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ABSTRACT

The first field testing of the Adult Basic Education Oral Language video tapes, conducted during 1968-69, included five television video lessons and used three testing conditions: a classroom condition with video exposure, a classroom condition with video exposure and follow-up drills conducted by a teacher, and a home condition with video exposure and no drills. Only the home setting treatment (found advantageous in terms of cost) was used in the 1969-70 video field testing program. The testing scheme was designed specifically to determine the effectiveness of 15 English as a Second Language video programs among rural adult Mexican Americans in two different geographical areas, urban Mexican American adults in two different geographical areas and time arrangements, and urban Cuban and Puerto Rican adults. It is concluded that the video programs do not tend to affect a dramatic change in attitude toward learning and using English among Mexican Americans, Cubans, and Puerto Ricans, but is also is noted that the majority of the subjects in the experimental population already have a favorable attitude toward this variable. It can be tentatively concluded that, where the population attitude is lowest, greater goals are realizable through the Program. This report includes an outline of the research design, statistical findings, summary, conclusions, and recommendations. (AMM)

EVALUATION OF THE EFFECTIVENESS OF FIFTEEN SELECTED ORAL ENGLISH PROGRAMS WITH NON-ENGLISH SPEAKING MEXICAN AMERICAN, PUERTO RICAN, AND CUBAN ADULTS

1969-70
FIELD STUDY
REPORT

INSTRUCTIONAL EFFECTIVENESS OF FIFTEEN VIDEO, ORAL ENGLISH PROGRAMS WITH NON-ENGLISH SPEAKING MEXICAN AMERICAN, PUERTO RICAN, AND CUBAN ADULTS

1969-70 Field Study Report

by

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Southwestern Cooperative

Educational Laboratory, Inc.

Albuquerque, New Mexico

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Acknowledgement

The 1969-70 field testing of fifteen video ESL programs, developed by the University of Arizona, Radio-TV Bureau, under subcontratual basis with the Southwestern Cooperative Educational Laboratory, was primarily a Laboratory undertaking. However, the total testing program would have been impossible without the cooperation and participation of individuals from other agencies, institutions, and geographical areas.

The field testing instrument was designed and pilot tested by a committee in the Laboratory. Guz Garcia, graduate student at the University of New Mexico, was a key participant in development of the instrument.

Staff members in the SWCEL Adult Basic Education Division played important roles in training field testing personnel in different geographical areas. While the field testing program was directed by the author of this report, James Jaramillo, SWCEL ABE Division, contributed much time and energy in coordinating the testing activities. Felipe Gonzales, Director of the SWCEL ABE Division, provided time for the ABE staff to extend assistance in the field testing training sessions and related meetings. Dr. Carmen Timiraos directed the field testing training sessions in Miami, Irene Sikelianos in Denver, Ralph Dominguez in Santa Maria, California, and James Jaramillo in New York City, Brownsville, and San Antonio, Texas.

The arrangement of facilities, student recruitment, pre-testing and

post-testing were accomplished by field testers in five geographical areas. Sincere gratitude is expressed to all participants, especially Robert Avina (San Antonio), Dorsey Cassell (Santa Maria), Julian Garza, Jr. (Englewood, Colorado), Arturo McDonald (Brownsville), and Don Williams (Miami).

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Frank Barreca and Wes Marshall from the University of Arizona, Bureau of Communications, provided excellent advice on video tape specifications for use at the stations and arranged meetings at the University of Arizona to discuss the SWCEL field testing plans.

Finally, a special complimentary note is expressed to Dr. Max Luft and the SWCEL data processing staff for their contributions to the project.

A A. Valencia, Director
Field Testing Program

I. INTRODUCTION

During 1968-69, the first field testing of the ABE Oral Language video tapes was conducted. A report describing the field testing design, analysis, and findings was submitted to the Adult Basic Education Division, USOE, in June, 1969.*

The first field testing plan included five television video lessons. Three testing conditions were used: a classroom condition with video exposure, a classroom condition with video exposure and follow-up drills conducted by a teacher, and a home condition with video exposure and no follow-up drills. Six geographical areas were selected to represent the target population: Santa Maria and San Diego, California; Tucson and Phoenix, Arizona; Lubbock and El Paso, Texas. Both rural and urban Spanish-speaking people were included in the total sample. The number of subjects in each setting was 90-150, with 35-70 adults randomly selected for each treatment condition. Each geographical area included the three treatment conditions.

The sampling population included undereducated or illiterate, non-English speaking, Spanish-speaking adults (age 18-65). The primary purpose was to test the effectiveness of English oral language instruction (language usage and comprehension development), using an innovating instructional scheme (e.g., animation, choreography, and other entertaining elements)

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*Atilano A. Valencia, "The Relative Effectiveness of Three Video Oral English Instructional Conditions for Illiterate or Undereducated Non-English Speaking, Spanishing Speaking Adults," The Southwestern Cooperative Educational Laboratory, June, 1969.

via television. The five (one-half hour) television programs were presented to the treatment groups in a five day consecutive series. A pre-test and post-test instrument was administered to ascertain significant gains in oral English proficiency within each treatment group. A comparative analysis also was performed to determine differences between the three treatment conditions.

The 1968-69 field testing results show significant gains in oral English usage and comprehension based on the test instrument and research design. There was no significant difference between the home treatment condition and the classroom conditon with supplementary teacher instruction. Consequently, it was concluded that the home treatment condition was advantageous in terms of cost. This condition requires no special facilities, equipment, or teacher supervision. Additionally, the participants can remain in the comfort of their homes while getting instruction.

It was recommended that further field testing of the video program be undertaken to ascertain their instructional effectiveness over a longer treatment exposure (e.g., fifteen video programs) and over a more distributed time base. It was further recommended that the effectiveness of the program be tested with other Spanish speaking ethnic groups, such as the Cuba population in Miami and the Puerto Rican population in New York City. Additionally, it was suggested that an attitudinal component be included in the testing to obtain data on target population attitudes toward the characters depicted in the video programs. For example, do the characters portray a negative cultural image to the Mexican American adult learner, and are they an effective instructional element? Because paper

and pencil materials relative to the video programs were unavailable in 1968, it also was proposed that these materials, in conjunction with the television programs, be tested in the 1969-70 field testing program.

Based on the 1968-69 findings, a research design was formulated to undertake further testing of the video programs in 1969-70. The only feature included from the second-year field testing program was the paper-pencil materials. These materials were not available in time to incorporate in the 1969-70 field testing, and will be included in the 1970-71 field testing program.

The field testing instrument and research design was reviewed with the University of Arizona Radio-TV Bureau staff and the SWCEL Test Committee. Suggestions for changes and additions in the instrument and field testing scheme were discussed. The incorporation of these changes or additions were considered by the field testing staff in terms of feasibility.

Pilot testing of the instrument was conducted among a small sampling of non-English speaking, Mexican Americans in Albuquerque. This preliminary study was undertaken to establish inter-rater reliability. The statistical findings show the inter-rater reliability beyond .90, using the Pearson r.

The field testing was conducted by SWCEL personnel. Familiarization sessions were held for personnel involved in the field testing. Additionally, area coordinators from the various geographical areas were given a one-day orientation program at the SWCEL. Thereafter, SWCEL field testing personnel visited each geographical area to familiarize the area field-testing aides with the SWCEL Oral Language Test for adults, interview techniques, and the field-testing program.

II. RESEARCH DESIGN

Test Instrument

Prior to the field testing, an instrument was designed by Laboratory personnel and Gus Garcia, graduate student at the University of New Mexico, to measure the population's proficiency in English comprehension and English usage. The first linguistic variable is defined as the ability of the individual to understand the English verbal stimuli presented by the interviewer. This conditon does not necessitate responses in English, but only that the interviewer can respond in his native language. The second linguistic variable is defined as the ability of the individual to respond orally and correctly to the verbal stimuli presented by the examiner. In this situation, the examinee must elicit his responses in the second language (e.g., English).

A second component was designed to measure the target population's attitude toward English usage. Specifically, this item indicates favorable, unfavorable, or indifferent attitudes toward learning and using the second language (English).

Another component was developed to measure attitudes toward various characters in the video programs. Among the program's characters are cartoons of a professor, a military figure, and a Nineteenth Century phonograph instrument. Real persons also present verbal patterns, songs, dances, and depict various types of life situations.

The aforementioned components include a three-point scale with the highest point indicating greater cognitive development (English comprehension and usage) and positive attitude on a given affective variable (e.g., attitude toward English usage).

Testing Conditions and Sampling Population

Four population types were selected for the 1969-70 SWCEL ABE* video field testing program. The target population included rural Mexican American adult migrants in Santa Maria, California, and Brownsville, Texas, Mexican American adults in Denver and San Antonio, Cuban adults in Miami and Puerto Ricans in New York City. Specifically, the field testing scheme was designed to determine the effectiveness of fifteen ESL* video programs among rural adult Mexican Americans in two different geographical areas, urban Mexican American adults in two different geographical areas and time arrangements, and urban Cuban and Purerto Rican adults.

Only one treatment condition was used in the field testing program--the home setting. However, a distributed time base vs. a consecutive program series was compared. Since fifteen video lessons were tested, the programs were presented on a three consecutive week series, excluding weekends, in four locations. The distributed time arrangement (Monday, Wednesday, and Friday) was presented over a five-week period, excluding weekends, in one of the five selected geographical locations. Thus, it was possible to make a comparison between two urban Mexican American populations, one using a

* In this report, the abbreviations ABE and ESL are used interchangeably with adult basic education and English as a second language.

consecutive time arrangement and the other a distributed time base. San Antonio was selected for the former arrangement and Denver for the latter.

At least 50 persons were randomly selected from each geographical area. The criteria for selecting the subjects were based on a score not to exceed 50 per cent on the instrument designed by SWCEL. All of the subjects were given a post-test or a pre- and post-test, using the same instrument. Since it was necessary for the subject to observe the video programs to form an attitude toward video program characters, this variable was measured only on a post-test basis. All other variables were measured by a pre- and post-test treatment. Due to time interval between the administration of the pre- and post-tests and the foreign linguistic components in the instrument, it was conceived that the test-learning factor would not be an acute intervening variable.

Hypotheses

The following research hypotheses were formulated:

Hypothesis I: Non-English speaking, Spanish-speaking people with less than 50 per cent knowledge of the items given in the SWCEL Oral English Test for Adults will show a significant gain (.05 level of confidence) in oral English comprehension and usage after fifteen ESL video lessons.

Hypothesis II: A significant difference (.05 level of confidence) in oral English development (based on the SWCEL Oral English Test for Adults) will be noted between urban and rural, non-English Speaking Mexican Americans after fifteen ESL video lessons.

Hypothesis III: No significant difference(.05 level of confidence) in oral English development (based on the SWCEL Oral English Test for Adults) will be found between urban, non-English speaking Mexican Americans in a consecutive-time arrangement as compared to a distributed-time arrangement, after fifteen ESL video lessons.

Hypothesis IV: No significant difference (.05 level of confidence) in oral English development (based on the SWCEL Oral English Test for Adults) will be indicated between urban, non-English speaking Mexican Americans, Cubans, and Puerto Ricans after fifteen ESL video lessons.

Hypothesis V: A significant change in attitude (positive direction at the .05 level of confidence) toward video program characters will be found in the total sampling population after fifteen video programs.

Hypothesis VI: Negative perceptions relative to video scenes depicting characters or activities in the Mexican American culture will not exceed 50 per cent of the total possible responses in the attitudinal test.

Hypothesis VII: The overall mean achievement indicated by the total population in Oral English will be 85 per cent or better in terms of the SWCEL Oral English Test for Adults.

Statistical Analyses

Two types of statistical analyses were applied. Analyses of variance were used to ascertain the significant achievement gain in oral English for each of the experimental groups. Analyses of variance also were applied to compute post-test differences in group attitudes toward program characters. Analyses of covariance were performed to determine significant group

variances in oral English development and attitudes toward English usage, based on a pre- and post-test comparison.

Secondary analyses were performed to determine target population attitudes (positive direction) toward video characters in relationship to a 50 per cent reference point on this particular test component, and to ascertain their level of achievement on oral English in relationship to an 85 per cent reference point on this test variable.

It was expected that the foregoing analyses would produce findings to support or reject the research hypotheses, as well as provide objective data to draw inferences and recommendations relative to the video program effectiveness in the given conditions for the selected population types.

III. STATISTICAL FINDINGS

Target Population Attitudinal Change Toward English Usage

The attitudinal component relative to English usage in the instrument consists of twelve questions. Each response is rated along a three point scale, based on favorable, unfavorable, or indifferent attitudes toward the given items. An interviewee with perfect score would be given a total of twenty-four points, while an interviewee who consistently scores in the indifferent column would be given a score of twelve. On the other hand, an interviewee who reacts negatively to all of the items would score zero in this test component.

The instrument was administered to 205 people on a pre- and post-test basis. The statistical findings show a pre-test mean of 16.28, with a standard deviation of 5.45; and a post-test mean of 16.78, with a standard deviation of 6.077. Overall, the findings show no significant change in attitude among the population on the pre- and post-test comparison. Generally, the population tended to respond favorably at about the 70 per cent level. This suggests that the attitude of the population toward English usage already was relatively high at the beginning, but it also is noted that a dramatic attitudinal change (positively or negatively) did not occur as a result of the program. The histograms in Appendix A clearly depicts a close similarity between the pre- and post-test responses.

Comparative Attitudes Toward English Usage Among Six Experimental Groups

Two types of statistical comparisons were performed to ascertain target population attitudes toward English usage. One analysis determined the degree of attitudinal change based on a pre- and post-test measure among

six experimental groups. Another analysis compared the significant difference between the six groups on the same variable.

Table I shows the pre-post test means and F ratios on adult attitudes toward English usage in the six experimental areas. The data show that from a total possible pre-test score of 24, the lowest mean score was 13.31 and the highest was 18.53. The findings also reveal the range of post-test mean scores between 14.24 and 20.44 among the six experimental groups. Only one experimental group (Brownsville) gained significantly (.01 level of confidence) in the pre- versus post-test comparison. However, it is noteworthy that this group scored lower in the pre-test as compared to the post-test. While no other significant gains were observed among the other experimental groups, it also is noted that the pre-test means were generally high.

Tables II, III, and IV give the group means on attitudes toward English usage, and the statistical differences between the groups based on an analysis of covariance. It is noted that a significant difference occurred only between Group Four (Brownsville) and all of the other experimental groups. A careful observation of the data reveals that Group Four not only gained significantly greater than the other groups, but it also surpassed the other groups in average favorable responses on the post-test measure.

A statistical analysis was performed to compare the attitudes of viewers and non-viewers toward English comprehension and usage. The statistical findings clearly show a significant difference in attitudes toward these two variables between 205 adults who viewed 10 or more programs as compared to 92 who discontinued the observations. Needless to say, the higher scores (favorable attitude toward English comprehension and usage) were found among the adults who remained with the program.

TABLE I

Attitude Toward English Usage
Based on a Pre- Post-Test Comparison
by Areas, Using Analysis of Variance

n	GROUPS	PRE-TEST MEAN	POST-TEST MEAN	St'd DEVIATION	F Ratio
36	1	15.28	15.83	4.59	.25 (NS)
42	2	18.31	18.40	6.50	.00 (NS)
29	3	14.66	15.00	4.75	.07 (NS)
32	4	13.31	20.44	7.90	7.65 **
40	5	18.53	19.56	5.08	.80 (NS)
42	6	14.17	14.24	4.50	.00 (NS)

** Denotes significant difference at the .01 level of confidence.

(NS) Denotes no significant difference at .05 level of confidence.

TABLE II

Group Attitudes Toward English Usage,
Using Analysis of Covariance
(Pre-Post, and Adjusted Means)

n	GROUPS	PRE-TEST MEAN	POST-TEST MEAN	ADJUSTED MEAN
36	1	15.277	15.833	16.308
42	2	18.404	18.309	17.306
29	3	14.655	15.000	15.769
16	4	13.312	20.437	21.842
40	5	19.550	18.525	16.980
42	6	14.166	14.238	15.238

TABLE III

Group Differences in Attitudes Toward English Usage
Across Six Treatment Groups,
Using Analysis of Covariance

	SS	MS	F
TREATMENT	.5603	.1120	3.971*
ERROR	.5587	.2822	

*Denotes significant difference at the .05 level of confidence

TABLE IV

Group Differences in Attitudes Toward English Usage

(F Ratios for All Pairs of Adjusted Means)

GROUPS	1	2	3	4	5	6
1	0.00	0.65	0.16	11.91**	0.28	0.78
2	0.65	0.00	1.36	7.96**	0.07	2.95
3	0.16	1.36	0.00	13.42**	0.80	0.17
4	11.91**	7.96**	13.42**	0.00	8.79**	17.87**
5	0.28	0.07	0.80	8.79**	0.00	1.96
6	0.78	2.95	0.17	17.87**	1.96	0.00

**Denotes significant difference at the .01 level of confidence.

TABLE V

Attitudes Toward Two Criterion Variables Based on a Comparison Between Program Viewers and Dropouts (Total Sampling)

CRITERION VARIABLE	n	MEAN	STANDARD DEVIATION	SS	MS	F RATIO
ENGLISH COMPREHENSION	205	20.663	17.468	.3793	.3793	14.44**
	92	12.934	12.732	.7746	.2626	
ENGLISH USAGE	205	56.736	57.988	.4759	.4759	18.05**
	92	29.358	31.013	.7778	.2636	

**Denotes significant difference at the .01 level of confidence.

Population Attitudes Toward Video Program Characters

The instrument component for measuring population attitudes toward video program characters consists of five questions along a three point scale (favorable, unfavorable, or indifferent). A total of ten points are possible. This component was administered to the entire population (205), in all geographical areas in the study, who completed the video lessons. The following data show the frequency of responses in terms of this variable:

Responses	Frequency
10	127
9	21
8	22
7	15
6	6
5	4
4	1
3	1
2	1
1	0
0	7

The foregoing data clearly show the preponderance of responses at the top of the scale, which denotes a consistent and favorable attitude toward the video program characters. Additionally, the analysis of variance revealed a population scoring average of 8.80 points, with a standard deviation of 2.21. This latter analysis supports the abovementioned data; moreover, the

closeness of the standard deviation shows a homogeneity in the pattern of responses.

Based on the aforementioned statistical findings, it can be concluded that the research hypothesis relative to this variable is clearly supported. Specifically, this means that, in general, the subjects interviewed scored better than 50 per cent on the items given in the instrument, which denotes a favorable attitude among the viewers toward the video program characters.

Target Population Achievement Scores in English Comprehension

The English comprehension component of the instrument consists of thirty-two questions. Each response is rated along a three point scale, depending on degree of correctness. An interviewee with a perfect score would be given a total of sixty-four points, while an interviewee, whose response to all the questions are partially correct, would be given a score of thirty-two points. On the other hand, a student who fails to respond, or responds incorrectly to the verbal stimuli, would be given zero points.

The instrument was administered to 205 people on a pre- and post-test basis. The statistical findings show a pre-test mean of 20.65, with a standard deviation of 17.51, and a post-test mean of 38.35, with a standard deviation of 19.08. Subsequent data show that the achievement gain in English comprehension is statistically significant.

It also is noted that the post-test mean in English comprehension (all areas combined) exceeds 50 per cent of the total correct responses on the variable. The standard deviation shows much variance among the subjects in the combined groups on this variable, which, undoubtedly affected the

overall average. Yet, in terms of the given mean on English comprehension achievement, it can be concluded that the research hypothesis, predicting at least 85 per cent attainment on the items relative to this variable, was not statistically supported. On the other hand, in comparing the pre- and post-test histograms (Appendix B) on this variable, it is noted that the achievement curves are dramatically reversed on the pre- versus post-test scores. This suggests that most of the learners scored relatively low at the beginning and advanced significantly in the program; however, this achievement was not sufficiently high to measure at the 85 per cent level on the post-test. In these terms, it can be concluded that the video programs significantly raised the level of English comprehension among the viewers, but the ultimate achievement was not as high as predicted in the research hypothesis.

Statistical and Comparative Findings on English Comprehension Achievement Among Six Experimental Groups

Group achievement gains on English comprehension were computed by analysis of variance. The data in Table VI show all experimental groups, except Group One (Santa Maria), scoring significantly higher (.01 level of confidence) on the post-test as compared to the pre-test.

Based on an analysis of covariance, Table VII presents additional comparative data on the six treatment groups. These findings indicate a statistical difference (significantly lower at the .01 level of confidence) between Group One and all of the other groups. The only other difference (.01 level of confidence) occurred between Group Two (Denver) and Group Six (Miami), with Group Six scoring about nine mean points lower on the

adjusted post-test. This difference does not imply low achievement in Area Six (Miami); rather, the statistical data clearly show a dramatic achievement gain in Area Two (Denver) as compared to Area Six.

It is noted that the Puerto Rican population in New York City (Area Five) scored significantly higher than the other groups on the pre-test, which resulted in a severe post-test score adjustment through analysis of covariance. This does not truly reflect a loss in achievement on English comprehension for this group; therefore, the achievement gain for this and other groups (pre- versus post-test) must be interpreted from Table VI. Here the Group Five achievement gain is indicated as significant at the .01 level of confidence.

Since one of the experimental rural areas (Brownsville) gained significantly between the pre- and post-test measures, it is not possible to draw any valid conclusions on a rural versus urban comparison. Furthermore, because no significant differences in achievement were noted among the three ethnic groups in the program (Mexican American, Cuban, and Puerto Rican), it can be concluded that the video lessons were relatively effective for the three types of population in the investigation.

TABLE VI

English Comprehension Achievement
Based on a Pre-Post Test Comparison
by Areas, Using Analysis of Variance

n	GROUPS	PRE-TEST MEAN	POST-TEST MEAN	St'd DEVIATION	F RATIO
36	1	14.33	18.97	16.71	1.37
42	2	9.45	40.55	21.14	95.40**
29	3	22.86	43.24	18.51	23.34**
16	4	19.63	39.19	17.56	13.50**
40	5	41.93	52.90	12.82	17.50**
42	6	15.83	35.19	17.95	33.60**

** Denotes significant difference at the .01 level of confidence.

TABLE VII

Group Means in English Comprehension
Based on Analysis of Covariance
(Pre- Post-Test, and Adjusted Means)

n	GROUPS	PRE-TEST MEAN	POST-TEST MEAN	ADJUSTED MEAN
36	1	14.333	18.972	22.845
42	2	9.547	40.547	47.348
29	3	22.862	43.241	41.094
16	4	19.625	39.187	39.822
40	5	41.925	52.900	39.891
42	6	15.833	35.190	38.145

TABLE VIII

Variance in English Comprehension
Across Six Treatment Groups,
Based on Analysis of Covariance

	SS	MS	F
TREATMENT	.1253	.2507	13.342**
ERROR	.3721	.1879	

** Denotes significant difference at the .01 level of confidence.

TABLE IX

Treatment Group Differences in English Comprehension

(F Ratios for All Pairs of Adjusted Means)

GROUPS	1	2	3	4	5	6
1	0.00	61.18**	30.05**	16.84**	21.02**	24.11**
2	61.18**	0.00	2.50	3.38	3.82	9.25**
3	30.05**	2.50	0.00	0.23	0.30	1.25
4	16.84**	3.38	0.23	0.00	0.00	0.17
5	21.02**	3.82	0.30	0.00	0.00	0.24
6	24.11**	9.25**	1.25	0.17	0.24	0.00

**Denotes significant difference at the .01 level of confidence.

Target Population Achievement Scores in English Usage

The English usage component of the instrument consists of 107 items. Each response is rated along a three point scale, depending on degree of correctness. An interviewee with a perfect score would be given a total of 214 points, while an interviewee, whose responses to all the questions are partially correct,, would be given a score of 107 points. On the other hand, a student who fails to respond, or responds incorrectly to the verbal stimuli, would be given zero points.

This component of the instrument was administered to 205 subjects on a pre- and post-test basis. The statistical findings show a pre-test mean of 56.74, with a standard deviation of 58.13; and a post-test mean of 119.13, with a standard deviation of 64.01. Subsequent data show that the achievement gain in English usage is statistically significant.

It also is noted that the post-test mean in English usage (all areas combined) exceeds 50 per cent of the total correct responses possible on this variable. And as was observed in English comprehension, the standard deviation shows much variance among the subjects in the combined groups on this variable, which, undoubtedly, affected the overall average. But in terms of the given mean on English usage achievement, it can be concluded that the research hypothesis, predicting at least 85 per cent to this variable, was not statistically supported. Yet, in comparing the pre- and post-test histograms (Appendix C) on this variable, it is noted that the achievement curves are dramatically reversed on the pre- versus post-test scores. This suggests that most of the learners scored relatively low in

the pre-test and advanced significantly in the program; however, this achievement was not sufficiently high on the post-test to measure at the 85 per cent level. In these terms, it can be concluded that the video programs significantly raised the level of English usage among the viewers, but the ultimate achievement was not as high as predicted in the research hypothesis.

Statistical and Comparative Findings on English Usage Achievement Among Six Experimental Groups

Table X shows the comparative gains in English usage among the six experimental areas. Significant gains (.01 level of confidence), based on a pre- versus post-test comparison and an analysis of variance, occurred among all of the experimental groups except Group One. This clearly shows that the video programs were effective in significantly raising the proficiency in English usage among the target people in Denver, San Antonio, Brownsville, New York City, and Miami.

Tables XI and XII show the comparative mean differences in English usage achievement across the six experimental groups. A significant difference in achievement is noted between Group One (Santa Maria) and all of the other groups, i.e., all of the other groups scored significantly higher than Group One. Only one other difference was found between the groups on this variable; this variance occurred between Group Two (Denver) and Group Six (Miami), with Group Two scoring significantly higher (.01 level of confidence) as compared to Group Six. This does not imply that Group Six failed to gain significantly between the pre- and post-test. A careful examination of the data will reveal that this difference is attributed to

the dramatic gains found in Group Two as compared to Group Six.

The data further reveal that the adjusted mean on English Usage achievement for Group Five (New York City) is lower as compared to the pre-test mean. This also does not imply that this group failed to gain significantly on the pre- versus post-test comparison. The drop on the post-test for this experimental area is attributed to the extremely high pre-test mean as compared to the other five groups, which resulted in a heavy adjustment through analysis of covariance. Therefore, the pre- versus post-test gains for each group are more realistically represented through an analysis of variance, given in Table X.

A generalization based on a rural versus urban comparison is not possible on this variable (English usage). While Area One (Santa Maria) measured relatively low on both the pre- and post-tests, Group Four (Brownsville) gained just as significantly (.01 level of confidence) as the experimental population in San Antonio. It is quite conceivable that one or more favorable learning (extrinsic) variables existed in Brownsville as compared to Santa Maria.

The data also show no significant difference in English usage achievement between the three ethnic groups (Mexican American, Cuban, and Puerto Rican) in the program. Puerto Ricans scored significantly higher than the other groups on the pre-test in English usage; therefore, the gain in achievement for this group was not as dramatic as compared to the other groups, excluding Group One.

TABLE X

English Usage Achievement Based on a
Pre-Post Test Comparison
by Areas, Using Analysis of Variance

n	GROUPS	PRE-TEST MEAN	POST-TEST MEAN	St'd DEVIATION	F RATIO
36	1	39.97	51.92	50.98	.98(NS)
42	2	112.01	137.60	73.73	112.25**
29	3	53.59	127.97	61.14	32.88**
16	4	54.50	128.94	56.76	22.63**
40	5	138.88	172.83	40.03	17.10**
42	6	27.14	97.24	57.38	48.80**

(NS) Denotes no significant difference at the .05 level of confidence.

** Denotes significant difference at the .01 level of confidence.

TABLE XI

Group Means in English Usage
Based on Analysis of Covariance
(Pre- Post-Test, and Adjusted Means)

n	GROUPS	PRE-TEST MEAN	POST-TEST MEAN	ADJUSTED MEAN
36	1	39.972	51.972	61.130
42	2	25.500	137.595	154.660
29	3	53.586	127.965	129.686
16	4	54.500	128.937	130.159
40	5	138.875	172.825	127.951
42	6	27.142	97.238	113.405

TABLE XII

Variance in English Usage
Across Six Treatment Groups
Based on Analysis of Covariance

	SS	MS	F
TREATMENT	.1830	.3660	17.213**
ERROR	.4210	.2126	

**Denotes significant difference at the .01 level of confidence.

TABLE XIII

Treatment Group Differences in English Usage

(F Ratios for All Pairs of Adjusted Means)

GROUPS	1	2	3	4	5	6
1	0.00	78.78**	35.18**	24.64**	25.51**	24.67**
2	78.78**	0.00	4.83	3.17	3.82	16.80**
3	35.18**	4.83	0.00	0.00	0.01	2.06
4	24.64**	3.17	0.00	0.00	0.02	1.49
5	25.51**	3.82	0.01	0.02	0.00	1.15
6	24.67**	16.80**	2.06	1.49	1.15	0.00

**Denotes significant difference at the .01 level of confidence

IV. SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

Resume of the 1969-70 Field Testing Findings and Conclusions

The statistical findings reveal that, in general, the target population hold a favorable attitude toward English usage. However, this attitude did not change dramatically, positively or negatively, after fifteen ESL video program exposures. It also is found that the variance between five of the six experimental groups was insignificant on this variable. Only one group (Brownsville) appeared to differ significantly from the others. This is attributed to the dramatic gain (pre- versus post) found this group as compared to the others.

A significant difference on attitude toward English usage was found between program viewers and dropouts. Specifically, this means that 205 adults who viewed ten or more programs maintained a significantly higher (favorable) attitude toward English usage as compared to 92 who discontinued the program.

From the foregoing statistical findings, it can be concluded that the video programs do not tend to affect a dramatic change in attitude toward learning and using English among Mexican Americans, Cubans, and Puerto Ricans; but it also is noted that the majority of the subjects in the experimental population already have a favorable attitude toward this variable. Since Brownsville (with the lowest pre-test mean) gained significantly greater than the five other groups, it can be tentatively concluded that, where the population attitude is lowest, greater gains are realizable through the program.

The statistical findings show a consistent and favorable attitude among the six population groups toward the video program characters. With a mean of 8.80 (possible maximum score is ten) across the six experimental groups, the data show that positive perceptions toward program characters far exceeded the 50 percent predicted in the research hypothesis. Therefore, it can be concluded that the video program characters do not appear to generate negative attitudes among the viewers toward the program. This does not include a critique about the technical aspects in the programs. It is suggested that this factor be considered for further evaluation.

Significant and dramatic gains were noted in English comprehension and achievement across all experimental groups except one (Santa Maria). Further investigation is needed to determine the causes for lower achievement in Santa Maria as compared to the other geographical groups. Santa Maria is a rural-migrant Mexican American population as compared to the urban-Mexican American populations in Denver and San Antonio. However, low achievement was not notable in Brownsville, Texas, where the population also is rural-migrant.

The statistical findings show that the combined population means exceeds 50 per cent in relationship to the total correct responses possible on English comprehension and usage; yet, in terms of these means, the overall achievement did not reach the 85 per cent score predicted in one of the research hypotheses. This suggests that most of the learners scored relatively low at the beginning and advanced significantly in the program;

however, this achievement was not sufficiently high to measure 85 per cent on the post-test. In these terms, it can be concluded that the video programs significantly raised the level of English comprehension and usage, but the ultimate achievement was not as high as predicted in the research hypothesis.

A comparative analysis was performed to ascertain population group differences in English comprehension and usage after fifteen video program exposures. The statistical findings show no significant differences between the population groups, except in two of the comparative analyses. A difference occurred between Santa Maria and all of the other groups. Again, this difference is attributed to the low achievement gain in the latter population. However, because this finding is not equally apparent in Brownsville (another rural-migrant population), a generalization in terms of urban versus rural would be questionable.

A second difference (.01 level of confidence) occurred in English comprehension and usage between the Denver and Miami experimental groups. This does not suggest low achievement in the Miami experimental group; rather, the statistical findings clearly show a dramatic achievement gain in the Denver group as compared to the Miami group. Except for the two aforementioned differences, there were no other significant post-test differences between the groups (urban versus rural and between ethnic groups such as Mexican American, Cuban, and Puerto Rican) on English comprehension and usage. Thus, it can be concluded that, on the basis of this study, the fifteen ESL video lessons are an effective instructional medium among urban, non-English speaking Mexican Americans, Cubans, and Puerto Ricans, as well as among rural-migrant, Mexican Americans.

Since the pre-test mean for the Puerto Rican population was exceedingly higher than the means of the other population groups, its pre/post test gain in English comprehension and usage was not as dramatic as compared to the gains found in the Mexican American groups, excluding Santa Maria. Yet, the achievement gain of this ethnic group in New York City was still significant at the .01 level of confidence.

A consecutive-time arrangement was compared to a distributed-time plan, using the fifteen ESL video programs. No significant difference was found between the two population groups in this comparison (Denver and San Antonio), but it is noteworthy that the most dramatic gain in English comprehension and usage occurred in Denver, where the distributed-time plan was used. Because of the difficulty in finding "prime-time" for telecasting programs, the foregoing finding can have important implications in selecting time arrangements for presenting the ESL video programs. The distributed-time plan clearly presents unique advantages in terms of feasibility for telecasting the video programs.

Recommendations for Further Field Testing and Production

Field testing results over the past two years indicate that the video lessons developed by the University of Arizona on a subcontractual arrangement with the SWCEL are an effective medium in developing oral English facility among non-English speaking, Spanish speaking adults. These findings are based on a series of five (1968-69) and fifteen (1969-70) one-half hour video programs. In the year 1970-71, thirty video tapes will be available for field testing.

During 1969-70, the West Texas Education Center at Midland, Texas, completed a package of paper and pencil materials that can be utilized with non-English speaking, (literate or illiterate) Spanish-speaking adults. These lessons are related to the video language programs and, therefore, can serve as a supplement or a reinforcement medium. With the two aforementioned components available for 1970-71, several questions need to be answered:

1. Do the video programs maintain their instructional effectiveness when the number of exposures is doubled (15 to 30)?
2. Do the video programs tend to maintain their audience when the exposure time is doubled?
3. Do the attitudes of the participants toward the program characters and the instructional media tend to vary and change (positively or negatively) over a longer period of exposure?
4. Does the inclusion of paper and pencil materials (coupled with the video programs) tend to enchance learning English significantly as compared to the single medium, video only, exposure?
5. On the average, do the learners tend to retain the learned verbal patterns after instruction has been discontinued (e.g., over a four week period)?

Based on the foregoing questions, the following treatment conditions are recommended:

Treatment Condition I: Utilizing the video programs, without paper and pencil materials and teacher aides.

Treatment Condition II: Utilizing home-video instruction with paper and pencil materials, without teacher aides.

Treatment Condition III: Utilizing home-video instruction with paper and pencil materials, including fifth grade level students as teacher aides.

Treatment Condition IV: Utilizing only the paper and pencil materials in a classroom setting, coupled with a teacher aide.

A newly revised and expanded field testing instrument will be needed for utilization with thirty video programs. Another instrument will be needed to measure the effectiveness of the paper and pencil instructional materials.

Previous field testing have included different population types, treatment conditions, time arrangements, geographical areas, number of exposures, and other related factors. The 1970-71 field testing results, together with previous field testing findings, will provide a sufficient information base for adult basic educators to implement the ESL video programs under varying conditions.

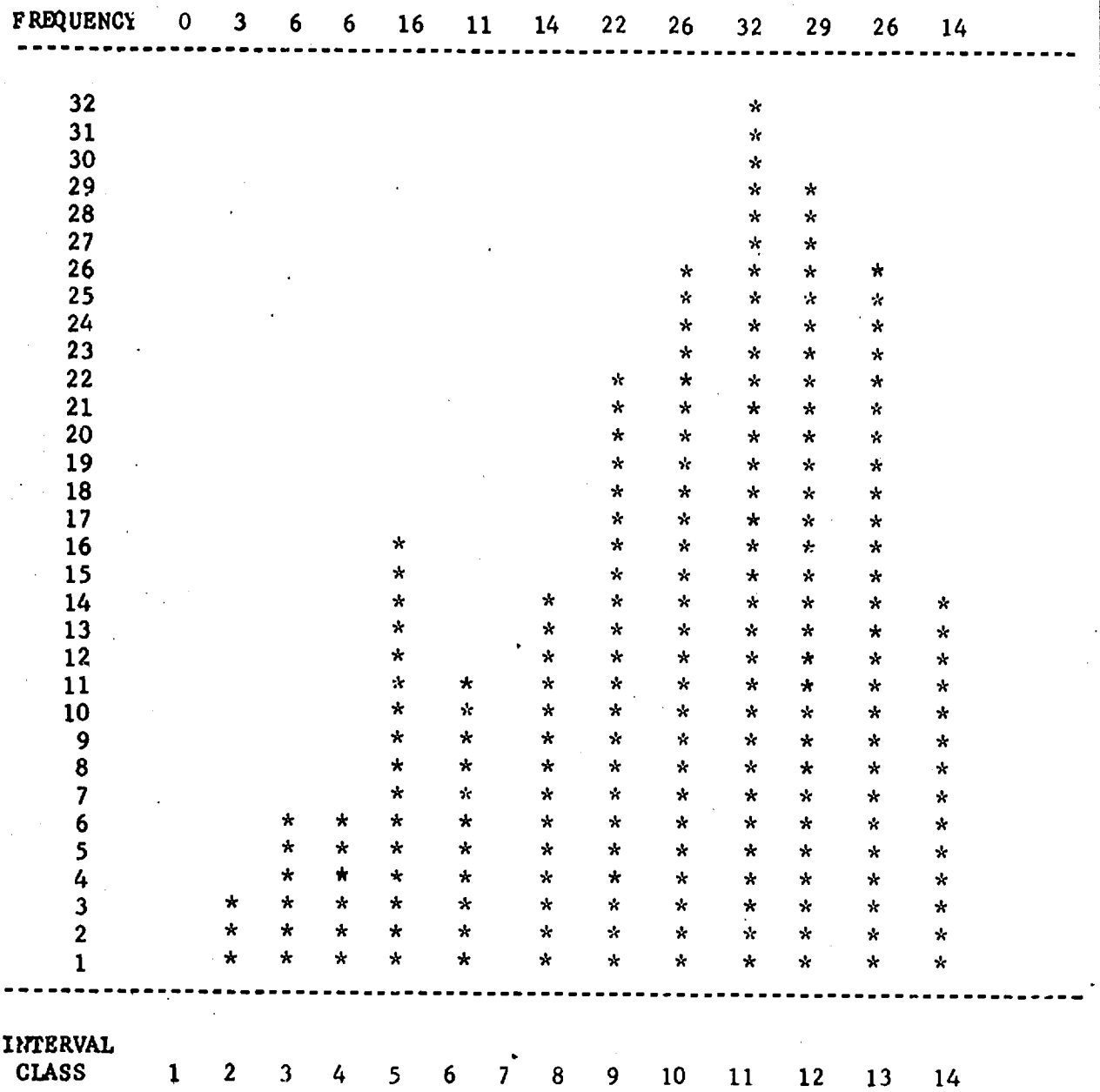
At this stage of video program development and field testing, three major recommendations can be extended. Presently, there is sufficient evidence to support the instructional effectiveness of the ESL video programs. Therefore, it is recommended that production of these programs should continue until a sufficient quantity has been developed to form a complete instructional package. Secondly, it is recommended that the production agency, the University of Arizona Radio-TV Bureau, continue improvising the technical features and cultural elements relative to the target population. Thirdly, rather than attempting to evaluate the technical and cultural features at the end of the production year, it is suggested that these program components be evaluated and revised during the same production year,

immediately following each individual program production. Therefore, future production of the video programs should incorporate a continuous and objective evaluation plan. Mexican American consultants with reference and a genuine feeling for the Mexican American culture, ESL linguistic specialists, and other media experts should be included in the ongoing evaluation team. With additional input from a selected group of outside consultants, the final series of video programs can be representative of the most advanced and effective instructional media in adult basic education.

Appendix A: Histograms on Target Population Attitudinal Change Toward English Usage

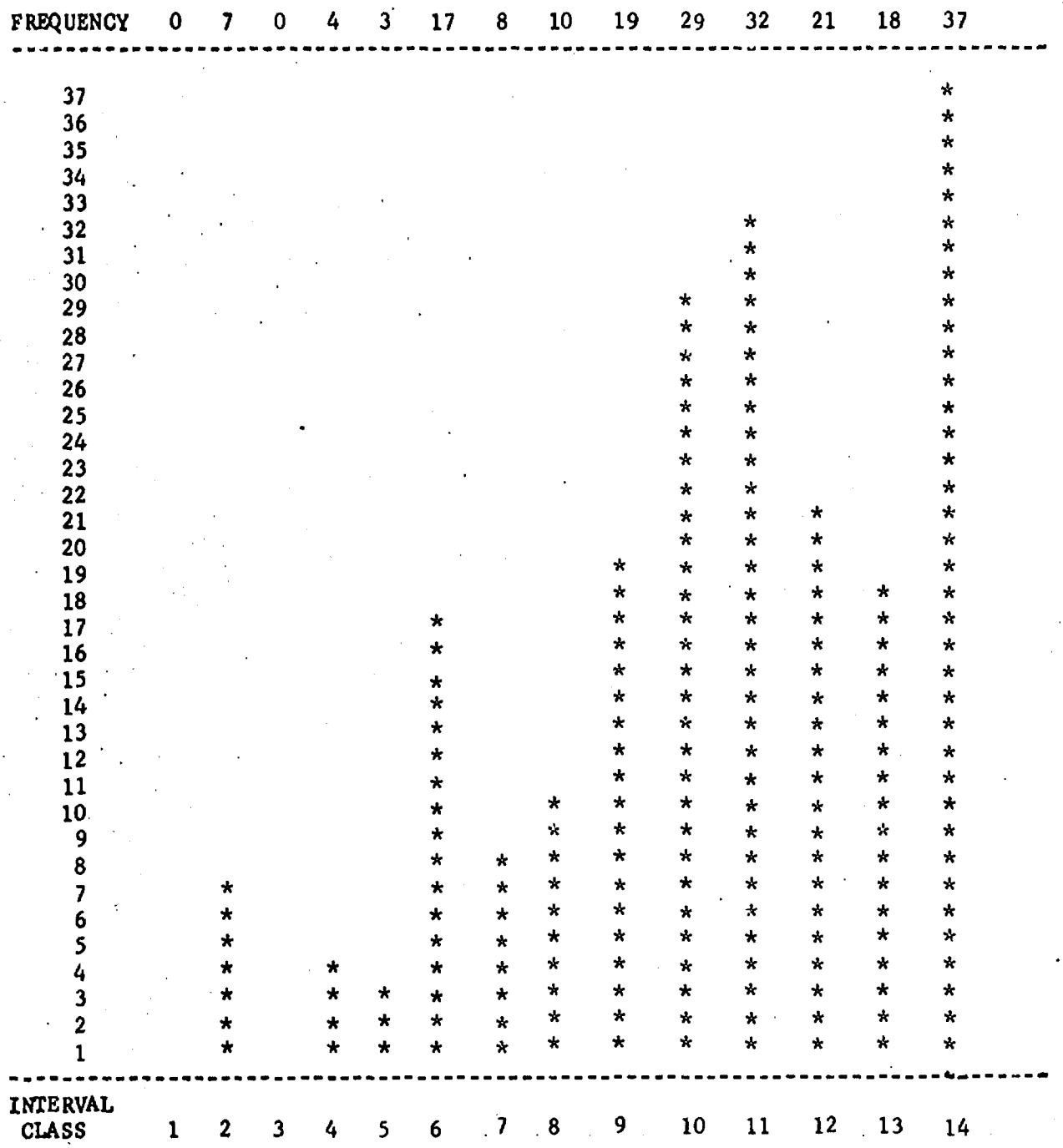
Variable: Attitude Toward English Usage (Pre-Test)

HISTOGRAM 1



Variable: Attitude Toward English Usage (Post-Test)

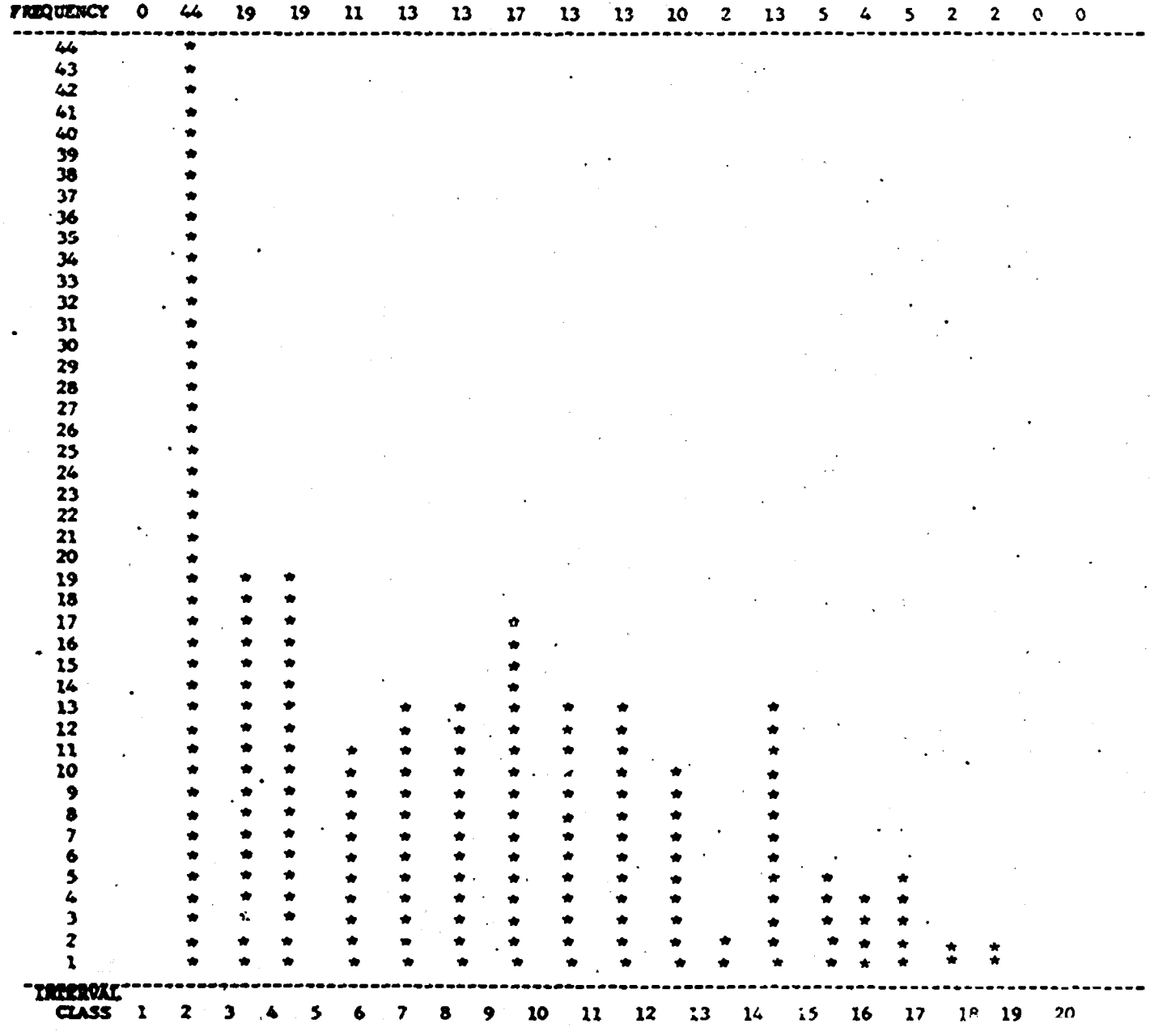
HISTOGRAM 2



Appendix B: Histograms on Target Population Achievement in English Comprehension

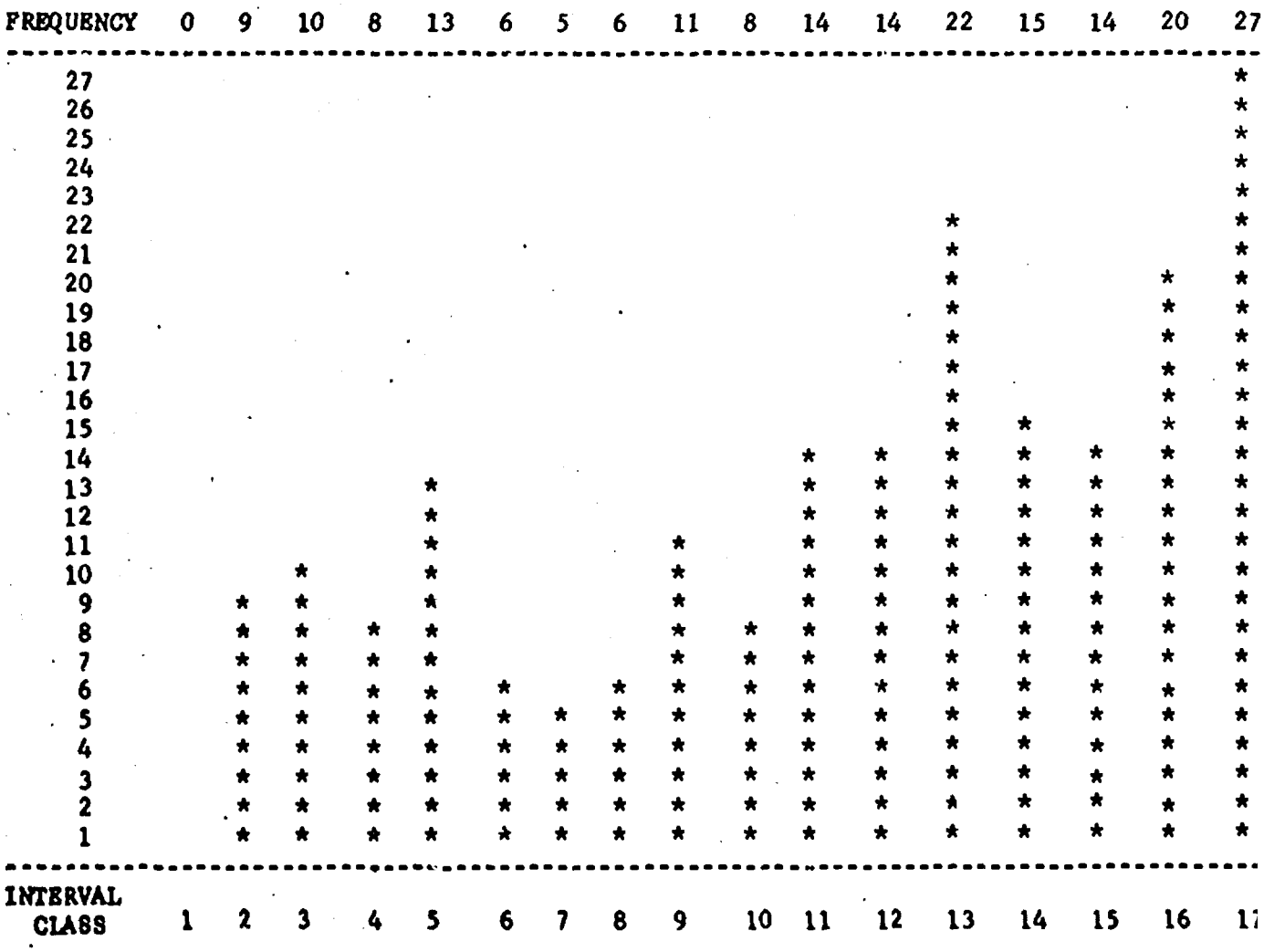
Variable: English Comprehension (Pre-Test)

HISTOGRAM 3



Variable: English Comprehension (Post-Test)

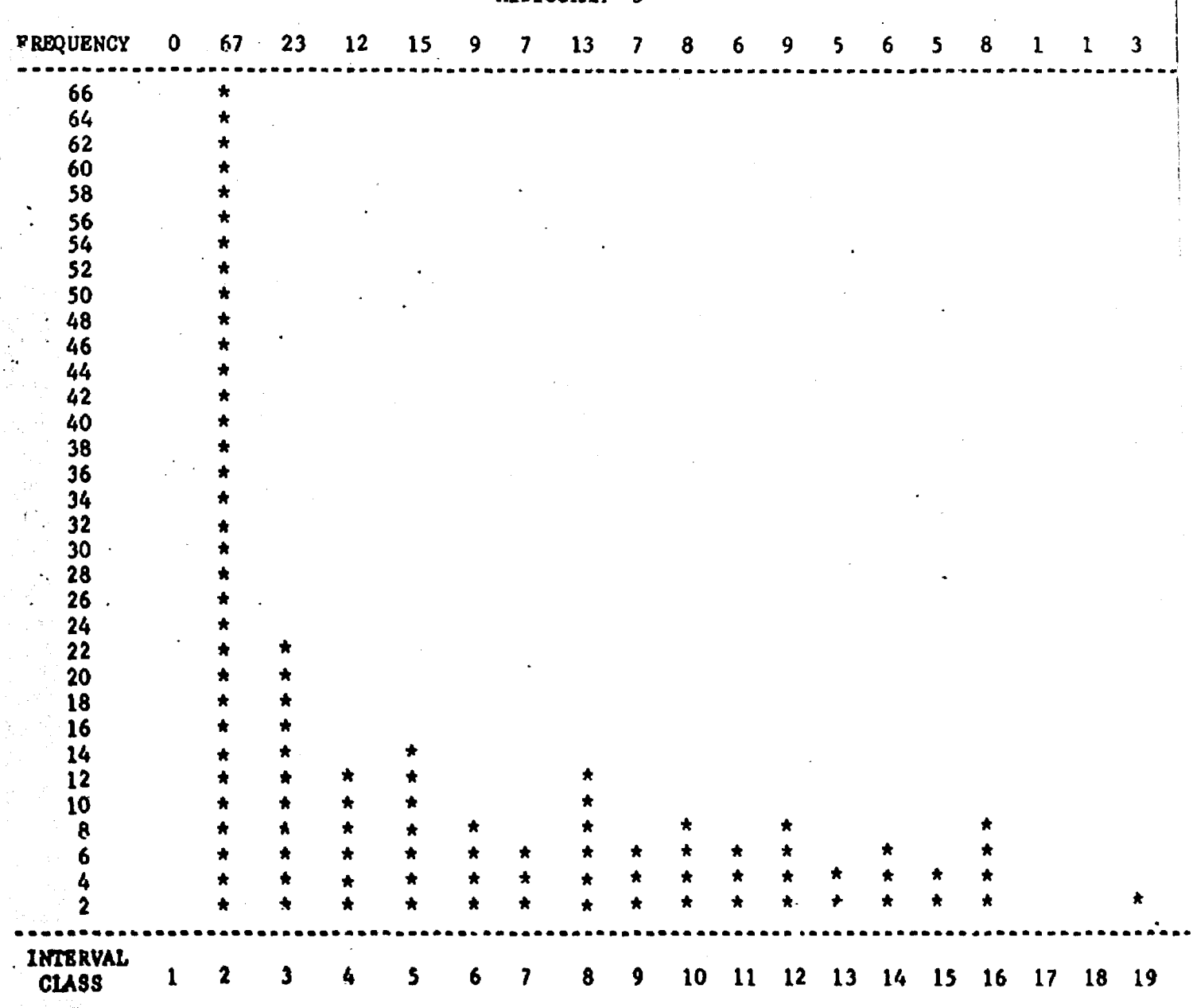
HISTOGRAM 4



Appendix C: Histograms on Target Population Achievement in English Usage

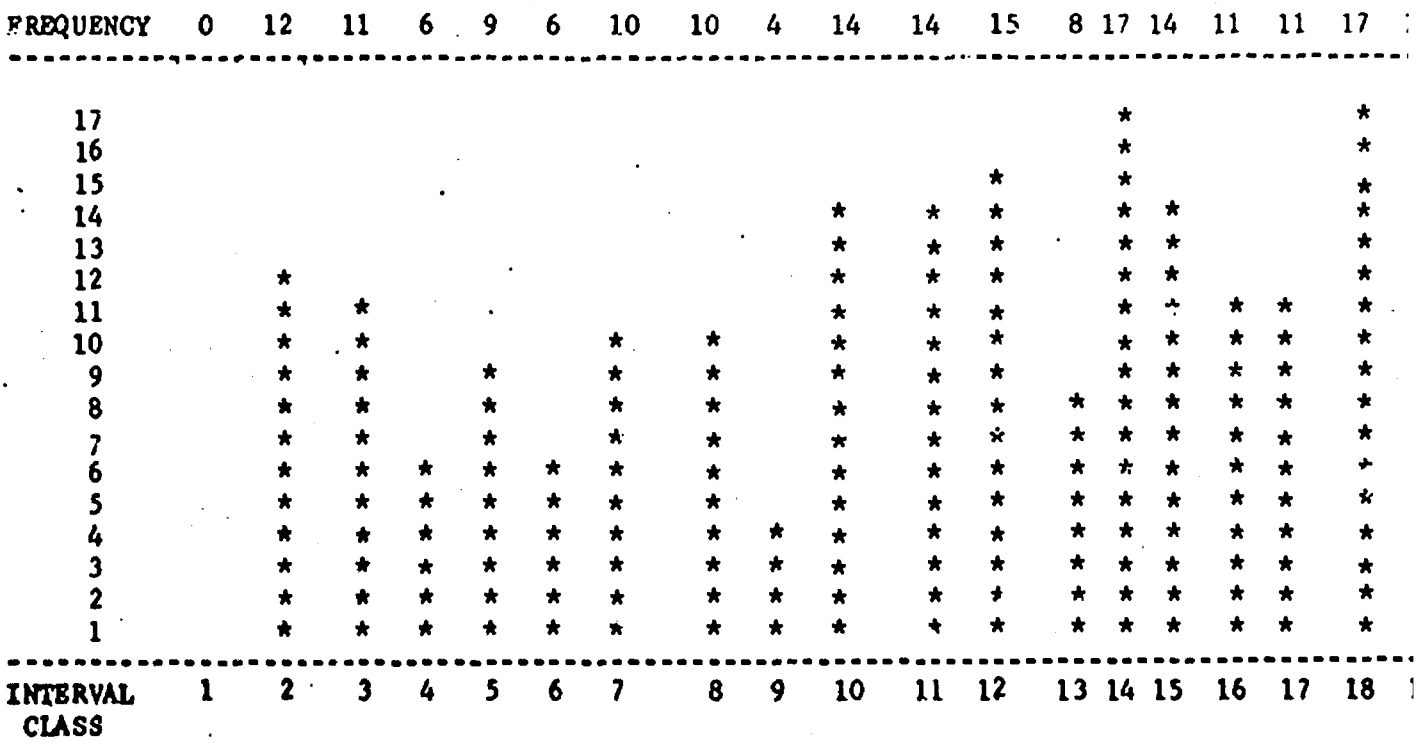
Variable: English Usage (Pre-Test)

HISTOGRAM 5



Variable: English Usage (Post-Test)

HISTOGRAM 6



Appendix D: Correlation of Coefficients Based on Pre- Versus Post-Test Performance

CORRELATION OF COEFFICIENTS BASED ON PRE- VERSUS POST-TEST PERFORMANCE

A correlation coefficients analysis was performed to ascertain the relationship of high performance on the pre-test as compared to high achievement on the post-test. The data on three critierion variables is given below:

Criterion Variable	Correlation Coefficient
Attitude Toward English Usage	.429
English Comprehension Proficiency	.574
English Usage Proficiency	.526

The foregoing data show an insignificant relationship between high scores in the pre-test as compared to the post-test. Two conclusions can be drawn from these findings: one, there were variances in gains among the subjects irrespective of pre-test scores; and two, the majority of the subjects gained significantly between the pre- and post-tests, irrespective of pre-test scores.

Appendix E: Sample Copy of the SWCEL Oral Language Test for Adults

FIELD TEST INSTRUMENT

FOR

UNIVERSITY OF ARIZONA VIDEO TAPES

OPINION QUESTIONNAIRE

A. ATTITUDES TOWARD ENGLISH USAGE
(Pretest and Post Test)

Cree Ud. que una persona en una situación como la suya--	2 Favorable	1 Indifferent	0 Unfavorable
1. Pueda obtener empleo sin hablar nada de inglés?			
2. Pueda aprender inglés a su edad?			
3. Pueda entenderse con ur americano después de haber tomado solamente 15 lecciones en inglés?			
4. Pueda llegar a encargarse de un trabajo y de otros trabajadores?			
5. Debe hablar inglés con su esposa?			
6. Debe hablar inglés con sus hijos?			
1. ¿Cree usted que el no saber inglés afecta mucho a su vida?			
2. ¿Cree usted que el individuo que vive en Los Estado Unidos tiene la obligación de aprender a hablar el inglés?			
3. ¿Ha tenido ocasión en que usted no fue (o no entró) a algún lugar, o algún negocio, etc., porque no sabía hablar el inglés?			

FIELD TEST INSTRUMENT

FOR

UNIVERSITY OF ARIZONA VIDEO TAPES

OPINION QUESTIONNAIRE

A. ATTITUDES TOWARD ENGLISH USAGE
(Pretest and Post Test)

Cree Ud. que una persona en una situación como la suya--	2 Favorable	1 Indifferent	0 Unfavorable
1. Pueda obtener empleo sin hablar nada de inglés?			
2. Pueda aprender inglés a su edad?			
3. Pueda entenderse con un americano después de haber tomado solamente 15 lecciones en inglés?			
4. Pueda llegar a encargarse de un trabajo y de otros trabajadores?			
5. Debe hablar inglés con su esposa?			
6. Debe hablar inglés con sus hijos?			
1. ¿Cree usted que el no saber inglés afecta mucho a su vida?			
2. ¿Cree usted que el individuo que vive en Los Estado Unidos tiene la obligación de aprender a hablar el inglés?			
3. ¿Ha tenido ocasión en que usted no fue (o no entró) a algún lugar, o algún negocio, etc., porque no sabía hablar el inglés?			

ENGLISH USAGE I

¿Cómo se dice _____ en inglés?

		Responses:
1.	año	year
2.	abierto	open
3.	jueves	Thursday
4.	(la) mañana	morning
5.	qué	what
6.	me (mí)	my or me
7.	quién	who
8.	treinta	thirty
9.	él	he (him)
10.	burro	donkey
11.	usted	you
12.	diente	tooth
13.	mamá	mother
14.	yo	I
15.	dónde	where
16.	mes	month
17.	cabeza	head
18.	noche	night
19.	primavera	spring
20.	gallo	rooster

2	1	0

ENGLISH USAGE III

Instructions to Examiner:

The example can be given in Spanish; however, make certain that the interviewee understands that his response must be in English. Also, make certain that the interviewee understands that hypothetical names, objects and places may be used to complete the responses, except where the cue card indicates specifically the name, object, or place.

Instructions to Examinee:

Las siguientes preguntas deben contestarse en oraciones completas y en ingles. Se pueden contestar las preguntas con cualquier nombre, objeto o lugar, si el dibujo no indica algo especifico.

Por ejemplo:

What is his name?
(Como se llama él?)
(Cue card #4.)

Repuesta: His name is José.
(El se llama José.)

Aunque el ejemplo se le ha dado en español las preguntas son en ingles y usted debe contestar en ingles en una frase completa.

1. What is her name? (Cue Car #5)

2. What are their names?
(Cue Card #6)

3. Where does she live?
(Cue Card #7)

4. Where does he live?
(Cue Card #8)

5. What is he? (Cue Card #9)
(Response: He's a policeman).

6. What is she? (Cue Card #10)
(Response: She's a nurse.)

7. What are they? (Cue Card #11)
(Response: They are doctors.)

2	1	0

B. ATTITUDES TOWARD FILM CHARACTERS
(Post Test Only--DO NOT Pretest)

	2 Favorable	1 Indifferent	0 Unfavorable
1. ¿Qué le paprece el Sr. Profesor?			
2. ¿Le gusta la manera en que el coronel da sus direcciones?			
3. ¿Cree ud. que Bocatón sirve para ayudarle a Ud. a formar las palabras?			
4. ¿Le gusta la Sra. Mora como professora de inglés para adultos?			
5. En una de las lecciones, apareció una boca aislada, formando las palabras que le habían enseñado. ¿Le gustó esta parte?			
Total Score---------- (ATTITUDES TOWARD FILM CHARACTERS)			

ENGLISH COMPREHENSION I

Ahora quiero que usted me conteste con una frase en ingles, o español, para indicar que Ud. comprende lo que yo le digo.

Ejemplo: "Hello, How are you?" (Response: "Fine, thank you.")

	2	1	0
1. Who are you? (Response: I am _____.)			
2. Who am I? (Interviewer points to himself) (Response: You are _____.)			
3. How old are you? (Response: I am _____ years old.)			
4. When were you born? (Response: I was born (day, month, year.)			
5. Where were you born? (Response: I was born in (city, town.)			
6. Where do you live: (Response: I live in (city) _____.)			
7. Where do you work? (Response: I work at _____.)			
8. What days do you work? (Response: I work on _____.) (*See No. 7 first).			
9. What is your name? (Response: My name is _____.)			
10. What is your address? (Response: My address is ___street and number_____.)			
11. How many children do you have? (Response: I have _____ children.)			
12. Where were you today? (Response: I was (at home, in school, etc.)			
Sub-score (Part I) ----------			