	345	354	

TABLE 10--Continued

Rank Order	Question Number	Statements	Response Choices	Percentage by Variable and Weighted REsponse						
				Response Weights	All Students	Male	Female	Sophomore	Junior	Senior
11	90	My Bible teacher requires a lot of scripture memorization in his class	(a) Always	4	32	33	31	27	37	31
			(b) Almost always	5	16	16	16	15	15	19
			(c) Almost never	3	38	35	41	47	36	34
			(d) Never	1	10	12	8	7	8	12
			(e) Not sure	2	4	4	4	4	4	4
			Score		340	337	343	339	347	341
12	80	There is time for me to have daily personal devotions	(a) Always	5	25	29	22	23	22	30
			(b) Almost always	4	23	22	23	23	22	23
			(c) Sometimes	3	27	23	30	29	27	24
			(d) Rarely	2	16	15	17	16	19	14
			(e) Never	1	9	11	8	9	10	9
			Score		339	343	334	335	327	351

TABLE 10--Continued

Rank Order	Question Number	Statements	Response Choices	Response Weights	Percentage by Variable and Weighted Response					
					All Students	Male	Female	Sophomore	Junior	Senior
13	88	My teachers bring out spiritual lessons in their classes even though they may not be Bible subjects	(a) Yes	5	20	19	20	23	18	19
			(b) Mostly	4	18	16	19	19	18	17
			(c) Somewhat	3	44	45	44	45	43	45
			(d) No	1	16	17	15	11	19	16
			(e) Not sure	2	2	3	2	2	2	3
			Score		324	317	327	341	314	320
13	93	I am well acquainted with my Bible	(a) Yes	5	8	10	7	9	8	8
			(b) Mostly	4	28	28	29	28	29	29
			(c) Somewhat	3	46	43	47	47	45	44
			(d) No	2	16	17	15	14	16	17
			(e) Not sure	1	2	2	2	2	2	2
			Score		324	327	324	328	325	324

TABLE 10--Continued

Rank Order	Question Number	Statements	Response Choices	Response Weights	Percentage by Variable and Weighted Response					
					All Students	Male	Female	Sophomore	Junior	Senior
14	86	Here at this academy I have been taught experimental religion	(a) Too much	2	6	8	6	6	7	7
			(b) A lot	3	17	17	17	22	15	15
			(c) Enough	4	32	31	32	32	30	33
			(d) Little	3	21	21	21	19	20	23
			(e) No	1	24	23	24	21	27	22
			Score		312	311	312	328	298	312
15	79	The only time I have for personal devotions is before the regular time to get up in the morning	(a) Always	2	19	18	20	19	21	18
			(b) Almost always	3	17	17	16	17	17	17
			(c) Sometimes	4	22	22	23	22	18	27
			(d) Rarely	1	20	19	20	19	21	18
			(e) Never	5	22	24	21	23	23	20
			Score		307	314	305	311	301	313

TABLE 10--Continued

Rank Order	Question Number	Statements	Response Choices	Percentage by Variable and Weighted Response						
				Response Weights	All Students	Male	Female	Sophomore	Junior	Senior
16	81	For a spiritual uplift I count on church services as one way to get it	(a) Always	5	13	14	13	13	14	14
			(b) Almost always	4	23	22	23	21	23	23
			(c) Somewhat	3	39	35	42	42	36	38
			(d) No	1	21	25	18	19	23	21
			(e) Not sure	2	4	4	4	5	4	4
			Score		303	296	309	304	301	305
17	91	Voluntary student prayer bands are active in my school	(a) Always	5	11	13	10	12	13	10
			(b) Almost always	4	22	22	22	25	23	19
			(c) Almost never	3	39	35	41	37	36	41
			(d) Never	1	15	17	13	11	13	19
			(e) Not sure	2	13	13	14	15	15	11
			Score		301	301	302	312	308	290

TABLE 10--Continued

Rank Order	Question Number	Statements	Response Choices	Percentage by Variable and Weighted Response						
				Response Weights	All Students	Male	Female	Sophomore	Junior	Senior
18	94	I participate in one or more witnessing groups	(a) Always	<u>5</u>	7	8	7	7	7	9
			(b) Almost always	<u>4</u>	16	14	14	17	15	15
			(c) Rarely	<u>3</u>	35	35	35	34	38	34
			(d) Never	<u>1</u>	14	17	12	11	14	15
			(e) I am not a member of one	<u>2</u>	28	26	29	31	26	27
			Score	274	270	278	278	275	276	
19	92	I would like to become a student missionary	(a) Yes	<u>5</u>	18	12	22	17	18	18
			(b) Mostly	<u>4</u>	7	8	7	7	7	8
			(c) Somewhat	<u>3</u>	19	19	19	17	20	19
			(d) No	<u>2</u>	42	48	37	41	41	43
			(e) Not sure	<u>1</u>	14	13	15	18	14	12
			Score	273	258	284	264	274	277	

TABLE 10--Continued

Rank Order	Question Number	Statements	Response Choices	Percentage by Variable and Weighted Response						
				Response Weights	All Students	Male	Female	Sophomore	Junior	Senior
20	87	Dorm worships help me to be a spiritually enriched person	(a) Yes	5	9	9	9	9	10	9
			(b) Mostly	4	12	13	11	13	13	10
			(c) Somewhat	3	32	30	34	32	32	33
			(d) No	1	38	38	38	35	38	40
			(e) Not sure	2	9	10	8	11	7	8
			Score	245	245	245	250	250	240	

three lowest scores (308, 326, and 328) are omitted, a new mean of 438 for the remaining 15 academies develops, which is more indicative of the range of scores for this question. Some church groups would perhaps be very grateful if more than 50% of their parishioners returned tithe to God. The disclosure of the high percentage (92%) of students practicing the giving of tithe should have been encouraging and satisfying to parents, teachers, academy constituents, administrators, and SDA church leaders, who were responsible for this training.

Service to others was not a strong goal in the daily lives of students (question 97). The number with a regular aim to serve those around them was 26%, and females were 8% more conscientious in this endeavor than males (90%-82%). A sense of reluctance may have been implied by the 32% who selected "Somewhat" as their response to service. But the service to others was evidently intended to be a local affair, because 42% of all students did not want to use this talent in the role of a student missionary (question 92). Girls were more positive than boys in their ambition to be missionaries, and seniors seemed more interested than juniors and sophomores. However, if 25% of 1,900 students from 18 academies were to become student missionaries, there would be 475 persons joining forces with seasoned personnel overseas.

Benefits to the Student

No other question in area five exhibits as large a difference between weighted scores for males and females as does number 95. Girls, with a score of 433, were 61 points higher than boys. Prayer

as a part of their daily lives was 14% higher for girls than for boys, and a 3% larger number of boys than girls did not place prayer into their daily program. Prayer was a rarity as part of the lives of 15% of the males compared with 9% for females. Table 11 compares academic grade average with the response options to this question. Those students with excellent grades were 60% responsive to the highest positive option of "Yes." As grades became lower, the percentages decreased for this reply. It became an increased rarity for students to place prayer into their daily lives as grades went from excellent to poor. Because of this the weighted scores dropped from 426 for excellent students to 356 for poor students. The greatest difference existed between very good and good students; then between good and poor pupils. The implication of this table is that prayer may boost grade average.

Prayer may also shield a person from yielding to temptation to do wrong, as verified by 26% of all students who answered question 96. A belief that no shield was available through prayer was shared by 12%, with boys outnumbering girls by 4%.

Christianity was always the top emphasis for 39% of the students (see question 85), almost always for 32%, and somewhat for 19%. Girls rated their schools higher than boys by 5% (97%-87%). Sophomores rated their schools highest with 408 points, juniors with 395, and seniors with 381. Another question regarding school emphasis (see question 24) was included in area one and recorded in table 4. The statement read "My school's top emphasis for its students is to get good grades." For this question 48% of the students affirmed the emphasis, but 71% confirmed the importance

TABLE 11
RELATIONSHIP OF PRAYER AND ACADEMIC GRADE AVERAGE

Question Number	Statement	Response Choices	Response Percentage by Grade Average			
			Excellent	Very Good	Good	Poor
95	Prayer is a part of my daily life	(a) Yes	60	57	42	37
		(b) Often	18	18	22	18
		(c) Sometimes	14	13	18	19
		(d) Rarely	6	9	13	19
		(e) Never	2	3	5	7
		Weighted Score	426	418	384	356

of the Christian aspect in question 85. No relationship was notable between and among the weighted scores or percentages for response options pertaining to these two questions.

By weighted score (341) sophomores appeared to either have more teachers who brought out spiritual lessons in their classes (question 88) or their teachers brought out many spiritual lessons in their instruction, even though the subjects may not have been in the field of religion. A low 16% were negative, and uncertainty was relatively minimal (2-3%) for all six variables.

Experimental religion (question 86) is based on experience, after theory has been learned. It is doing something rather than remaining complacent. Persons can test God, His Word, and His promises to confirm or demonstrate their validity. In the matter of tithing God says to "Prove Me" (Malachi 3:10). Experimental religion is not here meant to be a study of the many faiths practiced, but is rather a taking God at His Word, claiming His promises, and experiencing a fellowship with Him in prayer and Bible study. Fortunately, only 6% thought that this type of instruction was over emphasized. Whereas 70% confirmed their having been taught, the 24% who said they had not, must have heard the instruction and lost it soon afterward. Or this latter group could have heard but did not realize that the topic was experimental religion.

A spiritual uplift through church attendance (question 81) was not counted upon by 21% of the students. If the question had omitted the word "one," then it could be assumed that spiritual uplifts were obtained in other ways. But the limitation was not present. Other ways were implied, but church attendance was the

designated option among many. The group of 21% implied that they could not count on church services to give them a spiritual uplift. However, dorm worships (question 87) did less for students than church services toward spiritual health. No spiritual enrichment from dorm worships was acknowledged by 38% of all students, and boys showed no difference of opinion with that of the girls. This statement ranked lowest in the area of religious experience.

Student Selected Religious Activities

Students appeared to have a smaller percentage believing the Bible to be the most important book for them (question 82) than they considered their teachers to have evidenced (question 84). Girls were 11% more definite (53%) in this conviction than boys (42%) and were 5% less negative (11%-6%). The girls scored 410 and boys 379, indicating that the girls valued the Bible more than the boys. Weighted scores by grade average for question 82 were as follows: excellent, 417; very good, 408; good, 365; and poor, 350.

Voluntary student prayer bands (question 91) were active to some degree in all academies, but just one school revealed a mode of "Always," as verified by 63% of its students. This academy reached the maximum score of 443. One academy had none of its students select the "Always" option, and it grasped the minimum score of 242. The closest school to that possessing the above mode was 28% lower for the "Always" response, but it shared a modal report of "Almost always" with another school. The remaining fifteen academies exhibited modes of "Almost never," an alarming statistic. This

question displayed the widest range (201 points) of any in all the five areas of educational balance.

In the Administration Opinionnaire 47% of school leaders provided fifteen minutes a day for voluntary student prayer bands. Other various time choices by the remaining 29 respondents brought the mean to 16.5 minutes. Every administrator provided time for this function, showing their support for it.

A more personal commitment to Christ was maintained by females (359) than by males (331). A higher percentage of definitely positive "Yes" replies would have been more encouraging to Christian academy leadership. The highest score for any academy was 364 and the lowest was 307. Excellent students recorded a score of 369, very good students exceeded this score to reach 370, good students dropped to 338, and poor students fell to 293.

Balance by Academy

A record of the weighted scores by academy for each question is found in figure 7. No academy fell below the score of 200, but one academy came close (205) to this value in question 87. Nine highest positions per question were in the 400 range, and ten lowest places per question were in the 200 range. The highest score by any academy for area five was 478 for question 99 (giving tithe), and the lowest was 205 for question 87, (spiritual enrichment from dorm worships). The widest range was 201 for question 91 (prayer bands are active), and the greatest cohesiveness was numerically shown as 38 points for question 93 (acquaintance with Bible).

The same academy that set the maximum scores for questions

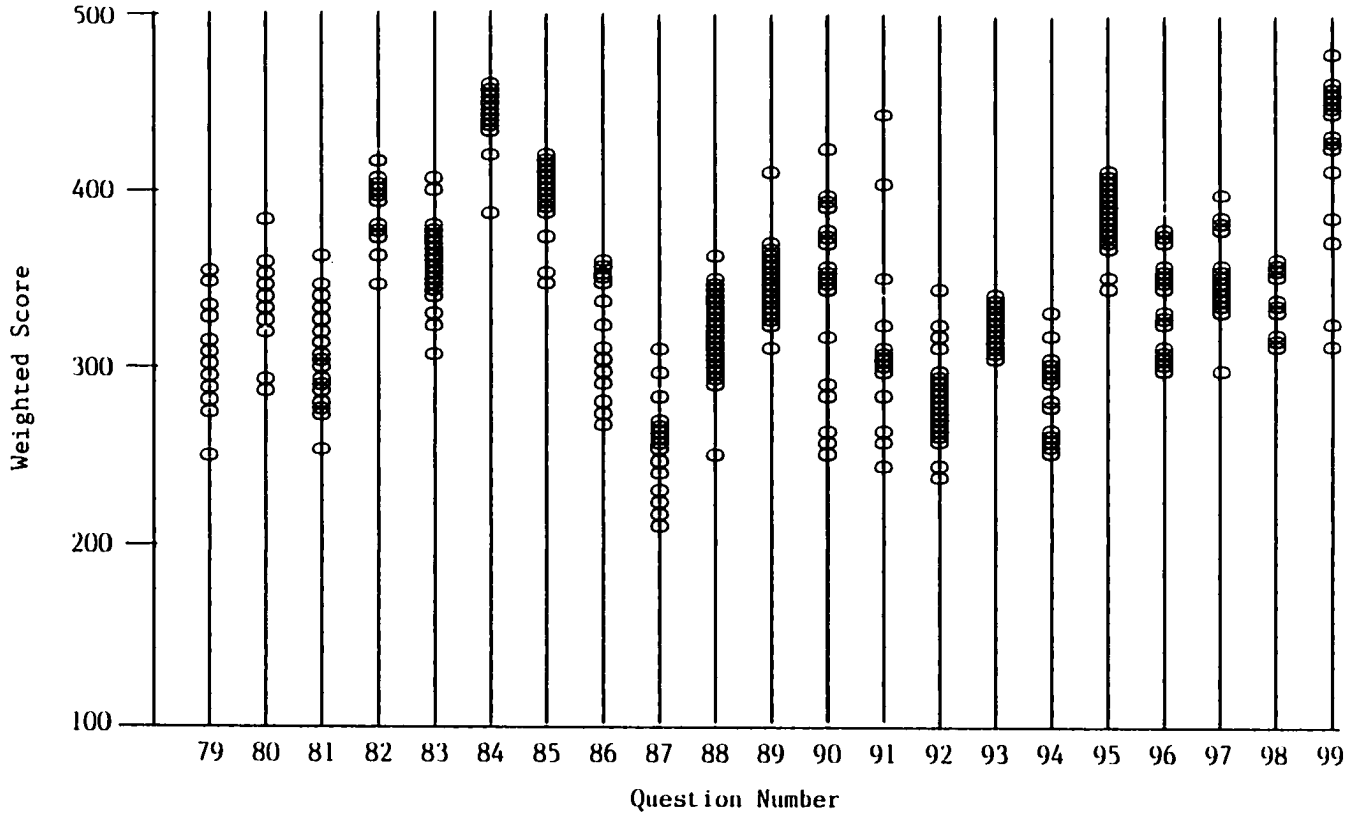


Fig. 7. Scattergram of weighted scores in religious experience by academy.

80 (do have time for personal devotions), 81 (count on church services for spiritual uplift), 94 (participate in witnessing group), and 97 (serving others is goal) established the minimum scores for questions 90 (Bible teacher requires little scripture memorization) and 92 (don't want to become student missionary). The students from this school rated highest for Christian witnessing and service to others, but had the least percentage who wanted to become a student missionary. Question 90 (Bible teacher requires a lot of scripture memorization) received a broad spectrum of answers, the most positive alignment with the panel being expressed by a score of 425. However, the most negative stance was 165 points below this for a score of 260 by this academy.

Another academy, whose top emphasis was Christianity (question 85), had the highest teacher ratio who believed that the Bible was the most important book (question 84). Students from this school felt that dorm worships gave them spiritual enrichment (question 87), revealed that prayer was a part of their daily life (question 95), and believed that prayer shielded them from temptation to do wrong (question 96). This academy held top scores for each of these five questions and avoided minimum scores altogether in this area. A different school, whose top emphasis was not Christianity, had the lowest teacher ratio who believed the Bible was the most important book. Students from this school did not have serving others as their daily goal, they did not maintain a personal commitment to Christ, and the only time they had for personal devotions was before getting up in the morning. This academy held the lowest score for each of these five questions and reached no maximums in this area.

In a third academy, students indicated that the Bible was not the most important book for them (question 82) or other students in their school (question 83). These students had no time for personal devotions (question 80) and scored lowest for each of these three questions, without reaching any high standing in religious experience.

Religious Experience and Educational Balance

The mean weighted score for this area was 341 for all students, for males it was 312, and for females it was 348. The three class means were each within two points of the mean for all students. Perhaps the numerical scores may be interpreted to portray the girls as having experienced a more balanced religious life than the boys.

Summary

The calculation of the mean score for each area of educational balance included all questions, those discussed in this chapter and those time questions reserved for inclusion in chapter 5. Means calculated according to academic grade average are mentioned below for areas 1 and 5; the means for areas 2, 3, and 4 did not exceed 5% of the mean for all students and thus are not shown.

A histogram of the mean frequency by response weight for each of the five areas of educational balance is shown in figure 8. The height of each column represents the number of students who responded to the reply choices of the designated weight for all the questions in each area. The number of students replying to each question varied, making a determination of "n" impossible.

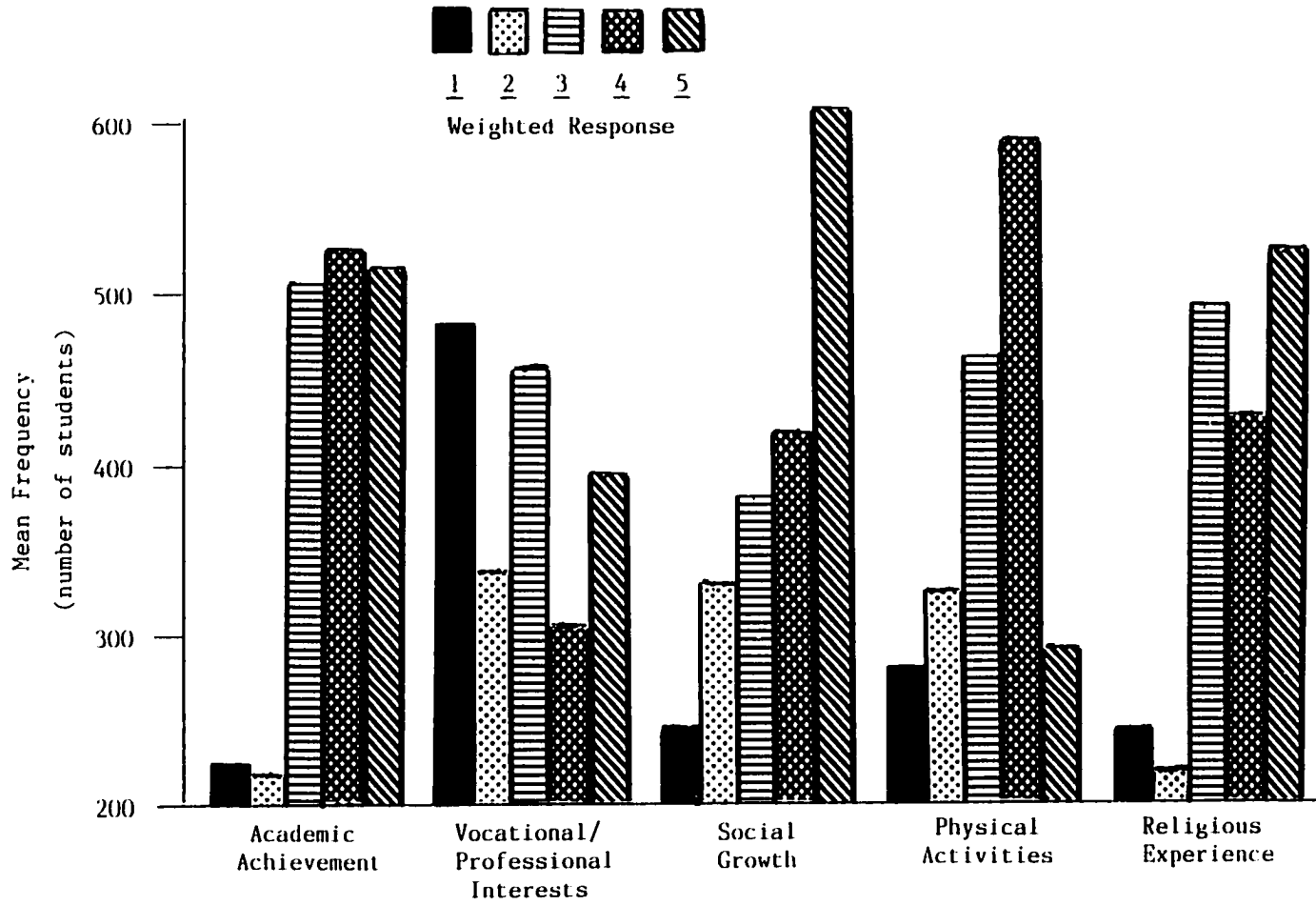


Fig. 8. Mean frequency by weighted response in five areas of educational balance.

For area one the choices of replies of weights 1 and 2 were small (see figure 7) compared to those of 3, 4, and 5. The mean weighted score for academic achievement was 345. By academic grade average the mean scores were as follows: excellent grades, 370; very good grades, 360; good grades, 339; and poor grades, 313.

In area two, vocational and professional interests, the mean frequency for weight 1 responses was highest of all five weight values of 1 and the mean frequency for weight 2 responses was highest for all weight values of 2. The column of weight 4 is the shortest of all five areas. The mean weight score was 251, a below average rating, due mainly to the low frequencies of high weight and conversely, high frequencies of low weight.

The stair step graph describing area three is the most ideal to represent educational balance. The lower weights are of low frequency and vice versa. More than 600 students selected response options of weight 5 for each question in social growth. The weighted score for area three was 343, a little above average rating.

Area four, physical activities, is described by a peaked graph for weight 4, surrounded by weight columns of declining frequencies. The graph of weight 5 is the lowest of any seen for educational balance. The mean weighted score was 316, a slightly above average rating.

Many responses in the weight 3, 4, and 5 choices were selected by students as they answered statements and questions in area five, religious experience. Because the academies are Christian in philosophy, it could have been possible for the weight 5 column to have risen high above others of less weight. But this was

evidently not the perception of the students. The mean weighted score was 341, a little above average rating. By academic grade average the mean scores in this area were as follows: excellent grades, 352; very good grades, 350; good grades, 336; and poor grades, 317. As perceived by 48% of all students in this study, the top emphasis in their schools was to get good grades, but 71% of all students stated that the top emphasis was Christianity. Because 23% more students were impressed that Christianity was pre-eminent, the scores in religious experience could be expected to be higher than the scores in academic achievement, but this did not happen. The scores for comparable academic grade average between the two areas were within 5% error of each other.

CHAPTER V

THE CONSTRUCTION OF A DAILY SCHEDULE

To construct a daily schedule that assures educational balance to the student, information was gathered from four sources: (1) the investigation into the five areas of educational balance in chapter 4; (2) the literature cited in chapter 2; (3) time needs as expressed by students; and (4) time provided by administrators. The steps used are outlined below.

Questions 7 through 18 of the Student Questionnaire were concerned with time usage and needs. In this chapter time usage information was obtained from answers to questions 8, 10, 12, and 14; time needs were ascertained from answers to questions 7, 9, 11, 13, and 15 through 18.

The third section of the chapter was given to time provided by administrators. Adjustments to these time provisions were outlined as the preparatory step toward the construction of a daily schedule.

Student Time Usage

From the replies to question 8 of the Student Questionnaire, it was found that 66% of all students spend 20 minutes in the library each school day. The average was 27 minutes, which is less than a regular 40-minute class period. No single academy exhibited a modal

value deviating from 20 minutes. Boys tended toward longer time lengths such as 30 and 40 minutes by 2%*. Sophomores used 20 minutes, while seniors tended toward longer periods. One academy opened its library for several hours each Sunday for student use. Students from this school spent the least mean daily time in their library of the 18, probably because their facility was open on Sundays, and they planned their time accordingly.

The average number of hours worked by a student each day, as determined from answers to question 10, was 3, but more than half (53%) worked between 3 and 4 hours. Boys worked over 4 hours by a 4% margin greater than girls. Also, juniors and seniors tended to work more than 4 hours each day. More work designed for older students may be the cause of this, plus an age difference that may have allowed for more hours of work to be approved for older students.

On the average sophomores used 10 more minutes of sleep each night than juniors or seniors (question 12). More than 40% of all students slept 7 hours each night. Boys got more hours of sleep than girls. The range of mean time for sleep was 35 minutes between the highest and lowest values among the academies, with no apparent correlation as to student enrollment or geographical location.

Students' use of time for daily physical exercise (question 14) varied quite evenly among the five response options: 20, 25-30, 40, 45-55, and 60 minutes. However, the first choice of 20 minutes

*In this chapter the percent sign will replace the word symbol where possible.

revealed an increase from 17% to 27% to 31% proceeding from grade ten through grade twelve. The second option remained steady at 22%, whereas the remaining responses showed decreases of 5%, 3%, and 6%, respectively. Time spent in physical exercise decreased with increase in grade. The mean for all students was 34 minutes, the mode 20 minutes, and the median 40 minutes. Although the mode for all students was 20 minutes, three academies showed modes in the 25-30-minute response, one in the 45-55-minute choice, and four in the 60-minute selection. Males were inclined toward more time usage for physical exercise than females.

Student Time Needs

Student time needs are displayed in table 12. One time need was for homework outside of class each day, as seen in question 7 of the Student Questionnaire. The only appreciable difference in required time among the grades was seen for the one-half hour choice, which began at 7% for sophomores and grew to 8% for juniors, and to 12% for seniors. As seen from table 12 the mean for all academies was 1.7 hours. The median and mode were each 2 hours. Mean time among the academies varied by as much as 52 minutes, a fact supported by the occurrence of five modal values above and five modal values below the mode of 2 hours for all students.

Upper grade students clearly wanted more work than sophomores (question 9) with almost twice the percentage requesting 5 hours of work each day. The lower grade students chose the average of 4 hours by 42%, but they also selected 3 hours by a relatively large 35% compared with other smaller response choices of time. Response means

TABLE 12

MEAN TIME NEEDS FOR NINE ACTIVITIES
FROM THE STUDENT QUESTIONNAIRE

Question Number	Statements	Mean Time In Hours
18.	Time for any meal in the cafeteria	0.47
17.	Length of time for dorm worships	0.18
11.	Daily time for leisure	1.40
8.	Daily library time	0.45
15.	Time for daily physical exercise	0.75
16.	Time for daily personal devotions	0.30
7.	Study time each day	1.70
9.	Time for work each day	3.80
13.	Time for sleep each night	8.20

NOTES: The questions in this table are in the order of the activities listed in table 13 and table 14.

The mean time for any meal in one academy was 0.25 hour, the adjacent mean was 0.42 hour by another school, and the longest mean time was 0.55 hour in a third academy.

Average time for dorm worships, daily physical exercise, and personal devotions varied, at the most, 0.03 hour from the mean.

Free time requests began at a low of 1.08 hours and reached a high of 1.67 hours; no other activity of the nine listed in table 12 exhibited such a wide range.

Library time ranged from 0.35 hour to 0.52 hour.

Time for study began at 1.0 hour for one academy and ended at 1.9 hours for two academies.

Work and sleep hours varied, at the most, 0.2 hour from the mean for all academies.

are shown in table 12 for each academy as well as for all students. The male-female responses for work time needs parallel those for time usage in question 10. Almost half (48%) of the students believed that they should be able to work 4 hours each day of school. Scholastic standing and health of the student along with the availability of work time may have been a governing factor concerning this desire.

More than half (61%) the total student sample would have liked 90 minutes of leisure time each day (question 11). The average time was 84 minutes, and there were no modes below that of 90 minutes. Almost 7% more boys than girls expressed a need for 90 minutes.

Over half (55%) the number of students surveyed (question 13) said they should get 8 hours of sleep each night. The mean was 8.2 hours, whereas the mean of the actual number of hours of sleep obtained was 7.1. Thirty-three percent of the students would like to have gotten as much as 9 hours of sleep. No appreciable difference was notable between the sleep time needs of the sexes.

Boys as well as girls appeared to need the same amount of time for physical exercise (question 15), because boys expressed a mean of 46 minutes and girls a mean of 45 minutes. For all students 55% chose 50 minutes as the time they needed. No appreciable difference was observed among the means for all students, sophomores, juniors, and seniors.

For personal devotions (question 16) 26% of the students said 10 minutes were adequate, 30% expressed a need for 15 minutes, 20% for 20 minutes, and 3% for 25 minutes, and 21% for 30 minutes.

The mean was 18 minutes for all students, while the mode and median were 15 minutes. The 10-minute choice was selected by 31% of males and 22% of females. The means for the academies differed by only a few minutes as seen in table 12.

There are two worship services each day in SDA school dormitories. The first one is often conducted before breakfast and the second one is held following supper or an evening play period. The number of students who wanted 7 minutes for this service (question 17) increased from 20% to 24% from grade ten to grade twelve, whereas the number who wanted 20 minutes decreased from 9% to 5% from grade ten to grade twelve. Other time choices varied little by grade. The mean time period for worship for all students was 10 minutes, which was also the mode and median. Although the mode was 10 minutes, four academies revealed modes of 7 minutes and six academies disclosed modes of 15 minutes.

Boys and girls, regardless of grade, wanted 30 minutes to eat any meal (question 18). However, four academies showed modes of 20 minutes each. Modes of 30 minutes each were displayed by the remaining 14 schools.

Time Provisions by Administrators

Mean time provisions for student needs as expressed by academy administrators are displayed in table 13. The column titled "Time Question" lists a key word or words to represent the time question used in the Administration Questionnaire. The mode for each event was recorded for comparison with each mean. The two

TABLE 13

MEAN TIME PROVISIONS FOR STUDENT NEEDS AS
EXPRESSED BY ACADEMY ADMINISTRATORS

Time Question	Frequency	Time in Hours	
		Mean	Mode
1. Meals	3/day, S-Sa	0.48	0.50
2. Morning worship	S-F	0.17	0.17
3. Chapel	2/week	0.47	0.50
4. Play period	S-Th	0.97	1.00
5. Evening worship	S-F	0.23	0.25
6. Free time	M-F	0.92	1.00
7. Library	M-F	0.63	0.67
8. Prayer bands	1/week	0.27	0.25
9. Committee work	1/week	0.52	0.50
10. Exercise	M-F	0.70	0.75
11. Classroom	M-F	3.58	3.33
12. Devotions	S-Sa	0.30	0.25
13. Dressing	S-Sa	0.83	1.00
14. Walking to appointments	S-Sa	0.58	0.50
15. Sabbath witnessing	Sa	1.03	1.00
16. Sunday play	S	2.22	2.00
17. Study, evening	S-Th	1.83	2.00
18. Work	Varies	3.60	4.00
19. Sleep	S-Sa	7.69	8.00
20. Sunday library	S	1.65	2.00
21. Sunday T.V.	S	1.67	2.00
22. Religious services	F-Sa	4.20	4.50
23. Sabbath free time	Sa	4.75	4.50
24. Sunday free time	S	4.00	4.50
25. Saturday night	Sa	2.75	3.00
26. Band	3/week	2.00	2.00
27. Choir	3/week	2.00	2.00

totals of time provisions for a typical week of school are the sums of the products of frequency and time for each activity.

Time choices were diversified among the 55 questionnaires examined; nevertheless one or more selection boxes were left blank in 11 questions. For instance, no administrator chose the 10-minute time for eating any meal and only one chose the 50-minute provision. No choice was made for a 20-minute play period and only one for 30 minutes; the highest frequency in the questionnaire was 47 for a 60-minute period. No one selected 120 minutes for the length of classroom contact each day, none for 75 minutes of walking to meet appointments, and only one for the 90-minute choice. The range for study time was 1.5 hours to 2.5 hours, omitting the 0.5-hour and 1.0-hour alternatives. No administrator believed that a student should work more than 4 hours per day, as indicated by the omission of the 4.5-hour and 5.0-hour work-a-day options. For sleep each night, 5 hours were too little and 9 hours too much, the range of choices falling on the 6, 7, and 8-hour provisions. The maximum Sunday library time was set at 3 hours, the limit for free time on Sabbath was set at 3 hours, and no administrator felt that one band practice or one choir practice each week was sufficient.

Write-in time provisions were revealed for four activities. One administrator wrote in 60 minutes and another 105 minutes for Sunday organized play (activity 16); and 13 administrators wrote in zero for activity 20, meaning that the library should be closed for student use on Sunday. Two administrators probably did not wish to have students watch television at all on Sunday, as indicated by their write-in of zero hours; and one thought 0.5 hour would be

adequate. Sabbath free time was suggested to be 2 hours or 3 hours according to each of two additional write-in responses.

Time Provision Adjustments

Adjustments to student time provisions were separated into two procedural phases. The first phase was the calculation of the mean time needs and rounding them with the time provided by administrators. The second phase was an investigation of certain statements from questions 19 through 99 of the Student Questionnaire that pertained to time. These questions were examined under each of the five areas of educational balance.

Time Needs Averaged and Rounded

Mean time in minutes taken from the Administration Questionnaire (Appendix E) were arithmetically averaged with student time needs for the same activity from table 12, rounded to the nearest five minutes, and recorded in hours in table 14. Mean time in hours in the Administration Questionnaire was arithmetically averaged with the student time needs for corresponding activities and recorded also in table 14. Time for activities from the questionnaire not found in table 12 were recorded directly in table 14, if the mean time was already in hours; time in minutes was rounded to the nearest five minutes before changing it to hours, ready for insertion into the table. To convert any desired time in hours to minutes from table 14, multiply by 60 and round the product to the nearest whole minute. Because television broadcasting is in half hour blocks

TABLE 14

ROUNDED MEAN TIME PROVISIONS FOR STUDENT NEEDS
USING TABLE 12 AND TABLE 13

Time Question	Frequency	Time in Hours	
		Daily	Weekly
1. Meals	3/day, S-Sa	0.50	10.50
2. Morning worship	S-F	0.17	1.02
3. Chapel	2/week	0.50	1.00
4. Play period	S-Th	1.00	5.00
5. Evening worship	S-F	0.25	1.50
6. Free time	M-F	1.16	5.80
7. Library	M-F	0.58	2.90
8. Prayer bands	1/week	0.25	0.25
9. Committee work	1/week	0.50	0.50
10. Exercise	M-F	0.75	3.75
11. Classroom	M-F	3.58	17.90
12. Devotions	S-Sa	0.33	2.31
13. Dressing	S-Sa	0.83	5.81
14. Walking to appointments	S-Sa	0.58	4.06
15. Sabbath witnessing	Sa	1.00	1.00
16. Sunday play	S	2.25	2.25
17. Study, evening	S-Th	1.75	8.75
18. Work	5days/week	3.70	18.50
19. Sleep	S-Sa	8.00	56.00
20. Sunday library	S	1.60	1.60
21. Sunday T.V.	S	1.50	1.50
22. Religious services	F-SA	4.20	4.20
23. Sabbath free time	Sa	4.75	4.75
24. Saturday free time	S	4.00	4.00
25. Saturday night	Sa	2.75	2.75
26. Band	3/week	0.67	2.00
27. Choir	3/week	0.67	2.00

of time, the 1.67 hour mean time provision by administrators (table 13) was changed to 1.50 hours in table 14.

Frequencies were used as multipliers of daily time provisions to acquire the weekly time for each of the 27 activities in table 14. The total time for a typical week of school that would include each activity listed was 171.60 hours, 3.60 hours more than the clock time available.

Academic Achievement

In the area of academic achievement time needs for all students were considered for possible adjustment. Time needs for students, separated by academic grade average, were identified and followed by a definite time adjustment. The last part of this section revealed constraints on time experienced by the students.

Time Needs for All Students

From question 19, table 4, it was seen that students were 83% positive that the time they had requested for meals in question 18 was available to them. This time was 0.50 hour according to table 14, and was retained without adjustment.

Ranking second in academic achievement was question 30 (subjects studied versus amount learned). Indecision rated highest for this question over any other in this area of educational balance, the highest for this question recorded by juniors at 24%. The highest weighted score (413) for this question was set by females, who appeared to be more academically inclined than males (395). The weighted scores for the 18 academies lay between 391 and 429.

From the replies to question 30 it was learned that 41% of all students were in favor of studying "many subjects with much to be learned in each" to earn their diploma from academy. A desire to learn more was revealed by 72% of all students, and 6% wanted to learn little. To satisfy this need it would be necessary to provide more time in the classroom, library, and study period; it could also necessitate adding days to the length of the school year. Until extra courses are added to the curriculum, the class time per day should remain at 3.58 hours (215 minutes).

An extension of time seemed pertinent from the responses to question 23 (study time for classes). Students who could not find enough study time to be prepared for classes totaled 19%, with a 1% uncertainty. Those who chose the "Somewhat" reply (23%) and the "Mostly" response (34%) also needed more time. With 23% of the students having sufficient time, it might be concluded that 77% were experiencing a time deficiency.

Closely allied to study time needs was the statement of teacher reasonableness in the time limits they placed upon students to complete assignments (question 26). Twenty-five percent of the students were of the opinion that the time limits were reasonable, indicating that 75% must have been under time pressure. Compared to the 19% who did not have enough study time, there were 10% who didn't think their teachers were reasonable in the time limits placed on assignments. A 19% increase in study time, added to the 1.75 hours in table 14, allowed for 125 minutes. Because of the difference (9%) between study time and assignment completion time, an efficiency

problem with the use of time might have been a reality among the students. Therefore, a 10% increase in study time allowed for 1.75 hours, the tentative adjusted time for study period each day.

This recommended increase in study time was supported somewhat by responses to question 24, "My school's top emphasis for its students is to get good grades." The replies were 67% positive, but not strongly so. If a school emphasizes good grades, then an ample time opportunity must be provided to students as one factor contributing to this goal.

Time Needs by Academic Grade Average

Four questions from this area were analyzed separately as relevant to comparison by grade average. The data for these is found in table 15.

For question 23 (study time for classes) the response percentages for the "Yes" and "Mostly" choices dropped as grade average lowered, but increased for the "Somewhat" and "No" options. The low academic achievers had 30% of their group stating that they did not have enough study time each day to be prepared for classes. As seen from table 15, 12% of excellent students could not find enough study time, reinforcing the need for additional time.

The number of excellent students (5%) who believed that their teachers were reasonable in time limits for the completion of assignments was less than the number (12%) not able to find enough study time each day. Excellent students, as well as the total group, may have had a problem with time-use efficiency.

TABLE 15
SELECTED QUESTIONS IN ACADEMIC ACHIEVEMENT VERSUS ACADEMIC GRADE AVERAGE

Question Number	Statements	Response Choices	Response Percentage by Grade Average			
			Excellent	Very Good	Good	Poor
23	I find enough study time each day to be prepared for my classes	(a) Yes	33	27	20	20
		(b) Mostly	40	39	32	19
		(c) Somewhat	14	17	27	30
		(d) No	12	17	20	30
		(e) Not sure	1	0	1	1
		Weighted Score		380	361	331
25	I view my academy classes as exploratory for what I might want to study in college	(a) Yes	41	31	23	18
		(b) Mostly	19	23	19	10
		(c) Somewhat	26	31	30	29
		(d) No	11	13	24	37
		(e) Not sure	3	2	4	6
		Weighted Score		376	358	315

TABLE 15--Continued

Question Number	Statements	Response Choices	Response Percentage by Grade Average			
			Excellent	Very Good	Good	Poor
26	My teachers are reasonable in the time limits they place on getting assignments done	(a) Yes	34	25	23	24
		(b) Mostly	43	43	38	28
		(c) Somewhat	17	22	26	24
		(d) No	5	8	11	20
		(e) Not sure	1	1	2	4
		Weighted Score	400	376	361	332
30	To earn my diploma from academy I would be in favor of	(a) many subjects with much to be learned in each	69	52	33	20
		(b) few subjects with more to be learned in each	19	28	33	37
		(c) undecided	10	17	26	32
		(d) many subjects with little to be learned in each	1	2	6	5
		(e) few subjects with little to be learned in each	1	1	2	6
		Weighted Score	455	429	390	359

Study time needed to be increased for the general student, however. Therefore the adjusted study time is 1.92 hours in table 16.

Constraints on Time Needs

Students in each of the four grade average groups wanted to learn more (see question 30, table 15). To provide a condition for more learning, time efficiency needs to be combined with the provision of more time in which to accomplish it.

The desire to learn was supported by the replies to question 27 (table 4) regarding instruction in diseases and their causes. Thirty percent of the students declared this instruction as inadequate, but 17% were convinced of its adequacy. A time constraint may have been a hindrance to schools in providing this instruction.

A further support for more learning was exhibited by responses to question 29 (table 4). Twenty-four percent of all students desired more electives. Time factors might have existed that did not allow for a broad scope of information and subject material.

Vocational and Professional Interests

Seniors had the least problem of the three grade groups in finding time to talk with their guidance counselor about careers and professions (question 39, table 5, chapter 4). Because the "No" reply option was weighted 5 by the panel, high scores among the variables indicated low problems, and the seniors scored highest. Their high score did not preclude time problems, because 35% of the class answered "Yes", which is indicative of a time constraint.

TABLE 16

PRELIMINARY DAILY SCHEDULE FOR ONE WEEK OF SCHOOL IN HOURS

Personal	Monday	Tuesday	Wednesday	Thursday	Friday	Sabbath	Sunday
Devotions	0.33	0.33	0.33	0.33	0.33	0.33	0.33
Dressing & toilet	0.83	0.83	0.83	0.83	0.83	0.83	0.83
Free time	1.33	1.33	1.33	1.33	2.25**	5.00	4.00
Prayer band						0.25#	
Physical exercise	0.75	0.75	0.75	0.75	0.75	0.75	0.75
Sabbath witnessing						1.00	
Sleep	8.00	8.00	8.00	8.00	8.00	8.00	8.00
Sunday play							2.25
Sunday television							1.50
Walking between appointments	0.58	0.58	0.58	0.58	0.58	0.58	0.58
Work							
Plan I	3.70	3.70	3.70	3.70	3.70		
Plan II	3.50	3.50	3.50	3.50	3.50		
Plan III	4.00	4.00	4.00	4.00	4.00		

TABLE 16--Continued

School	Monday	Tuesday	Wednesday	Thursday	Friday	Sabbath	Sunday
Band practice	0.67		0.67		0.67		
Chapels		0.50		0.50			
Choir practice	0.67		0.67		0.67		
Classroom contact	3.58	3.58	3.58	3.58	3.58		
Committee work							0.50
Library	0.58	0.58	0.58	0.58	0.58		1.60
Meals (three)	1.50	1.50	1.50	1.50	1.50	1.50	1.50
Play period	1.00	1.00	1.00	1.00	1.00*		
Religious services					1.00	3.20	
Saturday evening activity						2.75	
Study period	1.92	1.92	1.92	1.92			1.92
Worship, dorms, a.m.	0.17	0.17	0.17	0.17	0.17		0.17
Worship, dorms, p.m.	0.25	0.25	0.25	0.25	0.25		0.25

#Meets Friday evening after sundown

*Can be transferred to Saturday when sundown time is early

**Includes 0.92 hour added for Sabbath observance during evening

Those who answered "No" (30%) were free from this constraint. The greatest time problem existed with juniors (41%).

The range of weighted scores for the academies answering question 39 (time with guidance counselor) was 110 points, with a maximum score of 391 shown by a small academy whose modal response was "No," and with a minimum score of 281 for another small school whose mode was "Yes." Regardless of the wide range of scores for this question, there was no evidence of demographic or enrollment influence upon the recorded replies of the students.

If the students' problem was a lack of free time to visit their guidance counselor, it was imperative that school administration should increase this time. If the problem was that the guidance person didn't have the time to meet with students, administration must release time for counseling purposes (Anderson and Van Dyke, 1972).

Free time provided in table 14 was 1.16 hours in length. If this time were indeed available to the students, they should be able to find time to talk with the guidance counselor. A time adjustment was made to this 1.16-hour provision in the following subsection.

Social Growth

In the area of social growth two time factors were considered: time constraints and time adjustments. Two questions from the Student Questionnaire were concerned with time constraints and three gave information regarding social pursuits for which an adjustment of time might be necessary or recommended. All questions in this section are found in table 7 of chapter 4.

Time Constraints on Social Growth

The first question indicating a time constraint on social growth was number 54, "My school provides an adequate amount of entertainment." For all students the negative response to this statement was 32%, and the positive replies totaled 66%, with a 2% uncertainty. It was not determinable whether or not the students who wanted more entertainment had a real need or whether they had an excessive desire for more.

For the 47% of all respondents who held a student office, 11% experienced a definite constraint on their available study time. Fifteen percent evidently were able to hold a student office and still had sufficient study time. Sometimes, probably depending on scheduled meeting appointments that might have occurred during test periods, students experienced time constraints in trying to care for both responsibilities.

Time Adjustments for Social Growth

Time for leisure (question 46) was deemed as nonexistent for 13% of the students, with juniors leading in the six variables at 15%. This figure, combined with the 30% who declared that they had too little leisure time and the 25% who had little of it, was cause for an adjustment to free time. The average amount of time requested by students in table 12 was 1.40 hours. If every student were assured of 1.16 hours, there should be enough time for leisure and to seek counsel from teachers or guidance directors in out-of-class situations. The researcher recommended an increase of free time to 1.33 hours in table 16 which is a rounded 13% increase.

The time to get up in the morning (question 45) was too early for 37% of the students, and it was early for 31%, but it was about right for 29% of the pupils. Any adjustment to time in this case was left to the discussion of sleep time under the area of physical activities, following this section on social growth.

Schools provided enough time for social interaction (question 53) to 67% of their students. This percentage dropped to 61% for juniors, but went to 72% for sophomores. The minimum score for this question was 212 and the maximum was 325. No relationship between size of school and score was evident. The mean score for all students was 287. The scores appeared to depend on individual school operating policies. Because time for social interaction was possible within every activity of table 14 except sleep, and because of the 67% who had enough time for this function, no adjustment to any time provision was recommended.

Physical Activities

In this section only time adjustments to physical activities were considered. The questions under discussion were number 66, table 9, chapter 4; and numbers 12 and 14 from the first section of the Student Questionnaire.

From question 12 it was determined that boys sleep 0.1 hour more than girls, when comparing their means: boys 7.1 hours per night and girls 7.0 hours. Sophomores managed to acquire 7.2 hours of sleep, whereas both juniors and seniors each averaged 7.0 hours per night. Over half the students surveyed (55%) expressed a need for 8.0 hours of sleep, but the average for all eighteen academies

was 7.1 hours at the time of the study. One-fourth (25%) got 8.0 hours of sleep, but one-third (33%) would have appreciated 9.0 hours each night. Administrators, in their questionnaire, provided for a mean of 7.7 hours of sleep each night, with 40 of the 55 leaders favoring 8.0 hours.

To be able to find the time for needed sleep was not difficult for 19% of the students. However, 83% revealed that this was a problem, with only 1% showing any uncertainty regarding their needs. Although boys wanted more sleep than girls, they found it a little less difficult to fulfill their needs. Weighted score differences among the academies did not appear to vary with size of school or geographical location for this question. The range was quite wide with 110 points between a high of 342 and a low of 232.

The rounded time period for sleep provided in table 14 was 8.0 hours, the time recommended by Anderson (1970). If lights went out at 9:30 p.m. as recommended by White (1952, p. 205), and the student went to sleep at this time, or before 10:00 p.m. at least, 8 hours of sleep was fulfilled at 5:30 or 6:00 a.m. the next morning. That time, then, should not be too early to get out of bed. The 8.0-hour time provision remained as provided in table 14.

Referring to question 14 it was seen that boys got 40 minutes of physical exercise each day and girls managed to schedule 35 minutes. Sophomores did as well as the boys, but juniors dropped 3 minutes and seniors were behind the juniors by 1 minute. The mode for all academies was 20 minutes, but three schools digressed from this to the 25-30 minute response, none chose 40 minutes, one

selected 45-55-minute option, and four claimed the 60-minute choice. On the average, students were able to log 37 minutes of exercise each day, but they would have preferred a period of 45 minutes. This latter time was provided in table 14 as 0.75 hour.

Religious Experience

Three questions, numbers 79, 80, and 89, were concerned with student time constraints in the area of religious experience. The replies to these questions were examined and a time adjustment was considered for each in the paragraphs below.

There was nothing inherently wrong with having personal devotions in the morning, a topic brought to light in question 79. But, if the only time available was before the daily, school-scheduled time to get up in the morning, a hardship might have been placed on students who needed the time for sleep or who would have enjoyed the provision of some different time for this activity. Males, sophomores, and seniors had more available time during the school day than females, juniors, and all students taken as a group. By response option the percentages represented five distinct groups that differed in number by 5% for all students. These groups were visible under the other five variables, also, and this observation was not repeated for any of the other 21 questions in area five.

Question 80 was also concerned with time needs for personal devotions. No time could be found for this activity by 9% of all students, boys (343) had more time opportunity than girls (334), and seniors scored higher (351) than any other group. Counting responses of weights 1 and 2 as negative, it was apparent that 25%

of the students had no time for daily personal devotions. The time provided in table 14 was 0.33 hour. If students used this time, there was no need to lengthen this period. Within area five, time for spiritual activities appeared to be more accessible, and consequently easier to plan its utilization, in small schools than in those of larger enrollments.

From question 89 it was determined that 31% of the students could find time to hold a church or Sabbath School office. Perhaps the 26% group who thought time might keep them from serving their church were considering the variety of tasks for which people would be needed, and the fact that some jobs required more time than others. Those students who had any problem with time for this question represented 69% of the students who responded. The experience of holding a church or Sabbath School office is good training, but students were experiencing a constraint or constraints that prevented them from serving. The issue seemed to be the correct usage of time provided rather than to provide the time.

Construction of the Daily Schedule

Student time needs from table 14 were divided into three categories: personal, work, and school. These formed the three main parts of the construction of the daily schedule displayed in table 16. The student might control his personal time needs and work hours to some extent, but the school controlled at least the starting time for those named events listed under its jurisdiction. Work hours might be directed by the employer, especially for industrial

assignments, or by financial need, as advised by the coordinator of student labor or the business office of the school.

There were three work plans or alternatives for student labor each week. Plan I provided the work time found in table 15. The 3.5-hour plan reflected the mean of 3.6 hours prescribed by administrators and was adjusted to the more widely accepted and understood half-hour division. Students from only one academy expressed a mean time below this 3.5-hour work period. Plan III was for those students working in industry, where the required period of work was 4.0 hours.

The total daily school time on Monday, Wednesday, and Friday was 10.34 hours, and the total daily personal time was 11.82 hours. On Tuesday and Thursday the total personal time remained the same as on the other three school days, but the total school time became 9.50 hours. A student who was a member of the band and choir groups would have needed a 25.86-hour day on Monday, Wednesday, and Friday in order to include school, personal, and work time. On Tuesday and Thursday that student would have needed a 25.06-hour day.

On Sabbath the school time totaled 7.45 hours, the personal time length was 16.74 hours, and no work was indicated for that day. School time on Sunday totaled 5.94 hours, the personal time length was 18.24 hours, and no work was scheduled for that day. Total time for Sabbath was 24.19 hours, and for Sunday the total was 24.18 hours.

Obviously, some activity or activities needed to be eliminated or reduced to retain the 24-hour per day limit of time. For this reason the daily schedule found in table 16 was titled as

preliminary, necessitating adjustments in time according to the needs of the students, as guided by a school counselor.

Suggested Time Adjustments

The daily schedule in table 16 was a preparatory step toward a balanced schedule for the average student. The schedule is the result of the time-phase of this study. Using the methods in this study, no pre-determination of total daily time was possible. Only after the schedule was completed and displayed in table 16, was the total time for each day shown to exceed the 24-hour time limit. The time adjustments suggested in this section brought five categories of student timed activities within the 24-hour day.

All Students

For all students the free time on Sabbath could be reduced from 5.00 hours to 4.81 hours to precisely satisfy the 24-hour limit. On Sunday a student's free time could be reduced to 3.82 hours or the time for television could be reduced or omitted; a combination of these two alternatives is also possible, the goal being to bring the activities within a planned 24-hour day.

Time provisions exist within the preliminary daily schedule that have been determined by this study to be balanced for the average student. These timed activities are: classroom contact, library, meals, study, dorm worships, devotions, physical exercise, and sleep. Chapel (assembly) time is a recommendation of the SDA Board of Regents, the accrediting body for the denomination's schools. Other activities such as dressing and toilet, and walking between appointments are necessary life functions. A play period

is desirable for both the social and physical aspects of educational balance. In the time change considerations that follow, time provisions for the activities enumerated in this paragraph remain intact, with one exception, classroom contact.

Students Working in Industry

On Monday through Friday the student working in industry must work 4 hours per day, increasing the time budget deficit cited in the preliminary daily schedule. Options for adjustment available to such students are: reduce or omit free time, reduce or omit membership in a music organization, and/or reduce the class-subject load.

If a 40-minute class period were omitted from the 215-minute allowance in the daily schedule, 70 minutes (1.17 hours) of time would become available to bring timed activities within 24 hours or to provide work time, depending on the needs of the student. This period of 70 minutes was determined by adding the time provisions from table 15 for classroom (1,075 minutes), library (240 minutes), and study (575 minutes) activities; using this total of 1,890 minutes (per week) as a denominator of time for the named activities, arriving at 57%, 13%, and 30% respectively; and using simple mathematical ratio-proportion to determine that, for a 40-minute class period, 9 minutes of library time and 21 minutes of study would be desirable.

Omitting a class would bring workers in industry to within 0.19 hour of the 24-hour limit on Tuesday and Thursday. A 12 to 15 minute omission from free time would satisfy the remaining, necessary

time adjustment. On Monday, Wednesday, and Friday these students would need to omit 0.99 hour from free time to satisfy the 24-hour limit. A little more than a half-hour would still be available for free time, but the schedule for these students appears to be quite compact with little time tolerance.

Students Taking Less Music Classes

A student worker in industry who wishes to retain the 3.58 hours of classroom contact may reduce his/her time requirement by 0.67 hour on Monday, Wednesday, and Friday by omitting one music class. The remaining 25.49 hours may be reduced further by omitting free time of 1.33 hours, leaving 0.16 (about 10 minutes) to be absorbed by other activities throughout the day. On Tuesday and Thursday no music classes meet, so again the free time of 1.33 hours would need to be omitted, leaving a negligible few minutes to be removed in order to satisfy the 24-hour time limit. Membership in no music group would allow students 0.51 hour of free time on Monday, Wednesday, and Friday, but no free time on Tuesday and Thursday.

Students working 3.7 hours each day and enrolled in one music class would lose 1.19 hours of free time and have 0.14 hour of free time remaining on Monday, Wednesday, and Friday; on Tuesday and Thursday these students would lose 1.06 hours of free time and have 0.27 hour remaining. Students working 3.5 hours each day would be able to increase their free time each of the two days by 0.20 hour.

Students in no music classes would be able to increase their

free time on Monday, Wednesday, and Friday to 0.81 hour, if they work 3.7 hours per day. If they work 3.5 hours the free time available would be 1.01 hours on those days. On Tuesday and Thursday students working 3.7 hours would have 0.94 hour of free time; those working 3.5 hours would have 1.14 hours.

Exceptional Students

In this study 41% of the students stated that to earn their high school diploma they would be in favor of studying many subjects with much to be learned in each. These students would need more classroom hours each day. To accommodate this need, work time could be reduced, the school year be elongated, correspondence courses studied during the summer, or some combination of these alternatives.

A slow learner may have to reduce his/her classroom hours to allow for increased study time. This student may consider summer courses or a fifth year in school to complete graduation credit requirements. Bright students could follow the alternatives suggested for the group who wanted to study many subjects and learn much in each of them.

Students Needing Less Work

Although no specific time period for work was cited in the review of literature in this study, 3.7 hours per day were deemed desirable by administrators and students. White (T4:265, 1938) advised that work occupy a few hours of a student's time each day. An adjustment in work time should perhaps be done with professional counsel provided by the school for the student. In any case work

should not be eliminated, as supported by the section on work experience in chapter 2 of this study.

To allow for the implementation of the time adjustments suggested in the preceding paragraphs, a daily schedule for the use of a professional counselor in student guidance was placed in table 17. All students should have some time written in each blank except for music practices and work on Sabbath or Sunday, but blanks were provided for the insertion of precise time periods. The student's counselor should work closely with the coordinator of student labor to place optimum time periods in these blanks.

When these schedules are completed for the students, it may be good procedure for the academies to mail a copy to each student's parents for study, signature of approval or disapproval, and return to the guidance office. Time budget balance may thus be assured to the student and his/her parents.

Summary

From an investigation into the five areas of educational balance in chapter 4, the review of the literature in chapter 2, time needs expressed by students, and the time provisions advised by academy administrators, a preliminary daily schedule was constructed that includes 24 student activities for a typical seven-day week. Student time needs for nine of the 24 activities were averaged with the time provided by administrators to obtain a daily time calendar ready to be used in the construction of the daily schedule. Two of the 24 activities, free time and study time, were

TABLE 17
DAILY SCHEDULE IN HOURS FOR STUDENT GUIDANCE PURPOSES

Personal	Monday	Tuesday	Wednesday	Thursday	Friday	Sabbath	Sunday
Devotions	0.33	0.33	0.33	0.33	0.33	0.33	0.33
Dressing & toilet	0.83	0.83	0.83	0.83	0.83	0.83	0.83
Free time##	—	—	—	—	—	—	—
Prayer band						0.25#	
Physical exercise	0.75	0.75	0.75	0.75	0.75	0.75	0.75
Sabbath witnessing						1.00	
Sleep	8.00	8.00	8.00	8.00	8.00	8.00	8.00
Sunday play							2.25
Sunday television							1.50
Walking between appointments	0.58	0.58	0.58	0.58	0.58	0.58	0.58
Work##	—	—	—	—	—	—	—

TABLE 17--Continued

School	Monday	Tuesday	Wednesday	Thursday	Friday	Sabbath	Sunday
Band practice##	—		—		—		
Chapels		0.50		0.50			
Choir practice	—		—		—		
Classroom contact	—	—	—	—	—		
Committee work							0.50
Library##	—	—	—	—	—		
Meals (three)	1.50	1.50	1.50	1.50	1.50	1.50	1.50
Play period	1.00	1.00	1.00	1.00	1.00*		
Religious services					1.00	3.20	
Saturday evening activity						2.75	
Study period##	—	—	—	—			—
Worship, dorms, a.m.	0.17	0.17	0.17	0.17	0.17		0.17
Worship, dorms, p.m.	0.25	0.25	0.25	0.25	0.25		0.25

#Meets Friday evening after sundown

##Time to be written in by student's counselor

*Can. be transferred to Saturday when sundown time is early

adjusted to satisfy recommendations from the above four sources, prior to their placement into table 16.

The daily schedule in table 16 was a preparatory step toward a balanced schedule for the average student. The schedule is the result of the time-phase of this study and was limited to the provision of time periods, not specifying the clock time for any activity to begin or end. The latter task would be the responsibility of each school's principal and his administrative team.

Time needs for students were not being satisfied in table 16. A recommended time balance was obtained for 17 student activities listed in table 17, but blanks were left to be filled in with optimum time periods for each student.

CHAPTER VI

SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

Summary

The purposes of this study were (1) to determine the present and desired states of educational balance in academic achievement, vocational and professional interests, social growth, physical activities, and religious experience; and (2) to construct a daily schedule, using information from the review of literature, investigation into the five areas of education experienced by students, and time allotments provided by academy administrators. This study involved 1,997 students in 18 Seventh-day Adventist boarding academies with enrollments of from 32 to 260 students across grades ten, eleven, and twelve. The student respondents comprised the whole population of the 18 academies in the three grade groups. The students completed a pilot tested questionnaire, 55 of their administrators expressed their convictions for time allotments for 27 daily student activities, and each of the 18 principals responded to a supplementary questionnaire designed to gather other pertinent data for the study.

Various authors were cited in order to formulate a statement of educational balance. They specified that it was a dynamic process set to include the correct subjects of study in a student's

curriculum; the availability of professional guidance for youth; the ability of a student to handle social problems and pressures, and to satisfy social needs; the skill to care for one's mental and physical health; and the adoption of spiritual and moral values that improve the worth of a person. These authors were explicit that the school, community, and students must be coworkers to achieve educational balance.

Factors that contribute to balanced education are sufficient and regular sleep, correct diet, regular eating habits, physical exertion, work complementing mental taxation, efficient use of time, certain hours for study, a daily Bible study hour, temperance, and a cheerful attitude.

Academic Achievement

Students who rated themselves as possessors of excellent academic grades appeared certain of their ability to achieve. As academic grade averages declined, so also did perceived ability to achieve.

Girls scored higher in academic achievement than did boys, sophomores agreed more with the ideals of the panel than did juniors or seniors, and juniors rated lowest of the three class groups. The mean for all students was 345, a little above the mean expectancy for ideal educational balance.

Vocational and Professional Interests

Work experiences at school helped students acquire summer employment and aided in career preparation. Industrial work was

of greater help to boys in career preparation, while departmental work in the school was of greater help to girls.

An activity outside the classroom that promoted career choices was membership in school organizations. Dorm worships and chapels (assemblies) were of little value to students in helping them to make a career choice.

Of the five areas in educational balance, this area rated the lowest at 290 points, a placement of a little below the mean expectancy for ideal educational balance. The sexes tied at the mean for all students, sophomores scored higher than the juniors, and seniors exceeded the achievements of the other two class groups.

Social Growth

Positive responses, indicating social attainments of students, were observed for decision making, handling daily problems, meeting appointments, communication with parents, ability to understand people better, and knowledge of available government services. Social growth was exemplified in students as they related to peers, experienced by students living in a dormitory, and strengthened by having a roommate.

In social growth seniors scored highest, sophomores second, and juniors slightly lower than the other class groups. Girls scored higher than boys, and the mean for this area was 343, a little above the mean expectancy for ideal educational balance.

Physical Activities

Students had the knowlege to select a proper diet and to practice temperance. Knowledge put into action was evidenced by

less than half of all students in not eating between meals, but more than half declared that they practiced good posture. Getting daily physical exercise in the open air received the least participation of any mentioned activity.

The mean score for all students in this area was 316 points, slightly above the mean expectancy for educational balance, but lower than the means for academic achievement and social growth, and higher than the mean for vocational and professional interests. The means recorded for the remaining five variables for physical activities differed no more than a few points among themselves, supporting the mean for all students.

Religious Experience

Strengths in religious experience were portrayed by the participation of nearly all students in giving tithe of their earnings to the church, through learning spiritual lessons from secular classes, by the practice of experimental religion, in believing that the Bible was the most important book for them, and by their attendance at religious services. Weaknesses in religious experience were observed in the reluctance of students to serve others anywhere and to conduct or participate in voluntary prayer bands.

Prayer as a part of a student's daily life appeared to influence his/her academic grade average. Student responses indicated that prayer may also shield a person from temptation to do wrong.

Christianity was more highly emphasized by academies than

were good grades. Girls (n = 610) did better than boys (n = 390) in maintaining a personal commitment to Christ, and more girls (n = 136) than boys (n = 83) placed themselves in the category of excellent students.

No greater compactness and cohesiveness among weighted scores per question by academy was observed than in religious experience. The mean score for religious experience for all students was 341, a little above the mean expectancy for educational balance. The mean scores for academic achievement, social growth, and religious experience were within two percent error of equality.

Development of the Daily Schedule

Student time needs as ascertained from the Student Questionnaire were arithmetically averaged with time periods for the same activity for which academy administrators had opinioned the optimum length. These time periods were then adjusted according to guidelines from chapters 2, 4, and 5 of this study. The final list of 24 time provisions was divided into three main categories for placement into the daily schedule: personal, work, and school. Each time allotment indicated on the daily schedule in table 16 was placed there to reveal the time needs perceived by students and their administrators. Due to the method of approach to determine these time needs, it was not possible to pre-determine total daily time, preventing any digression from the 24-hour daily time limit. In this study the total time for any day was seen to exceed this limit.

Large time allocations from Monday through Friday in the daily schedule included sleep (8.00 hours), work (3.50 to 4.00

hours), and classroom contact (3.58 hours). Free time was long on Sabbath and Sunday. On Sabbath, time for religious services received a large time allocation of 3.20 hours, and on Saturday night 2.75 hours were reserved for activities appropriate for students. A 2.25-hour play time was available on Sunday plus 1.50 hours of television viewing.

Possible adjustments to timed activities were explained for five variations of student needs in order to satisfy the 24-hour daily time limit. These variations included adjustments to classroom contact hours, which necessitated changes in library and study time; reduction in free time; increases and decreases in the mean work time of 3.70 hours; and the elimination of one or both music practice periods. One or more of these adjustments were suggested to accommodate particular, individual time needs for students.

Five Area Summary

The status of educational balance, using the five areas of investigation in this study and the ideals of the panel, was low for schools such as SDA boarding academies that have high standards and an impressive philosophy for existence. The lowest balance was in the area of vocational and professional interests, followed by the area of physical activities. Academic achievement, social growth, and religious experience scored above the mean expectancy for educational balance and were within 2% error of being equal. The mean score for all five areas was 327, a rating slightly above the mean for educational balance. The highest score attainable,

theoretically, was 500, but the highest score by any academy for any question was 472.

Conclusions

The statements in conclusion were intended to answer the questions proposed in the purposes of the study. The questions are listed below in the order of proposal.

Question: How much time and emphasis was being given by students and staff to each of the five areas of educational balance?

Because students expressed a desire to study more subjects and wished to learn much in each, a thirst for knowledge may have been revealed. To satisfy this desire, more time would be needed to expand course offerings, but perhaps student replies were a matter of desire alone, fully recognizing problems of realization.

Discrepancies in the value placed on music credits may have been influenced by entry requirements into higher education in music, prompting high worth; low value may have been placed by students who emphasized achievement and participation above credit.

Requirements to think, placed upon students by their teachers, may have been of various depths and periodicity. The emphasis may have been more than mediocre to have made the impression on the majority of students reporting.

Students who could not find time to talk with the guidance counselor regarding careers may have lacked motivation, been too busy, or had a time conflict. Motivation may come later, a too-busy program may be temporary, and a time conflict resolved through concentrated effort. To find time may be a problem but solvable.

Stress placed by schools and/or parents on a decision for a college major and a career choice may have been the reason that half the total number of students studied had jumped these hurdles in their education. This observation may have also indicated student emphasis in vocational interests.

The social growth exhibited by students may have been the result of classroom instruction, extracurricular experiences, and increased chronological age. The quality of getting everything done that was required may have been possible through teacher extension of time. No mention was made that it was done on time and without penalty.

Social growth was perhaps enhanced through life in a dormitory, and by trained persons serving as deans of these student residences. A social growth deficiency in student preparation for marriage and family life was detected. Because seniors declared that they had a better foundation in this subject than their peers, and because the survey was conducted in February, more information may have been forthcoming to them from their schools.

Out-of-classroom instruction such as from church sermons, health seminars, books, home training, and the family doctor may have provided students with knowledge to select a proper diet, who were not receiving it in their schools. Perhaps the practice of temperance and good posture were encouraged by contact with the above named sources, but that was not clarified, so the schools could have been the main supporters of these two traits.

Not having time for personal devotions could have been a problem of time use efficiency or of complacency by the students.

No time period was specified, so a few minutes would have satisfied devotional requirements. If a daily schedule as shown in table 17 were completed for a student, he/she should have time for the religious experience of daily personal devotions.

Question: Was sufficient time being given to work in order to satisfy the SDA ethic for balanced employment of a student and his time?

Could it be true that students solved, partially or entirely, their time deficiencies by reducing work and sleep hours? The answer appears to be yes, because students wanted more time for work and sleep but seemed unable to acquire it. Time adjustments in work length could be planned under parent and/or school advisement, but a reduction in sleep time would be of a student's choosing, inspired by possible study pressures.

From the study it may be concluded that the average number of hours of work experienced by students was sufficient to satisfy the guidelines. To work a shorter time may place a student's daily program in imbalance, attributable mainly to work and little to academics.

Question: What was the relationship between work time and other time demands placed upon students?

The activities shown by this study to have variable time quantities were so closely interrelated that little tolerance for change was possible. For balance, upper and lower limits of time for each of these activities was implied with no specification for preciseness. Work has a lower limit of "a few hours" per day from this study and an upper limit of 20 hours per week, set by state

law. Classes are usually of 40 minutes' duration, so the number of these time blocks becomes a governor of a schedule, with side effects on library and study time. Free time could be nil, but its dispossession may prove intolerable by the student. Variability of time for music instruction has a lower limit of zero (no class) and an upper limit similar to that for class time-blocks. The situation existing between and among these variables seems like fitting together the pieces of a puzzle that might fall apart with little provocation.

Question: What out-of-classroom needs expressed by students were and were not being satisfied?

An improved relationship with peers and the ability to understand people better as a result of attending academy was perhaps realized through the consistent, concentrated efforts of teachers and administrators. Were it not for the trained personnel in the academies, these indications of social growth might become faint or undetectable.

Difficulty expressed by half the number of all students in fulfilling the needed hours of sleep may have been caused by family problems, intemperance, and other factors unrelated to pressures to complete assignments. Reasons for lack of sleep may be as large as the number residing in the dormitory.

An equally large number of students did not get daily physical exercise in the outdoors, probably because activities were concentrated in the gym, a dormitory recreation room, or in the work place for some. Physical exercise may have been a reality

but not in the outdoors, so the program may have been one of less balance rather than imbalance.

Question: What is the religious experience of students who attend a Seventh-day Adventist academy and how may this experience be enhanced?

It was the prerogative of students to choose to pay tithe on their earnings, which may be a stronger indicator of religious experience than submission to a school dictum. Another matter of choice was to make prayer a part of the daily life, and the large number of students who did this may have been the earners of an improved or higher academic grade average.

More participation in witnessing groups may have been desirable. But how many students would be effective in this role? Some students, by their presence only might prove detrimental in their effect upon observers. Similar cautions may be applicable to prayer bands. These programs might be enhanced through methods outlined by religious activities committees.

Recommendations

The recommendations were divided into two sections. Suggestions are proposed for school implementation, followed by a delineation of recommendations for further study.

Suggestions for School Implementation

The availability of the school guidance counselor should be assured all students, to supply their needs for career direction and advisement. Other staff could be enlisted to work under the

auspices of the guidance department to provide nearly unrestricted time for student-staff interaction.

Academies would do well to supply and emphasize instruction in marriage and family life preparation.

Re-structuring of classes in physical education should be studied in an endeavor to balance academy education for more students.

Schools should work carefully with students to construct personalized daily schedules using table 17, in order to provide optimum time for activities.

To study the establishment of summer school and/or the enlongation of the school year in an effort to relieve time constraints experienced by students, would be a worthwhile endeavor toward balanced education.

Schools should perhaps provide Sabbath physical activities for their students, and vigorous outdoor physical exercise on a daily schedule could be planned as a goal.

Academy leaders should counsel their students to be cognizant of personal religious experiences happening within themselves in contrast to the observance of routine religious requirements.

Recommendations for Further Study

1. That a comparative study be performed between the results of this investigation and one for ninth graders, to test the hypothesis that the study was not designed for them
2. That a similar study be completed involving Seventh-day

Adventist students in grades ten, eleven, and twelve in public high schools in the United States

3. That a similar study be prepared and administered to sophomores, juniors, and seniors in day academies
4. That a self-evaluation kit be prepared so that academies may complete the material and quickly determine areas of strengths, concerns, and weaknesses in educational balance. Efforts could begin soon after evaluation to alleviate concerns and to eliminate weaknesses
5. That a small group of students, anonymous and randomly selected, be followed through the study to determine individual reply choices, patterns of thought, and correlation of responses
6. That a four-year longitudinal study of students be conducted, starting from grade nine and using the instruments developed in this study, to determine change in educational balance, if any.

A P P E N D I C E S

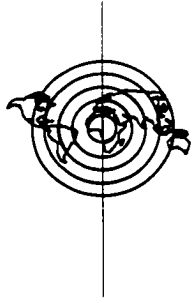
APPENDIX A

LIST OF ACADEMIES BY UNION CONFERENCE
THAT PARTICIPATED IN THIS STUDY

LIST OF ACADEMIES THAT PARTICIPATED

- I. Columbia Union Conference
 - 1. Highland View Academy, Rt. 1, Box 286, Hagerstown, MD 21740
- II. Lake Union Conference
 - 1. Adelpian Academy, 820 Academy Road, Holly, MI 48442
 - 2. Broadview Academy, LaFox, IL 60147
 - 3. Cedar Lake Academy, Cedar Lake, MI 48812
 - 4. Wisconsin Academy, Columbus, WI 53925
- III. Mid-American Union Conference
 - 1. Maplewood Academy, 700 North Main Street, Hutchinson, MN 55350
 - 2. Sunnydale Academy, Centralia, MO 65240
- IV. North Pacific Union Conference
 - 1. Auburn Adventist Academy, 5000 Auburn Way South, Auburn, WA 98002
 - 2. Milo Adventist Academy, P.O. Box 278, Days Creek, OR 97429
 - 3. Mount Ellis Academy, 3641 Bozeman Trail Road, Bozeman, MT 59715
 - 4. Upper Columbia Academy, Spangle, WA 99031
- V. Pacific Union Conference
 - 1. Thunderbird Adventist Academy, 13401 North Scottsdale Road, Scottsdale, AZ 85254
- VI. Southern Union Conference
 - 1. Bass Memorial Academy, Rt. 2, Lumberton, MS 39455
 - 2. Georgia-Cumberland Academy, Calhoun, GA 30701
 - 3. Highland Academy, Portland, TN 37148
- VII. Southwestern Union Conference
 - 1. Jefferson Academy, Route 4, Box 99, Jefferson, TX 75657
 - 2. Ozark Adventist Academy, Gentry, AR 72734
 - 3. Sandia View Academy, P.O. Box 98, Corrales, NM 87048

APPENDIX B
CORRESPONDENCE RELATED TO THE
QUESTIONNAIRES



Seventh-day Adventists

CHURCH WORLD HEADQUARTERS, 6840 EASTERN AVENUE NW, WASHINGTON, DC 20012 USA
TELEPHONE: (202) 722-6000 • CABLE: ADVENTIST, WASHINGTON • TELEX: 80-580

December 19, 1984

Mr. Eugene W. Rau
Principal
Crawford Adventist Academy
555 Finch Ave. West
Willowdale, Ontario

Dear Brother Rau:

Thank you for the copy of your proposed study regarding the use of time on the academy campus. I am pleased to endorse your study and would encourage each principal to participate.

May the Lord bless you in your efforts as the data is collected and evaluated.

Best wishes.

Sincerely yours,

A handwritten signature in dark ink, appearing to read "F. R. Stephan", with a long horizontal flourish extending to the right.

F. R. Stephan, Director
Office of Education
NORTH AMERICAN DIVISION

FRS:mb

Lake Union
Conference of
**Seventh-day
Adventists**

January 23, 1985

Mr. Eugene W. Rau, Principal
Crawford Adventist Academy
555 Finch Avenue, West
Willowdale, Ontario, Canada M2R 1N5

Dear Mr. Rau:

We are very pleased to be able to inform you that the Educational Management Team of the Lake Union Conference has approved your research request. Please feel free to contact Lake Union academy students and administrators for the purpose of amassing the information you need.

Most sincerely,

W. E. Minder
Director
OFFICE OF EDUCATION

aa

Box C
Berrien Springs, Michigan 49103
(616) 473-4541

Dear Principal:

I am a doctoral student in educational administration at Andrews University and have been a boarding academy principal in the United States. Dr. E. A. Streeter is my research director.

The research for my dissertation includes an investigation of the status of educational balance and its relation to the daily time allotment provided by the school and how it is utilized by students in grades 10 - 12 in S.D.A. boarding academies in the U.S. The purpose of the study is to prescribe a time guide useful to students and administrators alike. Therefore, your help and participation in this project will be greatly appreciated.

You will be sent a packet of questionnaires, a copy of which is enclosed, for the students, which may be administered by your dormitory deans, Bible teachers, or anyone you designate. The questionnaires have been pilot tested and duly revised for content and clarity. Another packet will contain Administration Opinionnaires to be completed by you, your vice principal, and your dormitory deans. Also, you will find in the packet a principals questionnaire to be completed only by you. About forty minutes will be required to complete the student questionnaire and about thirty minutes for the Administration Opinionnaire, plus a few more minutes on your part of the research.

After the tabulation of the questionnaires and opinionnaires, a summary of response frequencies will be sent to you along with guidelines for named activities. You will also receive a suggested daily schedule for a typical week of school.

The greater the number of academies participating in this project, the more valid the data. We guarantee that in the analysis of the data neither respondents nor schools will be identified.

May you and your school be counted on for help? Your part in the research is certainly needed and appreciated. Please complete the enclosed card with your favorable reply.

Sincerely yours,

Eugene W. Rau
Research Associate
(Principal, CAA)

APPENDIX C

TIME/ACTIVITY STUDY FOR RESIDENCE
ACADEMY STUDENTS

ACTIVITIES	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SABBATH	SUNDAY
Dorm lights on							
Rising Bell							
Morning Worship - begin							
Morning Worship - end							
Breakfast - decks open							
Breakfast - decks close							
Classes begin							
Morning							
Work, Industry - begin							
Morning							
Work, Industry - end							
Lunch - decks open							
Lunch - decks close							
Spiritual type							
Chapel - begin							
Spiritual type							
Chapel - end							
Secular type							
Chapel - begin							
Secular type							
Chapel - end							
Student Association							
Chapel - begin							
Student Association							
Chapel - end							

ACTIVITIES	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SABBATH	SUNDAY
Afternoon							
Work, Industry - begin							
Afternoon							
Work, Industry - end							
Classes end							
Supper - decks open							
Supper - decks closed							
Girls							
Play period - begin							
Girls							
Play period - end							
Boys							
Play period - begin							
Boys							
Play period - end							
Mixed							
Play period - begin							
Mixed							
Play period - end							
Dorm Worship - begin							
Dorm Worship - end							
Prayer Meeting - begin							
Prayer Meeting - end							
Evening							
Study Period - begin							
Evening							
Study Period - end							

ACTIVITIES	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SABBATH	SUNDAY
Christian Witnessing Time Provided							
Free time (Quantity)							
Vespers							
A.Y.A. (Time provided)							
Clubs (Time provided)							
Dorm Lights Out							
Sabbath School begins							
Sabbath School ends							
Church Sabbath Services begin							
Church Sabbath Services end							
Entertainment (provided)							

Remarks: _____

Do you want a copy of the final results of this study? YES NO

APPENDIX D

STUDENT QUESTIONNAIRE

INSTRUCTIONS
STUDENT QUESTIONNAIRE
S.D.A. BOARDING ACADEMIES
U.S.A.

This questionnaire is to be completed by students in grades 10-12.

Keep your booklet instruction side up until you are told to begin.

Do not write, print, nor code your name on the answer sheet.

Indicate your sex and grade on the answer sheet, side 2.

There is no right nor wrong answer to any question.

You are to respond to each question on the answer sheet.

Use a soft lead pencil to darken the response you have selected.

Any erasure on the answer sheet must be clean and thorough.

When told to begin, you may open the booklet and start on page one.

Proceed steadily through to the end of the questionnaire.

When requested, hand your material to your instructor.

Remain in your seat until given permission to leave.

STUDENT QUESTIONNAIRE
S.D.A. BOARDING ACADEMIES, U.S.A.

Please darken the response box on the Answer Sheet which most closely describes yourself or answers the question.

1. I plan to go on to college/university after academy.
(a) Yes (b) No (c) Maybe
2. My grade average is (a) excellent (b) very good
(c) good (d) poor (e) very poor
3. When I graduate from academy, the number of units I will have earned is (One unit = 10 semester periods.)
(a) 18-19 (b) 20-21 (c) 22-23 (d) 24-25 (e) More than 25
4. I will have earned about the following number of units in music
(a) 0-0.5 (b) 0.6-1.5 (c) 1.6-2.5 (d) 2.6-3.5 (e) 3.6 or more
5. I plan to work in some area of S.D.A. denominational employment. (a) Yes (b) Undecided (c) No
6. When I graduate from academy I will have taken the following number of subjects. (a) 1-2 (b) 3-4 (c) 5-6 (d) 7 or more
7. For study time out of class each day of school, I need the following number of hours: (a) $\frac{1}{2}$ (b) 1 (c) $1\frac{1}{2}$ (d) 2 (e) $2\frac{1}{2}$
8. The amount of time I spend in the library each day is the following number of minutes:
(a) 20 (b) 30 (c) 40 (d) 50 (e) 60
9. On a typical school day I should be able to spend the following number of hours in such work as in an office, industry, maintenance, custodial, food service, dorm dean assistant, accompanist, or grounds: (a) 3 (b) $3\frac{1}{2}$ (c) 4 (d) $4\frac{1}{2}$ (e) 5
10. I spend the following number of hours in one or more of these work areas: (a) 0-1 (b) 1-2 (c) 2-3 (d) 3-4 (e) more than 4
11. For my personal time for leisure each school day I would like the following number of minutes:
(a) 30 (b) 45 (c) 60 (d) 75 (e) 90
12. The number of hours of sleep I get each night on the average is (a) 5 (b) 6 (c) 7 (d) 8 (e) 9
13. The number of hours of sleep I should get is
(a) 5 (b) 6 (c) 7 (d) 8 (e) 9

14. I find that I get about the following number of minutes of physical exercise each school day:
(a) 20 (b) 25-30 (c) 40 (d) 45-55 (e) 60 or more
15. I would like to get about the following number of minutes of physical exercise each day:
(a) 30 (b) 35 (c) 40 (d) 45 (e) 50
16. For my personal devotions each day I would like the following number of minutes: (a) 10 (b) 15 (c) 20 (d) 25 (e) 30
17. I believe that dorm worships should last for the following number of minutes: (a) 7 (b) 8 (c) 10 (d) 15 (e) 20
18. I find that I need the following number of minutes to eat a meal in the cafeteria: (a) 15 (b) 20 (c) 30 (d) 40 (e) 50

Questions 19 through 99 are included in order to determine your educational balance. Please read each question carefully before you darken the response box that most closely describes yourself or answers the question.

19. The time in question 18 is available to me.
(a) Yes (b) Mostly (c) Somewhat (d) No (e) Not sure
20. My present grades are an improvement over those for last year.
(a) Yes (b) Mostly (c) Somewhat (d) No (e) Not sure
21. My grades are an indication of my ability to achieve.
(a) Yes (b) Mostly (c) Somewhat (d) No (e) Not sure
22. Compared to my use of time for study last year, my time usage now is (a) very good (b) good (c) the same (d) poor (e) very poor
23. I find enough study time each day to be prepared for my classes. (a) Yes (b) Mostly (c) Somewhat (d) No (e) Not sure
24. My school's top emphasis for its students is to get good grades. (a) Yes (b) Mostly (c) Somewhat (d) No (e) Not sure
25. I view my academy classes as exploratory for what I might want to study in college.
(a) Yes (b) Mostly (c) Somewhat (d) No (e) Not sure
26. My teachers are reasonable in the time limits they place on getting assignments done.
(a) Yes (b) Mostly (c) Somewhat (d) No (e) Not sure
27. I receive adequate instruction at my school regarding diseases and their causes.
(a) Yes (b) Mostly (c) Somewhat (d) No (e) Not sure

28. My teachers require me to think.
(a) Yes (b) Mostly (c) Somewhat (d) No (e) Not sure
29. My school offers plenty of electives.
(a) Yes (b) Mostly (c) Somewhat (d) No (e) Not sure
30. To earn my diploma from academy I would be in favor of taking
(a) many subjects with much to be learned in each
(b) few subjects with more to be learned in each
(c) undecided
(d) many subjects with little to be learned in each
(e) few subjects with little to be learned in each
31. I value my music credits in importance to me as (a) very high
(b) high (c) average (d) low (e) very low
32. I have decided what my major will be in college. (a) Yes
(b) Mostly (c) Somewhat (d) No (e) I don't plan to attend college
33. I have decided what my career will be. (a) Yes (b) Mostly
(c) Somewhat (d) No (e) Uncertain
34. I feel that my school is giving me adequate career and vocational guidance. (a) Yes (b) Mostly (c) Somewhat
(d) No (e) Not sure
35. I require more career information than my school provides.
(a) Yes (b) Mostly (c) Somewhat (d) No (e) Not sure
36. Working in one or more of the school's industries is/was of help in preparing me for a career.
(a) Yes (b) Mostly (c) Somewhat (d) No (e) Not sure
37. Working in one or more of the departments of the school is/was of help in preparing me for a career.
(a) Yes (b) Mostly (c) Somewhat (d) No (e) Not sure
38. Being a member of one or more school organization is/was of help to me in preparing for a career.
(a) Yes (b) Mostly (c) Somewhat (d) No (e) Not sure
39. It is a problem for me to find time to talk with the guidance counselor about careers and professions.
(a) Yes (b) Mostly (c) Somewhat (d) No (e) Not sure
40. My parents were of the greatest help to me in making a career choice. (a) Yes (b) Mostly (c) Somewhat (d) No (e) Not sure
41. My school library contains material helpful in vocational and career information.
(a) Yes (b) Mostly (c) Somewhat (d) No (e) Not sure

42. My work experience at school has helped me to obtain a summer job. (a) Yes (b) Mostly (c) Somewhat (d) No (e) Not sure
43. In helping me to make a career choice, I rate chapels as (a) very good (b) good (c) average (d) poor (e) very poor
44. In helping me to make a career choice, I rate dorm worships as (a) very good (b) good (c) average (d) poor (e) very poor
45. The time the school recommends for me to get up in the morning is (a) about right (b) early (c) too early (d) late (e) too late
46. My time for leisure seems to be (a) about right (b) little (c) too little (d) too much (e) nonexistent
47. Living in a dormitory has helped me to grow socially. (a) Yes (b) Mostly (c) Somewhat (d) No (e) Not sure
48. It has helped me to grow socially to have a roommate. (a) Yes (b) Mostly (c) Somewhat (d) No (e) I have none
49. I rate my communication with my parents as (a) very good (b) good (c) average (d) poor (e) very poor
50. I meet my appointments on time. (a) Yes (b) Mostly (c) Yes and no (d) Some (e) No
51. I get everything done that is required of me. (a) Yes (b) Mostly (c) Yes and no (d) Some (e) No
52. I plan each day how to use my time. (a) Yes (b) Mostly (c) Yes and no (d) Some (e) No
53. My school provides enough time for social interaction. (a) Yes (b) Mostly (c) Somewhat (d) No (e) Not sure
54. My school provides an adequate amount of entertainment. (a) Yes (b) Mostly (c) Sometimes (d) No (e) Not sure
55. At my school we have assigned seating in the cafeteria. (a) Yes (b) Mostly (c) Sometimes (d) No (e) Not sure
56. Holding a student office has helped me to learn how to work with people. (a) Yes (b) Mostly (c) Somewhat (d) No (e) I have not held a student office
57. Being in academy has helped to improve my relationship with my peers. (a) Yes (b) Mostly (c) Somewhat (d) No (e) Not sure
58. Class attendance aids my social growth. (a) Yes (b) Mostly (c) Somewhat (d) No (e) Not sure

59. My school has helped me to understand people better.
(a) Yes (b) Mostly (c) Somewhat (d) No (e) Not sure
60. My school has helped me to know how to make good decisions.
(a) Yes (b) Mostly (c) Somewhat (d) No (e) Not sure
61. My school has helped me to be prepared for marriage and family life.
(a) Yes (b) Mostly (c) Somewhat (d) No (e) Not sure
62. I believe that I can handle daily problems that arise.
(a) Yes (b) Mostly (c) Somewhat (d) No (e) Not sure
63. I know what government services are available to me.
(a) Yes (b) Mostly (c) Somewhat (d) No (e) Not sure
64. I like making my own decisions.
(a) Yes (b) Mostly (c) Sometimes (d) No (e) Not sure
65. Holding a student office takes study time away from me. (a) Yes
(b) Mostly (c) Sometimes (d) No (e) I don't hold an office
66. I find it difficult to get the number of hours of sleep I need.
(a) Yes (b) Mostly (c) Sometimes (d) No (e) Not sure
67. Each day I get vigorous physical exercise in the open air.
(a) Yes (b) Mostly (c) Somewhat (d) No (e) Not sure
68. My work assignment gives me all the daily exercise that I need.
(a) Yes (b) Mostly (c) Somewhat (d) No (e) Not sure
69. My school sponsors physical activities for students on Sabbath.
(a) Always (b) Almost always (c) Almost never (d) Never
(e) Not sure
70. I avoid eating between meals. (a) Always (b) Almost always
(c) Sometimes (d) Almost never (e) Never
71. I have a good attitude toward my school. (a) Always
(b) Almost always (c) Almost never (d) Never (e) Not sure
72. I have the knowledge to select a healthful diet for myself at my school cafeteria. (a) Yes (b) Mostly (c) Somewhat (d) No
(e) Not sure
73. This knowledge was obtained by me in classroom study.
(a) Yes (b) Mostly (c) Somewhat (d) No (e) Not sure
74. I practice good posture. (a) Always (b) Almost always
(c) Almost never (d) Never (e) Not sure
75. At my school we study human physiology and hygiene.
(a) Too much (b) A lot (c) Enough (d) Little (e) No

76. I practice temperance in my life style. (a) Always
(b) Almost always (c) Almost never (d) Never (e) Not sure
77. I feel that physical education classes help/helped me to
balance my academy education. (a) Yes (b) Mostly
(c) Somewhat (d) No (e) Not sure
78. Compared to when I was at home, my health at school is
(a) much better (b) better (c) the same (d) poorer
(e) much poorer
79. The only time I have for personal devotions is before the
regular time to get up in the morning. (a) Always (b) Almost
always (c) Sometimes (d) Rarely (e) Never
80. There is time for me to have daily personal devotions.
(a) Always (b) Almost always (c) Sometimes (d) Rarely
(e) Never
81. For a spiritual uplift I count on church services as one way
to get it. (a) Always. (b) Almost always (c) Somewhat
(d) No (e) Not sure
82. For me the Bible is the most important book. (a) Always
(b) Almost always (c) Somewhat (d) No (e) Not sure
83. The most important book in my school is the Bible. (a) Always
(b) Almost always (c) Somewhat (d) No (e) Not sure
84. The ratio of my teachers who believe that the Bible is the most
important book is (a) all (b) $3/4$ (c) $1/2$ (d) $1/4$ (e) 0
85. My school's top emphasis is Christianity. (a) Always
(b) Almost always (c) Somewhat (d) No (e) Not sure
86. Here at this academy I have been taught experimental religion.
(a) Too much (b) A lot (c) Enough (d) Little (e) No
87. Dorm worships help me to be a spiritually enriched person.
(a) Yes (b) Mostly (c) Somewhat (d) No (e) Not sure
88. My teachers bring out spiritual lessons in their classes even
though they may not be Bible subjects.
(a) Yes (b) Mostly (c) Somewhat (d) No (e) Not sure
89. Even though I could perform the duty, lack of time to do so
would prevent me from holding a church or Sabbath School
office. (a) Always (b) Almost always (c) Somewhat (d) No
(e) Not sure

90. My Bible teacher requires a lot of scripture memorization in his class. (a) Always (b) Almost always (c) Almost never (d) Never (e) Not sure
91. Voluntary student prayer bands are active in my school. (a) Always (b) Almost always (c) Almost never (d) Never (e) Not sure
92. I would like to become a student missionary. (a) Yes (b) Mostly (c) Somewhat (d) No (e) Not sure
93. I am well acquainted with my Bible. (a) Yes (b) Mostly (c) Somewhat (d) No (e) Not sure
94. I participate in one or more witnessing groups. (a) Always (b) Almost always (c) Rarely (d) Never (e) I am not a member of one
95. Prayer is a part of my daily life. (a) Yes (b) Often (c) Sometimes (d) Rarely (e) Never
96. Prayer shields me from yielding to temptation to do wrong. (a) Yes (b) Mostly (c) Somewhat (d) No (e) Not sure
97. Serving others is one of my daily goals. (a) Yes (b) Mostly (c) Somewhat (d) No (e) Not sure
98. I am maintaining a personal commitment to Christ. (a) Yes (b) Mostly (c) Somewhat (d) No (e) Not sure
99. I give tithe on my earnings here at school (or I gave permission for tithe to be deducted from my earnings). (a) Always (b) Almost always (c) Rarely (d) Not on school earnings (e) Not on any earnings

APPENDIX E

ADMINISTRATION QUESTIONNAIRE

ADMINISTRATION QUESTIONNAIRE
S.D.A. BOARDING ACADEMIES, U.S.A.

Directions: Please evaluate each time or frequency by checking the box which best describes how you think that item relates to the needs of the average student.

The middle time column totals 168 hours, the number of hours per week, when calculated for a typical week of school. Therefore, any time change to the right of this column necessitates a time change to the left for some other time need in order to retain the 168 hours.

Note: m = minutes, h = hours

1. Time for any meal	10 m	20 m	30 m	40 m	50 m
2. Morning dorm worship	7 m	8 m	10 m	15 m	20 m
3. Each chapel service, meeting twice a week	20 m	25 m	30 m	35 m	40 m
4. Evening play period	20 m	30 m	40 m	50 m	60 m
5. Evening dorm worship	7 m	8 m	10 m	15 m	20 m
6. Free time during a school day	30 m	45 m	60 m	75 m	90 m
7. Library time during a school day	20 m	30 m	40 m	50 m	60 m
8. Voluntary prayer bands, meeting on a school day	5 m	10 m	15 m	20 m	25 m
9. Committee work, per week	25 m	30 m	35 m	40 m	45 m
10. Physical exercise each school day	30 m	35 m	40 m	45 m	50 m
11. Classroom contact each school day	120 m	160 m	200 m	240 m	280 m
12. Personal, every day devotions	10 m	15 m	20 m	25 m	30 m
13. Dressing and toilet	30 m	45 m	60 m	75 m	90 m
14. Walking between classes, appointments	30 m	45 m	60 m	75 m	90 m
15. Sabbath witnessing	50 m	60 m	70 m	80 m	90 m
16. Sunday organized play	120 m	135 m	150 m	165 m	180 m

17. Evening study period	$\frac{1}{2}$ h	1 h	$1\frac{1}{2}$ h	2 h	$2\frac{1}{2}$ h
18. Work	3 h	$3\frac{1}{2}$ h	4 h	$4\frac{1}{2}$ h	5 h
19. Sleep each night	5 h	6 h	7 h	8 h	9 h
20. Sunday library	2 h	$2\frac{1}{2}$ h	3 h	$3\frac{1}{2}$ h	4 h
21. Sunday television	1 h	$1\frac{1}{2}$ h	2 h	$2\frac{1}{2}$ h	3 h
22. Religious services	$3\frac{1}{2}$ h	4 h	$4\frac{1}{2}$ h	5 h	$5\frac{1}{2}$ h
23. Sabbath freetime	$4\frac{1}{2}$ h	5 h	$5\frac{1}{2}$ h	6 h	$6\frac{1}{2}$ h
24. Sunday freetime	$2\frac{1}{2}$ h	3 h	$3\frac{1}{2}$ h	4 h	$4\frac{1}{2}$ h
25. Saturday evening activity	2 h	$2\frac{1}{2}$ h	3 h	$3\frac{1}{2}$ h	4 h
26. Number of band practices each week	1	2	3	4	5
27. Number of choir practices each week	1	2	3	4	5

APPENDIX F

PRINCIPALS QUESTIONNAIRE

PRINCIPALS QUESTIONNAIRE

Principals Questionnaire
United States S.D.A. Boarding Academies

Please answer the questions below as accurately as possible.

1. Do you have a work coordinator on your staff?
Yes _____ No _____
If your answer is yes, how much of his time is used as coordinator?
____ a. 25%
____ b. 50%
____ c. 75%
____ d. Other (specify) _____
2. Do you have a chairman or director of religious activities on your staff?
Yes _____ No _____
If your answer if yes, how much of his time is involved in these activities?
____ a. 10%
____ b. 20%
____ c. 30%
____ d. Other (specify) _____
3. Do you have a social activities coordinator on your staff?
Yes _____ No _____
If your answer is yes, how much of his time is used as coordinator?
____ a. 10%
____ b. 20%
____ c. 30%
____ d. Other (specify) _____

4. Do you have a chairman of an academic affairs committee?
Yes ___ No ___ No committee ___
Does this committee meet regularly ___ or on call ___?
5. Do students from your school present services in area churches?
Yes ___ No ___
If your answer is yes, do you wish there was more ___ same ___
less ___ involvement in this?
6. Does your school sponsor a yearly fund raising drive that involves
all students and staff? Yes ___ No ___
7. How many times during the school year do you use Sunday as a
regular day of school? (a) None (b) 1-2 (c) 3-4 (d) 5-6
(e) 7 or more
8. Is graduation credit given to your students for work experience?
Yes ___ No ___
9. How often is your school library open for student use on Sunday?
(a) Almost every one (b) Only on school Sundays (c) Not at all
10. If it is open on Sunday, for how many hours?
(a) 1½ (b) 2 (c) 2½ (d) 3 (e) 3½
11. Do your students have to pay more for an overload of classes?
Yes ___ No ___
12. Is it possible for a student at your academy to get graduation
credit for a subject by passing a test without doing the
classwork? Yes ___ No ___

If your answer is yes, how are students made aware of this
provision? (a) School Bulletin (b) Verbal announcement
(c) Not advertised

How many students take advantage of this each year?
(a) None (b) 1-2 (c) 3-4 (d) 5-6 (e) 7 or more

Do you feel that this is an acceptable credit plan for students?
Yes ___ No ___
13. The number of units (one unit = 10 semester periods) of credit
your seniors have to earn to graduate is
(a) 18 (b) 19 (c) 20 (d) 21 (e) 22 or more

L I T E R A T U R E C I T E D

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