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## ABSTRACT

The plan calls for a six stage development process. Stages one and two represent a needs assessment for testing, in which the target population and general subject areas to be assessed are determined. The remaining four stages are performed for each test developed. They include: item pool development, item filtering at the technical and lay levels, and actual test performance by item. The plan for test development is based on two assumptions: (1) that with all the tests that have been developed over the years, there are many good or modifiably good items available in most assessment areas; and (2) it is easier for people to select items relevant to a curriculum and culture than it is for them to write such items. In order to assess the testing needs in the Department of Education, leading members of the administration were interviewed and asked to rate the importance of assessing the various subject matter areas. In addition, they were asked to indicate at what grade levels such assessment should take place. Based on this information and item availability, a minimal test construction program was adopted for the 1972-73 school year to test the model. It consisted of creating assessment instruments in English reading and science at the sixth and ninth grade levels. This program was begun in October 1972. A similar development program is planned in other areas over the next two years. (Author/JM)

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A PROGRESS REPORT ON A  
PLAN FOR CURRICULUM ASSESSMENT IN  
AMERICAN SAMOA

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BACKGROUND

American Samoa is an unorganized, unincorporated United States territory which lies 2300 miles south of Hawaii and 1500 miles north of New Zealand. It consists of seven islands of 76.2 square miles and now has a population of more than 27,159 of whom about 90% are Samoan by heritage and culture (Census, 1972). English is a second language for most Samoans, being used in schools and for official business while Samoan is the language of the home and of common usage.

There are presently 27 public elementary schools with a total enrollment of nearly 6,000 students and four public high schools which serve about 2,200 students (Atisano'e, 1972). Centrally devised and planned T.V. lessons are the main source of instruction at the elementary school level,

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while in high schools teachers plan their own work within general course outlines. By stateside standards, teacher preparation and training are still inadequate. Most elementary teachers have only a high-school diploma and a year of teacher training. English language skills are weak as evidence by a median reading grade equivalent score of 5.3 on the SRA Achievements tests in the Spring of 1972. This is important because English is the only medium of instruction from grade 3 on. The high schools still employ many contract stateside personnel or their wives, most of whom were hired specifically for the classes they are now teaching.

While many problems remain to be solved, the system is now able to provide a steadily improving quality of universal education. Incentives have been introduced and standards established to get teachers to upgrade their skills to an M.A. or B.A. level within the next few years. Samoans are replacing contract personnel in many areas and now hold over 85% of all positions, including all top administrative positions within the department (DOE, 1972). All elementary classroom teachers and principals are Samoan except for those teaching in Fia Iloa, a dependents school. A bilingual project is being designed to increase the teaching of Samoan language and understanding of Samoan culture in the schools.

## THE PROBLEM

The Department of Education is faced with designing an assessment program, for a relatively small number of students, which if it is to be effective must consider Samoan language and culture, establish local norms, and be relevant to stateside norms, as well as consider such factors as distance from outside resources, lack of local staff with training, and financial restrictions. The department needs a program which will gather information about student progress and curriculum effectiveness so that the territory's resources can be better allocated and so the quality of education the department provides can be upgraded.

The Department of Education also needs data to establish its own standards or norms for its programs. Stateside norms do have some relevance for high school seniors, since there is a large stateside migration. Many of these who move are high school graduates who go to Hawaii or California to live (Wolf, 1969). But local norms are needed for English-as-a-Second-Language (ESL) students which take into account the local curriculum and the culture.

## PREVIOUS SOLUTIONS

The standardized tests that have been given over the last few years have proved to be of little informational value for measuring system progress or curriculum effectiveness. They tend to be too difficult for Samoan ESL students in all areas except Mathematics. In other subject matter tests, scores were low and correlated highly with English reading results, probably reflecting the students' lack of stateside language proficiency. Many test items did not represent curriculum outcomes alone, but reflected learning - cultural, maturational, and factual - expected to occur outside of the school. A large proportion of the test materials were not covered in the local curriculum. A study of the results merely confirmed what was already known, namely that such tests were generally inappropriate, at the elementary school level. Their effect was to downgrade the efforts and progress that had been made in the system and to introduce a counter-cultural and competitive situation which stressed attaining good scores. (Baldauf, & Reupena, 1972).

For the past several years, locally made, system wide, tests were constructed by instructional television (ITV) personnel to measure course performance at a given grade level. These tests were course specific, providing no

generalizability, and were often psychometrically unsound (Baldauf & Reupena, 1973).

Neither of these programs was designed to specifically meet the needs of the department. The problem still remains to create the necessary assessment instruments given limited funding and staff resources.

## PLANNING<sup>2</sup>

During 1971-1972, the Education Research and Development Center (EDRAD) at the University of Hawaii was contracted to help the DOE develop an ~~assessment~~ program to meet its particular needs. After examining possible alternatives, consulting with National Assessment personnel, and surveying expressed needs, a plan was developed for creating norm referenced assessment instruments for American Samoa.

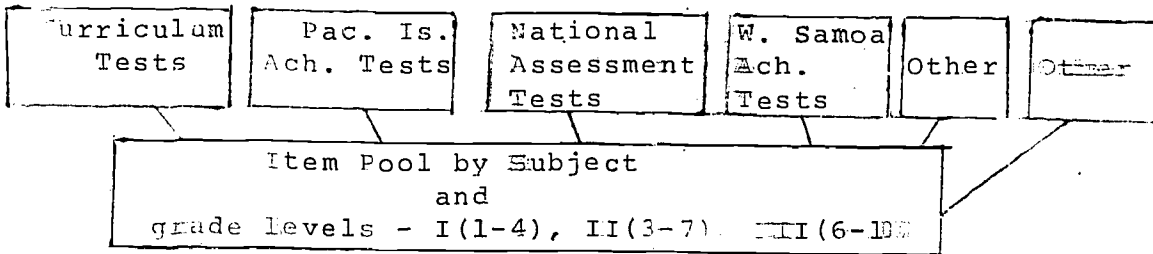
The plan presented to the DOE in January, 1972 by Dr. Peter Dunn-Rankin of EDRAD was modified and adopted. A summary of it is given in Figure 1. It calls for a six stage development process. Stages one and two represent a needs assessment for testing, in which the target population and general subject areas to be assessed are determined.

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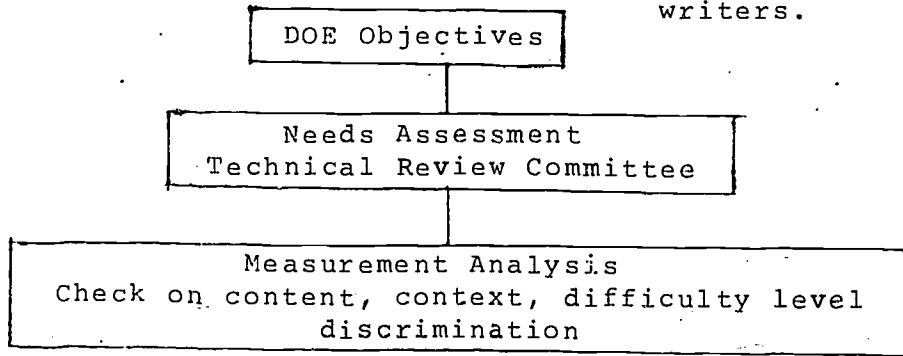
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Materials in the following sections are adapted from the Section of the EDRAD report (1972) written by Dr. Peter Dunn-Rankin. (p. 44-53).

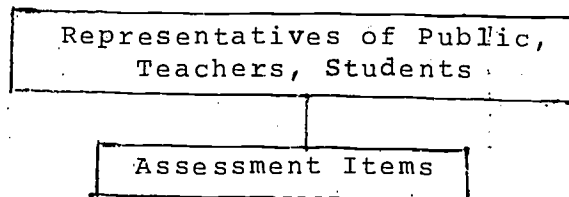
1. Decide on Target Population: (Grade Levels 6>3>9>12 suggested).
2. Determine subjects assessed: (English, Samoan Language Arts, Mathematics, Social Studies, and Science suggested).
3. Collect Item Pool from variety of Sources.



4. Filter Items through (1) DOE objectives, (2) needs assessment survey and (3) item writers.



5. Let representatives of lay public, teachers, and students choose from subset of items.



6. Use a set of final items as an assessment measure. Report performance by item.

Figure 1--Rough Plan for Curriculum Assessment in American Samoa. (From EDRAD, 1972)

The remaining four stages are performed for each test developed. They include: item pool development, item filtering at the technical and lay levels and actual test performance by item.

## RATIONALE<sup>2</sup>

The plan for test development outlined above is the opposite of the usual strategy for test construction. Items are usually written to measure specific curriculum objectives. This takes considerable resources in terms of time, money and personnel if it is to be done properly.

The strategy adopted makes two basic assumptions.

- (a) That with all the tests that have been developed over the years, there are many good or modifiably good items available in most assessment areas.



- (b) It is easier for people to select items relevant to a curriculum and culture than it is for them to write such items.

This strategy satisfies the needs of the Samoan assessment program in that it provides a method to obtain culturally relevant measures of the school curriculum taught in American Samoa, it furnishes local norms or standards, and it is a program which the Department of Education can afford.

#### SUBJECT AREAS AND GRADE LEVELS

In order to assess the testing needs in the Department of Education, leading members of the administration were interviewed and asked to rate the importance of assessing the various subject matter areas. In addition, they were asked to indicate at what grade levels such assessment should take place. The results of these ratings are presented in Figure 2. (EDRAD, p.47).

From this scale it is readily apparent that the language arts areas, both in English and Samoan, are felt to be the most important to assess, while subject matter areas are of secondary importance. Raters also indicated that the levels assessed should be 6th grade, 3rd grade, 8th or 9th grade and in that order of importance. This reflects the feeling that assessment should come early enough so

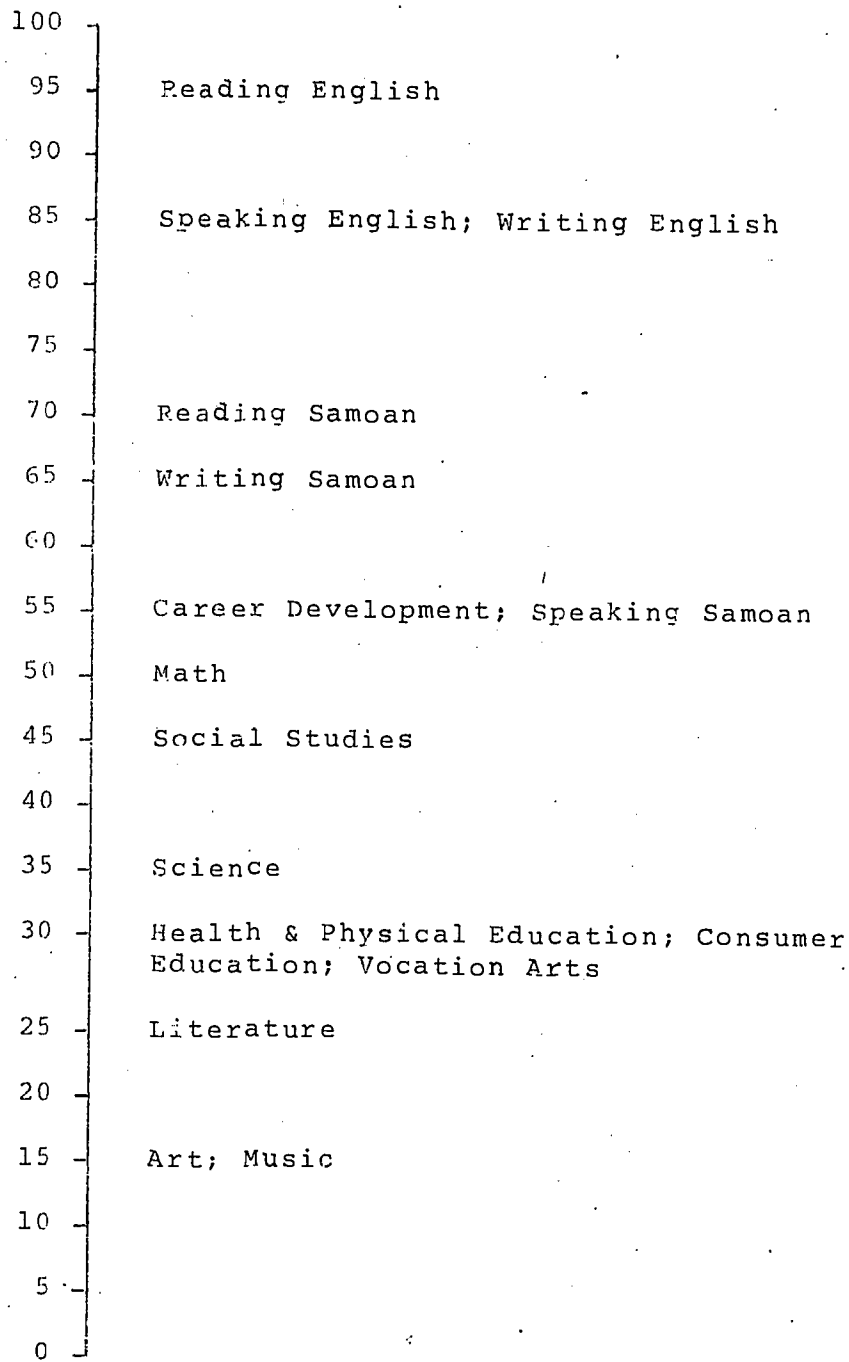


Figure 2--Relative Importance of Curriculum Areas for Assessment in American Samoa. Order of Grade Level Importance is 6>3>9>8>12. (from EDRAD, 1972)

that difficulties can be ascertained and corrected. (EDRAD, p.49).

Based on this information and item availability, a minimal test construction program was adopted for the 1972-1973 school year to test the model. It consisted of creating assessment instruments in English reading and science at the 6th- and 9th- grade levels. This program was begun in October 1972. The materials which follow describe what has occurred and what is planned for the rest of the year in one specific area of the development program, English reading assessment for grades 6 and 9. A similar development program is planned in other areas over the next two years. A summary of the tests to be developed if funding is available is given in Appendix A.

### CREATING THE ITEM POOL<sup>3</sup>

In November and December of 1972 the initial item pool was created. Items were gathered from a number of sources, including standardized reading tests, National Assessment of Educational Progress materials (NAEP, 1972), Samoan curriculum tests, and other tests obtained from Pacific Island Departments of Education.

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<sup>3</sup>Work in this area was performed by EDRAD, University of Hawaii.

Items were then judged according to their difficulty level. Items with a difficulty level below 4th grade or above the 9th grade were eliminated from the initial item pool as probably inappropriate for the tests being developed. This resulted in a group of 1453 items. These items were then grouped by item type, using the eight NAEP themes.

#### ITEM SELECTION - STAGE I

The first stage of the item selection process was to have "experts" rate all 1453 items. A form was designed for this purpose which asked the raters to place each item in one of three categories: "acceptable" (High or Low), "acceptable" if modified" (High or Low) or "reject". Raters were asked to use the following criteria in arriving at an assessment of each item: (a) relevance to curriculum, (b) relevance to culture, and (c) technical quality of the item.

Two committees of six members each were set up, one at the University of Hawaii, composed of specialists in reading and measurement and one in American Samoa composed of trained teachers and experienced teacher-administrators. Samoans and non-Samoans were included on each committee.

Each of the persons spent about 8 to 10 hours rating all the items. The ratings for each item will then be

summarized. The plan calls for further consideration items rejected by the raters. The remaining items will then be given weighted scores based on the number of high and low "acceptable" or "acceptable if modified" tallies they received. Items with low scores will be rejected leaving a revised item pool of about 200 to 300 items for each grade level. Items with "acceptable if modified" ratings will be altered to make them more acceptable.

#### ITEM SELECTION - STAGE II

This part of the development process is scheduled for late April, 1973. The items from the revised item pools will be grouped in booklets of 50 items each. These booklets will be given to informed groups of Samoan lay persons who will be asked to rate the items in each booklet on the basis of whether they feel each item measures something the student should be learning in school.

These ratings will be summed for all persons rating each of the items to get a measure of the items acceptability for the community.

## TEST WRITING

The evaluation committee in American Samoa, with the aid of an outside measurement expert, will be responsible for selecting the final 50 to 75 items to be used in each test. Items will be selected based on Samoan lay group ratings, and balanced to reflect curriculum emphases. Items will be reviewed and modified where necessary to reflect proper vocabulary level, Samoan culture, and technical item construction considerations.

## TEST ADMINISTRATION AND ANALYSIS

The tests will be administered to a stratified random sample of 6th- and 9th- grade students in schools selected from geographical groupings which cover the range of traditional to more western cultural life styles currently followed in Samoa.

The results will be analyzed in a manner similar to that followed by the National Assessment program. Results will stress item analysis and the relationship of items to the curriculum. The basic data then will not be student scores or school means, but norms based on student abilities to handle each aspect of a curriculum area. These data will allow the department of education to assess its curriculum goals and provide information on which constructive

changes can be made. They will also provide standards or norms by which the department may judge groups of students in years to come.

#### CONCLUSION

The test development plan outlined above has grown out of three convictions. First some type of measurement is necessary for educational programs if there is to be planned progress in providing better education for our students. Second, the assessment instruments previously used were not providing the information needed and were perhaps having a negative effect on the educational system. Third, the competitive situation which was created between schools by standardized test programs goes directly against the Samoan cultural belief in co-operation and in not making any person or group seem less worthwhile than any other.

It is hoped that the ideas in this paper will provide a stimulus to the development of better evaluation techniques and test materials in all our school system.

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APPENDIX A

Proposed Criterion Assessment Plan for American Samoa

Years            72-73            73-74            74-75

Grades

k  
1  
2  
3  
4  
5

Reading Sam. Reading Eng.  Math	Reading Sam. Speaking Sam. Reading Eng. Speaking Eng. Math
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6  
7  
8

Reading Eng.  Science	Reading Eng. Reading Sam. Speaking Eng. Science Math	Reading Eng. Speaking Eng. Writing Eng. Reading Sam. Speaking Sam. Science Math-Soc. St.
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9

Reading Eng.  Science	Reading Eng. Speaking Eng.  Science Math	Reading Eng. Speaking Eng.  Science Math Soc. St.
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10  
11

Reading Eng. Career Dev. Science Math Soc. St.	Reading Eng. Writing Eng. Career Dev. Science Math Soc. St.
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12