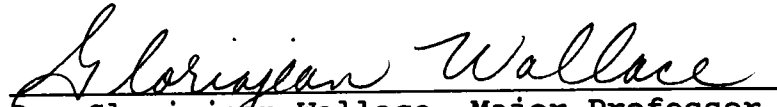
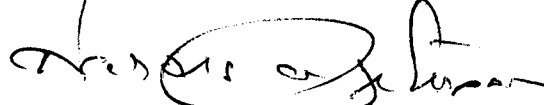


To the Graduate Council:

I am submitting herewith a thesis written by Maggie Tucker Fain entitled "Speech And Language Inventory For First-Grade Samoan Children." I have examined the final copy of this thesis for form and content and recommend that it be accepted in partial fulfillment of the requirements for the degree of Master of Arts, with a major in Speech Pathology.


Dr. Gloriajean Wallace, Major Professor

We have read this thesis
and recommend its acceptance:

Accepted for the Council:


Associate Vice Chancellor
and Dean of The Graduate School

SPEECH AND LANGUAGE INVENTORY
FOR FIRST-GRADE
SAMOAN CHILDREN

A Thesis
Presented for the
Master of Arts
Degree
The University of Tennessee, Knoxville

Maggie Tucker Fain
August 1991

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ABSTRACT

The Education of All Handicapped Children Act, Public Law 99-457, requires that assessment materials and procedures be provided and administered in the language or other mode of communication in which the child is most proficient. American Samoa is a territory of the United States, and its citizens are guaranteed the same privileges afforded other American citizens. However, presently there are no speech-language assessment instruments with norms in the Samoan language. In response to this deficit, Wallace and Tilo (1990) developed the O le Suega Tofotofo Samoa A le Tautala Ma Gagana (O le STS). The inventory is based on the Fluhary Preschool Language Screening Test (1978).

This study was designed to determine the correlation between teacher rating of first-grade children's speech/language skills and obtained scores on the O le STS. Results were that for comparison between teacher rating and subtest performance, none of the correlations were significant at the .05 level. Speculations regarding reasons for the findings include homogeneity of the population sampled and cultural perceptions of impairment which may have influenced teacher rating.

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CHAPTER I

INTRODUCTION

The United States has often been referred to as a "melting pot." This image suggests that all cultures blend together to form one culture. However, that is not the reality of the situation. Although persons from different parts of the world continue to come to the United States in hopes of finding a better way of life, most retain their heritage which includes their language.

As a result of cultural diversity, Congress has passed legislation which ensures that persons are not penalized because of their heritage. Many of these guarantees have involved the individual's language.

Unfortunately, however, the development of appropriate assessment instruments for culturally and linguistically different populations has not kept pace with the increasing need for such instruments. Some attempts to develop appropriate assessment instruments have been made especially for Spanish and African-American populations. The O le Seuga Tofotofo Samoa A le Tautala Ma Gagana [O le STS] (Wallace & Tilo, 1990), however, is the first speech-language inventory written in the Samoan language. Since individuals being measured should belong to the population

they are compared to and since there are no norms on the O le STS, pilot data were needed.

The purpose of this study was to obtain pilot data regarding the performance of American Samoan first-grade children on the O le STS.

CHAPTER II

REVIEW OF LITERATURE

Very little was known within the profession of speech-language pathology about the clinical needs of individuals from culturally and linguistically different populations before 1968. This was made evident by the fact that virtually all norms for communication assessment instruments were based on middle class, Euro-American populations.

However, a very important event occurred at the American Speech and Hearing Association's (ASHA) 1968 annual convention that drew attention to that condition. The ASHA president, John V. Irwin, decided to forgo the annual President's Address to permit a debate between Orlando L. Taylor of Indiana University and John Michel of the University of Kansas on "The Role of a Professional Association in a Conflict Society." Michel felt that professional associations should not be involved in social issues. Taylor took the opposite position.

A great deal of discussion and exchange were stimulated as a result of that debate, which led to enormous changes in regard to culturally and linguistically diverse populations. The most important changes follow:

1. ASHA opened an Office of Urban and Ethnic Affairs in 1969 (this office was renamed the Office of Minority Concerns in 1979).
2. ASHA established committees on Communication Behaviors and Problems in Urban Populations in 1969 (now the Committee on Cultural and Linguistic Differences and Disorders of Communication) and on the Status of Racial Minorities in 1973.
3. Several symposia, colloquia, and Continuing Education activities have been presented throughout the United States on normal and clinical issues pertaining to culturally and linguistically diverse populations.
4. ASHA has taken official positions on social dialects and on the clinical management of communicatively handicapped minority language populations.
5. Several universities have inaugurated special training programs to address the specific clinical needs of culturally or linguistically diverse populations- for example, University of Arizona (Native Americans); San Diego State University, Temple University, and the University of the District of Columbia (Bilingual Populations); Howard University (Black American and Third World Populations).
6. Presentations in professional meetings and publications in professional journals have increased dramatically

since 1969 on a myriad of topics pertaining to cultural and linguistic diversity (Taylor, 1986 p. 4)

A number of legal and legislative actions also have influenced issues of cultural and linguistic diversity in the field of communication disorders. The Education of All Handicapped Children Act of 1975, Public Law 94-142, and its revision, Public Law 99-457 provide explicit guidelines that prohibit the use of discriminatory testing to place children in special education classes and in related services such as speech, language, and hearing therapy.

It required the annual report to Congress to address the provision of free, appropriate education in rural areas for migrant children, children of limited English proficiency, American Indians, native Hawaiians and other native children of the Pacific basin. Public Law 94-142 also required that assessment materials and procedures be provided and administered in the language or other mode of communication in which the child is most proficient (Public Law 99-457, 1986).

In response to this mandate, suggestions have been made for assessing culturally and linguistically different children, including accepting alternative responses, modifying test items, using questionnaires, developing local norms, collecting speech samples, and developing new tests.

Accept Alternative Responses

Arnold and Reed's (1976) recommendation for assessing culturally and linguistically different populations was to accept alternative responses. They administered the Grammatic Closure subtest of the Illinois Test of Psycholinguistic Abilities to 96 children, 32 each from kindergarten, second, and fourth grades. All children were identified by their teachers as having average intelligence. There was no difference in scores for the kindergarten children, but in the second and fourth grades, Caucasian children scored significantly higher than the African-American children. However, when allowances were made for the African-American children who made responses that were common to the African-American dialect, Arnold and Reed concluded that the Caucasian and African-American children scored similarly.

Bliss and Allen (1981) reported that African-American children who have normal language development and those who have impaired language development use standard and African-American dialects in formal situations. They concluded that tests for language development should include African-American alternatives.

Modify Test Items

A method of adapting a standardized test for a specific ethnic-racial group was used by Balaban (1975). She modified the receptive portion of the Northwestern Syntax Screening Test for use with children from an African-American culture. She accomplished this by changing the test pictures to be representative of people from the African-American culture and by having the sentence repetition portion taped by a speaker using an African-American dialect.

Use Questionnaires

Kayser (1989) suggested that language-use questionnaires facilitated the assessment of culturally or linguistically different students. She added that information from informants who regularly interact with the students was necessary for the verification of the accuracy of the examiner's findings.

Develop Local Norms

Peterson and Marquardt (1990) stated that individuals who were measured should belong to the population they were compared to. They added that a range of scores rather than a single score should be considered normal, and normal depended on the population used for comparison.

Musslewhite (1983), suggested that speech-language pathologists use local norms and standard norms to compare

children to both the standard group and to their peer group. She added that there appeared to be growing awareness for a need for more representative samples in standardization procedures. For example, the original version of the Peabody Picture Vocabulary Test was normed on Caucasian, middle socioeconomic status subjects in Nashville, Tennessee. A revised edition included norms based on a sample of 4,200 subjects representing the geographic regions, community sizes, socioeconomic levels, and ethnic groups of the United States.

Taylor and Payne (1983) concluded that there were few, if any, standardized measures that could provide a completely valid and nonbiased evaluation of linguistically and culturally different populations. They stressed that most standardized tests, if used according to publisher's instructions, were culturally discriminatory because no norms had been established for the various cultural groups.

According to Wientraub, Lewnau, and Erway (1983), the idea of improving test quality by inclusion of a proportionate ratio of minority children in the standardization sample did not solve the problem of norm bias. They believed that, although this was a step in the right direction, this quota method did not reduce test bias in the assessment of minorities, since the majority of the subjects spoke standard English.

In an effort to fill the void in tests normed on nonstandard speakers, they attempted to develop normative data for African-American children on the Test of Language Development (TOLD). The test was originally normed on the quota method. African-American children represented 15 percent, none of whom were selected on the basis of their primary language or dialect.

As predicted, children who spoke with an African-influenced language performed less well than did the original normative sample. The difference in performance was reflected in overall test performance as well as in each of the subtests. The conclusion was that language development norms that were appropriate for standard English speakers were not appropriate for speakers of an African-influenced language.

Adler and Birdsong (1983) suggested that language specialists establish local norms to be used with culturally different children. They concluded that developing local norms was a difficult task which required a great deal of time.

Collect Speech Samples

Leonard and Weiss (1983) stated that speech samples should be used when assessing culturally different children. The goal of speech samples, they added, was to accumulate

representative utterances to gain an accurate impression of the child's expressive language.

The authors offered several reasons why spontaneous speech samples were valuable. First, a variety of language functions and conversational behaviors could not be readily assessed through formal testing and was best observed in a spontaneous interchange. A second reason was that comparisons of children's speech produced spontaneously with that formally elicited from standardized tests yielded differences in linguistic complexity. A third reason for collecting a speech sample when assessing children from different cultures was that they were often reluctant to communicate with persons from a different culture, resulting in significantly reduced verbal output. The authors concluded that the nature of spontaneous speech samples made it possible to incorporate culturally appropriate materials and topics.

Adler (1991) added that the recorded informal language samples were the bases of an evaluation of the aural-oral language proficiency of limited English proficient children. He added that at least two, preferably three, language samples should be obtained in different situations and by different examiners. Playback of the language samples should reveal to the tester the level of pragmatic English language usage plus the detection of any disordered speech-language patterns.

Develop New Tests

Many of the efforts to provide appropriate diagnostic assessments for multicultural populations have included developing new tests. Evard and Sabers (1979) described some tests which were designed to assess the language abilities of Spanish speaking children:

Test for Auditory Comprehension of Language: English/Spanish

The Test for Auditory Comprehension of Language: English/Spanish (Carrow, 1973) was developed as a measure of auditory comprehension of linguistic structures. Norms for the English version were obtained on 200 middle-class African American, Caucasian, and Mexican-American children aged three through six years and eleven months. It is not clear if all of the children resided in San Antonio, Texas.

Del Rio Language Screening Test

The Del Rio Language Screening Test (Toronto, Leverman, Hanna, Rosenzweig & Maldonado, 1975) is an English and Spanish language screening instrument designed to identify children with deviant language for their age and cultural background. The test is comprised of five subtests; each of which may be used separately or in combination with others depending on the information required. Test items were selected only if they were appropriate to the culture of the Texas border town of Del

Rio. Parallel items exist from both the English and Spanish versions.

Screening Test of Spanish Grammar

The Screening Test of Spanish Grammar (Toronto, 1973) was designed to identify those Spanish-speaking children who do not demonstrate grammatical proficiency in their native language. The items take into account the acquisition of Spanish syntax.

O le Seuga Tofotofo Samoa A le Tautala Ma Gagana

The O le Seuga Tofotofo Samoa A le Tautala Ma Gagana (Wallace & Tilo, 1990) is a speech-language inventory based on the Fluharty Preschool Language Screening Test (1978) and designed to be administered in the formal Samoan language. Although the items on the inventory were judged by professional Samoan educators to be culturally and linguistically appropriate, there are currently no norms established to be used for comparison of normal and impaired speech-language skill. It assesses articulation, vocabulary, auditory comprehension and sentence repetition (see Appendix A).

Administration and Scoring

This 40-item inventory requires approximately fifteen minutes to administer and is designed to assess the first-grade child's skills in articulation, vocabulary, auditory comprehension and sentence repetition. In order for the items on the O le STS to be culturally and linguistically appropriate for American Samoan first-grade children, objects presented in the articulation and vocabulary subtests, as well as the positioning of phonemes, differ from the selection and representation of items in the articulation and vocabulary subtests of the Fluharty Preschool Speech and Language screening Test (1978). For example, alternative items judged to be culturally and linguistically appropriate which contained the same sounds were selected as needed. Additionally, the Fluharty was modified to reflect that there are no final consonants or blends in the Samoan language. Procedures for eliciting and scoring of responses are identical to the procedures for the Fluharty Preschool Language Screening Test.

The Auditory Comprehension and Sentence Repetition subtests of the O le STS assess the first-grade child's understanding and use of basic kernel sentence patterns and transformation rules. Since there is no data available on the development of standard American Samoan sentence structures, the selection of items for these subtests was based on what is known about the development of standard

English sentence structures. Although these subtests are based on the Fluharty Preschool Language Screening Test, some of the objects used to elicit responses in the Auditory Comprehension subtest of the O le STS were changed to include items that are culturally appropriate.

Subtests

Articulation and Vocabulary

The Samoan alphabet consists of five vowels / /, / /, / /, / /, /o/, /u/ and nine consonants /f/, / /, /l/, /m/, /n/, /p/, /s/, /t/, /v/. The articulation subtest assesses all consonant phonemes of the American Samoan language in all positions in which they occur. The American Samoan language contains no final consonants or blends. Although all vowels are assessed, all possible vowel combinations are not assessed; when two or more vowels occur together, each is pronounced independently (Lewthwaite, Mainzer, & Holland, 1975).

The Articulation and Vocabulary subtest of the O le STS uses twenty culturally appropriate objects and pictures. Each item is presented to the child with the question, "What is this?" After the child replies, his responses are scored for articulation and vocabulary. A check mark is given for each correct production. If there is no response or if the child's response to a vocabulary task is not accurate, the examiner provides the stimulus for the child to imitate for

the articulation task. Maximum scores for Subtest A are 20 for vocabulary and 33 for articulation.

Auditory Comprehension

The Auditory Comprehension subtest requires nonverbal responses to verbal directions. Six sentences are preceded by the examiner's statement, "Show me." The other four sentences are questions or imperatives. The sentence structures used are as follows:

1. Subject (noun phrase) + intransitive verb.
2. subject (noun phrase) + transitive verb + Noun Phrase.
3. Subject (noun phrase) + Verb (to be) + Noun Phrase.
4. Subject (noun phrase) + Verb (to be) + Adjective.
5. Subject (noun phrase) + Verb (to be) + Adverb.

Some of the objects that were used in the Articulation and Vocabulary subtests are used in this subtest. The examiner is allowed to repeat the stimulus twice, and the child must respond accurately to all parts of the direction to receive credit. Objects for several test items are displayed simultaneously to eliminate cues. A check mark is given for each appropriate response. The maximum score for this section is ten.

Sentence Repetition

The Repetition subtest requires the imitation of ten sentences. Pictures that correspond with each item in each sentence are used to elicit responses. These are the same pictures that are presented when administering the Fluharty. The sentence structures are the same as those included in the Auditory Comprehension subtest. The test examiner says, "Say the sentence after me." The ten sentences are printed on the score sheet. The items in this subtest are translated from the Fluharty Preschool Language Screening Test (See Table I).

Each item is scored as correct or incorrect. If the child gives a response other than the target response, it is recorded. Correct productions are scored as (1) the Standard Samoan form modeled by the examiner or (2) an acceptable form of day-to-day Samoan dialect. The maximum score for this section is ten.

Purpose of Study

The American Speech-Language-Hearing Association's (ASHA) position paper (June, 1985) stated that minority language cannot be assessed adequately without the examiner's having knowledge of the language. It added that voice qualities such as breathiness, harshness, loudness, pitch, and the production of clicks and glottal stops vary with the language spoken and affect the validity of

assessment. Despite ASHA's increased focus on multicultural populations, materials and resources available for providing services to linguistic minority populations remain limited, particularly for many of the languages found in remote/rural communities such as those spoken by American Indians, Alaskan Natives and Pacific Islanders like the American Samoans (Chezik, Ortega-Hillyer, Patterson, Pratt, Stewart, Wilson, Deal, & Carey, 1988).

Presently, there are eighteen elementary schools, kindergarten through eighth grade, on the American Samoan islands. All have at least one first grade. There are no speech-language pathologists in the schools, and the only person on the six American Samoan Islands who has a bachelor's degree in speech-language pathology serves as the Coordinator of Speech-Language Programs. There was one audiologist whose contract with the hospital expired in December of 1990 (Tilo, 1990).

When a classroom teacher in American Samoa suspects a speech-language problem, a referral is made to the principal who relays it to the Coordinator of Speech-Language Programs. The Coordinator then forwards the referral to a special education teacher who is stationed in the central office. The special education teacher assesses the child's speech-language skills, using the pictures from the Goldman-Fristoe Test of Articulation (1969, 1986), the Peabody Picture Vocabulary Test (1959, 1965, 1981) or the Photo

Articulation Test (Pendergast et al., 1969). The purpose of his research was to obtain pilot data regarding the performance of native American Samoan first-grade children on the O le STS.

CHAPTER III

METHODS

Subjects

The subjects for this study were 18 American Samoan first-grade children, five to six years old, who were randomly selected from first-grade classes in the Pago Pago area. All subjects received teacher ratings regarding development in articulation, auditory comprehension, expressive language, gross and fine motor and social skills. The rating form was based on the following scale: 1= severely impaired, 2= moderately impaired, 3= average, 4= good performance, 5= superior performance (see Appendix B). Subjects who received ratings of 3, 4, or 5 in each of the skill areas were considered "normally developing"; subjects who received ratings of 1 or 2 in one or more of the skill areas were considered "impaired." In order to ensure that the teacher's ratings provided reliable information, the teacher completed the same questionnaire a second time one week after the original rating.

All subjects received pure tone screening, impedance testing, and otoscopic examination. The instrument used was an American Electromedics screening tympanometer, Model 95-95A. The screenings were conducted by two advanced speech-

language pathology students and their supervisor a Certified Speech-Language Pathologist.

Pure tones were presented at frequencies of 1000, 2000 and 4000 Hz, in compliance with the ASHA guidelines (1990). Criteria for passing the audiological screening were originally as follows:

1. perception of pure tone frequencies at 20 dB HL, bilaterally.
2. tympanometric results that reveal compliance at no greater than 200 mm H₂O, bilaterally.

Because only 24 percent (N = 6) of the total number of children (n = 25) met all criteria, the criteria for inclusion were changed to 25 dB HL unilaterally and impedance requirements were eliminated. In an attempt to include more subjects, children who had perceived pure tones at 30 and 35dB HL were rescreened and included if they met the 25dB HL criteria. This adjusted criteria and rescreening resulted in (N = 13) additional children being included in the study, for a total of 19 subjects selected for participation in the study. One subject who qualified for inclusion was absent during the administration of the O le STS. The remaining eighteen subjects were believed to be representative of the population being studied.

Time, scheduling and transportation constraints did not allow for screenings to be conducted in a soundproof booth;

therefore, they were conducted in a quiet area of the first-grade classroom. The schools were constructed in the traditional style of Samoan fale (home) with a floor, a ceiling and no walls. Given this structure's openness to the outside environment, there was a notable but unavoidable amount of background noise during testing; these noises, including traffic sounds, animal noises, and other children, may have accounted for the screening findings.

Administration and Scoring

Two American Samoan speakers who were employed by the Special Education Department and who had experience with speech-language assessment of first-grade Samoan children administered the inventory. Samoan was the first language for both of these individuals who also were proficient in English language usage. The testers participated in the development of the O le STS. In addition, they attended a two-hour training session conducted by a Certified Speech-Language Pathologist. During the training session, the testers reviewed test items and received instruction regarding test administration and scoring.

Each tester was paired with a graduate student researcher, majoring in speech pathology, who was responsible for audio recording each subject. Each researcher was also responsible for distributing and collecting teacher questionnaires, organizing and sequencing

the subjects through both hearing and speech-language screening stations.

The Articulation and Vocabulary subtests were scored at the time of administration by both the tester and the assistant. Responses were also audio recorded. The audio tapes were listened to within one week of the test administration to confirm that responses had been scored correctly on each test protocol.

The Auditory Comprehension subtest was scored during administration by the tester and the assistant. This subtest did not require verbal responses and was, therefore, not audio recorded. Because of the straightforward nature of responses for this subtest, reliability measures were not obtained.

The Sentence Repetition subtest was audio taped during the administration of the O le STS. Responses were transcribed by an American Samoan speaker (one of the testers) from the tapes. All responses which were not an exact repetition of the model (N = 48 alternate responses on the 10 items in this subtest) were randomly arranged on a rating form. Eighteen items were listed twice for reliability scoring. This form was given to an American Samoan speaker who rated each response as "correct" (formally or informally) or "incorrect" (unacceptable). Attempts were made to get a second rater from the Special Education Department in American Samoa, but this was not

accomplished. Fifteen of the eighteen items that were rated twice were rated the same, for an intrarater reliability of 83 percent. Each subject was given one point for responses that were rated "correct" and zero points for responses that were rated "incorrect" by the rater.

All test forms were ultimately scored in full by two graduate student researchers. This method ensured that scores were recorded and tallied accurately.

Reliability

The degree to which test results are replicable is an indication of reliability. An ideal test would duplicate the results when readministered by the same examiner (intratester reliability) and when readministered by another examiner (intertester reliability) (Fluharty, 1977).

Intratester Reliability

Retesting was done for this study to determine the reliability of the testing administration. Seventeen percent ($N = 3$) of the 18 subjects were retested by the same examiner to measure intratester reliability. The same two examiners who administered the O le STS originally did so for all subjects who were retested. Administration was performed using the same procedure that was used for the

original testing. Intratester reliability was calculated using the following formula:

$$\frac{\text{AGREEMENT}}{\text{NUMBER OF ITEMS X NUMBER OF SUBJECTS}} \times 100$$

Agreement was obtained on 213 of the 219 items (73 items each for 3 subjects), resulting in 97 percent intratester reliability.

Intertester Reliability

Retesting was also conducted to determine the reliability between the two individuals who administered the O le STS. Twenty-two percent (N = 4) of the 18 subjects were retested by a different examiner to measure intertester reliability. The same formula that was used to calculate intratester reliability was used to determine intertester reliability. Agreement was obtained on 284 of the 292 items (73 items each for 4 subjects), resulting in 97 percent intertester reliability.

Intrascorer Reliability

As mentioned earlier, all test protocols were ultimately scored by the two graduate student researchers. Therefore, scoring reliability measures were conducted to compaaae the

original score determined by the student researchers to their rescoring of 10 percent ($N = 2$) of the test forms . Rescoring was completed of the Articulation, Vocabulary, and Sentence Repetition subtests using only the audio recordings. Agreement was obtained on 120 of the 126 items (63 items each for 2 subjects), resulting in 95 percent intrascorer reliability.

CHAPTER IV

RESULTS

The purpose of this research was to obtain pilot data regarding the performance of American Samoan first-grade children on the O le STS. The main question of interest was whether this inventory discriminated between children rated by their teacher as "normally developing" and those rated as "impaired" on its four subtests: articulation, vocabulary, auditory comprehension, and sentence repetition? Data were analyzed to determine the correlation between teacher rating and obtained score.

Correlations

A Pearson product-moment correlation coefficient (r) is a measure of the strength of the relationship between two variables. Coefficients lie between -1 and $=1$. A coefficient of zero indicates no linear relationship between the variables. A coefficient squared gives the proportion of the total variability in the values that can be accounted for by the independent variable.

A Pearson product-moment correlation coefficient was used to determine the strength of the relationship between teacher rating and obtained score on the four subtests (see Table 1).

Table 1. Correlation between teacher rating and obtained score for each subtest of the O le STS.

Parameter	Correlation
Vocabulary	0.388
Articulation	0.000
Auditory Comprehension	0.090
Sentence Repetition	0.099

Analysis revealed a correlation of 0.388 for the vocabulary subtest, a correlation of 0.000 for the articulation subtest, a correlation of 0.090 for the auditory comprehension subtest, and a correlation of 0.099 for the sentence repetition subtest. None of the correlations were significant at the .05 level.

A Pearson product-moment correlation coefficient was also calculated to determine the strength of the relationships among the four subtests of the O le STS (see Table 2).

Table 2. Correlation between subtest pairs
V = Vocabulary C = Auditory Comprehension
A = Articulation R = Sentence Repetition

Subtest Pair	Correlation	R-squared
V x A	0.000	0.000
V x C	0.532	0.283
V x R	0.011	0.000
C x A	0.000	0.000
C x R	0.002	0.000
R x A	0.000	0.000

Results revealed the following correlations: 0.000 for the vocabulary and articulation subtests, 0.532 for the vocabulary and auditory comprehension subtests, 0.011 for the vocabulary and sentence repetition subtests, 0.00 for the auditory comprehension and articulation subtests, 0.002 for the auditory comprehension and sentence repetition subtests, and 0.000 for the sentence repetition and articulation subtests. These correlations were not significant at the .05 level.

Post Hoc Analyses

Additional data analysis was conducted to further examine the performance of American Samoan first-grade children on the O le STS. In addition to the correlation analysis described above, Teacher ratings and obtained scores for all subjects (n= 18) on each subtest of the O le STS are reported in Table 3.

Table 3. Teacher rating (TR) and corresponding score for "normally developing" and ("impaired") subjects by subtest on the O le sts.

Ss	Vocabulary		Articulation		Comprehension		Repetition	
	TR	Score	TR	Score	TR	Score	TR	Score
1	3	18	3	33	3	9	3	10
2	3	20	3	33	3	10	3	10
3	4	20	4	33	4	10	3	4
4	3	19	3	33	3	10	3	10
5	3	19	3	33	3	9	3	10
6	3	20	3	33	3	10	3	10
7	3	20	3	33	3	10	3	10
8	3	20	3	33	3	9	3	10
9	3	17	3	33	3	8	3	10
10	3	20	3	33	3	10	3	10
11	3	20	3	33	3	10	3	10
12	4	20	4	33	4	10	4	10
13	3	20	3	33	3	10	3	10
14	3	20	3	33	3	10	3	10
15	3	20	3	33	3	9	3	10
16	(2)	18	3	33	3	10	(2)	10
17	3	19	(2)	33	3	9	3	5
18	3	18	3	33	(2)	10	(2)	8

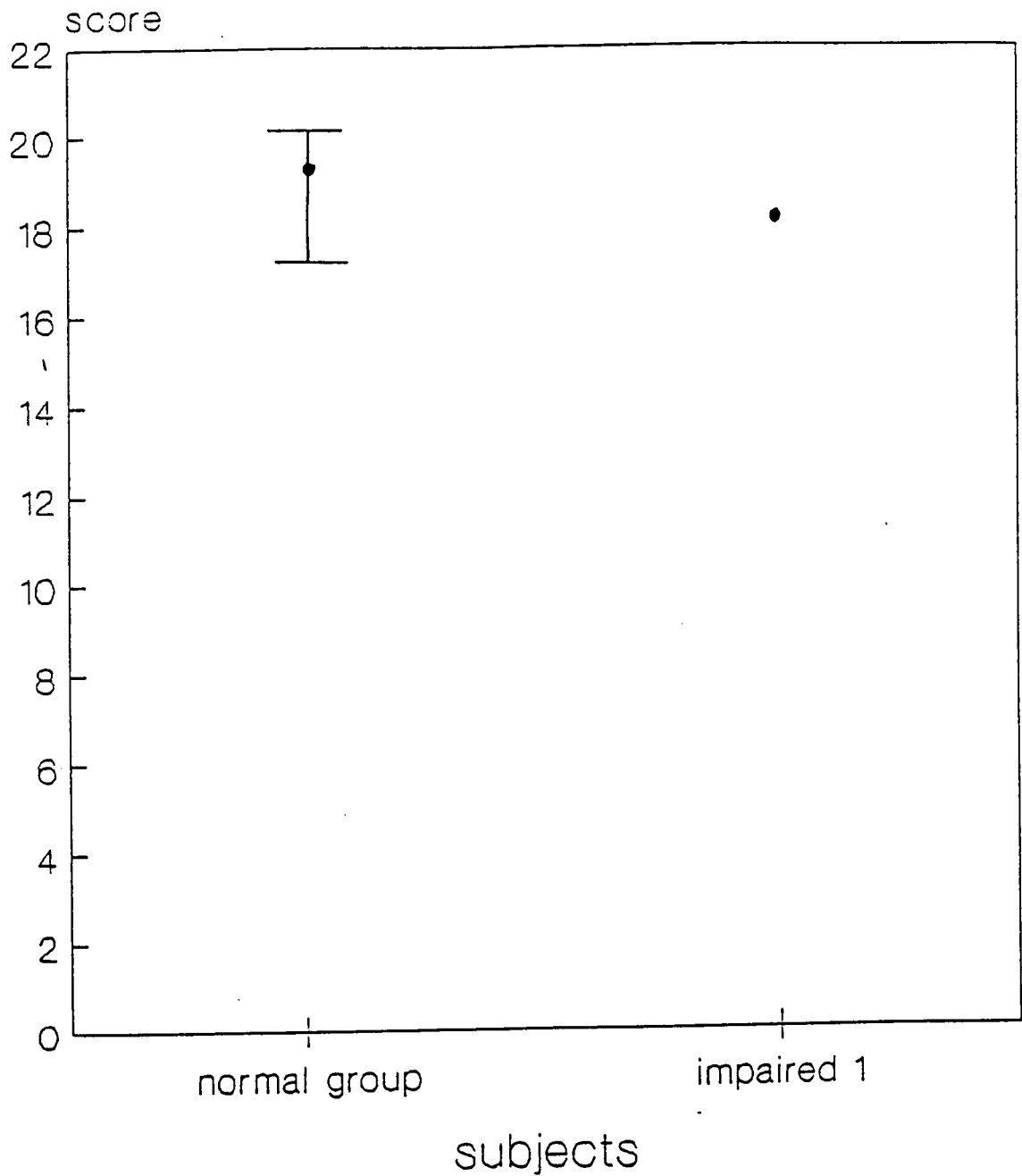
The scores obtained by subjects rated "impaired" by their teacher on a given subtest were compared to the range of scores obtained by the subjects rated "normally developing." This was done to determine if comparison of each individual "impaired" subject's score to the range of scores obtained by the "normally developing" subjects revealed a difference. It should be noted that no subject was rated impaired in all areas. Of the three impaired subjects, one was rated "impaired" in vocabulary and repetition; one was rated "impaired" in articulation; one was rated "impaired" in auditory comprehension and repetition (see Table 4).

Table 4. Range of obtained scores for "normally developing" subjects and single obtained scores for "impaired" subjects.

	"Normal" Range	Mean	"Impaired" Scores
Vocabulary	17 - 20	19.5	18
Articulation	33 - 33	33.0	33
Auditory Comprehension	8 - 10	9.6	10
Sentence Repetition	4 - 10	9.6	8, 10

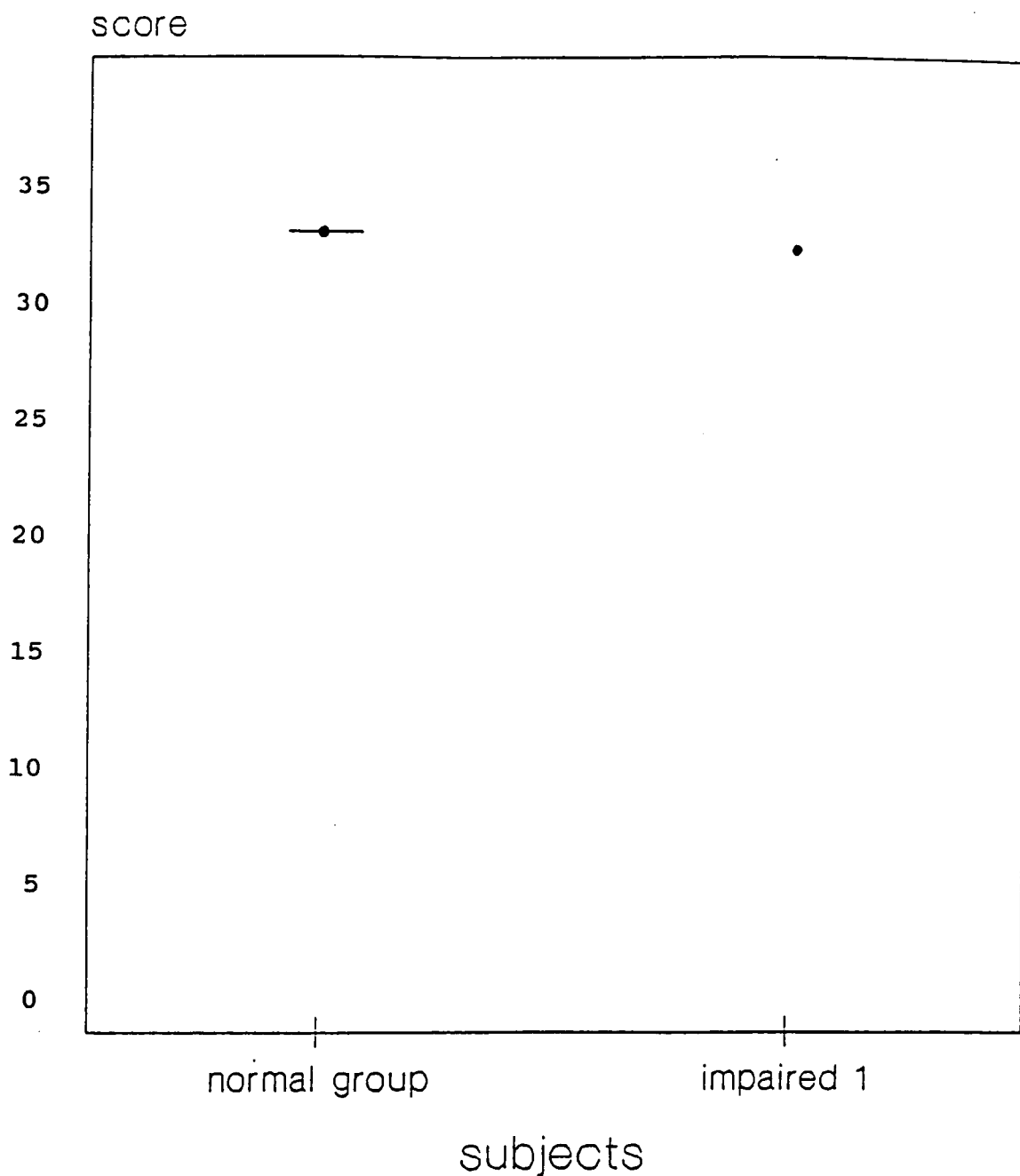
The range of scores for the "normally developing" subjects on the vocabulary subtest was from 17 to 20 with a mean of 19.5. The subject rated "impaired" in vocabulary obtained a score of 18 (see Figure 1). The range of scores for the "normally developing" subjects on the articulation subtest was from 33 to 33 with a mean of 33. The subject rated "impaired" in articulation scored 33 (see Figure 2). The range of scores for the "normally developing" subjects on the auditory comprehension subtest was from 8 to 10 with a mean of 9.6. The subject rated "impaired" in auditory comprehension obtained a score of 10 (see Figure 3). The range of score for the "normally developing" subjects on the sentence repetition subtest was from 4 to 10 with a mean of 9.6. The two subjects rated "impaired" in repetition obtained scores of 8 and 10 (see Figure 4).

As an additional point of interest, an item analysis was completed to determine the number of subjects who missed each item on the 0 le STS. Appendix A displays the number of "normal" (x) and the number of "impaired" (o) subjects who missed each item. Two of the three "impaired" subjects responded incorrectly on vocabulary Item 12, and two "impaired" subjects responded incorrectly to sentence repetition Item eight (see Appendix A).



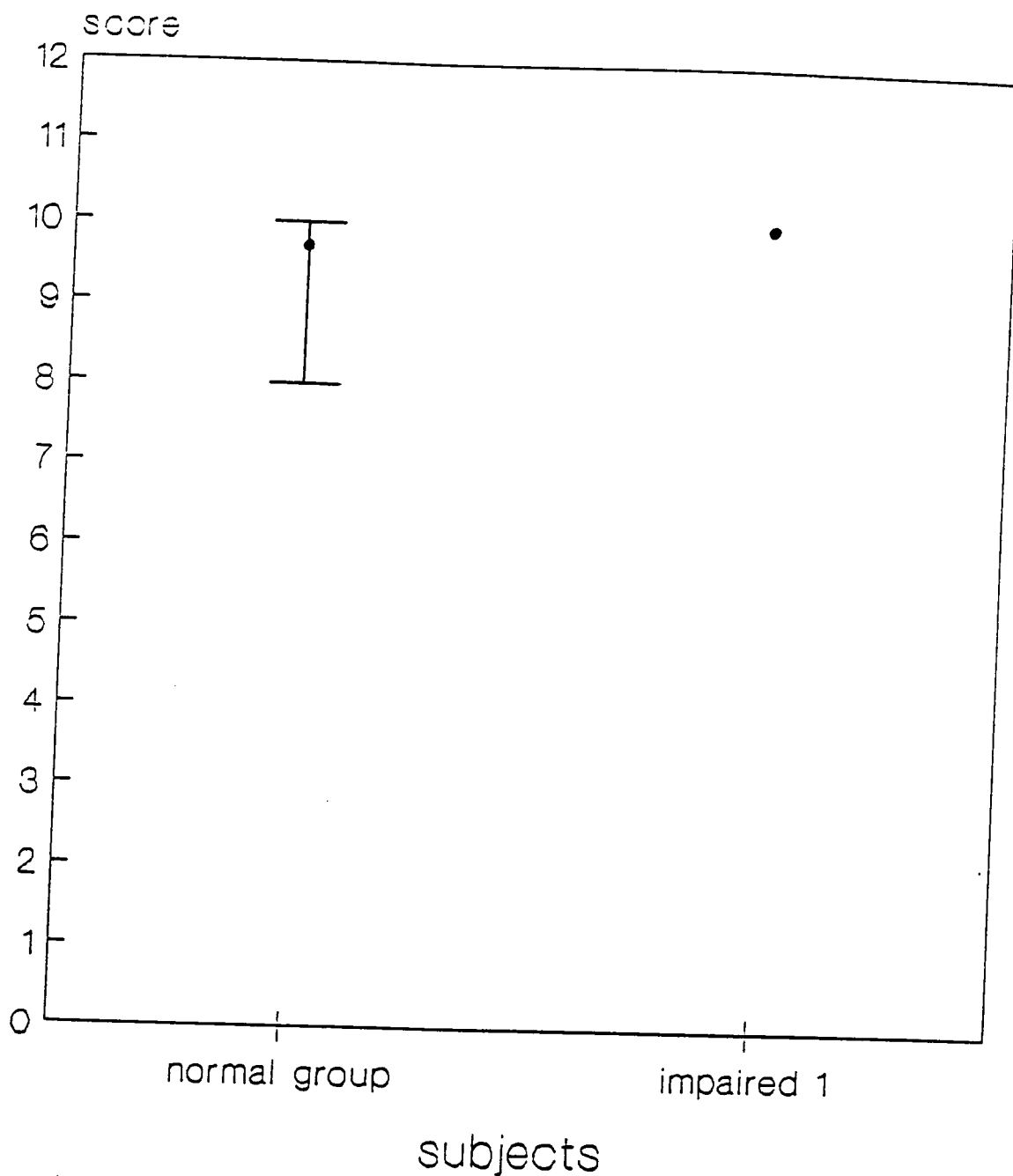
Comparison of mean and range of "normally developing" subjects and score of one "impaired" subject on the vocabulary subtest of the O le STS.

Figure 1



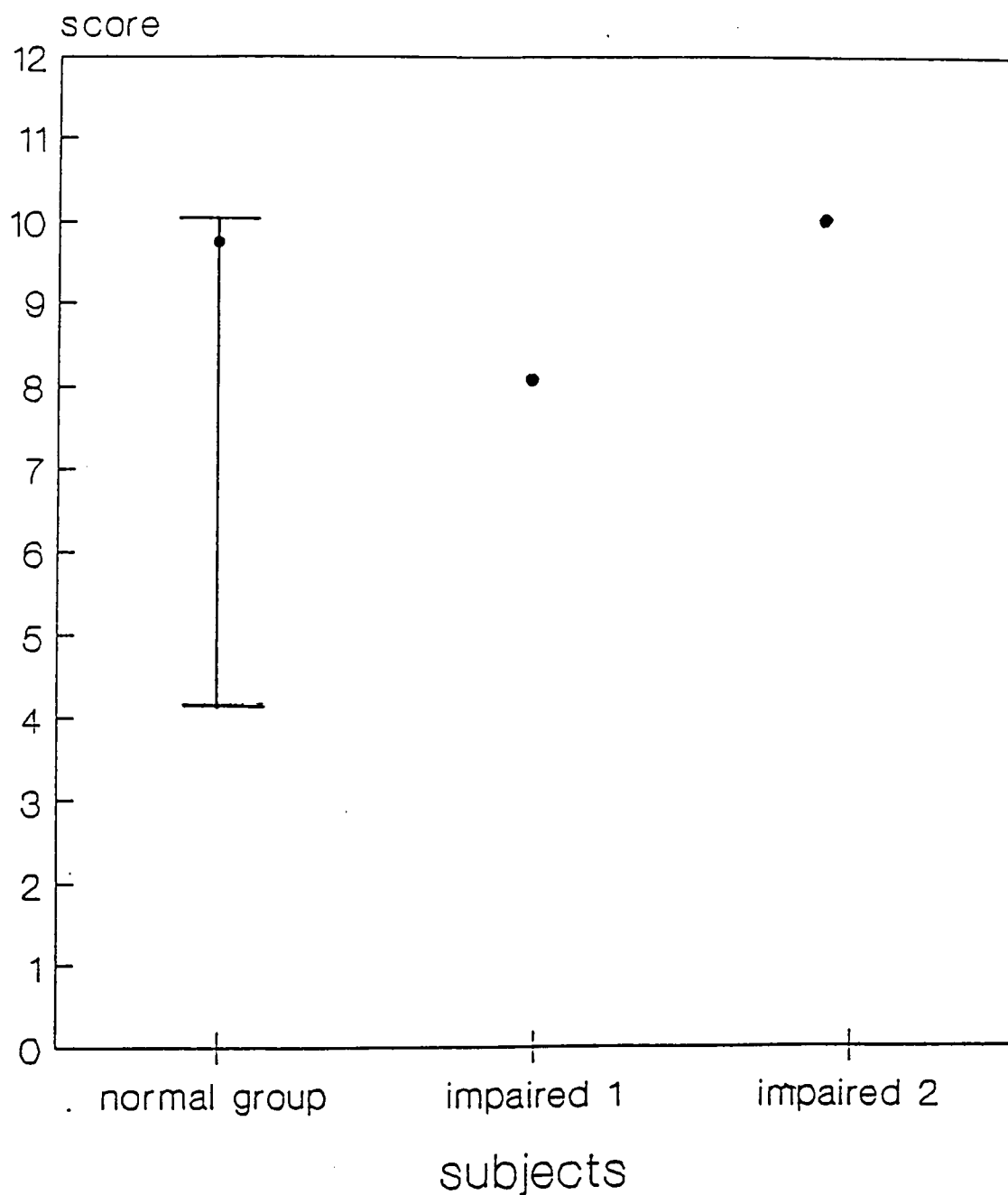
Comparison of mean and range of "normally developing" subjects and score of one "impaired" subject on the articulation subtest of the O le STS.

Figure 2



Comparison of Mean and range of "normally developing" subjects and score of one "impaired" subject on the auditory comprehension subtest of the O le STS.

Figure 3



Comparison of mean and range of "normally developing" subjects and scores of two "impaired" subjects on the sentence repetition subtest of the O le STS.

CHAPTER V

DISCUSSION

As a result of a debate at the 1968 annual convention of the American Speech and Hearing Association and Public Law 99-457 which mandates that assessment materials and procedures be provided and administered in the language in which the child is most proficient, many suggestions have been made regarding the assessment of culturally and linguistically different populations. These suggestions have included accepting alternative responses, modifying test items, using questionnaires, developing local norms, collecting speech samples, and developing new tests.

Many of the suggestions have been applied to the Spanish language and to African-influenced language; however, the O le STS is the first attempt to provide a speech-language inventory in the American Samoan language. The purpose of this study was to obtain pilot data regarding the performance of American Samoan first-grade children on the O le STS.

The analyses performed on the data suggested that the O le STS does not detect the differences between "normally developing" and "impaired" children. There was no detected relationship between teacher rating and obtained scores on any of the subtests. For example, one subject was rated

"impaired" in vocabulary and repetition; however, this subject's vocabulary score was higher than one subject who received a "normal" rating, and it was as high as three other subjects who were rated "normal." On the sentence repetition subtest, a subject rated "impaired" obtained the maximum score.

The one subject rated "impaired" in vocabulary obtained a score of 18. Of the 17 "normal" subjects, one received a score of 17; two received scores of 18. The one subject rated "impaired" in articulation obtained the maximum score on the articulation subtest. The one subject rated "impaired" in auditory comprehension obtained the maximum score. Of the "normal" subjects, one obtained a score of 4; one obtained a score of 5.

The apparent absence of relationship may have resulted from the terminology used in the questionnaire or the fact that the questionnaire may not have adequately separated the normally developing subjects from the impaired subjects because of cultural factors. It should be noted that the teacher ratings for the "impaired" subjects did not differ greatly from the ratings for the "normally developing" subjects. Perhaps asking the teachers how they determined which children were normally developing and which were impaired would have resulted in a better understanding of how they separated the two groups. The teachers may have

had different criteria from the examiners for classifying children as "impaired" and "normally developing."

The Samoan culture itself may have influenced the teacher's ratings. As children approach the age of three years, they tend to spend less time with caregivers and more time with peers of approximately the same age. These peers form little groups, called aukegi. These aukegi remain strong throughout one's life cycle (Ochs, 1982). Everybody in the group is considered to be the same; no one is expected to be above or below his peers. Because of the idea of equality among peers, teachers may not think of students as being "normally developing" or "impaired."

The way classes are grouped in American Samoa may also have contributed to the reduced correlation between teacher rating and score on the O le STS. Because students are homogeneously grouped, there is little variation. All children in the class are expected to be normal for that group. Another consideration is that maybe all of the subjects were normally developing according to our standards and appropriately placed in a normal classroom.

In future research, taped speech samples of "normally developing" and "impaired" subjects could be used to describe the linguistic differences between the two groups. Speech samples may reveal that there are no phonemic differences between the two groups; however, prosodic differences may be detected.

CHAPTER VI

CONCLUSIONS

Developing speech-language assessment instruments and norms for culturally and linguistically different populations is an important task, requiring a great deal of time and planning. Efforts should be made to contact persons in that culture who are knowledgeable about the language and customs, willing to work with the developers, and have time to commit to the completion of the tasks.

Although test developers must have a great deal of time to spend acquainting themselves with the segmental and suprasegmental languages of culturally and linguistically different populations, the effort must be made in order to ensure appropriate assessment.

Since this study was designed to obtain pilot data regarding the performance of American Samoan first-grade children on the O le STS, the first speech-language inventory in the American Samoan language, maybe it can serve as an aid to other test developers who are interested in the American Samoan language or the language of another culturally and linguistically different population.

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APPENDICES

APPENDIX A

I TAMALITITI LAITITITI I SAMOA*

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Igca _____ Aso fanau _____ / _____ / _____ O le natua _____ / _____
masira aso tausaga Tausaga Masira
_____ / _____ Atunu'u _____ / _____
Tana Teine Samca le isi
Le gagana i le aiga _____ / _____ A 'oga _____
Samca le isi
Faia'oga _____ Aso _____ / _____ / _____
Masira Aso Tausaga

TALA 'OTO 'OTO		
Aofa'iga		Manatu
A. Fa 'aleoga	/33	
O lisi o 'upu	/20	
B. Malamalama**	/10	
C. Fa'ata'ita'iga	/10	
D. O le gagana tofotofa	-	
Leo	-	
Alu lelei lana tautala	-	
/73		
Fa'alogu		
Le isi		
Fautua:		

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**With permission from the author and publisher, these subtests are based on items from the Fluharty Preschool Language Screening Test, 1978.

LISI O 'UYU (VOCABULARY)			A. O IE EMIHXA MA LISI O 'UYU				IE PA 'AUECA (ARTICULATION)		
	= sa'o x = sese	tali	leo miamia (po'o x)	leo ogatofonu (po'o x)	leo maimili (po'o x)				
1. ato (basket)	x		/a/		/o/				
2. ma'a (rock)			/m/		/a/				
3. esi (papaya)	xxx		/ɛ/						
4. pepe (baby)									
5. fale (house)			/f/		/ɛ/				
6. ipu (cup)			/l/		/p/				
7. lima (hand)			/l/		/l/				
8. ofu (shirt)			/o/						
9. ula (necklace)			/u/						
10. pisi (cat)					/u/				
11. gutu (mouth)			/g/		/t/				
12. fagu (bottle)	x00				/g/				
13. tama (boy)			/t/		/m/				
14. tuisi (book)	0				/s/				
15. naifi (knife)			/n/		/f/				
16. teina (girl)	xx				/n/				
17. polo (ball)	0		/p/		/o/				
18. selu (comb)	0		/s/						
19. va'a (boat)			/v/						
20. iva (nine)					/v/				
Aofa'iqa	/20		/14	/14	/5			/11	

KEY

- x = ITEM MISSED BY ONE SUBJECT ("NORMALLY DEVELOPING")
- 0 = ITEM MISSED BY ONE SUBJECT ("IMPAIRED")

B. MAI'AMAI'ANA (AUDITORY COMPREHENSION)

(= sa'o, x = sese)
(Fa'alli i luga le laulau; tasi ma'a'; lua vali - tasi lanu samasama, tasi lanu mumi; lua ipu - tasi pepa, tasi plastic; lua polo; lua selu; tasi poloka)
(Objects: 1 rock; 2 crayons (yellow & red); 2 cups (paper & plastic); 2 balls; 2 combs; 1 block)

		ITEM ANALYSIS	
	1. E lai se ma'a i luga le laulau?	Is the rock on the table?	
"Fa'asino 'ja a'ij"	2. O lo'o mata'ia lou gutu.	Show me you are opening your mouth.	
"Fa'asino 'ja a'ij"	3. O le vali e lanu samasama.	Show me the yellow crayon.	XX
"Fa'asino 'ja a'ij"	4. O le ipu pepa.	Show me the paper cup.	0
"Fa'asino 'ja a'ij"	5. O le polo ua luga le ipu.	Show me the ball is on the cup.	
	6. Fa'ali mai lou lima.	Raise your hand.	
"Fa'asino 'ja a'ij"	7. O _____ ua tale.	Show me (child's name) is coughing.	XX
"Fa'asino 'ja a'ij"	8. E lei se selu i luga le laulau.	Show me the comb isn't on the table.	
	9. O fea le poloka?	Where is the block?	
	10. Ave le ipu ma le selu.	Take the cup and the comb.	
		Aofa'iga =	/10

KEY

X = ITEM MISSED BY ONE SUBJECT ("NORMALLY DEVELOPING")

0 = ITEM MISSED BY ONE SUBJECT ("IMPAIRED")

C. FA'ATA'ITIA'IGA (SENTENCE REPETITION)
 (= sa'o, x = sese)
 (fa'ata'ita'i mai le faipupu pe a uma ona ou faiatu.)
 (Say the sentence after me.)

TAIL		ITEM ANALYSIS	
1. Ua fai meaaloa a teine.	The girls have the presents.		XO
2. O le tamaloa e ta'alo lakapi.	The man is a football player.		
3. O le pepe e laititi.	The baby is little.		XO
4. O latou ua savavali.	They are walking.		X
5. Ua tauru'u le pasi.	The bus is here.		O
6. O le pusi lena le teine.	That is her cat.		O
7. O le tamaloa ua tau a'apa fai.	The man can't reach.		XO
8. Fa'ina'i le teine, "O ai lena?"	The girl said, "Who is it?"		XOO
9. Fa'ina'i le tama, "Feula tele!"	The boy said, "Blow hard!"		X
10. Ua pa'u le aisakulimi.	The ice cream fell.		

KEY

X = ITEM MISSED BY ONE SUBJECT ("NORMALLY DEVELOPING")
 O = ITEM MISSED BY ONE SUBJECT ("IMPAIRED")

/10

APPENDIX B

PRESCHOOL TEACHER QUESTIONNAIRE*
SU'EGA FAIA'OGA MO TAMAIIII

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IGOA: _____ FAIA'OGA: _____

TAMA: _____ TEINE: _____

ASO FANAU: _____ TAUSAGA: _____ ASO: _____

ATUNU'U: SAMOA (FA'ALAPOTOPOTO) IOE LEAI

A LEAI, TA'U MAI LE ATUNU'U _____

GAGANA FA'ALEATUNU'U: SAMOA (FA'ALAPOTOPOTO) IOE LEAI

A LEAI, TA'U MAI LE GAGANA FA'ALEATUNU'U _____

E TOE FO'I MAI LE TAMA/TEINE I LE AOGA LEVEI LE TAUSAGA FOU?

(FA'ALAPOTOPOTO) IOE LEAI

A LEAI, O LEA LE A'OGA E AUAI LE TAMA/TEINE LE TAUSAGA FOU? _____

Please compare this child's communication, social and motor skills to those of other children the same age. Then rate this child's performance (items A-G, next page) using a 5 point scale.

- 1 = ~~moderate-severly impaired~~, serious problem in this area
- 2 = ~~mild-moderately impaired~~, although not severely impaired, performance in this area is not as good as for other children in the same age group
- 3 = average, as good as other children the same age
- 4 = good performance, better than other children of the same age
- 5 = superior performance, much better than other children of the same age

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COMMUNICATION, SOCIAL AND MOTOR SKILL AREAS
(Circle the Appropriate Number)

A. Clearness of speech sounds.

1	2	3	4	5
(moderate- severely impaired)	(mild- moderately impaired)	(average)	(good performance)	(superior performance)

B. Vocabulary (for example: understanding and use of words to label colors, animals, etc.).

1	2	3	4	5
(moderate- severely impaired)	(mild- moderately impaired)	(average)	(good performance)	(superior performance)

C. Understanding sentences and following directions.

1	2	3	4	5
(moderate- severely impaired)	(mild- moderately impaired)	(average)	(good performance)	(superior performance)

D. Grammar (for example: correct use of word combinations to make sentences).

1	2	3	4	5
(moderate- severely impaired)	(mild- moderately impaired)	(average)	(good performance)	(superior performance)

E. Social interaction with teachers and children in the classroom and during playtime.

1	2	3	4	5
(moderate- severely impaired)	(mild- moderately impaired)	(average)	(good performance)	(superior performance)

F. Motor skills and coordination (for example: when walking, running and throwing a ball).

1	2	3	4	5
(moderate- severely impaired)	(mild- moderately impaired)	(average)	(good performance)	(superior performance)

G. Overall performance for speech, vocabulary, understanding and following directions, making sentences, social interaction and motor skills.

1	2	3	4	5
(moderate- severely impaired)	(mild- moderately impaired)	(average)	(good performance)	(superior performance)

VITA

Maggie Tucker Fain was born in Houston, Texas on June 26, 1945. She attended elementary school in the Houston Independent School System and graduated from Fidelity High School in June, 1964. She entered Tennessee State University the following September and in May, 1968 received the degree of Bachelor of Science Education in English Education. The following September, she entered the University of Tennessee at Chattanooga and in August, 1980 received a Master of Education degree in Secondary Administration and Supervision.

She is presently on leave from the Chattanooga Public School System, pursuing a Master of Arts and a Ph.D degree in Speech and Hearing Science, University of Tennessee, Knoxville.