

Assessment of College Environments as an Approach to Institutional Self-Analysis *

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The '70's are crucial years for higher education. They are crucial, for one thing, because of the emergence of a generation of young people, the world over, thoroughly concerned about and seriously involved in college and community affairs. They are crucial, for another thing, because these years have seen countries being confronted by tremendous problems of their own making, and being harassed by mounting tensions in their various interrelations. In the 70's the world has become a world of shrinking distance. New streams of knowledge keep rapidly flowing from laboratories and new technology, which, if not directed with sanity, might threaten to destroy all mankind.

Higher education thus faces the responsibilities of providing the necessary leadership and of serving as the conscience of society. If it has to do these, college and university administrators must make far-reaching decisions—decisions that are rendered all the more difficult by a complex of problems that have never occurred before in the same pattern or with the same magnitude.

The Philippines has its own share of the problems. To mention the most pressing, there is the problem of satisfying the popular expectation for higher education without tolerating low standards which result from (1) general, uncontrolled access to institutions of higher learning and

*Report to the Commission for the Advancement of Christian Higher Education in Asia, 1973.

(2) inadequate background of students; there is the problem of increasing enrollments, which, more often than not, are not matched by proportional increase of instructional facilities; there is the problem of having excess graduates from low priority areas like teacher-training, liberal arts, and commerce while suffering a dearth of graduates from top priority areas like engineering, technology, and agriculture; there is the problem of rising costs in an economy which does not seem to improve in productivity [Alba, 1970].

During the last three months or so, the Philippines has seen the most sweeping changes in many areas, implementing the objectives of the New Society. Cherished values—of concern for social justice of integrity in and dedication to service in government, of industry, and of wise use of personal and national resources—have been given a boost through government persuasion. It behooves our institutions of higher learning to do their bit [Asistin, n.d.; 4]. One thing that educational institutions can do is to evaluate their programs and practices through self-study. In so doing, they will inevitably have to grapple with improvement of instruction, long range planning, improvement of society in

general, satisfaction of local demands, selection of qualified personnel, maintenance of high morale, and encouragement of research and development. But before changes can be suggested in the different phases of institutional functioning, data have to be assembled and collated, and desired goals have to be crystallized. These have to be done first because, while it is necessary to implement changes because the times call for them, it is much more imperative that the direction of such changes be clearly chartered; otherwise, we would find ourselves in as hopeless a maze as that before September, 1972. The needed decisions shall indeed be momentous. And the responsibility for making them falls heavy on the school administration.

IMPORTANCE AND SCOPE OF INSTITUTIONAL RESEARCH

All the problems just cited imply the need for institutional research. For decisions, if they have to be rational, must be made on the basis of relevant data. Brumbough [Brumbough, 1960; 2] has aptly put it thus:

The key to effective administration is the ability of the president and those who work with him to ask the right

questions and then to find right answers. But the right answers to the right questions, whether they are specific or in relation to a given institution or whether they are more comprehensive, must take into account all the relevant, factual data—the kind of data that only institutional research can provide.

There is no gainsaying the fact that any institution planning for change needs first to take stock of itself by systematically evaluating (a) its strengths and weaknesses, (2) the concern people in the college have about programs, and (3) the readiness, or climate, for change. Changes in policy or formulation of new ones should not be matters for snap decisions. How efficiently is instructional space utilized? What courses need to be up-dated or even discontinued in favor of newer ones? Might not there be too much proliferation of courses, thereby increasing costs? What factors determine teaching load? Should a teacher teaching eighteen hours a week, with four or five different subjects to prepare for, be construed as having the same load as one with the same number of hours but with only one or two preparations? How about the size of classes? The point is that policy decisions on these matters cannot be made without research data, for such decisions ob-

viously bring in questions about finance, teacher qualification, priorities, and even the purposes for the institution of education itself.

Planning cannot be done rationally without relevant research data, for these and many more kinds of data—enrollment projections, population movement and growth, economic and industrial growth and change projections, determination of physical facilities, man-power needs for national development— are needed for careful planning. The existing program itself has to be evaluated, and this also means gathering of data through research. Afterwards, new research data are necessary after long-range plans have been formulated because they have to be reviewed from time to time.

Institutional research plays a very important role in the evaluation of specific practices, of teaching procedures, and of strategies. The faculty would, of course, want to know whether educational purposes are being accomplished, or, for that matter, whether these educational purposes are still relevant. Departments sometimes undertake cooperative appraisal of their programs, but as often as not, excellence is simply presumed in many departments.

If the importance of institutional research has been stressed, it is because it has been felt that it is the heart of institutional self-analysis. No responsible school administrator would want to implement changes or make policy decisions without institutional analysis, any more than a doctor would prescribe medicine without first examining his patient.

SOME METHODS OF INSTITUTIONAL ANALYSIS

There are a number of ways of studying an institution. One could study the divisions of a college or the different colleges of a big university -- the students and their teachers, where they both come from, what their goals are, their peculiarities. The report is ordinarily interdisciplinary -- i.e., from the standpoint of education, sociology, economics, political science, anthropology -- and is woven into a *vignette* or narrative, such as what Riesman and Jencks [Riesman and Jencks, 1962; 74] did in their analysis of the San Francisco State College. They viewed the college from many angles because they recognized the importance to the school, of the larger environmental setting in which the college operates. They came up

with the conclusion, among other things, that, contrary to the claims of the college that it was an "intellectual" oriented institution, the students were too job-oriented, seeking a diploma as a passport to occupation; and the students, too many of whom were commuters, had little exposure to environmental forces.

Another approach to institutional analysis would be to get a single institution as the subject of a *case study*, such as the one made by Clark [Clark, 1960]. A sociological analysis, the study shows how pressures of modern society affected the emerging character of the institution. Clark first describes the essential elements which shaped the "personality" of the college, and some of these were (1) the decision of the full-time students to prepare for further education for which many of them were not qualified. (2) the environmental controls, (3) orientations, (4) pressures of public-school administration, and (5) the internal sub-organizations within the formal organization. Because the law required the school to admit all high school graduates, it became unable to cope with many of the problems which arose with the admission of too heterogeneous a group. The net result was that many students left

the college – a junior college then – sadly lacking the bare essentials for making living a truly enriching experience, and totally without prospects for employment because they concentrated on a “transfer curriculum” – one which would only allow them to gain admission to the senior academic division. The task imposed upon the college by its environment and the types of its students – in effect, the sociological forces that were brought to bear upon the institution – shaped its “personality”: a mass college, with an “open-door policy.”

The nagging problems of this school were also the problems of other junior colleges in the United States: the problems of status, the problems of identity, and the problems of autonomy. This study, oriented as it was to total environmental analysis, set a pattern of institutional research that might well complement the normative-survey approach to the study of institutions of higher learning which one reads about in the literature.

Surveys are other forms of institutional analysis. Normally they involve a number of institutions in a school system, and are done by a

team of experts. Practices, programs, faculty, plant, finance, etc. are studied for the purpose of gathering normative data, on the basis of which recommendations for change are made. The broad objectives of the survey are usually set up, data are gathered, collated, and analyzed. These are what have been used in the Philippines, the latest being the 1970 survey [Alba, 1970]. This survey used random sample surveys from which generalizations were derived, and purposive sample surveys from which explanatory and insight information were abstracted. Surveys are valuable because they reveal the actual situation in a total school system, but they are expensive.

Perhaps the most common approach to institutional analysis is accreditation. As practiced, a self-survey, based on a set of criteria of accreditation kit prepared by an accrediting agency is undertaken by the institution which is applying for accreditation. Typically, the self-survey calls for extensive data regarding objectives, student activities, equipment, facilities, services, faculty, and administration. Subsequently, a team inspects the institution and on the basis of its findings, recommends whether the institution should be accredited or not.

There is value in accreditation. For example, the preliminary survey which applying schools are asked to conduct for themselves has actually stimulated schools to review their programs [Stuit, 1961]. Unfortunately, it is the best institutions that are continually examining their programs. Furthermore, teachers who are asked to serve on an accrediting team usually gain broader insights into problems in education.

On the other hand, it is also claimed that accreditation is expensive because the school applying for accreditation has to pay honorariums, per diems, and the travel expenses of the team. Besides, there is a feeling, at least in the Philippines, that accreditation is unnecessary because once courses offered by a school are "recognized" by the Government, the school is entitled to all rights and privileges granted to accredited institutions. There is also the possibility that once a school has acquired an "accredited status" it may simply "coast along" [Stuit, 1961; 5].

The ideal attitude towards institutional analysis is that initiative for making self-studies should reside in the institution itself. Perhaps this can be realized if many valid and

reliable instruments for evaluation which could help administrators and teachers take their own measure are made available to them. Lack of expertise and of money for the purpose could be factors that would deter schools from undertaking institutional self-analysis. A spurring factor, however, is the fact that one of the recommendations of the Alba report [Alba, 1970; 110] is to categorize private institutions in the Philippines into accredited and non-accredited institutions. There is good reason to believe that accreditation will play a greater role in developing initiative for self-analysis.

Recent research in the United States indicates trends towards the development of instruments designed to assess college environments. College environments, to some, refer to the physical plant, the equipment, the faculty, and the students. To others, they include the system of pressures, practices, and policies that influence the development of students towards the attainment of the goals of higher education. It is to the latter concerns that most studies on college environments, and their assessment, confine themselves.

Pace and Stern developed the College Characteristics Index (CCI),

which consists of 300 true-false statements, grouped into 30 ten-item scales (Pace and Stern, 1958). These are called the "press" scales. The CCI usually goes with the Stern Activities Index (AI) [Stern, 1970], also consisting of 300 true-false statements. Similarly, these are called the "needs" scales. In formulating the statements in the CCI, the investigators "matched" the "need" or motives, drives, or goals of students as "revealed" from the AI with an "environmental press," hopefully and eventually to help schools meet student needs in the context of the school environment. For example, "To arrange my clothes neatly before going to bed" is an item in the AI which reveals a need for *orderliness*. In the CCI, this item has a correlate, "Students have assigned seats," which is, according to the authors, an "environmental press" designed to meet the need for orderliness. Such psychological patterns of behavior as abasement, achievement, nurturance, aggression, counteraction, etc., are measured by the CCI.

The value of the CCI lies in the fact that it draws the profile of the school, and the administration of the school is thereby informed about its actual situation. Furthermore,

if there is no congruence between the "needs" and the "press" scales on the implementation of objectives, he is warned that something is the matter. The items in the CCI can serve as the frame of reference in institutional self-analysis, since these items are about (1) the administration with its rules, regulations, policies, facilities, and special features;

(2) the academic community which includes the faculty, their characteristics and teaching procedures; and

(3) the student community and their characteristics, and informal and co-curricular activities.

In 1963, Pace developed his College and University Environment Scales (CUES) and revised it in 1969 [Pace, 1969]. The revised version now consists of 160 statements. From a factor analysis of the items he found dimensions along which college environment differed in practicality, community, awareness, propriety, and scholarship. His data were based from 100 institutions of higher learning distributed all over the United States.

The purpose of the CUES is to aid the colleges and universities in defining the atmosphere or intellectual-social-cultural climate of the

campus. In this connection Feldman /Feldman, 1970; 12/ says that CCI and CUES, clearly, have advanced the measurement of college environments, although they are not without problems and limitations.

In the Philippines, we have not come across, in the literature, any report of an attempt to assess college environments, much less an instrument designed for the purpose.

PURPOSES OF THE PRESENT PROJECT

This project aimed to accomplish the following:

1. To develop a valid and reliable instrument for the assessment of college environments. It was stated above that, to our knowledge, no studies on the assessment of college environments in the Philippines had been reported in the literature nor had been any report of some attempt to prepare an instrument of this kind. There are instruments of this type in the United States, but many of the items in these are culture-bound. The present project aimed to produce one which would suit local conditions and be oriented to the culture.

2. To present the more important findings on the environments of present-day colleges. The second phase of this project, the administration of

the instrument in several four-year colleges in Panay and Negros, gathered data for discussion during the third, and last, phase of the project.

The findings are presented in the succeeding sections. Specifically, the questions to be answered are, as follows:

1. What seems to be the general perception of students of their college environments? Is it achievement oriented? Is it orderly? Is it restive?
2. To what extent do the "scores" in the scales intercorrelate? What are the implications of the obtained inter-correlations?
3. How do the institutions compare in environment when they are grouped by size of enrollment? For instance, are the bigger schools perceived by their students to be more achievement-oriented than the smaller ones?
4. How do the institutions compare when grouped by religious orientation? For instance, are the non-sectarian schools perceived to be more orderly than the Protestant or Catholic schools?
5. How do institutions compare when grouped by curricular emphasis? For instance, are

the technical-vocational schools perceived to be more supportive than the intellectual-academic schools?

6. How do these institutions group themselves when typed on the basis of the developmental dimensions, and of the control-restrictiveness dimensions?
7. Are the three communities – the administrative, the faculty, and the student communities – perceived by the students to be equally development-oriented or equally control-oriented? What are the implications of wide discrepancies in such perceptions, with reference to student morale and faculty, or administration, image?
8. Do students in the different colleges of one institution perceive their respective college environment to be different from one another?

LIMITATIONS OF THE STUDY

The study was conducted under three constraints:

1. Only four-year colleges were included in the study. Two-year colleges and secondary schools were excluded, even if there were divisions of the latter type on the same campus with four-year colleges.

2. Colleges of Law and Graduate Schools were not included either.

3. The geographical areas covered by the study were the islands of Panay and Negros; more specifically, the West Visayas District (Private Schools), consisting of the provinces of Iloilo, Capiz, Antique, Aklan, and Negros Occidental.

DEFINITION OF TERMS

The college is regarded as a social system, with three identifiable communities – the administrative, the academic, and the student communities – which are interacting for good or ill, with informal organizations existing within the formal organization.

In this study college environment is defined as the intellectual-social-and-cultural climate of the campus. The assessment of it includes evaluating the entire physical plant and all its equipment.

In this study, three types of “dimensions” are attributed to college environment. These formed the frame of reference in the discussion of the results. They are:

1. Developmental dimensions
 - a. Achievement orientation
 - b. Orderliness
 - d. Supportiveness
 - h. Welfare Social

2. Control, restrictiveness dimensions
 - c. Restiveness, aggression
 - e. Control, restrictiveness
3. Curricular dimensions
 - f. Practical, technical
 - g. Intellectual, academic

PREPARATION OF THE SCALES: THEIR PSYCHOMETRIC CHARACTERISTICS

The first phase of the project as envisioned in the proposal submitted to the CACHEA was the development of an instrument for gathering data about college environments. The data, in turn, would serve as one frame of reference for a school implementing a program of institutional self-study. This being a pioneer attempt in the Philippines, it presented many problems at the start -- inadequate reference materials and research tools, lack of expertise, inexperience (with its concomitant minor misdecisions), and the like. This is why it took about six months to get the scales in a workable shape for use in this research.

Rationale for the preparation of the scales. The basic question we asked ourselves at the beginning of this investigation was this: What aspects of the college environment should be measured?

We assumed *a priority* that a viable philosophy of research in higher education must lean on a psychological-sociological base (Sanford, 1962)

We then selected from a number of psychological factors four important ones, which, we thought, had broad application in the context of college life and had some relevance to the objectives of higher education. These psychological factors were achievement orientation, orderliness, supportiveness, and impulse control. We assumed also that there are three types of colleges in the Philippines whose programs and orientations distinguish one from the other -- (a) technical, vocational schools, whose programs and major objectives relate basically to the education of middle-level technicians; (b) intellectual, academic-oriented schools, whose programs emphasize general education, in addition to professional preparation of students; (c) the welfare, social oriented schools, which emphasize propriety and social decorum along with, of course, the usual academic program.

These preliminary considerations gave us the clue as to what scales to develop and what items to select and/or formulate in order to tap the psychological and sociological factors just mentioned.

Steps in the preparation of the scales. Three steps were followed in the development of the scales.

Preliminary try-out of a 300-item inventory. From an original "bank" of unassorted items the project director, with the help of the three graduate assistants, selected three hundred. The criteria adopted for selecting the items were (a) whether they were descriptive or characteristic of the three communities and (b) whether they would "tap" the psychological factors and/or the three types of schools mentioned. This preliminary 300-item version was mimeographed and administered to a random sample of seniors in ten four-year colleges in Iloilo City and its environs; four vocational-technical colleges, three small Catholic colleges, one private university, and two state-supported non-sectarian colleges.

The purpose was to determine which of the 300 items, in the perception of students, are descriptive

of their respective schools. It was hypothesized that the vocational-technical colleges would score "high" on the practical-technical oriented items; that the university and the state colleges, judging from their curricula and their public image, would score "high" on the intellectual-academic oriented items; and the Catholic colleges known for their social action programs, would score "high" on the welfare-social oriented items. It was also hypothesized that scores in the psychological dimensions would not show any trends in relationships, since, we thought, these are characteristic of students themselves, irrespective of the school they attend.

Upon analysis of the items in the 300-item version, it was found out that our hypotheses were more or less confirmed, except in the findings about the welfare-social dimension. It turned out that welfare-social orientation was exhibited by all the institutions. The vocational-technical schools did score much higher as a group with the practical-technical scale than the state colleges and the university. On the other hand, the latter as a group scored higher in the intellectual-academic scale.

Some items had to be eliminated because they did not discriminate

between the practical-technical and the intellectual-academic dimensions. A few more which seemed to be ambiguous because of obvious inconsistencies in the students' responses were also taken out or revised. These were the subjective bases of eliminating some items to give way to a new set of items.

Additional measures on restiveness, aggression. This was the second step in the preparation of the scales. On the basis of the responses of the students, twenty-one out of the 300 items were eliminated – those which did not discriminate between the practical-technical and intellectual-academic dimensions, and those

Table I
Distribution of 235 Items

	Practical- Technical	Intellectual- Academic	Welfare- Social	
Administrative				
Community	15	15	15	
Academic				
Community	15	15	15	
Student				
Community	<u>15</u>	<u>15</u>	<u>15</u>	
	45	45	45	
Total				135
Achievement Orientation				20
Orderliness				20
Supportiveness				20
Impulse Control				20
Restiveness, Aggression				<u>20</u>
Total				100
Grand Total				235

which were thought ambiguous. Besides these, a few items the agreement ratios of which were very low, were also eliminated. The agreement ratio was based on the number of students whose answers were correct, according to the key to correction, divided by the total number of respondents.

The 200 items (279 from the original set) were retained and 21 items on restiveness and aggression were then submitted to teachers and other knowledgeable persons for further evaluation. The scheme was as follows:

1. Practical-Technical items

These were submitted to 30 selected, well-known teachers and administrators in technical-vocational schools in the area.

2. Intellectual-Academic items.

These were submitted to 20 college professors known to have long been associated with intellectual-academic colleges.

3. Welfare-Social items.

Thirty teachers who were connected with schools which were thought to be welfare-social oriented were requested to evaluate these items.

4. Psychological items. These were submitted to 30 teachers of psychology, professors of guidance and counseling, and guidance counselors for evaluation.

In this second analysis, an attempt was made to find out which of the remaining items were the better indicators in that at least 60 per cent of the evaluators concurred. The choice of this percentage was, of course, arbitrary. For a preliminary version of the instruments, 60% agreement could give a fairly good indication of the "face" validity of the items (Garrett, 1958, p. 355). Had higher than 60% been chosen, too many of the items would have been eliminated. With the elimination of the items on which less than 60% of the evaluators could not agree, 235 remained, distributed as shown in Table 1.

Trial run of the 235-item version.

Later, many of the items were revised. In some cases the language was simplified; in others, ambiguity was cleared. Then the entire inventory was mimeographed and tried with the seniors of seven schools in Iloilo.

The purpose of this third step in the preparation of the scales was to gather data for the computation of

the item/scale coefficients of correlation. It was felt that while there was substantial agreement among evaluators as to the "face" validity of the items, not every one of the 235 items would necessarily be functional. The test of functionality was whether the items were correlated with the scales to which they belonged. The point biserial coefficient of correlation was used (Garrett, p. 380). We had wanted to compute the factor loadings of the items, but the process would have

been too laborious, and computer services were not available in Iloilo. It is hoped that in future revisions of the scales this could be done.

As expected, the item/scale analysis revealed that quite a number of items had very low item/scale correlation. But since we thought the instrument was too long anyway, the analysis offered a psychometric criterion for selecting the item for the final version of the instrument. It turned out also that

Table 2
Distribution of 120 Items

	Administrative Community	Academic Community	Student Community	Total
I. Achievement				
Orientation	3	4	8	15
II. Orderliness	3	5	7	15
III. Restiveness, Aggression	2	2	11	15
IV. Supportiveness	4	8	3	15
V. Impulse Control	5	7	3	15
VI. Practical-Technical	11	3	1	15
VII. Intellectual-Academic	6	5	4	15
VIII. Welfare-Social	5	5	5	15
Total	39	39	42	120

the original proportion of distribution of the items could not be maintained particularly among the three types of schools. The distribution of the items after those which had low item/scale correlations were eliminated is shown in Table 2.

Since the items designed to identify welfare-social-oriented schools did not distinguish the schools from each other, this category of schools was deleted and the items on welfare-social were rephrased for inclusion as a fourth scale, identified as Welfare Social, in the set of developmental scales.

The scales are described below:

1. Achievement Orientation. The items in this scale describe an environment where students and faculty have strong motivation to achieve their goals or accomplish their tasks irrespective of what those goals or tasks are. There is a constant striving for excellence, a desire to do better than others or to improve upon previous performance. Counteraction ('not giving up when the going is rough'), energy ('high in activity drive'), achievement ('achieving success') - these are some psychological patterns of behavior which are tapped by the items in this scale.

2. Orderliness. The items in this scale describe an environment which is characterized by conformity with established procedures, by respect for constituted authority ('deference'), and by group spirit for the sake of harmony ('pakikisama'). There is order on campus and in the classroom, which is the result, not of an imposition from without, but of a self-imposed acceptance of organizational demands. Systematic arrangement of things, neatness of campus ('order'), preparation and observance of work schedules ('planfulness') and a general absence of trouble ('harm avoidance') are some behavior patterns which describe *orderliness*.

3 Restiveness, aggression. The items in this scale describe an environment where aggressive behavior is high. There is general dissatisfaction and agitation for radical change, which is manifested in such patterns of behavior as disregarding constituted authority, defying convention, blaming and attacking aggressors, real or imagined.

4. Supportiveness. The items in this scale describe an environment which is conducive to the development of a life style which is acceptable to

the student and to society. Tolerance for diverse viewpoints, nurturance, self-confidence, and social acceptance are some psychological patterns of behavior which are tapped by the items in this scale. In a school where there is supportiveness teachers are helpful, not in the sense of developing dependence, but of guiding or assisting students to make decisions for themselves. Opportunities for the development of students to make decisions for themselves. Opportunities for the development of student leadership and responsibility are provided, both in and out of the classroom. A high score here means that the school seriously and adequately back up students in their activities so as to prevent or minimize failures.

5. Impulse control, restrictiveness. This scale describes an environment that suggests a high level of restrictiveness and restraint. A school which is high in control would probably offer limited opportunity for personal expression of impulsive behavior, or would institute sanctions to impose discipline. Control is described by "task-oriented" behavior, hindrance by superiors, "huya" as a social sanction ('shame avoidance'), restraint

and rejection. School rules are things to be implemented: "Obey first, complain later," "Students refrain from contradicting their teachers openly." – these are some items that are meant to tap *control*.

6. Practical-technical. The items in this scale describe an environment which is characterized by practicality as distinguished from intellectuality. There is a decided emphasis on manual skills, and the atmosphere is job-oriented. Material considerations are usually more generally valued than scholarship or intellectuality, and entrepreneurship rather than aesthetics. A high score here means that the vocational values of academic subjects and the dignity of labor are stressed.

7. Intellectual-academic. The items in this scale describe an environment characterized by intellectuality and scholarship, by interest in academic matters. A high score here means that there is an emphasis on ideas, theories, values, and beliefs, on knowledge for its own sake. The liberal arts, – the humanities, the natural sciences, the social sciences – are given more worth than vocationalism. Opportunities for examination or discussion of ideas, issues,

etc., are provided for, both in and out of the classrooms. Understanding of ideas or theories is stressed more than memorization of facts, particularly in the classroom.

8. Welfare-social. The items in this scale describe an environment which is conducive to the welfare of the student. The campus is a community where a feeling of mutual friendliness and congeniality prevails. Group spirit is high. There are provision for co-curricular activities that aim to develop skills in social decorum and to develop an awareness of, and a desire to serve in or improve, the larger society. Possibly, the compliance pattern of teachers is primarily one of commitment in the professional sense rather than one that is purely "economic."

The research version of SEAS. The 120-item version of the instrument is called "research" version in the sense that it is the instrument used to gather data for purposes of this project. As mentioned elsewhere in this report, quite a few things have been done to improve it. Although here the items have been re-grouped according to the scales to which they belong for the reader's convenience,

it should be borne in mind that in the research version itself, the items were arranged at random. In the presentation below, the number before each item refers to the number of the item in the instrument. The letter after each number represents the responses desired, for purposes of correction. In this connection, it should be noted that a few items are negatively scored.

The figure after each item represents the coefficient of correlation of the item with the scale to which it belongs, and is an index of the validity of the item. It should be mentioned in this connection that in the selection of the fifteen items included in this research version, all the items in each scale were arranged from the highest to the lowest on the basis of the item/scale correlations. More than fifteen items were included in the 235 item version so as to have more items to choose from. On the basis of the obtained item/scale correlation, the fifteen highest were retained. Except for Item 95, under Restiveness, Aggression, which had an item/scale coefficient of correlation of .14, all other items had .20 or higher. It was necessary to include item 95 to complete the desired fifteen items for each scale.

Psychometric Characteristics of the scales. The psychometric characteristics of the scales are presented in this section. In general, the scales are sufficiently valid and reliable for purposes of assessing college environments. They could, however, stand further revision, probably to be suggested by factor analysis of

the coefficients of correlations to determine which dimensions might be "fused," thereby decreasing the number of dimensions or how items may be re-grouped among the scales. Or it may be that the optimal number of items per scale might be increased from fifteen to twenty. Another possibility is to inter-correlate some of the individual items,

Table 3
Inter-correlations of Scale Scores

	1	4	8	7	2	6	3	5
1		.66	.61	.50	.41	.345	-.003	-.003
4			.48	.455	.62	.455	-.14	-.06
8				.48	.51	.545	.15	.06
7					.46	.51	-.04	-.12
2						.36	-.25	-.16
6							.03	.185
3								.485
5								

Note: An *r* of .128 is necessary to be significant at 5 per cent level; .148 to be significant at 1 per cent level.

Dimensions

- | | |
|----------------------------|-------------------------------------|
| 1. Achievement Orientation | 5. Impulse Control, Restrictiveness |
| 2. Orderliness | 6. Practical-Technical |
| 3. Restiveness, Aggression | 7. Intellectual-Academic |
| 4. Supportiveness | 8. Welfare-Social |

factor analyze the resulting correlation matrix to determine their factor loadings and commonalities. The information thus obtained should serve as a guide for selecting more valid and reliable items. A third possibility is to segregate items which have item/scale correlations of less than .30. These items would then be correlated with the other scales to find out with which scale each of these items has the higher item/scale correlation. These items would then be included in the scale with which they have the highest correlation.

Inter-correlations of the scale scores based on student responses. As a means of evaluating the validity of the scales, their coefficient of correlation were computed. These were based on a sample of 240 responses chosen at random from among the schools. These 240 responses were also randomly re-grouped into four sub-samples of 60 cases each to check whether the obtained coefficients of correlation would be more or less the same. Only the 120 retained items were used in the computations.

At the start, we had made some guesses about the correlations. For instance, we suspected that the two

“negative” scales, (3) Restiveness, Aggression and (5) Impulse Control, Restrictiveness, would each have negative or low correlations with the “positive” scales. The obtained correlations confirmed our guess. We also suspected that the “positive” scales would have at least substantial or marked correlations among themselves. This was also more or less confirmed by the results. For instance, (1) Achievement Orientation and (4) Supportiveness have a coefficient of correlation of +.66, and (1) Achievement Orientation and (8) Welfare-Social have a coefficient of correlation of .61.

We did not have any outside criterion such as, for example, data on personality inventories, etc., with which to correlate the scales for purposes of obtaining validity coefficients. But the inter-correlations, if at all, and the item/scale correlations should be sufficient evidences of the validity of the scales.

Factor Analysis of correlation matrix. In order to get more comprehensive view of the patterns of relationship, the inter-correlations of the scale scores (See Table 3) were factor analyzed. Table 4 below reports the rotated varimax factor loadings.

The data suggest that three factors might "explain" the student-perceived environmental dimensions that distinguished among forty-two four-year institutions included in the study. Factor 2 is characterized by what we termed the "control" dimensions: Restiveness Aggression, and Impulse Control, Restrictiveness. These two have high commonalities and have very little in common with the other two factors.

Factor 1, a rather difficult one to identify, might be an "intellectual-scholarship" environmental climate, which could include achievement orientation, supportiveness, and welfare-social, with some amount of intellectual-academic and orderliness.

Factor 3 is much more difficult to identify because it comprehends appreciable common factor loadings with Scale 1, Achievement Orientation and Scale 6, Practical Technical,

Table 4
SEAS Scale Loading on Three Varimax Factors

Eigenvalue Scales	Factors		
	3.481 1	1.634 2	0.712 3
Achievement Orientation (1)	-0.7782	-0.0629	-0.4479
Supportiveness (2)	-0.8151	0.1072	-0.2387
Welfare Social (3)	-0.7905	-0.2477	-0.0766
Intellectual Academic (4)	-0.7423	0.0313	0.2730
Orderliness (5)	-0.7434	0.2755	-0.0088
Practical Technical (6)	-0.6872	-0.2773	-0.5705
Restiveness (7)	0.0874	-0.8433	-0.2119
Impulse Control (8)	0.0512	-0.8336	0.0612

but this third factor could well be the Practical-Technical climate which is characterized by the emphasis on manual skills, job-orientation, and vocationalism. The trouble is that it has common characteristic loadings with Achievement Orientation, which, in turn, has common factor loadings with Factor 1.

This brings us to a fundamental question: If the factor analysis suggests only three factors, why does SEAS include eight scales? Isn't there too much overlapping? The empirical data suggest that there is a redundancy. The fact of the matter is that the factor analysis data came in long after the SEAS had been administered in the forty-two institutions. Time was of the essence. In any case, the present version of SEAS is a "research" version, which, in the future, may be revised preparatory to having it printed for more extensive use and to gathering more data for norms purposes.

On the other hand, too much shrinkage of the eight scales which have high common factor loadings might reduce the value of the instrument for institutional self-analysis. For instance, take two dimensions: (1) Achievement Orientation and (4) Supportiveness ($r_{14} = .66$). The

relationship is substantial with a common variance of 38 per cent (Peatman, p. 95). With just 38 per cent coefficient of determination as against the obvious conceptual differences of these two scales, it would still be justifiable to separate these two in the research version of SEAS. An examination of Table 3 which is a correlation matrix based on student responses reveals this observation.

The scales as such still have value if we consider the purpose for which they were prepared: to gather data about colleges which could be the basis of institutional self-study. It is our belief that with eight scales, each having a uniquely distinct dimensions to measure as shown by their internal consistency, faculty discussions would be more meaningful than with just three scales or three factors.

Item/Scale correlations. To determine the discriminating power of each item, i.e., its validity index (Garrett, p.365), we computed the correlations between the total scale score on the original items in the 235-item version, and each item. Since the items were scored 1 if the answer of the student was correct and 0 if wrong, we used the point bi-serial coefficient of correlation

(Garrett, p.380). The individual student responses (N) were the units in the analysis; N = 240. This same sample was used in the computation of the inter-correlations of the scale scores. Only items which had an item/scale correlation of .20 or more were included in the 120-item research version.

One item under Scale 3, Restiveness, with an item/scale coefficient of correlation of .14 had to be included so as to complete the required number of items for each scales. Otherwise, the original criterion to include only items with item/scale correlations of .20 or more has been met. All the obtained values, except one, are significant at the 5 per cent level. For 240 cases, an r of .13 is necessary in order for it to be significant at the 1 per cent level.

On the basis of these findings, it can be said that each item is valid, since it is "supportive," as it were, of the purpose of the scale to which it belongs. Ideally speaking, however, the factor loadings of each item should have been computed, but we do not have computer service for this.

Reliability of the scales. The scales in the SEAS were used, and are to

be used, as group or institutional measures of certain dimensions of the college environment and not as a measure of individual responses. Because of this, it is necessary to think of reliability in terms of the individual responses taken as a group. Under ordinary testing situations, the reliability of tests may be determined by the test-retest method (Ahman and Glock, p.326), but such tests, even if they have high stability coefficients, may not consequently be internally consistent (Cronbach, 1951); that is; they may not be homogeneous in item content. In the test-retest situation, the consistency of the individual's total score is measured over a period of time, but in the present case it is the consistency of responses to individual items that is measured.

It was, therefore, necessary to think of the reliability of the scales in terms of internal consistency, of homogeneity of institutional scores, which are, as said above, group scores, rather than individual scores. The question, then, was this: To what extent to the items comprising a given scale, or, for that matter, the scale itself, actually measure the dimension of college environment? This question is important because if the scores are not derived from

homogeneous measures, such scores may be ambiguous and would consequently be difficult to interpret.

The internal consistency reliabilities for the SEAS are coefficient alphas (Cronbach, 1951; Huesing, 1972) based on group means or institutional scores.

Computation of item variances. If one assumes that *all* the responses of the students in a particular school are correct, i.e., 100% correct, then the school would obtain a score of 1.00 for that particular item. Similarly, if only one-half of the students answered that item correctly,

the institution they come from would have a score of .50 for that item. The possible scores obtainable for any item range from zero through 1.00. The item scores can be then be used to compute the mean for *each item* for *all* the institutions, either by adding all the items scores for each institution divided by the number of institutions, or by means of the "short method" using the frequency distribution. The latter method was used in this study. The variance for each item then was computed.

Table 5

M_{tot} , V_{tot} , EV_{items} and Coefficient Alphas of Scales

Scales	N	M_{tot}	V_{tot}	EV_{item}	C.A.
1. Achievement Orientation :	42	10.02	2.29	.247	.95
2. Orderliness :	42	11.07	1.82	.238	.93
3. Restiveness, aggression :	42	5.93	2.01	.282	.92
4. Supportiveness :	42	11.07	2.22	.190	.98
5. Impulse Control, Restrictiveness :	42	7.31	2.26	.282	.94
6. Technical-Practical :	42	6.02	3.29	.478	.92
7. Intellectual-Academic :	42	9.79	1.83	.231	.94
8. Welfare-Social :	42	10.21	2.63	.337	.93

Computation of Variance for Total.

The V_{tot} for the scale was computed by adding all item scores on all of the 15 items of a scale for each institution. This sum would then be the "scale score" of the institution. The scale scores for all the institutions were then added and the total sum divided by the number of institutions to obtain a mean for total (M_{tot}).

To obtain V_{tot} for each scale, the standard deviation of the corresponding "scale scores" of the 42 institutions was computed and this value was then squared.

It is quite evident that the internal consistency reliabilities, given in the fifth column of figures (C.A.), are quite high. The scales are sufficiently reliable for purposes of this research. *Comparison of teachers' and students' perception of the environment.* It was sought to find out whether the teachers and the students of the same school perceived their own college environment in more or less the same way, so the scales were administered to 111 full-time faculty members in one university. If the perception of both students and teachers were the same, or very similar, this would mean that the scales do measure what

they aim to measure, to say the least.

It must be noted that the perceptions are recorded here were based on group response, not on that of, matched individual teachers or students. As will be explained later in the section on method of scoring the perception of an item is "True" if 65 per cent, or more of the respondents answered it correctly, that is, according to the key for scoring; and "False" if the percentage of the desired response is below 65 per cent.

On the whole, the perceptions of both the teachers and the students on each individual item were very similar. These findings, we would like to believe, are additional evidences to show that the scales are valid and reliable.

Institutional vs. individual scores.

By the very nature of the problem of assessment of college environments, it is necessary to clarify the meaning of these two kind of scores. An individual scores refers to a single student's raw score on a given scale. For instance, if he answers 10 items correctly, out of the 15 items in that scale, his individual score is 10.

As noted in the previous sections of this chapter, individual scores were used in the computation of the coefficients of correlation of the scales and the item/scale scores had to be used because the scales had not been administered in all the institutional scores to speak of.

By institutional scores is meant a single value derived from the responses of respondents in a given institution taken as a group. One kind of institutional score may be obtained from percentages. To illustrate:

Let us say that 100 students were asked to answer the scales of the SEAS. If 90 of them answered an item correctly, the *institutional item score* would be .9 ($90/100 = .9$). If there are 15 items in the scale, the sum of the item scores would be the *institutional scale score*. This kind of scores was used in the computation of the coefficient alphas. This type of *institutional score* has been used also in the succeeding chapter, for certain problems, the nature of which call for its use. This explanation is given an order to avoid confusion.

Another type of institutional score has for its rationale the theory

of opinion polls, with the respondents as reporters about the college environment. It is based on the number of items perceived as "true" or characteristics of the environment. What the reporters sincerely perceive as true is true to them as a group.

The "65% plus - 35% minus" method. Pace used this method of scoring in the CUES (Pace, 1969) although his version was "66% plus - 33% minus." The institutional score was derived as follows:

1. The number of items in a scale correctly answered by 65 per cent or more of the respondents were counted.
2. The number of items answered correctly by less than 35 per cent of the respondents were counted. An item so answered would not, in the collective opinion of the respondents, be "true" or characteristic of the environment. This is logical and justifiable because the method of responding to the items, given in the instructions is a two-choice scheme, "Right or Wrong."
3. The number of items correctly answered in Step 2 were subtracted from the number correctly answered in Step 1.

4. To the difference was added 15 in order to obtain the institutional score on the scale. Fifteen was added in order to avoid negative scores.

If all the 15 items in a scale were correctly answered by 65 per cent or more of the respondents, the score would be $(15 - 0) + 15 = 30$, the maximum institutional score on any one scale, irrespective of the size of the institution. Conversely, if all the 15 items were correctly answered by less than 35 per cent through 64 per cent of the respondents, the score would be $(0 - 0) + 15 = 15$.

Two basic questions have to be answered: (1) What is the basis of the choice of 65% - *plus*, or 65% cut-off point? (2) What happens to items answered by more than 35% but less than 65% of the respondents?

The choice of 65% as the cut-off point for "true" perceptions of the environment is based on the fact that if the number of respondents is 30, 20 right answers (65% of $30 = 19.5$ or 20), would get a chi-square value of 3.34 (Peatman, p. 403). This indicates a significant trend toward a "true" perception at the 7

per cent level of significance, or practically 5 per cent ($X^2_{.05}$ at 2 df = 3.84). Of course, if the number of cases is more than 30, the obtained chi-square values will correspondingly increase, provided the 65% cut-off point is maintained. The rationale of the "35% - minus" is the same in the above case. The chances are 93 out of a hundred that the population trend is that the perception is not true or not characteristic of the environment but, impliedly, the opposite *is* characteristic of the environment. This is the reason, by the way, for the subtraction referred to above.

The answer to the second question is this: In the case of percentages ranging between 35% and 65%, the chi-square values would not indicate a significant trend; i.e., one is no longer confident at the same level, that the item in question is *true* or *not true* of the environment. The probabilities is less than 93 out of a hundred. In this context, it is the better part of prudence not to add to or subtract from the points obtained from the 65% plus responses the points for these items. It is to be noted that all this is merely an extension of the "R - W" method of correcting "true-false" tests, where the unanswered items are not considered.

Administration of the 120-item version of the instrument. With the cooperation of the Office of the Superintendent of Private Schools, West Visayas District, the SEAS was administered in all four-year private colleges in the area. Also with the permission of their respective heads, the instrument was administered in the six public institutions in Iloilo, one public institution in Capiz, and one in Antique, a total of 8 public institutions participated in the study.

Sampling of student respondents. Only seniors and juniors' preferably the former, were asked to accomplish the SEAS, the reason being that they are presumed to know more about their school than sophomores or freshmen.

In big institutions where there are two or more colleges, at least 30 students from each college, selected at random from the enrollment list for the first semester, 1972-1973, were asked to accomplish the instrument. In the small schools with only one college, whether offering just one degree course or more (A.B., B.S.E., B.S.C., etc.) at least one-half of the seniors were asked where there were about 70 to 100 of them; but if there were more than 100, at least 30 (could be more) were chosen. A total of 3,071

students answered the instrument. Only three institutions had less than 30 respondents.

The administration of the instrument was done between the second week of July and the end of August, 1972.

SUMMARY FINDINGS AND POSSIBLE USES OF SEAS

This section addresses itself to two topics: (1) summary of the findings on the general situation of four-year colleges in the West Visayas in so far as it is revealed by the SEAS, and (2) suggestions on some possible uses of the SEAS as one means of institutional self-study.

The general situation. The summary is simply the answers to the questions posed in the first section. Each question is repeated before it is answered. For convenience, the corresponding discussion of the matter is indicated for ready cross-reference, should the reader desire to refer to it for more details.

What seems to be the general perception of students about the environment of their schools? In the absence of norms based on more institutions than the number used

in this study, one cannot give a definite answer. However, on the basis of the data, and using the West Visayas as the reference group, one can see general indications. Assuming an arbitrary institutional score of 24 as a cut-off point showing strong tendencies one can say that schools were perceived to be supportive, orderly, achievement-oriented. These, it should be pointed out, are the developmental dimensions. In the case of the control dimensions — Restiveness, Aggression, and Impulse Control, Restrictiveness — the students perceived their environments to be low in these, if one assumes a cut-off point of 15 for these scales. The Technical-Vocational schools were perceived by their students to be more practical-technical oriented than intellectual-academic, while the non-technical schools were perceived to be more intellectual-academic than practical-technical.

To what extent do the scale scores inter-correlated? The developmental scales, Achievement-Oriented, Orderliness, Supportiveness, and Welfare-Social Orientation, show substantial or marked inter-correlations, indicating, for one thing, that these scales, tend to measure a common

factor. The two control scales, Restiveness, Aggression and Impulse Control, Restrictiveness, show some positive correlation ($r = .36$). The two curricular emphasis scales, Practical-Technical and Intellectual-Academic, have a very low correlation, which shows that they measure actually different atmospheres. As a general observation, each of the developmental scales as such have either low and positive, or low and negative correlations with the control scales.

What are the implications of these inter-correlations? From the psychometric point of view, one can say that the SEAS are quite valid measures of school environments as perceived by the students. From the environmental point of view, one cannot and should conclude that if a school is perceived to be "high" in supportiveness, it is also automatically "high" in the other developmental scales as a whole, or, for that matter, automatically "low" in the control dimensions. The obtained r 's are too low to be of value for this kind of prediction. The inter-correlations only assure us that our categorization has basis, and the scales can each be used for the purpose for which it is intended. As to the developmental scales the r 's

show that they relate to one common factor, to the description of which they *all* contribute. From the stand point of the institutional self-analysis, these dimensions may be regarded as sufficiently distinctive in orientation and therefore each may serve as a frame of reference in discussions during faculty meetings.

Factor analysis of the correlation matrix indicated three such factors: which are still to be identified or described, later to be reported.

How do the institutions compare in the dimensions of college environments when such institutions are grouped by size of enrolment? Perception of the college environment shows no relationships with size of schools. For example, the students in the bigger schools did not perceive their institutions to be more, or less, achievement-oriented than the students in the middle-sized or small schools perceived theirs. The observation holds for all the eight scales of the SEAS.

How do the institutions compare in the dimensions of college environment, when these institutions are grouped by religious orientation? In general, the student in the Catholic, Protestant, and non-sectarian

schools did not differ in their perceptions of their respective institutions, except that the non-sectarian school would seem to be perceived to be more practical-technical in "atmosphere" than the Catholic or Protestant schools. This observation should be regarded with a great deal of caution. The sub-sample of 17 non-sectarian schools included all of the five public technical-vocational schools in the area, a fact which might have "inflated" the mean for these non-sectarian schools on this scale, since these schools are high in practical-technical emphasis. Another observation, also to be regarded with caution, is that the Protestant schools would seem to have been perceived to be more intellectual-academic in orientation than the non-sectarian schools and the Catholic schools. It is to be remembered that only two Protestant schools were included in this sub-sample.

How do these institutions compare in these dimensions of college environment, when such institutions are grouped by curricular emphasis? The technical-vocational schools were perceived by their students to be more practical-technical in orientation than the non-technical-vocational schools were perceived by

their students to be. In all the other dimensions, there was no significant difference between the perceptions i.e., these two types of schools were perceived by their respective students to be equally achievement-oriented, orderly, supportive, and welfare-social-oriented, and equally low in restrictiveness and restiveness.

How do these institutions group themselves when typologized on the basis of the two categories of scales, the developmental and the control? The majority of these institutions, 52%, were perceived to be relatively high in the developmental scales and relatively low in the control scales. Thirty-one per cent grouped in the quadrant which identifies schools that are low in the developmental and high in control scales. There were a few "deviant" schools, The data point to a need for self-study, particularly those that were categorized in the 31 per cent.

Do students perceive the faculty-community to be more development-oriented or more control-oriented than the administrative community? As measured by the SEAS, the students perceived the faculty community to be more development-oriented and less control-oriented than the administrative

community. This would seem to suggest that in so far as the students' perception is concerned, the faculty image is much better than the administration image.

Do the students perceive the student community to be more development-oriented or control-oriented than the faculty community? The faculty community was perceived to be more development-oriented than, but just as control-oriented as, the student community. This suggests that the faculty image is better in the development scales than the image of the student community.

Do students in the area, when the schools they attend are grouped by colleges, perceive their respective environments differently in so far as the eight dimensions are concerned? One gets the impression that students in colleges of nursing perceived their environment to be more development-oriented and less restive than students of other colleges, even in the same institution; i.e., colleges of Nursing were more supportive, more welfare-social-oriented and less restive. All the different colleges however, had about the same atmosphere for Impulse Control, Restrictiveness. As expected,

the students in vocational-technical schools perceived their environment to be more practical-technical oriented than the students in all the other colleges did theirs. These other students did not differ significantly in their own perceptions of their respective colleges, in this same dimension.

Possible uses of SEAS. Before we discuss the possible uses of SEAS, it might be helpful to present two views regarding the uses of instruments designed to assess college environments. The proponents of one view, mostly college professors and educationalists, develop or use such instruments, of course, along with other instruments to gather information thereby providing general knowledge or evolving theories about institutions of higher learning. This view is characterized by intensive research on the characteristic of students in and the inner workings of colleges and universities. In short, it is theory-oriented and does not bother much about practice.

The proponents of the other view, generally practical administrators who are, more often than not, concerned with institutional goals and budgets, use such instruments to gather data about their respective institutions for purposes of making

better decisions on plans, policies, and practices. This view is operation-oriented and is concerned more about utility than about theory.

These two views need not be mutually exclusive. After all both theory and practice should always be together. As someone aptly put it, theories could be interesting and practice could be useful. But it is always better to be both interesting and useful.

As said elsewhere in this report, SEAS has been designed as an instrument for institutional self-analysis. If we took the trouble of presenting all the findings in this research, apart from the development of the instrument, it was because we felt that such presentation of the findings would point out the ways in which administrators might possibly use the SEAS. Some of the possible uses of this instrument then, are briefly explained below.

Item by item analysis of the responses to the SEAS. After the instrument has been administered to a sufficiently large sample of the student body (preferably seniors), the responses to each item are tabulated. Faculty self-study groups can be formed to study the responses. It may be that these groups will be naturally led to speculate

about answers which they do not anticipate. For instance, take this item from one of the scales: "The goals and purposes of most courses are clearly explained." In one school, which was perceived by the students to be "low" in the scale to which this item belongs, 82% of the respondents said "False." The faculty group assigned to this scale may want to discuss the implications of this finding. Perhaps some members of the faculty have not realized this value of explaining the goals of each course, or may have taken this point for granted. In another school, 90% of the respondents said it was "True." The faculty group in this school should gain comfort from this finding and direct its attention to some other phase where the school is reportedly weak.

If teachers are made aware of student perceptions about themselves, they would be in a position to take up bothersome issues with their own students. A case in point is this item: "Students here are noisy and inattentive at concerts, convocations, or lectures." If the students say this is "True," surely, something should be done about it.

Re-orientation of the instructions for answering the scales. The instructions for answering the items may be modified so that the respon-

dents can be asked to answer according to what they think the answer *ought to be*, rather than what they perceive the situation actually to be. A comparison of the actual and the desired situations will probably reveal, to say the least, or will possibly point out some directions for change. The point is that bringing student wishes and hopes into the picture of educational practices will give much depth and breadth to the insight of educators.

Comparison of teachers' and students' perceptions. It is also interesting and enlightening to compare the perceptions of the teachers and of students on individual items. Take an item, for instance, like "Social affairs are sometimes marred by disorderly conduct." It was found out that in one school where the scales were answered both by the students and the faculty, 51% of the former said "False" while 74% of the latter said "True." This, of course, reveals that perhaps what teachers consider disorderly behavior is not actually disorderly in so far as the students look at it. Or possibly, the students would like to appear better than they really were. This suggests a point of departure for the development of ideals in social behavior.

Comparison of SEAS scores. Although comparisons have been considered odious, if they are made with a view to improving one's performance, then such comparisons can be of value to the analysts. Teachers and administrators should take the SEAS in that spirit. Attention is invited, for instance, to the sample institutional profiles. The profile should get the teachers and the administrators of an institution to thinking why the school should be low in achievement orientation when it is high in academic-intellectual atmosphere. If a school would wish to improve on this situation, then it could set up a program towards this end.

A word of caution should be noted here: the "norms" are based on a very limited number of institution — only forty-two. And while practically all the four-year colleges in the West Visayas District participated in the study, these "norms" should not be regarded as reflective of the national conditions. Comparisons should be made with only the West Visayas District as the frame of reference.

Comparison of changes from a pre- to a post-administration of SEAS. The SEAS might be administered at a given year, after which a program

of self-analysis follows. After a period of three or four years, the same instrument may be administered. Changes may be discerned from a comparison of the scores. The drawback, course, is that the students who answered the SEAS the first time may not be the same as those who answered it the second time. But this drawback may be obviated by first administering the SEAS to second year students and then re-administer it to them during their senior year.

SEAS scores and school objectives. There are at least two general types of colleges in this country — the technical-vocational and the academic schools where general education is given considerable emphasis. If a school is supposed to be one of the first type, it should score "high" on the Practical-Technical Scale; but if it scores high on the Intellectual-Academic Scale and low in the Practical-Technical Scale, then perhaps the faculty and the administration should re-evaluate their practices and policies in the light of the findings so that they may better reflect the nature of their school. Liberal Arts colleges offering A.B. or B.S. should score "higher" in the Intellectual-Academic Scale than in the

Practical-Technical Scale; if the findings show otherwise, this becomes cause for rethinking what is happening in these schools.

For a final word: The SEAS is not to supplant, but rather supplement, known methods of institutional self-analysis. What we feel to be the unique feature of the SEAS which is but indirectly referred to in other known methods, is the emphasis on the analysis of the college environment, which, as we mentioned earlier, is defined as the intellectual-social-and-cultural, even psychological, climate of the campus.

The school plant, the library and laboratory facilities, as well as the preparations of the faculty, are important features of a college environment. But it does not always follow that just because the physical facilities are excellent, or just because many of the teachers have masters' or doctors' degrees, the teaching-learning process will be effective, faculty and student morale

can be low even in the midst of these. Frustrations may run high in spite of these. Underachievement may be the rule rather than the exception. Over and above these physical aspects of the environment is the non-physical, non-material aspect, which results from a healthy interaction of the administrative, faculty, and student communities. The latter aspect is what educationists call the sociological-psychological climate, which is more basic, we would like to think, than the physical. These two-- the physical and the sociological-psychological -- constitute the total college environment. The SEAS can be of help, very modestly, in the development of a truly "total" environment of learning. Short of this creation of this desirable total environment of learning -- the desire for achievement, the concern for the welfare of the communities, the supportiveness of the citizens, the orderliness of its operations, the respect for everybody's right to self-assertion -- the pursuit of excellence in higher education will only be an idle dream.

Note: We gratefully acknowledge the help of the Fund Aid for Private Education (FAPE) for making it possible to factor analyze the correlation matrix through the services of the U.P. Statistical Center.

REFERENCES

- Ahman, J. Stanley and Marvin D. Glock. *Evaluating Pupil Growth*, 2nd ed. Boston: Allyn and Bacon, Inc., 1963.
- Alba, Manuel S. *Education for National Development — New Patterns, New Directions*. Report of the Presidential Commission to Survey Philippine Education. 1970. 319 pp. Buendia Extension, Makati, Rizal.
- Asistin, Andres R. "Outline of the Role of the School Administrator in the New Society." Mimeographed, n.d.
- Brumbough, A. J. *Research Designed to Improve Institutions of Higher Learning*. Washington D. C.: American Council on Education, 1960.
- Cronbach, L.J., "Coefficient Alpha and the Internal Structure of Tests," in *Psychometrika*, 1951. 16, 297-334.
- Clark, Burton R. *The Open Door College: A Case Study*, New York: McGraw-Hill Book Co., Inc., 1960.
- Feldman, Kenneth A. *Research Strategies in Studying College Impact*. ACT Research Report No. 34, May, 1970. Iowa City: The American College Testing Program.
- Garrett, Henry E. *Statistics in Psychology and Education*. New York: Longmans, Green and Co., 1958.
- Pace, C. Robert, "College and University Environment Scales," Preliminary Version. Unpublished. Los Angeles: University of California, 1962.
- *College and University Environment Scales (CUES)*. Educational Testing Service. Princeton, New Jersey, 1969.
- Pace, C. Robert and George Stern, "College Characteristics Index," Syracuse: Syracuse University Psychological Center, 1958.
- Peatman, John G. *Introduction to Applied Statistics*. New York: Harper and Row, 1964.
- Riesman, David and Christopher Jencks, "The Viability of the American College," in Sanford, Nevitt (ed). *The American College*. New York: John Wiley and Sons, Inc., 1962.
- Sanford, Nevitt (ed.). *The American College*. New York: John Wiley and Sons Inc., 1962.
- Stern, George G. *People in Context*. New York: John Wiley and Sons, Inc., 1970.
- Stuit, Dewey B., "Accreditation — Its Problems and Its Future," *Teachers College Record*, Vol. 62, No. 8, May, 1961.