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PARAGUAYAN BILINGUAL EDUCATIONSECTOR ASSESSMENT SUPPLEMENTReference: STATE 175905 *attached.*

This supplement to the Education Sector Assessment provides additional information regarding Paraguayan bilingualism and its impact on the national education system particularly the education objectives in the National Development Plan and the priorities the MOE gives to these objectives. This supplement also provides information concerning the history of Paraguayan bilingualism and discusses recently completed reports by the MCE.

The Government of Paraguay has established priority educational objectives in its five year National Development Plan, 1977-1981. The first and foremost objective is "to raise the quality standard of education at all levels and specialization." The low level of achievement, particularly of rural primary students is reflected in high rates of grade failures and repetitions. The Sector Assessment concludes (p. 232) that the language problem of monolingual Guaraní speaking students is a principal factor leading to these high repeat rates.

The second national education objective is "to increase educational opportunities throughout the system." Over 90% of the primary school age population has been enrolled in school some time between the ages of 7 and 12. (Sector Assessment pg.230). Presently, 33% of the students enrolled in rural primary schools are in the first grade and 25% are in the second grade. Only 5% are in the sixth grade. The problem of increasing educational opportunities at the primary level is not, therefore, one of getting greater numbers of children enrolled in school, but rather of keeping children in school once they are enrolled. In Paraguay retention of students in school depends to a great extent on the successful completion of the first grade. This in turn depends on the student's ability to communicate in Spanish. The learning of Spanish is hindered by several factors:

- a. The lack of opportunity to use the language in the rural areas.
- b. The absence of teaching/learning materials in Spanish, and
- c. Teachers who are poorly prepared to teach Spanish as a second language.

In the past the learning problems of monolingual Guaraní speaking students were largely ignored. Since 1973, however, when the MOE adopted a new curriculum which emphasized effective communication and teacher-student interaction, the development of a bilingual training program has had high priority (Sector Assessment pg. 41). To develop this program the Sector Assessment makes the following recommendations:

- a. Teaching Materials. The Ministry of Education should develop for grades 1-3 bilingual teaching materials. These teaching/learning materials should provide a transition from Guaraní to Spanish during the child's first three years of school. The materials should correspond to both the students' and teachers' needs and complement and reinforce the new curriculum.
- b. Spanish as a Second Language. The primary curriculum should include the instruction of Spanish as a second language. Teaching materials should be developed for use by teachers and students in rural areas.
- c. Teacher Training. Pre-service and teacher formation training programs should include course work and practical application of bilingual instruction and second language teaching techniques. These future teachers will make up the major component of the teaching force that will be implementing bilingual instruction over the next several years.

In-service training courses should be offered to primary teachers. These courses should contain elements of bilingual education and second language teaching methodologies. In-service courses should also deal with the utilization of new curriculum and bilingual education materials.

- d. Demonstration Schools. The Ministry of Education should designate certain schools as demonstration schools. These demonstration schools would be the first to use and evaluate new materials. They would be near to and administered by the Regional Centers and would serve as centers for teacher and supervisor training.

A. The Linguistic Situation

Paraguay is unique in being the most bilingual country in the world today.

Unlike the situation in other Latin American nations where indigenous languages are relegated to a secondary position, Paraguay has maintained, and is proud of its bilingualism. This is illustrated in statistics which indicate 50% of the population is capable of speaking Guaraní and Spanish, with 40% of the population being monolingual speakers of Guaraní. The latter are primarily rural people, whereas the former live scattered throughout the country.

1. Historical Background

a. Colonial Period

The history of this bilingual situation began in the Sixteenth Century, the initial period of contact between Guaraní speaking Indians and the Spanish explorers. The first group of Spaniards to settle in what is now Paraguay founded Asunción in 1537. They had hoped that the Rio de la Plata would provide an easy route to Perú where they would discover the legendary El Paitití or El Dorado. Their intentions were to remain only temporarily until they had amassed enough gold and silver to return to Spain as wealthy men and they did not bring their wives or families with them. Guaraní women became their concubines, servants, and providers of food.

Maintenance of the Guaraní language can be viewed as one of the consequences of this close and personal contact between Spaniards and Guaraní Indian women. Since the original Spaniard population was not augmented by further immigration from Spain, in a few years mestizos came to outnumber Spaniards in Paraguay, furthermore, since children were raised for the most part by their Guaraní-speaking mothers, they grew up speaking Guaraní. Thus when a small group of Spanish women finally arrived in Asunción in 1555, the "Conquerors" found that their habitual use of Guaraní had inhibited their "Speaking in Spanish to real ladies dressed in the manner God expected" (Gandía 1939: 132 (translation)).

The maintenance of Guaraní was such that a report to the Spanish crown in 1777 contained complaints about the difficulties encountered by Spanish speaking authorities in communicating with the populace, due to the latter's monolingual (Guaraní) character (Fernando 1777: 49).

In 1791, it was reported that in Asunción "the mysteries of the Catholic religion by popular preference were explained from the pulpit in Guaraní" even though the audience was mostly bilingual (Peramás 1916:71).

From these and other references we may draw the conclusion that during the colonial period Guaraní was widely used in all levels of Paraguay society as a medium of communication. Guaraní, however, was used orally, and, with the exception of some of the early missionaries who wrote grammars and dictionaries and translated some of the scriptures into the language, it was not until Independence (1811) that there was much use of Guaraní in secular literature.

b. Independence and After

Following Independence in 1811, Paraguayan leaders began to establish political and economic relations with their neighbors and with Europe. It was partly because of this contact with Spanish speaking neighbors that the need for more Spanish was recognized. In 1812, the government authorities advised school teachers to be certain that Spanish was the language of the classroom and to banish Guaraní from school usage (Instrucciones ... 1812). Despite government regulations, this turned out to be difficult to implement. Thus arose the now famous use of "rings" to remind students of the need to use Spanish. A description of this is given in the memoirs of Juan Crisóstomo Centurión "In the school the use of Guaraní in class hours was prohibited. To enforce this rule, teachers distributed to monitors bronze rings which were given to anyone found conversing in Guaraní ... on Saturday, return of the rings was requested and each one caught with a ring was punished with four or five lashes" (translated from J.C. Centurión, 1894, p.62).

It is generally believed that the first conscious effort by the Paraguayan Government to establish a policy in favor of Guaraní occurred during the War of the Triple Alliance (1865-1870) when it was the only language used in the Army in an attempt to confound spying by foreign infiltrators. Most historians, however, recognize that Army officers had to use Guaraní to communicate efficiently with their monolingual country soldiers and invented a face-saving excuse so as not to admit that the Paraguayans did not speak Spanish, the official language, well enough to be able to use it while fighting a war.

The period after the war, from 1870-1932, was one in which Spanish was especially emphasized. This was due in large part to the heavy Argentine influence in the country, not only in the school system, but in many other spheres, and due to the Paraguayan loss of the Triple Alliance War. There was also a feeling by the administrative authorities that whatever came from outside was superior to anything that was Paraguayan. In the case of education, this meant a heavier

emphasis on Spanish, and an even greater negation of Guaraní. For example, in 1894 Manuel Domínguez, Minister of Education, referred to Guaraní "as a great enemy of the cultural progress of Paraguay" (Carodozo, 1959, p.82). Whereas Domínguez clearly recognized the problem posed by the monolingual Guaraní speakers, he did not recognize the discrepancy between the requirements for instructor in Spanish and the language ability of pupils in the nation's school system.

In 1932 Paraguay entered the War of the Chaco (1932-1935) and again, as in the War of the Triple Alliance, it was Guaraní that was used solely by the Army in its daily combat operations. However, as before, when the war had ended, the country went back to an official emphasis on Spanish in all areas of public life.

When the Colorado party came to power in 1948 basic changes in attitudes toward language began to appear. This was in part due to the basic philosophy of the party which places great emphasis on self-reliance, self-sufficiency and pride in things Paraguayan. With this philosophy, Guaraní began to have more acceptance, and eventually, a chair of Guaraní was created at the university in 1950. Another change due to Colorado influence was the gradual scheduling of classes in Guaraní for high school students, beginning in 1955.

In 1968 a new constitutional amendment was passed naming Guaraní and Spanish the country's "National Languages," and Spanish was declared the "Official Language." Since passage of this constitution it is again the army which has come out with the strongest language policy, requiring entrants to pass an oral test in Guaraní before becoming soldiers. In event of war the old "secret language" can be used against the enemy! The Ministry of Justice has also moved towards more formal acceptance of Guaraní in courts of law for the giving of testimony and in the cross-examination of witnesses. This reform in court room procedure has increased the accessibility of the legal system of the rural population of Paraguay. And finally, in 1973, with the inauguration of the new education curriculum (Curriculum Renovado) the Ministry of Education, for the first time in its history, approved the use of Guaraní in the classroom.

From this over-view there emerge several trends: (1) Paraguay, from its inception, has been a country with two major, and at times competing, languages: Spanish and Guaraní. (2) Both have played an important role in the country's history and development, with an emphasis on Spanish when the country has stressed its participation in international relations, and with an emphasis on Guaraní when a need was felt for a strong national identity. And (3) recently the bilingualism has been accepted as part of the country's national and international self-image.

This picture, however, can be somewhat misleading. For although Paraguay stresses its role as a bilingual nation, it is its bilingualism that is stressed, i.e., the knowledge of Guaraní and Spanish. Guaraní alone is not thought of as having any great value by itself. A person who speaks only Guaraní is Guarango (ill-bread, here), menos inteligente, menos desarrollado than a person who is bilingual in Spanish. Monolingual speakers often share this kind of depreciatory attitude and call themselves tavy (stupid) because they cannot speak Spanish. (Rubin 1968: 46). A monolingual person is described and will describe himself as "uneducated" and "uncultivated" if he or she speaks only Guaraní. This seems to stem from the fact that it is in school that the monolingual Guaraní speaker generally is first exposed to Spanish; and it is here that one learns to speak the language. Thus the assumption is made that the person who does not speak Spanish is the one who has had little formal schooling. "Amount of schooling is the single most important factor in determining Spanish proficiency" (Rubin 1968: 84).

2. Language and Educational Participation

That there is a correlation between amount of schooling and degree of bilingualism in Spanish and Guaraní can be seen in the following table:

Table 1. Number of School Years Completed for 817 Itapuamí^{1/} Speakers, Ten Years and Above (In percentages)
(Rubin 1968:77)

| | School Years Passed | | | | | | | | Total |
|---------------------------|---------------------|-----|------|------|-----|-----|-----|-----|-------|
| | None | 1 | 2 | 3 | 4 | 5 | 6 | 7 | |
| Monolingual (Guaraní) | 17.5 | 3.3 | 1.6 | 0.2 | | | | | 22.6 |
| Incipient ^{2/} | 5.5 | 5.4 | 7.1 | 2.8 | 0.2 | | | | 21.2 |
| Subordinate ^{3/} | 1.5 | 1.6 | 10.5 | 12.5 | 5.1 | 0.2 | 0.2 | | 31.7 |
| Coordinate ^{4/} | 0.5 | 0.6 | 2.3 | 4.9 | 6.2 | 4.7 | 3.7 | 1.6 | 24.5 |

As has often been stated, were it not for the learning of Spanish in the schools, Paraguay might easily return to its pre-Hispanic linguistic situation, that of being an almost totally monolingual Guaraní speaking country!

^{1/} Itapuamí is a small rural community northeast of Asunción.

^{2/} An incipient bilingual is a person who, "although unable to produce any utterances in the second language, might still indicate some understanding" (Rubin 1968:71).

^{3/} A subordinate bilingual is a person who is able to speak a language, but not fluently.

^{4/} A coordinate bilingual is one who both speaks and understand well a second language.

In actuality the language situation today has manifested a certain amount of stability (See Sector Assessment Table B-1, p. A-8 for statistics).

Table 2. Population Distribution by Language Spoken, 1950 and 1962^{5/}

| Census | Spanish only % | Guaraní only % | Spanish-Guaraní % | Other Languages ^{6/} % |
|--------|-------------------|-------------------|----------------------|------------------------------------|
| 1950 | 4.7 | 40.1 | 53.8 | 1.4 |
| 1962 | 4.4 | 45.1 | 48.4 | 2.1 |

Source: Bureau of Statistics and Census

The data in Table 2 show only the proportion of people in each category in relation to the total population. Approximately 34% of Paraguay's population lives in what have been officially classified as urban areas; the remaining 66% live in rural areas. Table 3 shows monolingual or bilingual speakers, by urban and rural areas, as percentages of total population.

Table 3. Population Distribution According to Language Spoken, by Location

| Census | Spanish % | | Guaraní % | | Bilingual % | |
|--------|-----------|-------|-----------|-------|-------------|-------|
| | Urban | Rural | Urban | Rural | Urban | Rural |
| 1950 | 2.0 | 2.7 | 1.7 | 38.4 | 12.2 | 41.6 |
| 1962 | 2.4 | 2.0 | 1.3 | 43.7 | 12.4 | 36.0 |

Source: Bureau of Statistics and Census.

^{5/} The 1972 census did not include any questions concerning linguistic characteristics of the population.

^{6/} Both censuses excluded information concerning other indigenous languages; of present, there are 17, spoken by an estimated 50,000 inhabitants, or approximately 2% of the population. The data given above are for immigrant groups, primarily Brazilian, European and Asian.

Table 4 shows percentages of monolingual and bilingual, Guaraní and Spanish speakers in terms of total rural and total urban populations.

Table 4. Proportion of the Population by Language Group, in Relation to Total Urban and Rural Population

| Census | Spanish % | | Guaraní % | | Bilingual % | |
|--------|-----------|-------|-----------|-------|-------------|-------|
| | Urban | Rural | Urban | Rural | Urban | Rural |
| 1950 | 13.0 | 3.2 | 10.6 | 45.7 | 76.1 | 49.5 |
| 1962 | 14.7 | 2.4 | 9.1 | 52.3 | 77.0 | 43.0 |

Source: Bureau of Statistics and Census.

As shown, the incidence of bilingualism is much greater among the urban population. The rural population includes a larger proportion of monolingual Guaraní speakers, with pre-school aged children being the most monolingual age group in this area.

Table 5. Distribution of the Population by Language Characteristics According to Age

| Census/Language | Est. Age | Est. Age | Est. Age | Est. Age | Est. Age |
|-----------------|----------|-----------|------------|------------|-----------|
| | 3-4 % | 5-15 % | 16-44 % | 45-64 % | 65 + % |
| Spanish | 7.8 | 4.6 | 3.8 | 3.9 | 3.6 |
| 1962 Guaraní | 69.5 | 51.0 | 37.0 | 46.3 | 58.3 |
| Bilingual | 22.6 | 44.2 | 59.2 | 49.6 | 37.9 |

Source: Bureau of Statistics and Census

As illustrated in Table 5, 70% of all preschool-age children in 1962 spoke only Guaraní. If the urban and rural differences shown in Table 4 are correlated with this information, it can be estimated that over 90% of rural children starting school speak only Guaraní. The ages of Spanish acquisition appear to be from 5 to 15, coinciding with the period of school attendance, and the highest rates of bilingualism are found in the 16 to 44 year-old age group.

Believing that one of the few chances their children will have to learn Spanish is in the classroom, Guaraní speaking families place a great deal of emphasis on formal schooling. However there are certain factors which hinder the learning of Spanish, or of any other subject, for the monolingual Guaraní speaking child who enters the Paraguayan school system. The first has been the MOE's traditional aversion to teaching in Guaraní. Since the educational reform of 1973, the teacher may now use Guaraní for essential communication needs, but all available teaching materials and textbooks are in Spanish.

Rural children entering school for the first time are confronted not only with the new experience of school and adapting to a new social situation, but also with a foreign language which they do not speak or understand. The problems of adapting to school and participating in the classroom when all materials and content are presented in an unknown language are critical factors causing alienation and failure. The statistics indicate that 12.7% of rural first graders, 9.8% of second graders, 9.0% third graders, and 9.1% of fourth graders drop-out of school (MOE statistics for 1975). The estimates of repeaters in the rural first grades vary from 26% estimated by the MOE (MOE statistics for 1975) to 53% estimated by Schiefelbein (1977). The probability of a rural first grader finishing the fourth grade is .29 and presently, 7.3 student years is needed for a school to produce a fourth grade finisher. The average rural school attendance is only 3.2 years, an amount of time which is not enough for many students to successfully complete the second grade.

B. Bilingual Education in Paraguay

A partial answer to Paraguay's rural education problem is the development of a program of transitional bilingual education in Spanish and Guaraní. Such a program would assume that primary school education in the first grade would begin with most instruction being carried out in the child's native language, Guaraní, with daily classes in oral Spanish. The addition of oral Spanish classes might seem to place an extra burden on the school day, but, it has been found in bilingual education programs in other countries that the amount of time saved by the teacher who does not have to translate school materials informally into the child's native language, is more than enough for the teaching

of an additional subject in the classroom. In the second stage of a bilingual education program the student will continue training in oral Spanish and begin to read and write in Spanish, while continuing with other subjects in the native language, Guaraní. In the final stage of transition the bulk of the curriculum will be taught in Spanish with Guaraní used only to make clarifications. It seems feasible, based on the experience of other countries, that the transition can be completed in Paraguay in three years and at the end of this period students can enter the fourth grade and follow the regular curriculum in the nation's official language, Spanish.

In an MOE alternative approach, Guaraní will not be used as the language of instruction. Instead, the first grade will be used as a preschool year for the purpose of teaching Spanish. It is expected that content courses in Spanish can be given at an earlier date, thereby avoiding possible instructional problems which may be encountered during the transition from Guaraní to Spanish.

The progress of the students in each model will be evaluated, by means of a control group consisting of similar schools using traditional instructional methods.

The proposed MOE bilingual education program will be of direct and immediate benefit to the majority of the rural poor of Paraguay. At present the children of monolingual Guaraní speaking families do not learn Spanish in school and do not remain in school long enough to learn to read and write. It has been established that virtually all monolingual Guaraní speakers are illiterate and are at the bottom of the economic ladder. These families comprise 50% of Paraguay's rural population and fall within the 82% of the rural population that averages a yearly per capita income of \$173 (in 1972 dollars) (Sector Assessment pg. 57).

Since early 1976 the MOE has been investigating the feasibility of a bilingual education program. A bilingual investigative unit was created for this purpose and has received assistance in carrying out four studies. The first study measured the language competence of rural students in Spanish after the first year of school and correlated this with scholastic achievement. The second study was primarily interested in the type of language spoken in the classroom and by whom to determine how students are presently learning Spanish. The third study analyzed parental attitudes and expectations concerning the school and children's achievement in school. And the fourth, dealt with the development of an alphabet for Guaraní to be used in preparing bilingual textbooks.

1. Various Aspects of Bilingualism and School Achievement

This study was funded by the Organization of American States (OAS) and carried out by the MOE's investigative team in November 1976. Part of the study consisted of an investigation of the level of bilingualism reached by 1,200 children at the end of the first year in school. It was carried out in the Departments of Ñeembucú, Guairá, Paraguairí, and San Pedro. Although the study has not been formally released by the MOE, information indicates that by the end of the first year of primary, 70% of the rural students in the study were incipient bilinguals, that is they were unable to produce any utterance in Spanish yet able to indicate some understanding of the language; 20% of the children were subordinate bilinguals, that is they were able to speak Spanish, but still had difficulties in expressing themselves; and 10% of the students were coordinate bilinguals, who spoke and understood Spanish well. The results of this study indicate that the majority of monolingual Guaraní speaking children who entered the first grade without knowing Spanish ended their first year understanding some Spanish (generally classroom instructions), but were without any speaking knowledge of the language. This illustrates the need for a systematic approach to the teaching of Spanish in the classroom so that by the end of the first year in school the child has at least a rudimentary speaking knowledge of the national language.

2. Classroom Interaction in the Rural Schools of Paraguay

This investigation was carried out by the MOE and Peace Corps in 24 rural schools using an adaptation of the Flanders observation format. The study focused on the first through third grades and involved the observation of classes in reading, writing, social studies and language arts. The study indicated that teachers used Spanish 95% to 97% of the time with students, and that 85% of the questions that teachers asked required a yes-no answer, or choral response. This seemed to indicate to the researchers that the teacher anticipated that the children would not be able to answer in a more complex way, and this finding was reinforced by the fact that 90% of conversation initiated by the children was also in Guaraní. It was noted

by the investigators that in the first grade classrooms those children who were repeating the year sat at the front of the room and received the attention of the teacher. The teacher assumed that since these second year students had already passed one year "exposed" to Spanish they would be able to better react to teaching in that language. Students who were in the first grade for the first time seated at the back of the room where they were expected to observe the proceedings in front of them. This pattern seemed to be a sub-conscious acceptance by the teacher of the inevitability of students having to spend at least two years in the first grade. The study was discontinued before it was completed, but from the data collected it was concluded, as with the CAS study, that current primary school education does little to facilitate the learning of Spanish during the early years of formal schooling.

The following two studies were completed with technical assistance provided by consultants under contract to USAID/Paraguay. The studies were designed in separate two week workshops. The MOE's bilingual investigative unit did the field work and the consultants assisted with the analysis of the data collected.

3. Parental Attitudes Toward Scholastic Achievement and Bilingual Education

In this study a questionnaire was administered in both Spanish and Guaraní (depending on the linguistic competence of the respondent) to parents of children who had attended school for at least 3 years.

The study was conducted in 13 schools in the Department of Paraguari. The Department of Paraguari was selected because it is the department in which the MOE plans to conduct a bilingual pilot project. The questionnaire was administered orally and individually in the schools. Some 193 parents answered the questionnaire; of the 193, 133 had children who attended rural schools and 60 had children who attended suburban schools. Of 193 parents, 79 responded in Spanish and 114 responded in Guaraní.

4. Results

A. Comparison of Parental Desires and Assessment of Performance

In response to question 1, "what do you want your children to know after being in school for three years?" in which parents could respond that they desired that their children be capable in from 1 to 4 abilities, parents responded as follows:

| | |
|---------------|-----|
| Read | 175 |
| Speak Spanish | 165 |
| Write | 152 |
| Arithmetic | 127 |

Most parents placed highest priority on their children being able to read after 3 years of school and second on being able to speak Spanish. Close at hand was the desire that they be able to write. Less importance was given to the ability to do arithmetic - perhaps because this skill is often learned in part at home.

Given these priorities, how successfully does the school fulfill them?

Parental estimate of their child's ability indicated the following skills had been acquired:

| | |
|--|-----|
| Write name | 187 |
| Read school books | 176 |
| Read newspapers and magazines | 131 |
| Read letters | 114 |
| Speak Spanish in school with the teacher | 108 |
| Greet people in Spanish | 101 |
| Write notes | 97 |
| Communicate in Spanish with a stranger | 73 |
| Write a letter | 71 |
| Do errands in Spanish | 60 |
| Speak Spanish with his or her friends | 53 |

To what extent does a child after 3 years of school manage to acquire the skills desired by parents? The first question required that the parent state whether he wanted the child to be able to read after 3 years. The second question differentiated between degrees of skill. In the case of reading, 3 levels were specified: schoolbooks, letters, newspapers and magazines. According to parents, most children reached the first level (176 out of 193). 1/ However, as can be noted above, far fewer parents felt that children could do the more difficult reading tasks. 2/

1/ It should be noted that 3 parents said they did not know whether their child could do this.

2/ It is our assumption that because there are few letters to read in most houses, the figure for letters is lower than for newspapers or magazines.

In the case of ability in speaking Spanish, in the eyes of parents, the school does poorly. There were 5 levels of speaking ability in the questionnaire: "greet people in Spanish; do errands; speak with a friend; speak with a teacher; and speak with a stranger." According to parental assessment, only 108 children could speak to the teacher in Spanish after 3 years of school and only 101 knew how to greet people in Spanish. Far fewer (73) knew how to talk to a stranger in Spanish. The figures for "speaking with a friend" and "doing errands" are probably lower than the other three because, in the countryside, children always speak to each other in Guaraní, and do errands in Guaraní, so that the response to these questions seems to be more in terms of habit than ability.

There were 3 levels of writing ability: "write name, write notes and write letters." In this area, the children's ability surpassed that of parental expectations. One hundred and eighty seven children, or almost all, could write their names after 3 years of school. Far fewer or about half (97) achieved the second level of ability "writing notes," and only 71 were said to be able to "write letters."

The most notable fact about this study is that given parental desire that their children speak Spanish, the schools are not fulfilling this expectation.

B. Attitudes Toward Bilingual Education

Since one of the principal interests was to ascertain parental attitudes concerning bilingual education, two questions addressed this topic. Question No. 3 asked: "It has been demonstrated in other countries that Spanish is learned more quickly by first learning to read and write in the language of the home, in our case Guaraní. Would you be in agreement if your child were taught this way?" Question No. 4 asked approximately the same information, but in a negative form: "Would you oppose having your child read, write and do arithmetic in Guaraní before learning these same subjects in Spanish?"

The percent of agreement in responses to these two questions are similar. To question No. 3, the responses were:

| | |
|----------------|--------------|
| In favor - yes | 112 (58.03%) |
| Against - no | 77 (39.89%) |
| Don't know | 4 (2.00%) |

To question No. 4, the responses were:

| | |
|------------------------------|-------------|
| In favor (i.e. responded no) | 97 (50.25%) |
| Against (i.e. responded yes) | 92 (47.66%) |
| Don't know | 4 (2.00%) |

The difference in responses may be due to the formulation of the question since there is a proven tendency to respond positively to questions no matter what their formulation.

In addition to asking whether parents approved of bilingual education, in some form or another, parents were asked to indicate why they did so. These indications were open-ended and have been grouped according to similarities. The reasons given both pro and con were classified into the following categories: socio-economic, pedagogic, identity, identification of Spanish with the school, psychological.

It is interesting to note that the most frequent reason given both for and against bilingual education was socio-economic. Of those in favor of bilingual education in some form, 59 persons said that it would help them socio-economically. The responses took the following forms:

- Because we use both languages to carry out activities in the country and in the city. .
- Because we use both in our daily lives.
- Because we use both in our work.

Of those against bilingual education in some form, 54 responses to question No. 4, and 23 responses to question No. 3 indicated that they felt that it would impede the child's socio-economic progress. The responses took the following forms:

- Because we need to speak Spanish while in other countries.
- Because here we can speak only Guaraní without problems; however in the city and in other countries, we suffer if we do not speak Spanish.
- Because we need to be able to progress in any part of the world.
- Because we need to improve our economic situation.
- Because we need to be confident in any situation.
- Because Guaraní isn't very useful.

A second reason for accepting bilingual education by many parents was that of identity. In response to question No. 3 some 49 parents mentioned reasons of identity for teaching both languages, while some 15 responded in the same way to question No. 4. The reasons took the following forms:

- Because we are Paraguayans.
- Because we are part of the Guaraní race.
- Because we want to renew the prestige of Guaraní.
- Because Guaraní is ours.
- Because speaking Guaraní is our custom.
- Because we are campesinos.

Naturally, this sort of reason was not used against bilingual education. However, several parents did object to bilingual education for reasons which seem related to the historical idea that Spanish is the language to be used in school. In response to question No. 3, 18 indicated this reasoning while 8 responded in the same way to question No. 4. The responses took the following forms:

- Because we need Spanish and school is the best chance to learn it.
- Because we want our children to be taught immediately in Spanish.
- Because school should be taught only in Spanish.
- Because the books are in Spanish and there aren't books in Guaraní.

A third reason given for and against bilingual education can be grouped under the category of pedagogical reasons. In response to question No. 3, 14 gave pedagogical reasons in favor of bilingual education while 16 responded in the same way to question No. 4. The reasons took the following forms:

- Because the child will learn more.
- Because school will be easier for the child.
- Because the child will be able to understand what is taught in the school.

THE DESIGN OF A GUARANI ALPHABET FOR DEVELOPING SCHOOL
TEACHING/LEARNING MATERIALS

One of the most difficult problems in developing educational materials in any language which does not have a long standing written literary tradition is the design or selection of an orthography (alphabet). Often one must develop a writing system for recording the sounds of the language, as in the case of Chulupí (Nivaclé), or one must choose from a number of writing systems developed for writing the same language, as in the case of Guaraní. It is the latter which concerns us in Paraguay.

There are a minimum of seven competing alphabets for the writing of Guaraní in Paraguay, all of which present different symbols for the representation of Guaraní sounds which do not have equivalents in Spanish. In some cases symbols derived from Spanish are used to represent different sounds in Guaraní. For example, in the alphabet developed by Padre Guasch, the symbol x stands for /š/, while in Spanish the same symbol indicates the consonant cluster /ks/. On the other hand, the same sound in both languages has often been represented by different graphemes (letters). Thus in the orthography commonly used by song writers the Guaraní j and Spanish y, indicate the phoneme /j/ (with the problem compounded since j usually represents the phoneme /x/ in Spanish). Beyond this, there is the problem that native speakers of Guaraní, perhaps because of the plethora of competing alphabets to which they have been subjected, in one sentence or phrase will write the same Guaraní sounds with a variety of symbols, gathered from a variety of alphabets. In other words, there is little consistency in the writing of Guaraní.

Since Paraguay is a bilingual nation, its official language being Spanish, and its national language Guaraní, it is imperative that in developing teaching materials for use in the country's schools, an alphabet should be used in Guaraní which does not conflict with that used in the writing of Spanish.

Such an alphabet could be developed exclusively for use in teaching primary school children to read. It would be analogous to the traditional way of teaching English speaking children to read using phonics, with the idea that in both cases the child could at a later stage more easily dominate the traditional method or methods of writing the language. In fact, if a bilingual education program is developed for Paraguay which places an emphasis on the reading and writing of Guaraní, a transition period could be programmed in which the child could learn other alphabets currently in use for writing the language.

In devising an alphabet for Guaraní which would not conflict with that of Spanish, it is necessary to study the sound systems of the two languages, and to note their similarities and differences. Following this, tentative assumptions about the appropriateness of using certain letters for writing Guaraní can be made. These can be based on the following criteria: (1) that the orthography should cause as little conflict as possible with that of Spanish, (2) that the alphabet should be easy to teach a six year old child, and (3) that the alphabet should take into consideration such written Guaraní as found in place names, etc. Besides these criteria, the alphabet should be as uncluttered as possible with diachritics, etc. The following alphabet was then designed by the Ministry of Education's Bilingual Education Investigative Team and has been recommended for the projected bilingual education program

| Spanish Alphabet | Phonemic Equivalent (Spanish) | Guaraní Alphabet | Phonemic Equivalent (Guaraní) | Reason for Choice |
|--|-------------------------------|--|-------------------------------|--|
| Consonants: | | | | |
| <u>p</u> | /p/ | <u>p</u> | /p/ | Not Applicable |
| <u>t</u> | /t/ | <u>t</u> | /t/ | Not Applicable |
| <u>ch</u> | /ç/ | <u>ch</u> | /ç/ | /ç/ occurs only in Spanish loan words. |
| <u>c</u> (+ a, o, u) <u>ci</u> (+ i, e) | /k/ | <u>c</u> (+ a, o, u) <u>k</u> (+ a, e, i) | /k/ | This use of <u>c</u> and <u>k</u> has been proposed by the Academia de la Lengua Guaraní (ALG). Although the <u>c</u> was adopted because of its conformity with the Spanish alphabet, Spanish <u>qu</u> has been replaced by <u>k</u> because it was felt that it would be easier to teach first graders to use one symbol (<u>k</u>) before /i, e, i) instead of two (<u>qu</u>). The use of <u>k</u> to indicate Guaraní /k/ is also used in several other orthographies, including those of Guasch, and the "Popular." |
| <u>b</u> | /b/ | <u>b</u> | /m/ | Although the <u>b</u> of Guaraní is phonetically usually [mb] (a prenasalized voiced bilabial stop), and linguistically an allophone of /m/, it was decided to use the grapheme <u>b</u> , preceded by <u>m</u> , to indicate this sequence since this is the convention in almost all alphabets currently used for writing Guaraní. It also does not conflict with the Spanish system. <u>b</u> also represents /b/ which occurs in Spanish loan words. |

| | | | | |
|----------|-----|----------|-----|---|
| <u>d</u> | /d/ | <u>d</u> | /n/ | The <u>d</u> of Guaraní is realized phonetically as [ᵐᵈ] (a pre-nasalized voiced dental stop) and is an allophone of /n/. Reasons for using the grapheme <u>d</u> are the same as those outlined above for <u>b</u> . <u>d</u> also represents /d/, which occurs in Spanish loan words. |
| <u>g</u> | /g/ | <u>g</u> | /ŋ/ | The <u>g</u> of Guaraní is realized phonetically as [ᵐᵍ] (a pre-nasalized voiced velar stop) and is an allophone of /ŋ/. Reasons for using the grapheme <u>g</u> are the same as those outlined above for <u>b</u> .) <u>g</u> also stands for /g/, which occurs in Spanish loan words. |
| <u>y</u> | /j/ | <u>y</u> | /j/ | Both Spanish and Guaraní have a voiced alveopalatal affricated stop /j/, which traditionally, in Paraguayan Spanish orthography is written using the symbol <u>y</u> . However, for Guaraní, both <u>j</u> (ALG ¹ , Guasch) and <u>y</u> (ALG ² , "Popular") have been used to represent this sound. For the teaching of Guaraní in the schools it was felt that <u>y</u> would be a better choice because of its relationship to Spanish, which indicates the same sound with the same letter. |
| <u>f</u> | /f/ | <u>f</u> | /f/ | /f/ occurs only in Spanish loan words in Guaraní. |
| <u>s</u> | /s/ | <u>s</u> | /s/ | N.A. |
| <u>v</u> | /v/ | <u>v</u> | /v/ | N.A. |

| | | | | |
|----------|-----|-----------|-----|---|
| --- | --- | <u>sh</u> | /s/ | Currently there are three ways used to represent the voiceless alveopalatal sibilant in Guaraní: <u>x</u> , <u>ch</u> , and <u>sh</u> , with <u>x</u> and <u>ch</u> most commonly used. However, since <u>x</u> and <u>ch</u> represent a different sound /ks, ç/ in Spanish than Guaraní /s/, it was decided that <u>sh</u> would be more acceptable and less confusing to use in the writing of school texts. This grapheme has also been proposed for acceptance by the ALG in their next meeting. |
| <u>1</u> | /x/ | <u>1</u> | /h/ | This sound is currently represented as an <u>h</u> or <u>jh</u> in the orthography of Guaraní. However, since /x/ and /h/ are quite close phonetically (a voiceless velar fricative versus a voiceless glottal fricative) it was decided that perhaps the symbol <u>j</u> could be used to represent the sound in both languages. This would circumvent problems which would arise using <u>h</u> , which does not represent a sound in Spanish and <u>h</u> indicating a glottal fricative in Guaraní. <u>jh</u> was also considered, but was thought to be more difficult to teach, because of its compound nature, and that it would be confused with <u>j</u> and <u>h</u> of Spanish, both of which have different phonetic equivalents. |
| <u>m</u> | /m/ | <u>m</u> | /m/ | N.A. |
| <u>n</u> | /n/ | <u>n</u> | /n/ | N.A. |

| | | | | |
|---------------|------|-----------|------|--|
| <u>ñ</u> | /ñ/ | <u>ñ</u> | /ɲ/ | Although Guaraní <u>ñ</u> is an allophone of /ɲ/, the grapheme <u>ñ</u> is almost always used for indicating this sound in the writing systems of Guaraní. And since its phonetic value does not conflict with that indicated by Spanish <u>ñ</u> , it was decided to use the grapheme <u>ñ</u> for writing Guaraní. <u>ñ</u> also represents /ñ/ in loan words from Spanish. |
| --- | --- | <u>ng</u> | /ŋ/ | This phoneme has always been written as <u>ng</u> in Guaraní, partially because one of its phonetic variants is [ŋg]. Thus it was decided to maintain the traditional spelling, rather than introduce a new symbol. |
| <u>r</u> | /r/ | <u>r</u> | /r/ | N.A. |
| <u>rr</u> | /r̄/ | <u>rr</u> | /r̄/ | /r̄/ occurs only in Spanish loan words in Guaraní. |
| <u>l</u> | /l/ | <u>l</u> | /l/ | N.A. |
| <u>ll</u> | /l̄/ | <u>ll</u> | /l̄/ | /l̄/ occurs only in Spanish loan words in Guaraní. |
| <u>gu, hu</u> | /w/ | <u>gu</u> | /w/ | From the point of view of teaching reading the use of <u>hu</u> , as in Spanish <u>huevo</u> , was preferred since Spanish speaking children have always had a problem in learning the differing phonetic values of <u>g</u> /g/ and <u>gu</u> /w/. It was decided to adopt the <u>gu</u> spelling, because of its occurrence in such frequently used words as "Guaraní" "Davaquer" etc. |

6

Vowels:

| | | | | |
|----------------------|-----------------|-------------------------|--------------------|---|
| <u>i, e, u, o, a</u> | /i, e, u, o, a/ | <u>i, e, u, o, a</u> | /i, e, u, o, a/ | N.A. |
| --- | --- | <u>ɨ</u> | /ɨ/ | This sound fluctuates somewhere between a high central unrounded vocoid and a mid central unrounded vocoid. Traditionally it has been spelled with y. However because of the confusion that results from using this symbol to represent /i/ in Guaraní, and /j/ in Spanish, it was decided to adopt the "crossed i" <u>ɨ</u> to indicate the Guaraní vowel. |
| --- | --- | <u>ĩ, ẽ, ũ, õ, ă, ɨ</u> | /ĩ, ẽ, ũ, õ, ă, ɨ/ | Traditionally nasalized vowels have been indicated by using a tilde ~ or accent circumflex ^. Since the tilde is more commonly used to indicate nasalization, and is also used in Portuguese, it was selected for Guaraní. |
| <u>'</u> | // | <u>'</u> | / / | Unlike Spanish, where stress generally falls on the penultimate syllable, stress in Guaraní generally occurs on the last syllable of the word. Thus it was decided to note stress in Guaraní only when it occurred in a syllable other than the last one. |

After designing a potential alphabet for use in teaching primary school children to read Guaraní; the alphabet was tested with primary students for an indication of its effectiveness.

Four traditional alphabets were used as a control and the "control" orthographies (alphabets) were those most distinct graphemically from one another.

These were: (1) the two orthographies proposed by the Academia Guaraní; (2) the orthography of Padre Guasch (1976); and (3) the "Popular" orthography, used in song books and other materials produced by Guaraní folklorists.

The following chart shows the main differences between the five spelling systems. (See page No. 9).

Basically there are two ways which one can test the readability of a practical writing system. The first and most ideal is to teach alternate systems of writing to two different groups, using identical materials but with different orthographies. After one or two years the reading abilities of the two groups can be compared to find out which orthography has been the most successful.

The second method is to teach groups of readers of an official language the graphemes of their first language in one of the alternative spelling systems. Then, using paragraphs of varying semantic complexity the readers are tested for the readability of each system, by rating mispronunciations, substitutions, omissions, repetitions, and comprehension.

In the case of Paraguay this kind of test would not only rate difficulties in reading new graphemes not held in common between Spanish and Guaraní, but would also deal with graphemes which are used in common in both languages, whether representing the same or different sounds.

The Ministry team designed a reading pre-test to be used in two stages. The first stage consisted of a series of single words, each representing a concept well-known by a Guaraní speaking child. The tester reviewed the words with the child, a third or fourth grade student who already knew how to read Spanish.

Where there are symbols that the child did not already command, the tester taught the child informally the symbol-sound correspondence in the Guaraní writing system. After this first part of the investigation, the child was given a short text which (s)he was asked first to read silently, and then aloud.

| Phoneme | Academia Guaraní I | Academia Guaraní II | Guasch | Popular | Experimental (Ministry of Education team) |
|---------|--------------------|---------------------|--------|---------|---|
|---------|--------------------|---------------------|--------|---------|---|

| | | | | | |
|------|----|----|---|-----|----------------------------|
| /ɾ / | y | ɾ | y | y | ɿ |
| /ĩ / | ĩ | ĩ | ĩ | ĩ | ĩ |
| /š / | ch | ch | x | ch | sh |
| /j / | j | y | j | y | y |
| /h / | h | h | h | jh | j |
| /k / | k | k | k | k,c | k + /i,e,ɿ/ c + /u,o,a/ |

The text involved an everyday situation in the life of a rural child. The student was then asked to read the text aloud, at which point it was taped. After reading the text aloud, (s)he was then asked various questions based on the text. The investigator then reviewed the text, and noted the errors.

An informal pre-testing of the materials was carried out at Heriberta M. de Stroessner school in Paraguari. Thirteen third and fourth grade children, ten girls and three boys, were tested using the alphabets. The children generally dominated Spanish reading, and were very eager to read in their home language, Guaraní. The most successful alphabet was that designed by the Ministry team.

On the basis of the pre-test, it was decided to continue using the tests with a larger sample, but with several modifications.

- (1) Instead of using the five orthographies, three would be used: that of the Academia Guaraní (1), the "Popular," and the experimental orthography designed by the Ministry of Education team.
- (2) The text was polished where necessary.
- (3) The test was used in six rural schools in the Central Department using the traditional curriculum (curriculum vigente).
- (4) The students selected for the tests were from the fourth grade, of ages nine through eleven, and were divided between boys and girls.
- (5) The selection was as follows: The teacher of a fourth grade class would be asked to select his/her best reading students in Spanish and the investigator would then select at random from this group six boys and six girls.

Each of these children was then asked to read a passage in Spanish, first in silence and then aloud, so as to judge reading ability in that language. If the child made a total of more than ten mistakes (mispronunciations, repetitions, or omissions) while reading the Spanish language passage, he or she was judged ineligible to continue with the reading test in Guaraní. For those who continued, each Guaraní orthography was then tested on four children, two boys and two girls. The design of the test was as follows: (a) the test was printed in large letters; (b) the first page included the following information: Department, Place, Name of School, Type of Curriculum, Name of Student, Age, Sex;

(c) an alphabet was taught to a child being tested; (d) the child being tested was then asked to read the text written in Guaraní (the second page of the test), first silently, and then aloud. The reading of the text was taped; (e) the child was then asked questions relating to the text by the tester to measure his/her comprehension. Finally, at the bottom of the final page, the tester was encouraged to make any additional observations pertinent to the testing procedure.

Returning to the Ministry, the taped oral readings were evaluated by such criteria as mispronunciations, substitutions, omissions, and repetitions, with repetitions and mispronunciations receiving twice the value of errors of omission and substitution. The total number of mistakes made in reading each grapheme was then divided into the total number of occurrences of the grapheme in the text to arrive at the percentage of mistakes made. These were then averaged for the 23 readers of each alphabet and the results then compared across alphabets between graphemes representing the same sound. The results were the following:

(1) The Glottal Stop / ' /.

This phoneme was represented in the same manner in all three of the orthographies, with an apostrophe '. It occurred nine times in each of the three texts, and the percentage of errors in reading each grapheme was the following:

| | <u>Grapheme</u> | <u>Percentage of Errors</u> |
|-----------------------|-----------------|-----------------------------|
| Experimental Alphabet | ' | 9.9% |
| AG Alphabet | ' | 6.7% |
| Popular Alphabet | ' | 9.2% |

Interpretation: The low number of errors indicates that the symbolization of the glottal stop did not cause great problems for the readers. However, it should be noted that in a pre-test, when the symbol was written as an accent grave, ` , as in so`o "meat", instead of so'o, the children had problems reading it. Thus in the preparation of Guaraní language materials for classroom use, the glottal stop should be represented as an apostrophe, and not as an accent grave.

(2) Nasalization of Vowels /V/.

This feature was indicated with a tilde ~ in the Experimental and

AG alphabets, and with a circumflex \wedge in the Popular orthography. Nasalized vowels occurred five times in each of the texts, and the percentage of errors in reading each grapheme was the following:

| | <u>Grapheme</u> | <u>Percentage of Errors</u> |
|-----------------------|-------------------------------|-----------------------------|
| Experimental Alphabet | $\underset{\sim}{\text{~}}$ | 7.4% |
| AG Alphabet | $\underset{\sim}{\text{~}}$ | 6.0% |
| Popular Alphabet | $\underset{\wedge}{\text{~}}$ | 9.13% |

Interpretation: Although the readers had somewhat less difficulty with the tilde than with the circumflex, statistically the difference was not that great. The tilde may have been somewhat easier for the readers because of its association with the nasal grapheme $\tilde{\text{n}}$ in Spanish, whereas the circumflex was an entirely new symbol. Because of these two factors -- the association of the tilde with the Spanish grapheme, and the somewhat lower frequency of error in reading it -- it is recommended that this symbol be used for the representation of nasalization in the development of a practical alphabet for the writing of Guaraní.

(3) The Voiceless Velar Stop /k/.

This phoneme was represented by $\underset{c}{\text{c}}$ before $\underset{a}{\text{a}}$, $\underset{u}{\text{u}}$, and $\underset{o}{\text{o}}$, and $\underset{k}{\text{k}}$ before $\underset{i}{\text{i}}$ or $\underset{y}{\text{y}}$, $\underset{i}{\text{i}}$ and $\underset{e}{\text{e}}$ in the Experimental and Popular alphabets, and $\underset{k}{\text{k}}$ in all environments in the AG alphabet. The voiceless velar top occurred four times in each of the texts, and the percentage of errors in reading each grapheme was the following:

| | <u>Grapheme</u> | <u>Percentage of Errors</u> |
|-----------------------|---|-----------------------------|
| Experimental Alphabet | $\underset{c}{\text{c}} / \underset{k}{\text{k}}$ | 4.9% |
| AG Alphabet | $\underset{k}{\text{k}}$ | 3.3% |
| Popular Alphabet | $\underset{c}{\text{c}} / \underset{k}{\text{k}}$ | 6.5% |

Interpretation: Although the readers had somewhat less difficulty with the reading of $\underset{k}{\text{k}}$ in all environments, as contrasted with $\underset{c}{\text{c}}$ and $\underset{k}{\text{k}}$ in distinctive environments, statistically the difference in reading ease was not that great. Thus a decision will have to be made as to whether to teach the sole use of $\underset{k}{\text{k}}$, which was somewhat easier to read, or the $\underset{k}{\text{k}}/\underset{c}{\text{c}}$ variation, which is more similar to Spanish orthography, with its analogous use of $\underset{c}{\text{c}}$ before $\underset{a}{\text{a}}$, $\underset{u}{\text{u}}$, and $\underset{o}{\text{o}}$ (but with $\underset{qu}{\text{qu}}$ elsewhere). The use of $\underset{c}{\text{c}}$ also conforms to the spelling in Guaraní of the nation's place names (Caaguazú, Caacupé, etc.).

(4) The Voiceless Glottal Fricative /h/.

This phoneme was represented by j in the Experimental alphabet, h in the AG alphabet, and jh in the Popular alphabet. It occurred eleven times in each of the texts and the percentage of errors in reading each grapheme was the following:

| | <u>Grapheme</u> | <u>Percentage of Errors</u> |
|-----------------------|-----------------|-----------------------------|
| Experimental Alphabet | <u>j</u> | 14.0% |
| AG Alphabet | <u>h</u> | 23.7% |
| Popular Alphabet | <u>jh</u> | 22.94% |

Interpretation: Here there is a statistically significant difference between the ease with which the readers interpreted the grapheme indicating the voiceless glottal fricative in the Experimental alphabet (14.0%) and the difficulties encountered in reading the graphemes of the AG and Popular alphabets (23.7% and 22.94% respectively). In the AG alphabet the readers generally interpreted the symbol h as indicating \emptyset , since this symbol in Spanish is not pronounced. In the Popular alphabet there was a tendency on the part of the readers to pronounce the combination jh as /j/. The symbol which was read with greatest ease was the j of the experimental alphabet, because of its equivalence with the symbol used to indicate the voiceless velar fricative in Spanish (ex.: hijo /ixo/ "son"). Thus for ease in reading it is recommended that the grapheme j represent the voiceless glottal fricative in Guaraní.

(5) The Voiceless Alveopalatal Sibilant /s/

This phoneme was represented by ch in the AG and Popular alphabets and sh in the Experimental alphabet. It occurred five times in each of the three texts, and the percentage of errors in the reading of each grapheme was the following:

| | <u>Grapheme</u> | <u>Percentage of Errors</u> |
|-----------------------|-----------------|-----------------------------|
| Experimental Alphabet | <u>sh</u> | 12.1% |
| AG Alphabet | <u>ch</u> | 17.3% |
| Popular Alphabet | <u>ch</u> | 7.8% |

Interpretation: It is difficult to explain why there is such a discrepancy in the reading of the same graphemes, ch, in the AG and

Popular alphabets. However, the reason for the fair amount of ease in reading the symbol probably comes from the phonological interference between Spanish and Guaraní. The average incipient Spanish speaker, who is a native speaker of Guaraní, pronounces Spanish /č/ as /š/. Thus he or she pronounces the Spanish word muchacho /mučáčo/ as /mušašo/, mucho /mučo/ as /mušo/, etc. Thus since the Guaraní speaking child tends to pronounce Spanish words written with ch as /š/, he or she will tend to do the same when reading Guaraní words written with ch. However, if one were to use the symbol ch when introducing Guaraní literacy to indicate the phoneme /š/, as well as use the same symbol to indicate the /č/ of Spanish, one will simply be reinforcing the oral pronunciation of Spanish /č/ as Guaraní /š/, thus strengthening non-standard patterns of pronunciation in Spanish, plus adding to the problems of teaching literacy in that language. For this reason, and the fact that the statistical evidence for the preference of sh or ch is inconclusive, it is recommended that sh be used in the production of experimental primary school materials in Guaraní..

(6) The Voiced Alveopalatal Affricated Stop /j/.

This phoneme was represented by the y in the Experimental and Popular alphabets, and the j in the AG alphabet. It occurred seven times in each of the three texts, and the percentage of errors in the reading of each grapheme was the following:

| | <u>Grapheme</u> | <u>Percentage of Errors</u> |
|-----------------------|-----------------|-----------------------------|
| Experimental Alphabet | <u>y</u> | 8.7% |
| AG Alphabet | <u>j</u> | 38.5% |
| Popular Alphabet | <u>y</u> | 24.55% |

Interpretation: Readers had the greatest amount of trouble interpreting the j of the AG alphabet; the majority of them interpreted it as /x/ because of its equivalence with the grapheme j which is used to indicate the voiceless velar fricative in Spanish(ex.: hijo /ixo/"son"). Readers had less difficulty reading the grapheme y, because it indicates the same sound (/j/) in Paraguayan Spanish. However, there is a fairly large statistical difference between the 8.7% errors made in reading the symbol in the Experimental orthography, and the 24.55% encountered in the Popular orthography. This may be attributed to the fact that the Popular orthography also uses the grapheme y to indicate the high back unrounded vowel /i/. However, even with the problem of using the same grapheme to represent two sounds in the language, there were less mistakes (24.55%) reading the y in the Popular orthography than the j (38.5%) in the AG alphabet. And when y indicates only one phoneme, the voiceless

alveopalatal affricated stop, the percentage of mistakes falls to 7.8%. Thus it is recommended that in a practical orthography for the preparation of pedagogical materials in Guaraní that the y be used for representing the phoneme /j/, just as it does in Paraguayan Spanish.

(7) The High Back Unrounded Vowel /i/.

This phoneme was represented as y in the AG and Popular alphabets and ɿ in the Experimental alphabet. It occurred eight times in each of the three texts, and the percentage of errors in the reading of each grapheme was as follows:

| | <u>Grapheme</u> | <u>Percentage of Errors</u> |
|-----------------------|-----------------|-----------------------------|
| Experimental Alphabet | <u>ɿ</u> | 20.9% |
| AG Alphabet | <u>y</u> | 16.2% |
| Popular Alphabet | <u>y</u> | 35.3% |

Interpretation: As can be seen by the percentages, both the highest and the lowest number of reading mistakes occurred with the grapheme y; in the AG alphabet this totaled 16.2% and in the Popular the total was 35.3%. The explanation for the high number of mistakes in the Popular alphabet is that the y was used in that alphabet to indicate both the consonant phoneme /j/ as well as the vowel phoneme /i/. (This also provided a large number of problems for readers of that alphabet in their interpretation of y when it stood for the phoneme /j/; see section (6) above.) The lower number of mistakes with y indicating /i/ occurred in the AG alphabet when the grapheme did not represent a second sound as well.

However, in spite of the slightly lower number of mistakes in the use of y in the AG (16.2%) than in the use of ɿ in the Experimental alphabet (20.9%), the choice of y to represent /i/ should probably be avoided. For if y is chosen to represent both /i/ and /j/, then the total percentage of reading errors in the interpretation of both phonemes rises dramatically.

| | <u>/i/</u> | <u>/j/</u> |
|-------------------------|------------------|-------------------|
| <u>Popular Alphabet</u> | <u>y</u> (35.3%) | <u>y</u> (24.55%) |

Moreover if y is used to represent the vowel /i/, and another symbol other than y is used to indicate the affricated stop /j/, the reader will have problems interpreting the symbol representing the consonant.

AG Alphabet

/i/ /j/
y (16.2%) j (38.5%)

However if a symbol such as i is used to represent the vowel /i/, and y is used to indicate the affricated stop /j/, as in Paraguayan Spanish, then the reader has few problems in interpreting the consonant (8.7%) and only a slightly higher percentage of errors in interpreting the i (20.9%) than the vowel symbol y (16.2%) representing only one sound in the AG alphabet. Thus the ease in interpreting the consonant when written as y more than outbalances the small span of difference between reading the vowel when written as y as it occurs in the AG alphabet (16.2%) and the i in the Experimental alphabet (20.9%).

Experimental Alphabet

/i/ /j/
i (20.9%) y (8.7%)

• Thus it is recommended for an alphabet for the development of school materials in Guaraní that the grapheme y represent the consonant /j/ and that i represent the vowel phoneme /i/.

Conclusions: Based on a small sample, the statistical differences between ease of reading of the three different spelling systems would indicate that the experimental system would be the most appropriate to use in the preparation of reading materials for primary school children in Guaraní. If accepted by the MOE for use in the preparation of pedagogical materials in Guaraní the Experimental alphabet should not be considered a threat to the other competing orthographies in the country today, but rather one that can be used successfully for making a transition to reading in Spanish.

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AIDAC

E.O. 11652: N/A

TAGS:

SUBJECT: DAEC REVIEW - EDUCATION SECTOR ASSESSMENT

1. SUBJECT ASSESSMENT WAS REVIEWED BY THE DAEC ON JUNE 28, 1977, AND WAS CONDITIONALLY APPROVED. THE DAEC CONSIDERED THE ASSESSMENT TO BE A COMPREHENSIVE, HIGH QUALITY DOCUMENT. HOWEVER, FOR THE DOCUMENT TO BE COMPLETE AND STAND ON ITS OWN, AND GIVEN THE IMPORTANCE OF BILINGUALISM TO PARAGUAYAN EDUCATION SECTOR, ADDITIONAL ANALYSIS REGARDING BILINGUALISM AND ITS IMPACT ON THE EDUCATION SYSTEM IS REQUESTED. FINAL APPROVAL OF THE ASSESSMENT IS SUBJECT TO THE SUBMISSION AND DAEC REVIEW OF A SUPPLEMENT WHICH ADDRESSES AND DEVELOPS STRATEGY FOR THIS IMPORTANT AREA.

2. IN THIS REGARD, WE UNDERSTAND THAT VARIOUS STUDIES ARE BEING CONDUCTED DURING INTENSIVE REVIEW OF FY 78 BILINGUAL EDUCATION GRANT PROJECT. THESE STUDIES ARE EXAMINING FACTORS SUCH AS: (A) HOW THE PARAGUAYAN LINGUISTIC SITUATION IMPACTS ON THE EDUCATION SYSTEM; (B) AN ALPHABET STUDY TO DETERMINE THE MOST APPROPRIATE ALPHABET FOR USE IN DEVELOPING OFFICIAL MINISTRY OF EDUCATION BILINGUAL MATERIALS; AND (C) ATTITUDINAL

STUDIES OF PARENTS AND TEACHERS ON THE USE OF GUARANI AND SPANISH IN THE PARAGUAYAN CLASSROOM. ALTHOUGH THESE STUDIES ARE BEING CONDUCTED FOR A PROJECT SPECIFIC PURPOSE, MISSION MAY WANT TO CONSIDER UTILIZING THE DATA OBTAINED IN PREPARING THE REQUESTED SUPPLEMENT TO THE SECTOR ASSESSMENT.

3. THE DAEC ALSO NOTED THAT THE ASSESSMENT SINGLES OUT REPETITION AS THE GREATEST CAUSE OF INEFFICIENCY AND MAJOR SOURCE OF FINANCIAL WASTE IN THE EDUCATION SECTOR. ALTHOUGH THIS PROBLEM WAS DISCUSSED DURING REVIEW, EXAMINATION OF THE ISSUE HAS BEEN POSTPONED PENDING REVIEW OF FY 79 PID, ~~PRIMARY EDUCATION IMPROVEMENT I.~~ VANCE

UNCLASSIFIED

Classification