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Explaining success in foreign language learning

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CONTENTS

- I. Introduction

- II. Historical overview of bilingualism and second language learning
 - II.1. Term definitions
 - II.2. Initial approaches
 - II.3. Bilingualism in the world
 - II.4. Types of bilingual programs
 - II.5. Bilingualism and cognition

- III. Theories on bilingualism and second language learning
 - III.1. Ervin and Osgood : compound and coordinate bilinguals

 - III.2.1. Lambert : Balanced and dominant bilinguals
 - III.2.2. Lambert : Separated and fused bilinguals
 - III.2.3. Lambert : Additive and subtractive bilingualism

 - III.3.1. Cummins : Threshold hypothesis
 - III.3.2. Cummins : Hypothesis of interdependent development
 - III.3.3. Cummins : Interactive model of bilingual education

 - III.4. Hammers and Blanc : Theory on bilingualism

 - III.5. Gardner and Smythe : Model of L2 learning

 - III.6. Krashen : The Monitor theory

IV. Influencing factors

- IV.1. Sociocultural and sociopsychological factors
- IV.2. Linguistic factors
- IV.3. Motivational and attitudinal factors
- IV.4. Cognitive factors
- IV.5. Aptitude and attitude
- IV.6. Age of second language learning

V. Method

- V.1. Proposals and objectives
- V.2. Experimental hypothesis
- V.3. Design
- V.4. Subjects
- V.5. Data collecting instruments
 - V.5.1. Intellectual abilities
 - V.5.1.1. Verbal Mental Ability
 - V.5.1.2. Verbal Comprehension
 - V.5.1.3. Non Verbal Mental Ability
 - V.5.1.4. Logical Reasoning
 - V.5.2. Aptitude for foreign languages
 - V.5.2.1. Paired Associates
 - V.5.2.2. Language Analysis
 - V.5.3. Motivation
 - V.5.3.1. School motivation
 - V.5.3.2. Intrinsic and instrumental motivation
 - V.5.4. Attitudes
 - V.5.5. Abilities in German
 - V.5.6. Abilities in the native language
 - V.5.7. Additional tests
 - V.5.7.1. Memory
 - V.5.7.2. Perception of differences
- V.6. Procedure

V.7. Results

- V.7.1. Statistical correlations
- V.7.2. Prediction
- V.7.3. Statistical differences
- V.7.4. Analysis of contents
- V.7.5. Discussion

VI. Conclusions

VII. References

VIII. Appendices

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I. INTRODUCTION

The ability to use more than one language is not a new fact in human history. However, it is more in evidence today than ever before because of the tremendous increase in population coupled with increasing possibilities for intercultural and international exchange.

Most societies have at least some contact with other communities for reasons of trade, consultation, tourism, politics and so forth and as a result they must communicate their needs and desires to one another. Such communication is usually carried out by the group of individuals conversant in the languages of both communities.

In the last decades there has been a growing consciousness about the need for everyone to speak one more language besides the native language. The social and political evolution in the world seems to indicate that for all of us but specially for those who are initiating their professional life a good knowledge of at least one foreign language is an indispensable requisite.

However, bilingual education is often intimately linked to social and political questions. Many nations are bilingual or even multilingual because their population consists of different ethnic groups that speak different languages. These different ethnic groups might either have immigrated or belong to specific provinces of the respective country that have a language and culture of their own. In these cases bilingual education is often problematic and its effects have not always been positive.

For these reasons there has been a growing interest of all people that in a way or another are related with childhood and education (parents, psychologists, pedagogists and teachers) for the subjects concerning bilingual education and teaching a second or foreign language.

There are so many distinct types of bilingualism in the world that the difficulties of promoting an enriched bilingual education are enormous. Although each social group should be analysed in its concrete situation, there exist no totalitarian solutions for linguistic groups as a whole. It is always necessary to consider the specific case of the bilingual individuals and it is not possible to draw conclusions or make inferences for bilinguals in distinct situations.

However, the possibility of designing and introducing a program of bilingual education must not be restricted to bilingual regions or communities. Some, although not many, children have the possibility to participate in this kind of education independently whether they live in a bilingual environment or not. There exist several institutes or schools that are connected with cultural departments of embassies in the some countries. These schools that have a considerable prestige offer bilingual programs in which at least the two languages - the native language of the students and the foreign language of the school can be learned simultaneously.

A bilingual education of this kind places special demands on the pupils to which some students are not always able to correspond for one reason or another. In these cases, bilingual instruction most likely will not be an enriching experience and its negative effects might overwhelm its benefits. It seems thus, very important to identify the children for whom the bilingual education can be a truly positive experience as well as those who would benefit much more from a monolingual instruction. With this attempt it is not intended to make discriminations. On the contrary, the idea is to be able to choose the academic solution that best suits the student and where he most likely will experience success.

The present study investigates the specific situation of 10 to 11 year old native Portuguese speaking children who initiated a bilingual program in the German School of Lisbon. These children's attainment in German was related to several factors that had been mentioned in the literature to be important for second or foreign language learning. These factors were intellectual abilities, language aptitude, abilities in the native language, motivation and attitudes. The ability of these factors to predict attainment in German was also studied so that practical implications can be drawn from the existing relationships.

Our results indicate that for the studied children the variables that have a predictive value for success in learning German are attainment in Portuguese that includes to a considerable extent the linguistic abilities in the native language, the attitudes towards the German teacher, the German language and German people as well as intellectual abilities specially the nonverbal abilities. The ability to predict attainment is relatively high when these factors are considered together although the attainment in German is additionally affected by other influences that were not identified in this study.

While being in accordance with the most relevant theories on bilingualism or second language learning our results throw some light on the constellation of factors that seem to be the most decisive for predicting success in foreign language learning for this specific kind of population.

The reasons for carrying out the present study were on the one hand, the missing studies about this specific aspect of bilingual education in this specific kind of population and on the other hand, the possible important practical implications for the existing bilingual program in the German School of Lisbon.

Finally, it is important that this investigation can be continued and it would be desirable to undertake other studies in this specific area because the introduction of educational measures should always be based on the results of scientific work.

II. HISTORICAL OVERVIEW OF BILINGUALISM AND SECOND LANGUAGE LEARNING

II.1 Term definitions

Bilingualism

The definition of bilingualism is not unequivocal. McNamara (1967) defines as bilingual someone who possesses at least one of four abilities - speaking, understanding, reading and writing in a language other than his native language. As opposed to this very wide definition we find the very narrow definition of Bloomfield (1958). This author defines the bilingual individual as someone who has a native control of both languages.

In between there are numerous other definitions of bilingualism but what is important is to have the notion that bilingualism must be defined in relative terms because it exists at different degrees which vary from a minimal ability to the perfect mastery of the two languages. Many bilinguals fall somewhere in between this continuum of abilities showing different kinds of abilities in the many skills that make up fluency in another language.

Bilingualism is inserted in, and in part explained and influenced, by a concrete social, political, economic, historic and cultural situation. This together with the variables of the personal history of the individual (fundamentally when and how he learned his second language (L2) and considering his own variables of personality) contributes to the existence of a relatively high number of types of bilingual people and situations of bilingualism.

Due to this diversity it is not possible neither to extrapolate general results or conclusions nor to use general educational measures. It is always necessary to specify, and to be conscient of, the type of bilingual individuals and situations we are working with.

Bilingual Education

Unfortunately, this term has been used in so many distinct situations that it is necessary to make a distinction of terminology. For example Fishman (1976) defined bilingual education as "every system of teaching in which in a variable moment and during a variable time and variable proportions instruction is given simultaneously or consecutively in at least two languages from which one is the pupil's native language". What is characteristic is the use of the two languages as ways or instruments of teaching. This definition excludes programs of teaching a L2 or a foreign language as a school subject.

On the other hand, when L2 is the content of instruction it is important to distinguish between "teaching of L2" or "teaching of a foreign language". "Teaching of L2" is defined as a situation in which L2 is present in the community in which the individual is inserted but which is different from his L1. The term "teaching a foreign language" is used when this language is not one that is spoken by the community.

A program can only be considered really bilingual when non linguistic contents (as mathematics, history, etc) are taught in the second or foreign language. According to Fishman's definition the situations in which children only learn in a different language than their native language are also excluded. In this dissertation we shall adopt Fishman's definition.

II.2. Initial approaches

The study of linguistic behaviour and its development in the bilingual individual has interested psychologists and linguists since the beginning of the century. However the first publications were restricted to observations and case studies of bilingual individuals. The First International Conference on Bilingualism took place in Luxembourg in 1928 and the questions discussed then were not very different from those of today:

How can the influence of bilingualism on the native language as well as on L2, be measured?

- * What are the effects of bilingualism on general intelligence, on character?
- * Which are the advantages and disadvantages of bilingual teaching?
- * What is the most rational and safest method of learning a language?
- * What is the most favourable moment to initiate the learning of L2?
- * The learning of both languages should be simultaneous or successive?

The answers to these questions were unanimous. The great majority of the experts participating in the conference condemned bilingualism by expressing the negative influence it had on the intellectual and personal development of the child. It was thus defended that teaching should take place in the native language while the introduction of L2 should be postponed as much as possible.

When advocating for monolingualism these experts seemed to be defending their own language - either because they belonged to the national minorities that had a distinct language from the language of the nations they lived in, or in the case their countries were large nations with a language of culture and prestige, the interest was to achieve linguistic unification and the incorporation of minorities into the dominant culture. All this shows how politics mattered when discussing bilingualism.

Later in 1951 in the Unesco meeting in Paris experts elaborated a document saying that "the best way of teaching a child is in his native language". (Unesco 1953 page 11). In spite of having little empirical support this axiom turned into an educational "principle". The application of this principle during the last decades has contributed to the establishment of a great number of bilingual situations.

Numerous countries introduced in their legislations the respect for the language of the immigrants and included it in instruction. Other countries with different languages inside their boundaries have also treated these languages specifically. This contributed to the present situation where many distinct bilingual situations ask for an educational response.

II.3. Bilingualism in the world

Sanchez Riesco (1987) presented seven distinct situations of bilingualism spread throughout the world:

1. Countries that are officially bi- or multilingual in which education is officially bilingual and where this system is recognized as the most adequate. Examples are Luxemburg where German and French alternate or in Norway where both Danish and Norwegian are used.
2. Countries that are officially bi- or multilingual in which the programs of bilingual education are only directed to linguistic minorities as it is the case in Switzerland, Belgium and Jugoslavia but where the governments seem to be against bilingual education not always using the native language of the pupils but the language of the region or canton.
3. Multilingual countries that are officially unilingual in which the existing bilingual programs are directed to linguistic minorities (USA, Italy, Holand).

4. Uni- or multilingual countries that utilize a foreign language as an important part of the school curriculum as some Asian or African countries that besides their own language use the language left by the former colonial powers.

5. The Spanish case in which the country is multilingual since the political autonomy of some provinces also includes a certain degree of cultural and linguistic autonomy. In these territories the "castellano" officially coexists with the other languages.

6. Countries with programs of international bilingualism that accept and sometimes develop programs of bilingual education directed to minorities usually of another nationality. This concerns German, French or English Schools (among others) spread all over the world. These minorities possess a SES that is at least equivalent to the national average.

7. Countries with bilingual programs directed to immigration.

II.4. Types of Bilingual Programs

The different situations of bilingual education are reflected in distinct kinds of bilingual programs. Fishman and Lovas (1970) suggested to classify the different programs of bilingual education according to three variables: Intensity, Goal and Status of the languages.

According to the intensity four types of bilingual education can be identified:

1. Transitional bilingualism in which the native language (L1) of the pupil is only used in the first years. The second language (L2) of the pupil that is the language of the majority is introduced gradually until it becomes the only way of instruction.

2. Unilateral or asymmetrical bilingualism, when oral communication is developed in both languages although the child only learns to read and write in one language which is normally the dominant language.

3. Partial or complementary bilingualism refers to the situation in which the two languages are used for reading and writing. L2 is used in all scientific, technical and social subjects while L1 is only used in the additional subjects of social sciences that refer specifically to the history or culture of their origin.

4. Total or integral bilingualism includes the programs which have simultaneously two goals: bilingualism and biculturalism. Both languages are used in almost all grades and school subjects.

According to the goal to be achieved by bilingual education three kinds of programs can be distinguished:

1) Programs of transition or compensation that are directed to pupils who are going to be instructed in a language that is different from the language spoken at home and which is also the minority language. The goal of the instruction is to enable the child to begin his instruction in the language that is familiar to him. This will contribute to a more rapid progress in the learning of L2, the language of the majority, in order to continue the instruction in this language. These kind of programs represent a transitory bilingual education directed to the assimilation of the individual of the minority group in the majority group.

2) Programs of linguistic enrichment are directed to the children of the linguistic majority and its goals consist in offering an additional educational experience.

3) Maintenance programs when there is an intention of preserving and developing the language and the culture of the minority at the same time that the possibility to participate in the activities of the dominant and/or majority group is offered.

The third variable of Fishman and Lovas, the above mentioned status of the languages, has a more sociological character and the authors intend it to be useful when predicting the success of a bilingual program. Fishman distinguished four dichotomies:

In bilingual education - language of primary importance vs language of secondary importance. According to its importance in the world - home language vs language of the school; major language vs minor language. In the community outside school - institutionalized language vs not institutionalized language.

It is also of great importance to distinguish the two educational methods that are referred in literature as submersion and immersion programs. Submersion programs are those regular programs in L2 in which no concessions are made for the culture or the language of the child with minority language. The immersion programs, on the other hand, are those that use L2 as instruction language in kindergartens and first grade but that introduce L1 as language of instruction during a particular time of the school day from the second grade on.

II.5. Bilingualism and Cognition

The case of children of immigrants with a minority language who were instructed in the language of the country they lived in, in so called submersion programs, interested many investigators because these children had poor academic attainment. Frequent results of studies showed that bilingual children also had poor performance on the verbal tasks in intelligence tests so that some authors argued that bilingualism caused “mental confusion” or “linguistic handicap”(Darcy,1953).

Based on the study of bilingualism in Irish primary schools McNamara(1966) argues that the instruction in the weaker language causes a delay in the taught subjects. One of the first theoretical explanations of these findings was the “balance effect” (McNamara,1967) according to which the bilingual child pays for his ability in L2 with a loss of ability in L1. A different explanation is given by the hypothesis that the discrepancy of the language spoken at home and at school leads to an academic delay (Downing,1974 ; Unesco 1953). However none of these studies controlled factors as important as SES, degree of competence or linguistic dominance of bilinguals.

In 1962 Peal and Lambert studied a group of bilingual French-English speaking children in Montreal. They expected to find specific components of the deficits presented by bilinguals as the literature at the time suggested. However their findings not only did not confirm their expectations but even demonstrated that bilinguals had higher results in verbal and nonverbal tasks of intelligence tests. These results were posteriorly confirmed in several studies, thus contributing to the end of the malefices that the conference of Luxemburg had thrown on bilingualism.

At this point it is necessary to describe in some detail the immersion method that was first introduced in French-speaking Canada in the Saint Lambert School (Lambert and Tucker,1972). In this system of bilingual education children whose L1 was English received their instruction in French since school entry. Before describing the experiment it is important to refer the social context in which this method appeared as well as its aims.

The experiment began in 1965/66. The population of Canada is predominantly English speaking, however in Quebec it is French that predominates. The English language is economically powerful but the French speaking Canadians want to preserve their own language.

In this context, a group of English speaking parents living in Quebec decided that their children should learn French since the beginning of their instruction in order to facilitate their integration in the French speaking society in Quebec. In the first class of elementary school these children were taught reading and writing only in French. In the second year English is instructed daily in two sessions of half an hour each. The amount of teaching in English increases until the seventh grade when half of the curriculum is presented in English and the other half in French. Teachers in this immersion program were native French speakers with teaching experience in the French educational system. The experiment also had a control group that was only instructed in English.

The results after 15 years of evaluation were the following:

1. Children submitted to this program did not show any deficits in their native language (English).
2. They achieved a certain cognitive enrichment that can be attributed to the experience.
3. Reading, writing, speaking and understanding of these children was similar to the level attained by children only instructed in English.
4. Additionally these children could also read, write, speak and understand French with no difficulty.
5. They did not show any inhibition in language use that characterize pupils who learn French as a foreign language.

To explain the success of this experiment three different factors must be mentioned namely the great motivation of the parents and children who were both looking forward to the success of the experiment, the socio-cultural level of the parents who cared about the linguistic and academic progress of their children and finally the function and social prestige of the two languages.

Thus, besides demonstrating the inaccuracy of the hypothesis of "linguistic disadjustment" and the hypothesis that biligualism causes cognitive and academic delay, more recent studies suggest that bilingualism can have a positive influence on the cognitive as well as the linguistic development (Cummins, 1976).

However, results that have appeared along the years have continued to be contradictory so that the orientation of recent investigations are directed to the analysis of the factors and variables that can explain these different results trying to determine their exact influence on bilingualism.

III. THEORIES ON BILINGUALISM AND SECOND LANGUAGE LEARNING

In spite of the interest of so many linguists, sociologists and psychologists, there is no sufficient scientific support for a global theory of bilingualism. Therefore, we shall present the different theoretical perspectives as well as their development. However, this presentation will not respect the exact chronological order of their appearance.

III.1. Ervin and Osgood: compound and coordinate bilinguals

Ervin and Osgood (1954) presented in 1954 a formal psychological theory of bilingualism suggesting that the kind of bilingual system possessed by a bilingual individual is dependent upon whether his two languages were learned in associated or dissociated contexts. A person who learns two languages in the same context, or who learns a new language through the medium of another (usually his native language) would tend to have a compound system. This system is one in which two languages constitute simply two different ways of encoding the same set of referential meanings. A person who learns two languages in quite different contexts, however, would tend to have coordinate systems i.e. systems in which the referential meaning encoded in the two languages differ to a considerable extent.

This theory leads to the conclusion that there would be more interference between languages in the case of the compound bilingual, but that the compound bilingual would be better able to translate from one language to the other. However, the theory itself says nothing about which kind of bilingualism is "better" but the immediate inference which some writers (e.g. Titone, 1972) have drawn from it is that coordinate systems are more desirable and that L2 learning should be organized to produce coordinate rather than compound bilinguals. In fact, Ervin and Osgood only intended to stress the fact that a different bilingual experience can contribute to distinct strategies of cognitive analyses.

III. 2. 1. Lambert : Balanced and dominant bilinguals

To precise the level of bilingual competence in the two languages (L1 and L2) Lambert (1955) distinguished between the "balanced bilingual" and the "dominant bilingual". The balanced bilingual possesses an equivalent competence in the two languages ($L1=L2$) while the dominant bilingual has a superior competence in one of the two languages ($L1>L2$ or $L2>L1$).

The next step was to develop ways of identifying balanced bilinguals i.e. persons whose skill in the two languages was approximately equal. Lambert and collaborators used among other measures the relative reaction time for response to directions in two languages as well as word association tests. Their studies have in general supported the notion that coordinate and compound systems of bilingualism can indeed be distinguished.

III. 2. 2. Lambert: Separated and fused bilinguals

Ervin and Osgood's idea has gained support in a certain number of studies as e.g. in Lambert, Havelka and Crosby (1958). Using the technique of semantic differential (Osgood et al, 1957) and of word association these authors demonstrated that coordinate bilinguals possess semantic distinction as well as a greater degree of associative independence between the words and their equivalent translations than the compound bilinguals.

Lambert used the term "separated" for bilinguals who learned their two languages in quite separated backgrounds and which corresponds to the "coordinate" bilinguals. The author designated as "fused" those who learned the two languages simultaneously and in the same context and who are obviously the "compound" bilinguals.

III. 2. 3. Lambert: Additive and subtractive bilingualism

The experiment of St. Lambert in Montreal suggested that bilingual competence is influenced by the dominance relationship between the two implied languages. In addition, according to Lambert (1974) a bilingual person other than speaking two languages is bicultural. Based on these two assumptions Lambert suggested a sociopsychological model of bilingualism that would consider the sociocultural factors of the family and social background of the child. He introduced the distinction between additive and subtractive bilingualism.

Additive bilingualism describes the situation in which the pupil (and/or his parents) voluntarily initiate an immersion program. In these cases the pupil usually belongs to the ethnolinguistic group of high prestige (e.g. English speaking persons in Canada) and is integrated in a school system where he masters the strong language. If the need or desire to learn another language (which is seen as a weaker one) appears its acquisition does not represent any threat to his privileged linguistic status. Under these conditions, his attitudes and motivation towards both languages are usually positive so that for this pupil the bilingual system will have additive effects.

On the other hand, in cases of etholinguistic groups of low prestige the bilingualism becomes a subtractive experience. When the pupil speaks the weaker language he is conscient of the social inferiority of that language and of the group that speaks it. At the same time he realizes the need to master the strong language in order to be accepted. From the conscience of this difficulty and from the frustration that it may cause he will "sometimes" develop ambiguous and contradictory feelings to the two languages. Towards the strong language he will feel admiration and hostility and towards the weak language he will feel identification and resentment. This insecurity will prevent the pupil to make progress.

When the community of the minority devalues its own sociocultural values and attributes a superior value to the language and culture of greater prestige, then the acquisition of L2 is accomplished in detriment of the native language causing a substitution by the language of greater prestige.

The explanation of the group of McGill University of Montreal is coherent with results obtained in bilingual education namely the success of the immersion programs. Immersion programs in Canada or the USA were directed to English speaking individuals that for different reasons wanted to acquire a L2 voluntarily. Generally these pupils were of an average high sociocultural level and did not feel that their language or culture were being threatened.

Lambert's model is based on the consideration that L1 and L2 are interdependent. In fact, there has been enough evidence to show that the relationships between the two languages are numerous. This brings us to the second theoretical position which inspite being distinct from Lambert's is in a certain way related to it.

III. 3. 1. Cummins: Threshold Hypothesis

In order to help to explain the different results of immersion and submersion programs as well as to offer a theoretical system to investigate the developing interrelations between language and cognition in the bilingual child, Cummins suggested two different hypotheses (1976; 1979).

The threshold hypothesis deals with the cognitive and academic consequences of different patterns of bilingual abilities. According to this hypothesis, bilingual children should attain certain standards of linguistic competence in order to eliminate cognitive deficits and favour cognitive development. This affords minimal abilities in L1 as well as in L2. Cummins proposes an inferior threshold under which bilingualism has negative cognitive effects and a superior threshold above which bilingualism has positive cognitive effects.

This statements were confirmed in an immersion program carried out in Ottawa and Toronto. Barik and Swain (1975) demonstrated that the children that had a better development in French (L2) achieved higher results in tests that measured their intellectual development than the children with a low development of the French language.

III. 3. 2. Cummins: Hypothesis of interdependent development

In the hypothesis of interdependent development Cummins (1979) suggests that the development of abilities that a bilingual child acquires in L2 depends on the development of competence in L1 at the moment that he initiates intensive exposure to L2. Therefore it is important that the linguistic environment of the child outside school favours the development of the native language. When the linguistic environment of the child stimulates the use of certain functions of language as the development of vocabulary in L1 and the development of some concepts so that the child reaches high standards in her native language, then it is likely that an intensive exposure to L2 leads to a similar high level of competence in L2. On the other hand, if the ability in L1 is not developed in certain aspects, then an intensive exposure to L2 in the first years will probably prevent L1 to continue its development and will limit the development in L2.

Toukomaa and Skutnabb-Kangas (1977) had developed the same idea when discussing the threshold hypothesis. For these authors the base for the possible acquisition of the threshold level in L2 seems to be the level attained in the native language. They also mention the importance of the development of L1 including the level of abstract thinking in L1 to master conceptual operations associated to mathematics and sciences.

III. 3. 3. Cummins: Interactive model of bilingual education

In 1983 Cummins integrates his two former hypotheses into an interactive model of bilingual education in which educational outcomes are explained as a function of the interaction between background, child input and educational treatment factors. Cummins suggests that many evaluations of bilingual education programs have produced uninterpretable data because they have failed to incorporate the possibility of these interactions into their research designs.

This interactive model suggests that the variables of the environment influence the variables of the child input which generally determine the academic results of bilingual programs. At the same time the educational method interacts with the variables of the child input.

A further proposal is the double interaction between the environmental factors and those of the educational method. The variables of child development depend on the interaction between input of the child and educational method and the factors of the environment also have an independent influence on development. The educational results determined by the interaction of the child with the school environment not only include the academic and cognitive results, but also a good control of the affective consequences i.e. identity, attitudes to cultures of L1 and L2, etc.

III. 4. Hammers and Blanc: Theory on bilingualism

Hammers and Blanc (1983) proposed a theory of bilingualism that is a combination of Lambert's and Cummins' ideas. They start from the principle that the child learns to speak in a family context so that language initially serves to develop affective and communicative functions to be progressively completed with cognitive functions. If a child arrives at school with a poor cognitive use of language and is confronted with a different language his linguistic development in both languages will be deficient. This is specially the case if his native language belongs to a social environment that devalues his own language and that does not use it for cognitive functions. Because of this missing stimulation from his home environment the child will not develop his linguistic cognitive structures in his own language and without this support he will not be able to structure the second language.

On the opposite pole is the child who arrives at school with a good development of the communicative as well as cognitive language. Results will be optimal in both languages. Between these two extremes there are multiple intermedial situations. However, in order to achieve a balanced bilingualism in both languages it is necessary that the native language is valued both in the family and in school.

III. 5. Gardner and Smythe: Model of second language learning

Gardner and Smythe (1974) presented a model of second language learning according to which the cultural environment has a considerable effect on the various attitudinal and motivational characteristics and their relation to the learning of L2. For instance the cultural environment can influence the linguistic attitudes of a pupil and predict his attainment in L2. According to the authors in the case where the student develops in an environment which has a certain expectation that everybody learns a L2 the main prediction of attainment are the student's cognitive abilities. On the other hand, when such expectations are not present the difference in motivation will diminish the relative contribution of linguistic aptitudes. In this case, other variables would be accountable for the achievements.

Gardner et al (1976) argue that this model has important practical implications because motivation can be more easily modified than aptitude. The relations between attitudes and attainment in L2 has been investigated by Genesee and Hamayan (1979) in Anglo-canadians and by Clement et al (1977) and Taylor et al (1977) in Franco-canadians.

III. 6. Krashen : The Monitor Theory

Krashen (1988) presents the so called “monitor” theory of second language learning according to which adults have two independent systems for developing abilities in second languages. The first is subconscious language which Krashen calls “acquisition” as opposed to the second system of conscious language designated by “learning”.

“Language acquisition” represents a similar process to the one, young children use in acquiring language that is based on natural communication for a meaningful interaction. What is important is the message and its understanding not the form of the utterances. Acquirers do not have a conscious awareness of “rules”, only correct on the basis of a feeling for grammaticality. Error correction or teaching of rules are not relevant. On the other hand, “conscious language learning” is based on error correction and presentation of explicit rules. They help to correct mental representations of linguistic generalizations.

The Monitor theory suggests that the utterances are initially based on the acquired system (based on what we picked up through active communication) and that conscious learning helps to modify the output of the acquired system in order to improve accuracy, thus acting as the “Monitor”.

There are individual variations in the use of the Monitor which can be represented in a continuum. On it's extremes are the overuser who is hesitant and overconcerned with correctness having an overcareful style of speaking and the underuser who does not use conscious grammar at all and speaks based on his feeling.

IV. INFLUENCING FACTORS

The theoretical considerations referred above have clearly demonstrated the existence of several distinct but very important factors influencing the acquisition of a second language that may or may not lead to bilingualism. In this chapter we intend to approach these factors independently.

IV. 1. Sociocultural and sociopsychological factors

It was Lambert who first draw attention to the importance of social factors in second language learning. Later, some authors like Bowen (1977) and Tucker (1977) even considered sociologic factors to be more important in bilingual education than specifically linguistic or pedagogical ones. In fact, it is difficult to explain results of investigations when considering only linguistic, cognitive and educative factors.

For Bowen and Tucker the social factors have a fundamental causal role. According to Tucker, it is advisable to use the native language in instruction when:

- the native language is devalued by the general community.
- many teachers are not members of the same ethnic group as the students and are not sensible to their values and traditions.
- the family does not stimulate the learning of reading and writing as well as language development.

On the contrary it seems advisable to be instructed in the L2 when:

- the native language has a high value.
- parents stimulate actively the learning of reading and writing.
- it is probable that the child will be successful.

Cummins (1982) also indicates the ambivalent or negative feeling towards the culture of the majority as well as towards their own culture to be the most important sociocultural factor to explain the school failure of linguistic minorities.

Very often it is the linguistic politics of the parents that contribute a great deal to the establishment of these kinds of feelings. The parents often decide to speak the language of the majority so that their children will not have the same difficulties as they had. Thus their verbal interactions with their children loose both in quality and quantity influencing negatively the linguistic development of the children.

A similar situation is stimulating the children to watch television in the language that posteriorly will be used at school. This negatively affects the linguistic interactions between parents and children which will affect their linguistic development. The sociocultural factors are thus closely related to the linguistic factors (Vila,1983).

In the case of immersion programs the above mentioned factors act in a different way: students participate in these programs voluntarily with the desire to acquire the L2 showing a positive attitude to this culture. In addition, they belong to a group with an average to high SES. All this includes a good linguistic interaction with adults both in quantity and quality as well as a high motivation for school learning. It is thus not surprising that the results are positive and contribute to an intellectual enrichment comparing to monolingual programs.

In conclusion, we can agree with Paulston (1976) and Fishman (1977) who say that the effects of programs of bilingual education can only be understood when these programs are seen as a result of special constelations of social factors.

IV. 2. Linguistic factors

It has been already suggested that the linguistic factors are closely related to social factors in determining success in second language learning. In order to achieve cognitive advantage associated with bilingualism it is necessary to attain a certain level of competence in L2 as well as in L1. Cognitive deficits or "semilinguism" are the consequence of not having reached the threshold of necessary competence in neither of the two languages (Cummins,1979).

Toukoma and Skutnabb-Kangas (1977) showed that the development in the native language correlated with the success in those subjects that require abilities of abstraction thus demonstrating the enormous importance of the development of the native language which is in addition also directly connected to cultural values.

In fact, the quality of interaction between children and adults is a really important factor for a future academic success. According to Bruner (1982) a great deal of academic success is conditioned by the acquisition of reading and writing but specially by reading. The acquisition of reading is related to the level of the oral language of the child in the moment of initiating school and thus depends on the quality of linguistic input that the child receives.

In the case of linguistic minorities as immigrants the parents very often try to speak with their children in L2 causing a quite poor linguistic interaction. This loss of competence in the native language in consequence of its abandon in favour of L2 does not help for a good development of L2 and has the negative effect of empoorishing the own language. Several studies confirm this as e.g. Chesarek (1981), Bhatnager (1980) or Cummins and Mulcahy (1978).

IV. 3. Motivational and attitudinal factors

Various social attitudes and motives are intimately involved in learning a foreign language and can explain to a certain extent individual differences in attainment.

The process of learning a L2 was viewed from a sociopsychological perspective by Lambert (1974). According to this author if a student is to be successful in his attempts to learn another social group's language he must be willing to adopt various aspects of behaviour (including verbal tasks) which characterize members of the other linguistic group. His attitudes towards the other group are believed to determine his success and his motivation to learn is thought to be influenced by his attitudes.

The more classical studies on L2 learning indicate that the success in this task considerably depends on motivational and interest factors. Gardner and Lambert (1972) who were of the most representative investigators in the subject of L2 learning during the seventies applied a factor analysis on a test battery given to students who learned French as L2. This battery included measures of linguistic aptitude, verbal intelligence, distinct attitudes and motivation. The factor analysis revealed the existence of two factors: one related to cognitive aptitudes (specially verbal) and the other that suggests that the students who were interested to learn L2 to facilitate the communication with the speakers of the cultural group of L2 were those who in general, had more favourable attitudes towards that group and were interested to achieve a good learning of L2 (Sanchez and Tembleque, 1976).

Since that moment, Gardner and Lambert initiated the distinction between integrative and instrumental motivation. By integrative motivation they meant the sincere and personal interest for the individuals and culture of the new language, the orientation of the student to learn more about the other cultural community as if he desired to become a potential member of the other group.

On the other hand, instrumental motivation referred to the desire to achieve proficiency in L2 for utilitarian or practical reasons as e.g. to be better prepared for a certain job.

The students with integrative motivation seem to be more willing to maintain the effort necessary to achieve a good learning of L2 (Sanchez and Tembleque, 1986). Based on the first studies a series of investigations (gathered in Gardner and Lambert, 1972) were carried out and reached to the same general conclusion: motivational and attitudinal variables are related with attainment in L2 as least as much as linguistic aptitude.

Thus, negative attitudes as well as the stereotypes about the other ethnolinguistic group can negatively influence the motivation of learning the language of the other group and on the other hand, open and friendly attitudes favour the learning process.

Gardner and Smythe (1974) identified the following components of integrative motivation:

- a) Motivation - motivational intensity, desire to learn L2, attitudes to the task of learning L2.
- b) Integration - favourable attitudes towards the community using L2 as native language, interest to communicate with the members of the community.
- c) Attitudes - attitudes towards the learning situation (e.g. towards teacher).
- d) Instrumentality - interest to acquire L2 for utilitarian purposes.
- e) Parental support.
- f) Anxiety in relation to the course.

Based on these investigations Gardner and Smythe elaborated a model of L2 learning that has been referred above. This model suggests that the cultural environment of the individual has a considerable effect on the development of several motivational and attitudinal characteristics as well as its relation to L2 learning.

It is also important to mention that attitude and attainment seem to have a reciprocal influence since the student's level of knowledge in L2 can influence his attitudes as well as the attitudes attributed to him by others. The studies of Gatbonton (1975) and Genesee and Holobow (1977) support this idea.

According to Krashen (1988) attitudinal factors that relate to L2 acquisition are on the one hand, factors that encourage intake i.e. factors that encourage acquirers to communicate with speakers of the target language in order to obtain the necessary input or intake for language acquisition. On the other hand, are the factors that enable the performer to utilize the language heard for acquisition. It is necessary to hear L2 with understanding and the acquirer must also be "open" to input.

Dulay and Burt (1977) referred to this idea postulating the existence of a socio-affective filter. If someone has a high socio-affective filter less input is "allowed in" so that he will acquire less of the language directed to him. Therefore attitudinal factors that relate to language acquisition will be those which contribute to a low affective filter and can be used as predictors of L2 proficiency.

Integrative motivation is predicted to relate to proficiency in terms of two functions Krashen (1988):

- 1) The presence of integrative motivation should encourage acquirers to interact with speakers of L2 out of sheer interest and thereby obtain intake.
- 2) A low affective filter is also predicted.

Stevich (1976) suggests that the student with integrative motivation feels no threat from the other group so that he is more prone to engage in receptive language. Instrumental motivation, however, may also relate to proficiency because students also interact with L2 speakers to achieve certain ends. In this case a stronger affective filter is predicted and the acquisition may cease as soon as it is enough or it can focus only on those aspects of L2 that are necessary. Anyway, instrumental motivation may also be a strong predictor of L2 acquisition when the practical value of L2 proficiency is high.

IV. 4. Cognitive factors

There are many circumstances where it can be taken for granted that motivation is uniformly high and where the instruction is of very good quality. Even in these situations students' success varies widely and, furthermore these individual differences are hard to modify (e.g. Dorcus et al,1952).

One of the approaches to explain these individual differences was to investigate the relation between bilingualism and intellectual factors. Concerning general intelligence most studies tried to establish comparisons between monolinguals and bilinguals and a colateral interest of these investigations was to determine whether the IQ is the most important variable when predicting the success in L2 learning (e.g. Dunkel,1948 ; Gardner and Lambert,1972 ; Dockrell and Brousseau,1976 ; Genesee,1977). The results of these studies showed that IQ was not the most important variable but that certain aspects of intelligence were important.

Another important question is whether it is necessary to have a certain level of intelligence to manage to learn L2 or to have a good attainment in bilingual education. According to Carroll (1962,1981) it is a reasonable generalized opinion that a normal intelligence is enough, however the ability to speak and understand a different language from L1 is for Carroll a specific aptitude that is relatively independent from general intelligence. Thus, when speaking about intellectual factors that can influence individual differences in attainment in programs of bilingual education it is necessary to take into consideration not only general intelligence but also specific aptitudes for L2 learning. Carroll defines aptitude as an inverse function of the amount of time that a student would require to achieve a specific criterion of success in learning, on the assumption that the student's motivation and the quality of the instruction he is receiving are optimal.

Not only Carroll and Sapon (1962) but also Pimsleur et al (1962) suggested the existence of an aptitude for L2 and tried to investigate its composition which seems to be quite complex. For Carroll language aptitude appears to consist of at least four identifiable abilities: phonetic coding, grammatical sensitivity, rote memorization ability and inductive language learning ability which can be measured by specific tasks in the "Modern Language Aptitude Test" (Carroll and Sapon 1959). The "Pimsleur Language Aptitude Battery" measures similar components of language aptitude (Pimsleur, 1966).

The predictive validity of aptitude tests is generally based on the correlation coefficient between the aptitude scores and measures of attainment. Concerning the validity of the MLAT twenty-eight validity coefficients presented for high school courses ranged from .25 to .78 and had a median of .545. Additionally twenty-five coefficients presented for language courses ranged from .13 to .69 with a median of .44. Evidence was presented that this test was superior in predictive power to intelligence tests (Carroll, 1959). Due to the nature of the tasks implied in these tests it is almost inevitable that at least a moderate correlation exists between its scores and those of intelligence tests. Correlations that vary between .40 and .70 have been found (Carroll, 1985).

When one speaks of aptitude for L2 one is generally referring to the aptitudes of older pupils and of adults in a relatively formal learning situation and not so much in the more "natural" acquisition for L2 by younger children (Sanchez and Tembleque, 1986). In fact, the referred aptitude tests were designed for students from the 7th grade and from the 9th grade on for the PLAB and MLAT respectively.

IV. 5. Aptitude and attitude

We have seen that attitude and aptitude are both very important factors for second language learning. It seems difficult to determine which of them has a more decisive role and in fact it seems that they are both necessary for a high attainment in L2 learning. Krashen (1988) suggests a distinction of their relative importance depending on the structure of the learning situation.

Based on his model that aptitude relates to conscious language learning and attitude to subconscious acquisition, Krashen presents three predictions and presents supporting evidence. His first prediction is that attitude and aptitude will be statistically independent because they relate to very different and independent parts of the language performance and internalization model. This is a very well established result. Carroll (1963) reported that aptitude is not related to whether a person "likes foreign language study" and Gardner and Lambert have confirmed and replicated this finding using standard aptitude tests and measures of integrative motivation (Gardner, 1960 ; Gardner and Lambert, 1959, 1972).

The second prediction says that “the aptitude factor will show a strong relationship to second language proficiency in “monitored” test situations and when conscious learning has been stressed in the classroom”. Studies that support this prediction are those that show occasionally high correlations in the validity of aptitude tests with grades in foreign language classes (Pimsleur, 1966 ; Carroll 1963).

Finally, Krashen suggests in his third prediction that “the relationship between aptitude and proficiency in L2 will be strongest when a) subjects or performers have had sufficient intake for acquisition and b) when monitor-free measures of proficiency are used. The author reports evidence for integrative as well as for instrumental motivation (Krashen, 1988).

IV. 6. Age of second language learning

Directly related to the importance of developing linguistic abilities in the native language is the age of L2 acquisition which sometimes coincides with the arrival to a new country. Vila (1983) reports that older children with good competence in L1 acquire the L2 faster than younger children whose comprehension in L1 and cognitive maturity is weaker.

In fact, different studies confirm this prediction. Skutnabb-Kangas and Toukoma (1976) showed that Finnish children that emigrated to Sweden with 6 to 8 years had abilities in both languages that layed under Finnish and Swedish norms. However, those children who emigrated with about 10 years of age maintained the level of Finnish similar to students in Finland and acquired competences in Swedish that were similar to those of Swedish pupils. According to the authors, at this age they already had developed abstract abilities in their native language. These results are in accordance to the ones of Engle (1975) in which 6 to 8 year old children had considerable difficulties in the learning of L2.

González 1977 based on informal observations showed that Mexican children whose Spanish was firmly established and who only recently arrived from Mexico achieved better results in English than Mexico-american children. According to Sanchez and Tembleque younger children (4-8 years) seem to have advantages in the acquisition of the basic communication abilities (BICS) that include pronunciation, oral comprehension and production if they learn L2 in an environment that favours acquisition. Children of this age have curiosity and an attraction for establishing contact with other people as well as interest in manipulating sentences and words. On the other hand, older children can make more rapid progress in cognitive and academic aspects of learning L2 due to a greater cognitive maturity.

In a neuropsychological perspective Penfield (1959) says that the child's brain is best suited to learn languages until the age of 9 to 12. After that the areas of the brain related to such activities become less flexible so that the language learning abilities decrease. Several authors disagree with Penfield. However, few disagree that these abilities decline with growing age. It is a common observation that for a young child language learning tasks seem to be easily assimilated as other behaviours to be acquired. However, it is not without effort that L2 is learned in school settings.

According to Krashen the source of the monitor is formal operations since it is plausible, that the ability to use a conscious grammar, requiring a meta-awareness of language and general abstract rules comes as a result of formal operations. However, the Monitor has negative effects on language acquisition and this may be the cause for child-adult differences. Formal operations lead to an increased affective filter and to a subsequently lowered ability to acquire an L2. Pronunciation seems to be the most difficult aspect of second language to acquire after this stage is reached. Based on this hypothesis two predictions are again reported by Krashen (1988):

1. Aptitude will not be a strong predictor of L2 success in young children acquiring an L2. Tucker, Hayman and Genesee (1976) reported that attitude and motivation related to achievement in French and were much better predictors than aptitude and IQ measures. Positive attitude towards the target language and high need achievement were the strongest predictors. This prediction was also supported by Gardner et al (1976).

2. "Attitudinal factors will predict L2 achievement whenever intake is available". Fillmore (1976) showed in her case study the association between successful acquisition of L2 and integrative motivation.

V. METHOD

V. 1. Proposals and Objectives

The circumstances of second or foreign language learning of the subjects under study include the voluntary participation in the program, the desire to acquire L2, the average to high SES and the good linguistic interaction with adults. Under these conditions and according to the analysed literature, it is likely that the learning of the German language is generally successful and a bilingual education in this case can be an enriching experience. These general positive effects have been confirmed by experience since a high percentage of children that initiate the bilingual program reach grade 12 and are successful in the final examination.

Nevertheless, due to the special demands of bilingual instruction in the GSL, a few students stay behind or accomplish the grades with an enormous effort and relatively low success paying a high price for their bilingual education. Others show very early difficulties in the acquisition of the German language that often persist and prevent them from being successful students as they could be in a monolingual program. For these pupils bilingual education does not make much sense and it would be desirable to identify these children before they initiate the bilingual program.

The present study was conceived as a preliminary study which intended to investigate the degree of association and the relative importance of several factors that have been referred in the literature on the attainment that a specific population of 10 to 11 year old portuguese children achieves when intensively learning German. These factors are: intelligence, aptitude for foreign languages, linguistic abilities in the native language, motivation and attitudes. Our concern was to find out whether some of these factors can explain success in foreign language learning and whether they can be used as satisfactory predictors of attainment in German.

As a continuation of this work, future attainment of the same pupils should be related to the scores of the present variables. The conclusions drawn from the investigation results would thus contribute to a more accurate early selection and at the same time would have practical implications that could be used to improve instruction or external conditions for instruction.

V. 2. Experimental Hypothesis

Based on the review of the literature as well as on the objectives of the study it was expected that:

Teacher ratings on attainment in German and the mark in German are significantly and positively related to intellectual abilities, specific aptitudes for foreign languages, linguistic abilities in the native language as well as to motivation and attitudes.

V. 3. Design

Considering the proposed objectives of this investigation, it was necessary to collect data that would evaluate the children's:

- Intellectual abilities
- Specific aptitudes for foreign languages
- School motivation and more specifically intrinsic and instrumental motivation of learning German
- Attitudes
- Attainment in German
- Attainment in Portuguese
- Attainment in other school subjects

Specific instruments as standardized tests of abilities were used whenever possible and questionnaires or rating scales served to acquire information and to measure less observable characteristics in a sample of 62 ten to eleven year old children.

V. 4. Subjects

The subjects studied in this investigation are Portuguese 10 to 11 year old children instructed in the German School of Lisbon (GSL) in grades 5 and 6. A questionnaire was sent to the parents of all the children and selection was based on the answers given in the questionnaire. The criteria to be accepted in the study were the following:

1. No repetition of year or school grade.
2. Instruction in Portuguese elementary school until grade four.
3. Attendance of an intensive course in German (3 hours / week) in the GSL during the fourth grade.
4. No former contact with the German language.
5. Initiation of regular instruction in the GSL at the beginning of grade 5.
6. Native language : Portuguese.
7. First foreign language : German.
8. Portuguese is the only language spoken at home with parents and other siblings.

The final sample consisted of 62 children. At the time of testing (January and February 1990) the 33 children of the two classes of grade 5 had an age of 10 while the 29 children of grade 6 were 11 years old. The distribution of boys and girls along the grades is presented in table 1.

Table 1: Subjects of the total sample distributed along classes and sex.

	Girls	Boys	n
Grade 5	19	14	33
Grade 6	12	17	29
n	31	31	62

All children belonged to families of average to high socioeconomical status (SES). Parents gave as main reasons for choosing this school for their children:

- | | |
|--|--------|
| 1. Good instruction | 51.00% |
| 2. Bilingual instruction/
language learning | 38.70% |
| 3. Organization and discipline | 24.20% |
| 4. Good school in general | 11.30% |
| 5. Good references of school | 9.70% |
| 6. Contact with other culture | 16.10% |
| 7. Useful in the future | 9.70% |
| 8. Interest of the child | 6.50% |
| 9. Good infrastructures | 4.80% |
| 10. Proximity from home | 4.80% |
| 11. Good working habits | 4.80% |
| 12. Good teachers | 1.60% |

Thus, the most important reasons referred were the quality of the instruction of the school and the possibility to receive a bilingual education and /or to learn different languages. The third most referred reason was the good organization of the school as well as its discipline.

Although we did not select the subjects in terms of abilities, a previous selection had taken place by the teachers of the intensive course. After attending the intensive course during the fourth grade, children were submitted to a written test to evaluate their knowledge in the German language and they had to accomplish a general intelligence test (CFT 20). Based on these results and considering the development shown by the child during the academic year it was decided whether the child should initiate the bilingual program offered by the school.

The main characteristics of this program can be described as follows:

In grade 5 and 6, children have 11 school subjects which are mainly taught by Portuguese teachers in the Portuguese language. The subject German is instructed intensively (eight school periods of 45 minutes / week) by a native speaking German teacher. The instruction method used in the German lessons emphasizes simultaneously the development of communication skills and grammatical correctness. Audio-visual materials are used to a considerable extent.

The introduction of English begins at grade 5 and this subject is instructed (four school periods / week) by a German teacher of English. Mathematics is taught mainly in Portuguese (three school periods / week) but additionally a German teacher introduces the mathematical terms and basic operations twice a week in the German language. The subjects Arts, Music and Sports are taught by German teachers that speak some Portuguese.

The idea is to increase gradually the curriculum in German transferring progressively the instruction of scientific, technical and social subjects into the German language. In all the subjects that begin to be taught in German with the exception of the subject German itself, pupils are instructed together with the native-speaking German students. Since the beginning of grade 11 the whole curriculum is instructed in German and at the end of grade 12 the final school examination called "Abitur" is completed. All the students have to achieve the level demanded in Germany to German students.

This program used in some but not all the German schools has some similarities with the Canadian immersion programs although the foreign language is introduced at a different age. However, students participate voluntarily with a considerably high motivation and have always the possibility to quit and continue their instruction in a Portuguese school.

V. 5. Data collection instruments

As the acquisition of a foreign language is influenced by several factors that have been mentioned above we tried to select instruments that measure these factors.

V. 5. 1. Intellectual abilities

The intellectual abilities of the students were measured with four subtests of the Spanish test BADYG-E (Bateria de Aptitudes Diferenciales y Generales - Nivel Elemental) developed by Yuste Hernanz (1988). The reason for choosing this intelligence test was on the one hand, that it was already being used in other German Schools in Spain for the selection of the children of the intensive course. We were interested to investigate whether there is an experimental justification for its utilization. On the other hand, this test has the advantage to be a group test and to measure both verbal and nonverbal abilities.

The complete test has 3 verbal subtests (Verbal Mental Ability, Verbal Comprehension and Numerical aptitude), 3 nonverbal subtests (Non Verbal Mental Ability, Logical Reasoning and Spatial Aptitude) as well as two additional subtests (Memory and Perception of Differences).

The individual application of subtests is justified by reliabilities of isolated tasks between .79 and .90. According to the author these levels are good, considering that the number of items varies between 30 and 40. The global scores achieve levels of reliability of about .96 (Split-half reliability). Validity of the test that was measured against Raven's Progressive Matrices, the Otis Test and other Spanish tests layed over .60. In addition, significative correlations were obtained between individual subtests and school marks.

In the present study we used the two verbal subtests "Verbal Mental Ability" and "Verbal Comprehension" as well as the two nonverbal subtests "Non Verbal Mental Ability" and "Logical Reasoning" to measure the intellectual abilities of the subjects.

The verbal tests had to be translated into Portuguese which did not present great difficulties due to the similarities of both languages. All the subtests of BADYG-E can be administrated in groups, the test items are ordered according to level of difficulty and the answers are given by multiple choice. Each test is to be completed in an exact amount of time that varies according to the age of the subject.

V. 5. 1. 1. Verbal Mental Ability (VMA)

This is a specific test of verbal intelligence that is composed of 40 items which can be of six distinct kinds:

- A) Permanence of a characteristic.
- B) Logical sequencies with numbers.
- C) Forming a correct sentence by ordering isolated words.
- D) Finding the classifying characteristic of a word series.
- E) Numerical problems of logico-numeric comprehension.
- F) Problems of spatio-temporal resolution.

The scores on VMA indicate the ability to classify, deduct, analyse, integrate verbal and numeric concepts always verbally formulated. Children of grade 5 have 16 minutes and children of grade 6, 12 minutes to complete the test.

V. 5. 1. 2. Verbal Comprehension (VC)

This test has 30 items with five alternative answers that can be:

- A) Synonymes.
- B) Antonymes.
- C) Verbal analogies.
- D) Most exact definition.
- E) Most common use or purpose.

The items have a similar percentage of vocabulary (37%) and of analogies (40%). The items of exact definition and most common usage can be assimilated to those of vocabulary although they indicate an exact knowledge more of a complex concept than of a word. This test of verbal comprehension consists of semantic items (synonymes and antonymes) and ideative items (verbal analogies) measuring these verbal subfactors. Thus, it indicates the knowledge of Portuguese vocabulary and the ability to recognize verbal relations and analogies. The time allowed for children of grade 5 and 6 are 10 and 8 minutes respectively.

V. 5. 1. 3. Non Verbal Mental Ability (NVMA)

The 40 items of this test have six alternative answers and can be classified in the following way:

- A) Static items: incomplete figures that are to be completed because they are part of a whole that is logically and symmetrically ordered. For their solution these items require the apprehension of the complete or total form, a certain observation ability and sense of space.

B) Dynamic items : groups of figures that are logically interconnected and require the direct use of logical functions and occasionally a certain sense of space or at least a positive attitude to work with geometrical figures. The dynamism and changing movement of the figures can be horizontal or vertical or alternate in both directions. The logic and dynamic changes are based on changes of size, quantity (number), relative position, colour or completion.

Once the static or dynamic figures that compose an element are analysed, the final act is to make a deductive synthesis of all the obtained information. In this way a final form that completes the symmetries, significant forms, detected movements of the different figures is found. Time given to children is 16 minutes for grade 5 and 12 minutes for grade 6.

V. 5. 1. 4. Logical Reasoning (LR)

This test has 35 items with 5 alternative answers. The presented items are logical sequences of geometrical figures that change dynamically. They differ from those of NVMA because in this case the dynamism of changes follows always a linear progression. The direction or intention of movement is always compared to the previous and following figure. A combination of the basic relations: size, number, form, position, colour (or background colour) is used. The time limit in this task is 12 minutes and 10 minutes for grade 5 and 6 respectively.

V. 5. 2. Aptitude for foreign languages

Specific aptitude for L2 learning was measured by two subtests one of Carroll's and one of Pimsleur's test battery.

V. 5. 2. 1. Paired Associates

Paired Associates is one of the subtests of Carroll's Modern Language Aptitude Test (MLAT). According to this author the subtests of the MLAT (Number Learning, Phonetic Script, Spelling Clues, Words in Sentences and Paired Associates) "showed a good validity more or less consistently and made unique contributions to the prediction of success in foreign languages" (Carroll and Sapon, 1959). In fact, these authors report a predictive validity of .71 .

As the adaptation of these subtests to the Portuguese language is rather difficult we only choosed one subtest namely Paired Associates. Carroll suggests that it measures the rote memory aspect of the learning in foreign languages. In the original test that is directed to students from grade 9 on (14 to 15 years), 24 pairs of English-Kurdish vocabulary have to be learned in two minutes.

At the end of the two minutes subjects are given another two minutes to practise the learned vocabulary in a practise exercise sheet where they are supposed to write the English meanings in the spaces following the Kurdish words. They are allowed to look back at the vocabulary when they are filling the blanks. This is not allowed during the actual test that consists in choosing one of five alternative English words for each given Kurdish word.

As the children in the present study were 10 to 11 years old, we decided to give them only 12 word pairs. The time was reduced to one minute for grade 6 and one minute and twelve seconds for children of grade 5. This difference was based on the time difference used in the subtests of BADYG-E and on the results of the pretests made with children of the same age.

V. 5. 2. 2. Language Analysis

Language Analysis is one of the subtests of Pimsleur's Language Aptitude Battery which is intended to be used in grades 7 through 12 and which is structured into the following six parts:

1. Grade point average in academic areas other than foreign languages.
2. Interest in learning a foreign language.
3. Vocabulary.
4. Language Analysis.
5. Sound-discrimination.
6. Sound-Symbol Association.

We selected the subtest "Language Analysis" that Pimsleur described as the ability to reason logically in terms of a foreign language. In this test a word list in a fictitious language with the respective meanings of the words in the native language of the subject is presented. Based on this list the students have to build sentences in the fictitious language respecting the rules that can be inferred through the word list. Answers are given by multiple choice. After carrying out several pretest we concluded that the whole test (15 items) could be used for the children in the study although they were one to two years younger. Split-half reliability for Language Analysis was .57 for grade 7 and over .75 for grade 8 and 9 and correlation with final course grades was .31 - .35 (Pimsleur, 1966).

V. 5. 3. Motivation

V. 5. 3. 1. School Motivation

In order to measure student's overall school motivation we used the School Motivation Inventory developed by Kozéki in Hungary and adapted to English by Entwistle, whose scales imply a strong single factor of school motivation (Kozéki, 1984).

Kozéki's model of school motivation lays an equal emphasis on the three separate domains (Kozéki and Entwistle,1983): affective,cognitive and moral. This model tries to explain school behaviour and attainment in terms of an interaction between:

- a) the pupil's relationships with parents, teachers or peers (affective)
- b) their developing demands for independence,competence and interest with school work (cognitive) and
- c) growth of trust, compliance and responsibility (moral).

The three motives of each domain that are measured in the School Motivation Inventory shall be described below:

Affective domain

Warmth : Encouragement and interest actively shown by parents. Quality of relationships with both parents and teachers.

Identification : Feeling empathy with adults and wanting to please them.
Good relationships with teachers and acceptance of school.

Sociability : Enjoying collaborative work and activities with peers.
-Quality of relationships in relation to school work associated with both adults and peers.

Cognitive Domain

Independence: Satisfaction from working things out without help from others.
Self-confidence and independence.

Competence: Rewards from a recognition of developing knowledge and skills.
Intention to work hard and seek knowledge.

Interest: Enjoyment derived from ideas.Satisfaction with school and interest in school work.

Moral domain

Trust : Satisfaction from doing things thoroughly and well.

Compliance: Preferring the security of behaving according to defined rules or norms. Compliance with authority.

Responsability: Accepting the consequences of actions and monitoring own behaviour accordingly. Accepting of responsibility.

An additional scale that measures the perceived pressure from adults was added to the nine motives (Entwistle and Kozéki,1985). When studying the correlation with school attainment these authors reported as the most consistent correlation the association between the perceived pressure from adults and low levels of attainment. In England significant relationships between indices of attainment and identification with teacher were found. The complete questionnaire consisted of 60 items which were to be rated on a 5 point scale.

V. 5. 3. 2. Intrinsic and instrumental motivation

Intrinsic motivation as well as instrumental motivation were also measured by student's ratings on a 1 to 5 point scale along 4 different items.

The items on intrinsic motivation focused on the enthusiasm of learning a foreign language and on the desire to learn more about an interesting language.

On the other hand, instrumental motivation is represented more by the interest of having good qualifications than by the interest in the contents of the German lessons as well as giving as the main reason for studying German the utilitarian purpose of finding a good/ or better job.

V. 5. 4. Attitudes

In order to evaluate the students' attitudes towards the whole process of learning a foreign language we decided to use open questions in which they could express their attitudes towards:

1. The native speakers of the foreign language they are learning (Germans).
2. The country of the foreign language (Germany).
3. The foreign language itself (German language).
4. The school where the German language is instructed (GSL).

On the answers to these open questions we applied analysis of contents. Further the answers of the children were classified into three categories for each attitude: clear negative attitude (1), mixed (positive + negative) or neutral attitude (2) and clear positive attitude (3).

The attitude to the teacher was assessed by an item to be rated between 1 and 5 presented simultaneously with the items of intrinsic and instrumental motivation.

V. 5. 5. Abilities in German

Generally it is accepted that there are four chief kinds of skills which can be developed in different degrees when learning a language. They are understanding (oral comprehension), speaking, (oral production), reading and writing. In addition, when learning a spoken language the learner has to master phonology, grammatical structure and vocabulary (Carroll, 1981).

Considering these aspects a rating scale was completed in which the teachers that instructed the children of the study in German rated them along 7 dimensions - fluency, reading, writing accuracy, knowledge of grammar, understanding and pronunciation in the German language. The rating criteria were:

- 1 - Excellent
- 2 - Good
- 3 - Satisfactory
- 4 - Limited
- 5 - Very limited

On the other hand, it was reasonable to use the final classification in German of the first semester at the end of January 1990. This mark represents the results of various written tests as well as oral work and it also represents the attainment perceived by the pupil. Marks ranged from 1 to 6.

V. 5. 6. Abilities in the native language

The mark in Portuguese was considered to represent the level of linguistic abilities in the native language both in the oral and written context. Again the marks range from 1 to 6.

V. 5. 7. Additional tests

As additional measures two subtests were used that are integrated in BADIG-E but which are not included by the author of the test in the total scores of verbal or nonverbal intelligence. They are "Memory" and "Perception of Differences".

V. 5. 7. 1. Memory

Yuste Hernanz (1988) included this test in his battery because it is strongly correlated with verbal intelligence and with school attainment. In the subtest "Memory" children must listen to a story about a subject that should interest children of that age and afterwards answer to questions about the story by choosing one of four alternatives. Memory measured by this task is predominantly verbal and it is important to refer that the immediate oral memory also depends on a factor of voluntary attention.

V. 5. 7. 2. Perception of Differences

In this task students have to perceive the differences of 9 alternative figures that must be compared to a model. In each of the ten items there are four correct answers from the 9 alternatives. Attention and Speed of perception are measured by this test.

V. 6. Procedure

Children were tested in 5 sessions of 45 minutes each distributed during the months of January and February.

Session 1 : School Motivation Inventory

Session 2 : Verbal Mental Ability and Verbal Comprehension

Session 3 : Non Verbal Mental Ability and Logical Reasoning

Session 4 : Memory and Perception of Differences

Session 5 : Paired Associates, Language Analysis and Attitudes

Children had a good collaboration and were always willing to participate. They were told that the results were not included in final marks and were not shown to none of their teachers or parents. They enjoyed completing the tests and their motivation was always high because the tests were an interesting and different experience in their school day.

V. 7. Results

The statistical treatment of the data was carried out with the SPSS Statistical Package in three different steps that shall be maintained for a clear presentation of the results.

In the first place we were interested to study the magnitude of association between the independent variables and the two measures of German attainment. The relation of the independent variables with the attainment in other school subjects was to be investigated as a complement.

For these purposes correlation matrices had to be calculated between all the variables. The analysis of the data showed that some but not all the data had a normal distribution and were interval scaled. This implied that not all the requisites for using Pearson's correlation were present. However, the use of Spearman's correlation would rank all the scores so that a great amount of information would be lost. On the other hand, it is known that numerous published papers use Pearson's correlation although not all the requisites for its usage are met. This is not an uncommon observation and we are conscious about the great controversy that exists around this matter.

As we intended to analyse the predictive validity of the studied factors on attainment in German, it was necessary to calculate multiple regression for the most significant correlations. This statistical treatment is only possible based on Pearson's correlation. For this reason and because Pearson's test is very robust it was decided to use Pearson's correlation. For a few variables both Pearson's and Spearman's correlation were calculated and the results obtained were very similar. Nevertheless, we are aware that the usage of this statistical method imposes constraints upon the correlation coefficients and this must be kept in mind when interpreting the results.

On the other hand, we must also consider another effect that might affect our data. In fact, the size of the correlation coefficient depends to some extent on the homogeneity or heterogeneity of the sample when correlation is computed. Clearly a high degree of selection or restriction in range sharply reduces the size of the correlation coefficient and it is important to be aware of this effect. Ferguson (1981) indicates that the correlation between intelligence tests and academic aptitude or/and performance on various subjects are often low. As one explanation this author suggests that students who are admitted in these studies are very often already a highly selected group, selected on basis of scholastic aptitude and possibly intelligence scores because otherwise they would not have reached high school, University, etc.

This univariate selection and homogeneity of the sample seems to be found in the present study. Parents only enroll their children in the intensive course if their attainment in elementary school is good. On the other hand, all the children were submitted to a short general intelligence test and an aptitude test in German. Although selection is not alone based on these scores and is not too rigorous, the true is that in the end a few children are not accepted in the bilingual program. Thus, it is clear that our sample is affected by more than one preselection.

After correlation and regression the third step of statistical treatment was to calculate statistical differences between grades and sex and between students with high and low attitudes or intrinsic motivation. The reason for carrying out this analysis was that these results might be helpful when interpreting the previous results of correlation and regression.

Finally, an analysis of contents was carried out in order to describe on what grounds pupil's attitudes were based.

In order to facilitate the presentation of the results a list with the abbreviations of all the intervening variables shall be presented:

1. Intellectual abilities

VMA	- Verbal Mental Ability
VC	- Verbal Comprehension
TV	- Total verbal scores (VMA+VC)
NVMA	- Nonverbal Mental Ability
LR	- Logical Reasoning
TNV	- Total non verbal scores (NVMA+LR)
T	- Total (TV+TNV)

2. Specific Language Aptitude

PAR	- Paired Associates
ANAL	- Language Analysis

3. Motivation

AFF	- Affective domain
COG	- Cognitive domain
MOR	- Moral domain
PRES	- Pressure
TMOT	- Total motivation (AFF+COG+MOR+PRES)
INT	- Intrinsic motivation to learn German
INS	- Instrumental motivation to learn German

4. Attitude

AT	- Attitude to teacher of German
AG	- Attitude to Germans
AC	- Attitude to Germany (country)
AL	- Attitude to the German language
AS	- Attitude to the German School

5. Additional measures

PD	- Perception of Differences
M	- Memory

6. Attainment

TR	- Teacher ratings on attainment in German
MG	- Mark in German
MP	- Mark in Portuguese
ME	- Mark in English
MM	- Mark in Mathematics
TM	- Total marks (MG+MP+ME+MM)

V. 7. 1. Statistical Correlations

In the following, correlations between the two dependent variables that measure attainment in German (TR and MG) and the independent variables were computed for the total sample, for grade 5 and 6 separately as well as for different sexes. Significant correlations are presented in tables 2 and 3 according to levels of significance that vary from $p < .001$ to $p < .05$. Variables that do not appear in the tables did not show significant associations to the respective dependent variables. Before presenting the results it is important to remember that there are two distinct measures of attainment in German - teacher ratings of children's abilities in German along several dimensions (TR) and the mark of the first school semester in the subject German (GM). As they measure more or less the same they are expected to be strongly correlated.

Other expected strong relationships are those of total marks (TM) and other marks (MG, MP, ME, MM) since they are included in TM. In spite of these expected relationships that in fact do not represent important results, we decided to keep them in the result tables since the information about the strength of their relationship might be useful in one or the other situation. When analysing the results it is also important to consider that total scores as TV, TNV, T or TMOT are sums of two or more independent variables.

Table 2: Significant correlations between Teacher ratings in German (TR) and other variables.

	p<.001	p<.01	p<.05			
Total n=62	MG	.77	AT	.38	AL	.27
	TM	.67	TNV	.38	AG	.23
	ME	.52	LR	.37	VMA	.21
	MP	.44	T	.34		
			MM	.33		
			NVMA	.31		
Grade 5 n=33	MG	.84	LR	.43	TNV	.40
	TM	.64	ANAL	.41	PAR	.40
			MP	.41	ME	.38
					AT	.38
					T	.35
Grade 6 n=29	MG	.76	MP	.45	MM	.38
	TM	.70			AL	.35
	ME	.68			AT	.34
					TNV	.32
Girls n=31	MG	.78	TNV	.49	T	.37
	TM	.66	AT	.45	NVMA	.31
	LR	.54	ME	.44		
Boys n=31	MG	.77			MM	.37
	TM	.70			PRES	.35
	ME	.62			AT	.35
	MP	.55			T	.34
					VMA	.32
					TV	.30

Correlations for three different significance levels
($p < .001$, $p < .01$, $p < .05$). For meaning of abbreviations see pp. 42-43

Variables that correlate significantly with teacher ratings (TR) are presented in table 2. Concerning the total sample the variables that show the strongest relationship with TR are the marks attained in the other subjects. Significant correlations are further found between TR and attitudes - attitude to the teacher, attitude to the language and attitude to Germans.

Finally the total sample shows significant correlations between TR and the total score of the test measuring intellectual abilities . Correlations of nonverbal subtests reach the .01 significance level while only one of the verbal subtests (VMA) has a significant relation to TR ($p < .05$). Thus, putting together the above mentioned results, the higher children's intellectual abilities specially the nonverbal, their attitudes as well as their attainment in other subjects, the higher they are rated by their teachers concerning attainment in German.

When looking at the results of grade 5 and 6 separately, we find similar results to those of the total sample but a few differences ought to be mentioned. In grade 5, TR significantly correlates with total marks, marks in Portuguese and English, with nonverbal intelligence tests, with the attitudes to the teacher and with the two specific language aptitude tests (ANAL and PAR). In grade 6 the variables that show significant correlations with TR are the marks in English, Portuguese and Mathematics, the attitudes to the German language, to the German teacher as well as the nonverbal intellectual tasks.

It is interesting to note that correlations between TR and attitudes and between TR and nonverbal abilities are higher in children of grade 5 than in those of grade 6 for whom the strongest correlation concern the marks in the other school subjects. Specific language aptitude tests are only significantly correlated with TR in grade 5 children.

When correlations are computed separately for girls and boys there are also a few points worth mentioning. Concerning the girls, the measures that significantly correlate with TR are nonverbal tasks, attitude to teacher, mark in English and total intelligence scores. In the case of male subjects, TR correlates significantly with marks in English, Portuguese and Mathematics, with attitude to the teacher, pressure perceived from adults and this time with the verbal intellectual tasks.

Thus, while for female subjects TR is significantly correlated with the nonverbal part of the intelligence test, for boys it is the verbal part that significantly correlates with TR. In case of male subjects the correlation to total and other marks achieve a dimension that is not present in the other sex.

When the mark in German is the dependent variable results are similar to those related to the first measure of attainment in German (TR) since these two variables highly correlate. However, as this correlation is not perfect the two variables do not measure exactly the same and this is also reflected in the slight differences found in the results as can be seen in table 3.

Table 3: Significant correlations between Mark in German (MG) and other variables.

	p<.001	p<.01	p<.05	
Total n=62	TM	.83	AG .36	TNV .28
	TR	.77	INT .31	AS .27
	MP	.63	NVMA .30	INS .26
	ME	.49		T .24
	AL	.46		
	AT	.46		
	MM	.41		
Grade 5 n=33	TR	.84	PAR .46	PRES .38
	TM	.76	ME .44	AFF .34
	MP	.63		ANAL .33
				TMOT .31
Grade 6 n=29	TM	.85	MM .47	AG .36
	TR	.76	AL .44	AS .33
	MP	.69		AT .32
	ME	.58		
Girls n=31	TM	.82	AL .51	ME .41
	TR	.78	MP .47	INS .39
	AT	.55	MM .42	
Boys n=31	TM	.86	AT .49	INT .37
	TR	.77	AG .46	VMA .30
	MP	.73	MM .44	
	ME	.63	AL .43	

Correlations for three different significance levels (p<.001, p<.01, p<.05). For meaning of abbreviations see pp. 42-43

In the total sample significant correlations are found between MG and other marks, attitudes, nonverbal intellectual tasks and what is new also between MG and intrinsic as well as instrumental motivation. This means that children with high intrinsic motivation to learn the German language also are likely to have high marks in this subject. On the other hand, high instrumental motivation i.e. motivation to learn German for utilitarian purposes goes along with lower marks in German.

If grades 5 and 6 as well as both sexes are analysed separately, there is one major discrepancy to the first correlational study with TR: the correlations between MG and intellectual measures are not significant. The only exception is VMA for the male subjects that reaches the significance level of .05. This shows that the association between intellectual measures and the mark in German is not very strong. Although it reaches significance in the total sample ($p < .05$) this significance does not hold when the number of the subjects is considerably reduced.

Concerning grade 5, it is important to mention that specific language aptitude tests (ANAL and PAR) are again related to attainment in German but that this time the relationship with attitudes is not significant. Instead the total score of school motivation and in particular the variables affective domain and pressure are significantly related to MG. For subjects of grade 6 significant correlations concern mainly the marks in other school subjects and the four attitudinal measures.

In case of the girls, significant correlations were found for marks in other subjects as well as for attitudes and instrumental motivation is negatively correlated with attainment in German. Besides the significant correlations to other school marks and attitudes, boys show a significant relationship between intrinsic motivation to learn German and the German mark.

In addition, it seemed very important to study the association between the independent variables and overall attainment as well as other school marks (table 4-7) in order to find out whether the variables that significantly correlate with German attainment are simultaneously involved in other attainment measures. Only the correlation coefficient for the total sample will be presented in tables 4 to 7.

When the dependent variable is total marks (TM) the results concerning all the significant correlations are shown in table 4.

Table 4: Significant correlations between
Total Marks (TM) and other variables.

		p<.001		p<.01		p<.05
Total n=62	MG	.83	VC	.37	M	.22
	MP	.80	AL	.37		
	ME	.76	LR	.35		
	TR	.67	PD	.31		
	MM	.66	AT	.30		
	T	.53				
	TV	.47				
	VMA	.46				
	NVMA	.46				
	TNV	.46				

Correlations for three different significance levels ($p < .001$, $p < .01$, $p < .05$). For meaning of abbreviations see pp. 42-43

General school attainment obviously correlates highly with the marks of the four different subjects and it is the mark in German that shows the strongest correlation with TM. But much more important is the highly significant correlation between TM and the total score of the intelligence test ($p < .001$) including both verbal and nonverbal tasks. This means that children with high intellectual abilities also have high academic attainment. Attention is also an important factor for overall attainment showing a significant correlation ($p < .01$). Finally TM also shows considerable high correlations ($p < .01$) with the attitudes to the German language and to the German teacher.

Specially the positive relationship between attitude to the German language and general attainment is a very interesting result. It indicates that for children instructed in the German School of Lisbon positive attitudes towards the German language are strongly related with general academic success. This is logical since their school environment is predominantly German and their motivation to learn is intimately linked to their attitudes.

A possible explanation of the significant correlation between TM and attitude to the teacher (AT) might be that the subject German is the most intensively instructed school subject, so that the German teacher plays a decisive role. This may also be the reason for the higher correlation between TM and MG.

Now that it has been shown that high attainment in one subject goes along with high attainment in the other subjects, the correlation coefficients between marks will not be referred anymore although they still appear in the tables.

Table 5: Significant correlations between Mark in Portuguese (MP) and other variables.

		p<.001		p<.01		p<.05
Total n=62	TM	.80	TNV	.38	PD	.29
	MG	.63	MM	.33	LR	.27
	ME	.57	M	.31	ANAL	.26
	TV	.57	PAR	.30	AL	.26
	T	.54				
	VMA	.52				
	VC	.50				
	TR	.44				
	NVMA	.41				

Correlations for three different significance levels ($p < .001$, $p < .01$, $p < .05$). For meaning of abbreviations see pp. 42-43.

In table 5 it can be seen that the variables that show the strongest significant correlation with the mark in Portuguese concern the subtests of the intelligence test. Verbal tasks show the strongest relationship which seems understandable since the language of the verbal part of the test was Portuguese.

Significant correlations are also found between MP and the variables memory, attention, both specific language aptitude tests as well as the attitude to the German language as it was the case with total attainment.

English is a language that is introduced in grade 5 with 4 school periods/week. Thus this language is not learned as intensively as German.

The independent variables that correlate significantly with English attainment (Table 6) are general intellectual abilities specially the verbal abilities although they were measured in the Portuguese language, memory abilities in the Portuguese language (M) and the ability to learn vocabulary in foreign languages (PAR).

Table 6: Significant correlations between Mark in English (ME) and other variables.

	p<.001	p<.01	p<.05
Total	TM .76	TNV .36	M .28
n=62	MP .57	VMA .36	MM .26
	TR .52	LR .35	AT .24
	MG .49	NVMA .30	PAR .24
	T .45		
	VC .44		
	TV .44		

Correlations for three different significance levels (p<.001, p<.01, p<.05). For meaning of abbreviations see pp. 42-43.

Concerning attainment in Mathematics significant correlations are presented in table 7.

General intellectual abilities are again strongly related to MM. Further attention and school motivation also show significant relationships with attainment in Mathematics and again the attitudes play an important role (AL, AS).

Table 7: Significant correlations between Mark in Mathematics (MM) and other variables.

	p<.001	p<.01	p<.05
Total n=62	TM .66	TNV .37	AFF .28
	VMA .43	TV .36	LR .27
	T .42	PD .33	AS .26
	MG .41	TR .33	ME .26
	NVMA .39	MP .33	MOR .23
		AL .31	TMOT .22

Correlations for three different significance levels ($p<.001$, $p<.01$, $p<.05$). For meaning of abbreviations see pp. 42-43.

V. 7. 2. Prediction

In order to investigate the possible determinants of the criterion behaviour (German attainment) it was necessary to analyse the predictive validity of the measures that correlate with the criterion.

When using the stepwise multiple correlation the greater part of the prediction achieved can be attributed to a small number of variables and the inclusion of additional variables contributes to small and diminishing amounts of variance to prediction. In applying this procedure the best predictor is paired with every other predictor in turn and a multiple correlation is calculated for each pair of predictors. This is continued until the inclusion of added variables adds nothing of much significance to the multiple correlation coefficient.

Thus, in the present study multiple correlation and multiple regression were conducted for the variables that significantly correlated with the dependent variables and for which a regression analysis made sense.

Table 8: Multiple regression for the dependent variable TR (Teacher ratings in German).

	Step nr.	Variable	Multiple R	R Square
Total n=62	1	MP	.44	.19
	2	AT	.54	.29
	3	TNV	.58	.34
Grade 5 n=33	1	LR	.43	.34
	2	AT	.57	.32
	3	MP	.66	.44
Grade 6 n=29	1	MP	.45	.20
Girls n=31	1	LR	.54	.29
	2	AT	.67	.44
Boys n=31	1	MP	.55	.30

For meaning of abbreviations see pp. 42-43.

Results concerning teacher ratings in German attainment (TR) are shown in table 8. Regarding the total sample, it can be seen that it is the mark in Portuguese that shows the higher correlation and accounts for the greater amount of explained variance. The second variable entered on stepnumber is the attitude to the teacher and the third is the total nonverbal score in the intelligence test. Together these three variables explain 34% of the variance. This means that a great part of the variance fails to be explained by the studied variables and is due to other influences.

In the case of children of grade 5, 44% of the variance is explained by the results obtained in the subtest "Logical Reasoning", by the attitude to the teacher and the mark in Portuguese. For the girls it is also LR and AT that account for 44.4% of the variance. However, for grade 6 and for the boys the only variable that entered in the multiple correlation was the Portuguese mark and the variance that can be attributed to this variable is 20% and 30% respectively.

Thus, it can be concluded that for the younger subjects and specially for girls the best predictors are the ability to reason logically suggesting that this ability plays an important role in intensive German learning. The second most important variable is the attitude to the German teacher and the Portuguese mark appears only in grade 5 subjects adding with only 12% of the explained variance to prediction. On the other hand, for the older subjects and specially for boys the mark in Portuguese is the only variable that allows some prediction.

Table 9: Multiple regression for the dependent variable MG (Mark in German).

	Step nr.	Variable	Multiple R	R Square
Total n=62	1	MP	.63	.40
	2	AT	.72	.52
	3	AG	.75	.57
	4	AL	.78	.61
Grade 5 n=33	1	MP	.63	.40
	2	PAR	.69	.48
Grade 6 n=29	1	MP	.69	.47
Girls n=31	1	AT	.55	.31
	2	MP	.67	.45
Boys n=31	1	MP	.73	.54
	2	AT	.82	.67

For meaning of abbreviations see pp. 42-43

When the criterion is the German mark, results that are shown in table 9 are similar to those of table 8. For the total sample it is again the mark in Portuguese that accounts for the greatest amount of variance (39.7%) followed by the attitudes to the teacher, attitudes to Germans and attitudes to the German language which add another 21% of explained variance. The total amount of variance attributed to the four variables is 61% which is considerably high. Thus the predictive ability is higher when the criterion measure is the German mark.

When computing multiple correlations for grades and sexes separately the Portuguese mark is the variable with the highest predictive validity specially for boys but excluding the girls. For this group the attitude to the teacher is the best predictor followed by the mark in Portuguese. It may thus be suggested that for girls success in learning German at least in terms of the marks achieved is mainly associated with the affective ties to the teacher while for the boys it is the linguistic ability in the native language that is more important. Concerning grade 5 it is important to note that besides the mark in Portuguese the scores of "Paired Associates" adds 8% of the explained variance.

The presented results show that the mark in Portuguese is one of the most important variables in predicting attainment in German. However, as students who have high marks in one subject also have high attainment in the other school subjects, the relation between attainment in German and Portuguese could be affected by a third factor that influences both variables. This factor could be general intellectual abilities since there is a clear relation between overall attainment and general ability that has been referred before.

For this reason it was necessary to calculate the correlation between the two measures of attainment in German and the mark in Portuguese while simultaneously controlling general intellectual abilities (T). The results of the partial correlation are presented in table 10 showing that correlations between attainment in German and mark in Portuguese are still highly significant when controlling general intellectual abilities. Thus, it can be suggested that the achievement in the native language seems to be one of the strongest predictors of attainment in German.

Table 10: Partial correlation between attainment in German (TR and MG) and mark in Portuguese (MP) controlling intellectual abilities (T).

$r_{TR MP. T}$	0.32	$p < .01$
$r_{MG MP. T}$	0.61	$p < .001$

For meaning of abbreviations see pp. 42-43.

V. 7. 3. Statistical Differences

In order to investigate whether there were significant differences between children of grades 5 and 6 as well as between boys and girls we carried out the T-Test of Student. We justify the usage of this test with the same arguments that were evoked when discussing the utilization of Pearson's correlation.

Table 11 presents the variables in which a significant difference was found between the scores achieved by children of grade 5 and grade 6. In all the other variables differences between grades were non significant.

Table 11: Significant differences between subjects of grade 5 and grade 6.

Variables	Grade	Mean	S.d.	t-value	sig.level
NVMA	5	28.42	5.51	-2.07	.043
	6	25.62	5.09		
ANAL	5	8.45	3.54	3.34	.001
	6	11.14	2.66		
PRES	5	21.21	5.12	2.51	.015
	6	23.21	4.41		
TMOT	5	244.52	20.93	3.13	.003
	6	248.76	19.94		
AT	5	4.67	0.78	-3.67	.001
	6	3.72	1.22		
MG	5	2.17	0.87	4.6	.000
	6	3.26	1.00		
TM	5	10.04	2.52	2.87	.006
	6	12.11	3.17		

For meaning of abbreviations see pp. 42-43.

Concerning intellectual abilities there is a general tendency for subjects of grade 5 to score higher on the subtests of Badyg . However, the only significant difference found between grades concerned the subtest “Non Verbal Mental Ability” in which children of grade 5 achieved higher scores than children of grade 6.

In the variable of specific aptitudes for foreign languages “Language Analysis” children of grade 6 achieved significant ($p < .001$) higher scores than children of grade 5. This difference may be explained by the high complexity of the task and perhaps by the missing experience of grade 5 children to deal with foreign languages.

Although children of both grades only feel relatively little pressure from adults, younger children perceive significantly ($p < .015$) more pressure than older children. Pupils of grade 5 who only recently left elementary school might not yet be used to the greater amount of subjects, teachers, homework or tests so that they feel that adults (parents and teachers) place greater demands on them. This might also be the explanation for the significant difference ($p < .003$) in the total score of school motivation that includes the pressure scale. However, the whole sample shows a very high level of overall school motivation.

On the other hand, attitudes of grade 5 children towards the German teacher are significantly ($p < .001$) more positive than those of children of grade 6. The latter have significantly lower marks in German ($p < .000$) and on general attainment ($p < .006$) than children of grade 5. These results are possibly linked to the differences in the intelligence test and could be related to the growing complexity of the subject contents in the second year. With the increasing demands at school it becomes more difficult to achieve good marks and simultaneously it is understandable that the initially general very positive attitudes to the teacher are affected.

No significant differences were found between boys and girls on the studied variables.

The T Test was also used to analyse the differences in attainment in German (TR and MG) between children with distinct attitudes.

Concerning the attitude to the teacher of the subject German children were divided into two groups. Those with a clear positive attitude to the teacher were allocated to the first group (G1). The second group (G2) consisted of the children who did not like the teacher and those who did not decide whether they liked the teacher or not because they obviously did not have a positive attitude.

Table 12: Significant differences between subjects with positive (G1) and neutral or negative (G2) attitude to the teacher of German.

Variables	Group	n	Mean	S.d.	t-value	sig.level
TR	1	50	19.06	5.9	-2.51	.015
	2	12	23.67	4.72		
MG	1	50	2.5	1.06	-2.7	.009
	2	12	3.4	0.85		

For meaning of abbreviations see pp. 42-43.

Table 12 shows that the two groups significantly differ in teacher ratings as well as in their marks in German. This means that pupils who have favourable attitudes towards the teacher have a higher attainment in the subject this teacher instructs. Thus, it may be inferred that the attitudes children have towards their teacher influence their achievement in the respective subject. At the same time though, it is plausible that student's attainment in a subject also determines to a certain extent his attitudes towards the teacher. Thus, the influence can be reciprocal and the effects probably act in both directions.

The other four attitudinal variables namely attitude to Germans (AG), to Germany (AC), to the German language (AL) and to the German school (AS) were also divided into two groups. Group 1 included the children with clear positive attitudes and group 2 the children with negative, mixed or neutral attitudes. We compared these two groups on the two measures of attainment in German with Student's T Test. Significant differences were found for the variables AL and AG but not for AC and AS as can be seen in table 13.

Table 13: Significant differences in German attainment between subjects with positive (G1) and neutral, mixed or negative (G2) attitudes.

Attitude	Variables	Group	n	Mean	S.d.	t-value	sig.level
AG	TR	1	36	18.50	5.74	-2.34	.022
		2	26	21.96	5.74		
	MG	1	36	2.34	0.97	-3.10	.003
		2	26	3.14	1.06		
AC	TR	1	46	20.17	5.67	0.50	n.s.
		2	16	19.31	6.31		
	MG	1	46	2.65	0.93	-0.31	n.s.
		2	16	2.75	1.46		
AL	TR	1	53	19.26	6.02	-2.28	.026
		2	9	24.00	3.54		
	MG	1	53	2.46	0.95	-4.47	.000
		2	9	3.97	0.85		
AS	TR	1	59	19.88	5.81	-0.41	n.s.
		2	3	21.33	9.87		
	MG	1	59	2.65	1.06	-0.94	n.s.
		2	3	3.25	1.50		

For meaning of abbreviations see pp. 42-43.

As the great majority of children (n=53) has positive attitudes towards the German language the groups to be compared have a great difference in the number of the subjects so that results must be carefully interpreted and might not be very reliable in this case. Anyway they indicate that children with positive attitudes towards the German language and German people have significantly higher marks and are significantly better rated by their teachers concerning their abilities in the German language. On the other hand, the attitude to Germany is not related to differences in achievement probably because this kind of attitude is not directly linked to their actual situation and children only have a vague idea of that country. Concerning the attitudes to the school that are mainly positive (G1=59) the same constraints must be made as for AL and it is not surprising that differences are not significant.

Differences between pupils with high (G1) and medium to low (G2) intrinsic motivation to learn German (INT) were also computed concerning attainment in German. Table 14 shows that significant differences were only found concerning the German mark.

Table 14: Differences in German attainment between subjects with high (G1) and medium (G2) intrinsic motivation

Variables	Group	n	Mean	S.d.	t-value	sig.level
TR	1	49	19.35	6.23	-1.57	n.s.
	2	13	22.23	4.17		
MG	1	49	2.53	1.07	-2.15	.036
	2	13	3.23	0.94		

For meaning of abbreviations see pp. 42-43.

V. 7. 4. - Content Analysis

The answers to the open questions concerning the attitudes were submitted to an analysis of contents whose results will be presented in the following:

Concerning the attitudes to Germans (table 15), a considerable percentage of subjects (54,8%) referred Germans to have positive against 9.7% who mentioned negative temperament and personality characteristics. However 27,4% indicate to have ambivalent or mixed feelings towards Germans for they mention simultaneously positive and negative opinions. Positive physical characteristics were referred by 11.3% of the children. The incidence of the answers of the remaining categories is relatively low. On the whole the positive attitudes are the most strongly represented.

Table 15: Results of the content analysis concerning attitudes to Germans (AG)

Categories	Percentage of positive references	Percentage of negative references	Total
Temperamental and personality characteristics	54.8%	9.7%	64.5%
Physical characteristics	11.3%	1.6%	12.9%
Working habits	6.5%	0%	6.5%
General opinion	4.8%	0%	4.8%
Ambivalent or mixed opinion			27.4%
Neutral opinion			6.5%

As can be seen in table 16, opinions about Germany are mainly positive specially those related to geographical, cultural, political and economic aspects. However, political questions concerning the war or the unification of Germany were addressed by some subjects whose opinions were not always positive.

Table 16: Results of the content analysis concerning attitudes to Germany (AC)

Categories	Positive	Neutral	Negative
Geographical and cultural aspects	45.2%	0%	0%
Political and economical situation	35.5%	0%	0%
General opinion	24.2%	0%	3.2%
Reference to unification of Germany	12.9%	6.5%	4.8%
Reference to war	1.6%	6.5%	6.5%

Concerning the attitude to the German language, opinions were mainly positive and the reasons indicated are shown in table 17. Over 50% of the subjects referred spontaneously that they were truly interested in the language, however a considerable high number also evokes the utilitarian purposes of mastering the German language: its future professional advantages and its utility in terms of communication. Finally, the number of children that considers German to be a difficult language is considerably high. Some of these subjects like the German language in spite or even because of its difficulty. Nevertheless, there are others that have mixed feelings to the German language due to its difficulty (8.1%) and 3.2% of the subjects do not like German because it is a difficult language.

Table 17: Results of the content analysis concerning attitudes to the German language (AL)

Categories	Percentage of references
Interest in the language	56.5%
Useful for communication or culture	33.9%
Useful for access to university or future job	25.8%
Differentiation of knowledge	9.7%
Difficulty of language	29.0%
Ease of language	6.5%

In relation to the reasons given to justify their attitude to the school (table 18) that is mainly positive, the majority of the children refer the good instruction, good teachers, nice schoolmates and the possibility to learn languages. In addition, about 30% of the subjects have a good but not specified opinion about the school. However, 3,3% of the subjects indicate not to like the school because of the teachers.

Table 18: Results of the content analysis concerning attitudes to the school (AS)

Categories	Percentage of references
Attitudes towards teachers	35.6%
Quality of instruction	33.9%
General positive opinion	30.6%
Friends/schoolmates	29.0%
Learning languages	24.2%
Having fun at school	12.9%
Instrumental Motivation	12.9%
Better than other schools	6.5%

V. 7. 5. DISCUSSION

In order to maintain the initially adopted structure of this study the discussion of the results will be done individually for each of the factors mentioned in the experimental hypothesis.

Concerning intelligence, it is possible to say that children with high intellectual abilities (verbal and nonverbal) are children who achieve high attainment in the most important school subjects including German. This subject is the one that is most strongly related to general achievement. Thus, children with good marks in German are likely to have good achievement in the other school subjects and vice-versa. Results show that the total score of the intelligence test positively and significantly correlates with TR and MG at least in the total sample.

However, when considering verbal and nonverbal abilities separately some interesting differences could be found. While in the subjects that are instructed in the Portuguese language (Portuguese and Mathematics) as well as in the subject English both verbal and nonverbal abilities are strongly related to attainment, in German it is specially the nonverbal abilities that are significantly associated with attainment.

Results of the regression analysis show that only the nonverbal abilities can explain different amounts of the variance when the dependent variable is teacher ratings. The strongest predictive validity was found for logical reasoning in grade 5 (.34) and for the female subjects (.29).

Thus, it is possible to confirm the influence of intellectual abilities on attainment in German as was expected in the experimental hypothesis. However, it can be added that it is mainly the influence of the nonverbal abilities that is responsible for this relationship.

A possible explanation of the above mentioned results seems to be that the verbal subtests measure the use of concepts and word comprehension in the Portuguese language. Obviously, these abilities are important in the subject Portuguese as well as in Mathematics because it is the Portuguese language that is used for all the instruction. Concerning English this relation is not so clear but it might be suggested that this language is rather familiar for Portuguese children because they hear English since a very early age in music or in the films that are shown in their original language. Further, the structure of the English language is simpler and perhaps more similar to Portuguese than the structure of the German language. Besides the unfamiliar German pronunciation or vocabulary another reason for the complexity of the German language concerns its grammatical structure (construction of sentences, declinations etc.)

The results of this study suggest that the abilities that are involved to a great extent in the learning of this language are the nonverbal abilities to analyse, make deductive syntheses as well as reason logically. This could be related to the referred grammatical complexity.

Specific aptitudes for foreign languages were measured only by two subtests (ANAL and PAR) and not by one of the two complete batteries to which they belong. Therefore a very small part of what Carroll (1959) and Pimsleur (1966) consider to be language aptitude was measured. Under these conditions, a weak but positive relationship was expected between these two variables and attainment in German. This investigation should serve as a preliminary study in order to find out whether it was worth to adapt the whole batteries to the Portuguese language.

The relationship of the two variables of language aptitude with the two measures of attainment in German was only significant for children of grade 5 who precisely obtained significantly lower scores than children of grade 6 in the variable ANAL. This could be due to the complexity of the task that enables to distinguish between high and low attainment in German in case of the younger children.

For the dependent variable MG the variable PAR has a certain although diminute, predictive validity for the mark in German but only for children of grade 5. For grade 6 children a ceiling effect might be responsible for the low relationship between variables.

Nevertheless, the variables ANAL and PAR significantly correlate with the mark in Portuguese and PAR with the mark in English but no relationship was found to Mathematics. This means that the abilities that these tests measure seem to be related to languages so that it seems reasonable to apply one complete battery after its adaptation is experimented.

Based on the assumption that linguistic abilities in the native language are to a certain extent reflected in the the mark in the subject Portuguese we attached to this mark a special importance when valuing its relation to attainment.

In fact, the correlations between the mark in Portuguese (MP) and the two measures of attainment in German (TR and MG) are highly significant. The predictive validity of MP is also relatively high (.19 for TR and .40 for MG) in the total sample, specially for MG. When the sample is divided into grades and sexes MP continues to account for considerable amounts of explained variance with the exception of the girls for whom this variable has a relatively low predictive value.

Even when the influence of intellectual factors is controlled the relation between attainment in German and attainment in Portuguese is still significant. The strength of this relationship indicates that the linguistic abilities in the native language can be considered as a quite important factor when explaining success in foreign language learning. However, it is thinkable that the mark in Portuguese as well as other marks are influenced by other factors such as study strategies, effort made during the semester, amount of oral participation, etc. whose effects were not controlled in the present study so that we must consider this fact when interpreting the results.

Nevertheless, linguistic abilities in the native language are surely included to a considerable extent in the variable mark in Portuguese. Thus, associated to the other factors the mark in Portuguese seems to be useful when attempting to predict attainment in German.

The children under study have in general a very high school motivation in the domains postulated by Kozéki (Kozéki and Entwistle, 1983) - affective, cognitive and moral domain. They also perceive relatively little pressure from adults. In spite of the overall high motivation, children of grade 5 have a significantly lower total motivation and significantly perceive more pressure than the older subjects. As has been referred before, this result might reflect the fact that younger children are confronted with a new situation that places greater demands on them while grade 6 children might already have adapted to this change.

Correlations between overall school motivation and the variables of German attainment were generally non significant. A significant relationship was only found between the mark in German and the total score of school motivation in particular the variables of the affective domain and pressure perceived from adults. However, this association was only significant precisely for children of grade 5 whose motivation was relatively lower than motivation of grade 6. For the younger children a high parental interest and encouragement, good relationships to adults and the perception of low pressure is related to success in German attainment.

The highly motivated sample also has a considerable high intrinsic motivation and simultaneously a considerably lower instrumental motivation to learn the German language. These two measures do not differ significantly between grades or sexes and they are only related to the mark in German. In the total sample as well as in the group of the female subjects instrumental motivation is negatively correlated with this measure of attainment in German. In case of the boys, we found a significant positive relationship between the German mark and intrinsic motivation to learn the German language.

The comparison between pupils with high and medium to low intrinsic motivation to learn German shows that these two groups significantly differ in their marks in German but not in teacher ratings. This means that children who have academic success in German are likely to be very interested in learning the German language.

Although correlations between motivation and attainment in German as well as statistical differences found indicate the expected relations they are restricted to certain groups and had no strength to be included in multiple regression. As these relationships are not generally significant the experimental hypothesis could not be accepted in this case.

Attitudes to the German teacher, to Germans (AG), to Germany (AC), to the German language (AL) and to the German School (AS) are on the whole quite positive. Specially AT, AG and AL correlate significantly with the two variables of attainment in German and explain considerable amounts of variance when the total sample is submitted to regression analysis. When the sample is divided and the dependent variable is TR, attitude to the teacher has only a predictive value for grade 5 children and for girls. On the other hand, when the mark in German is the dependent variable, attitudes to the teacher only account for explained variance for boys and girls and not for sexes.

However, these attitudes are not only related to attainment in German but also with attainment in other school subjects. It seems, thus, that the attitudes to all that is connected to the German language plays a very important role on overall attainment. A possible explanation might be that children's general academic success can be influenced by the attitudes they have towards everything that the school represents because this will reflect how they feel in this school. However, it is not to exclude that the attainment itself can be responsible for negative attitudes. The results of the content analysis show that the reason given by children that have negative or mixed attitudes towards the German language is its difficulty. Attitudes are thus an important influencing variable on attainment in German.

VI. CONCLUSIONS

The subjects under study are native Portuguese-speaking children who initiated the learning of the foreign language German in an intensive course of German during the fourth grade. These children learned the two languages in different contexts and had developed a good competence in their own language when initiating instruction in the foreign language. They participate voluntarily in the biligual program of the school, belong to families of average to high SES and the acquisition of German does not threaten their linguistic status. Thus, according to Lambert's (1974) and Cummins' (1976, 1979) theories in this case the learning of a foreign language is likely to have positive cognitive effects and become an "additive" experience.

The circumstances of second or foreign language learning of the subjects under study can in many ways be compared to the conditions of the successful Canadian immersion programs. However, a difference to immersion programs is the age of initiating the foreign language learning. In this respect the children under study have an age that on the one hand, assures that their native language is well established. On the other hand, at this age the abstraction abilities referred by Toukoma and Skutnabb-Kangas (1977) already have been developed, thus facilitating the learning process in another language.

Abilities in the native language have been considered to be of crucial importance for the learning of a foreign language (Cummins, 1976; Hammers and Blanc, 1983). In fact, the results of this study clearly confirm the importance of attainment in the subject Portuguese (the native language of the subjects) for the learning of a foreign language.

The process of learning a second or foreign language is much more than a simple acquisition of linguistic dexterities in a new code. Directly or indirectly the student learns the characteristics of a different people. This consideration of the intrapersonal and cultural aspect of the learning process has a fundamental importance when globally understanding the educational situation in which the subject is implied.

Several authors referred the crucial role of social factors in second or foreign language learning (Vila, 1983). According to Lambert (1974) the attitudes to the language of another social group is believed to determine his success in learning the respective language. Although the studied children find themselves in a social situation that is favourable to achieve success in foreign language learning, there are differences between them concerning their attitudes to the German language, culture and population.

Results of the present investigation indicate that these attitudes are strongly related and have predictive value not only concerning attainment in the German language but also in relation to overall school attainment. This is a very interesting finding, for it expresses that the attitudinal factors have much wider repercussions than we expected when initiating the study.

Gardner and Smythe (1974) stressed the importance not only of attitudinal but also motivational variables that are influenced by the cultural environment of the pupil. According to these authors the importance of motivation on attainment is only decisive when clear differences in motivation are found in the population. In this study the relationship between general school motivation and attainment in German was not very strong for the total sample. However, this relationship was significant for grade 5 children who had a significant lower total school motivation than the older children. These results seem to be in accordance with Gardner and Smythe's predictions.

On the other hand, intrinsic and instrumental motivation were significantly related to the mark in German in the total sample. Intrinsic motivation to learn German is much stronger represented than instrumental motivation probably because the studied subjects are too young and too far away from the possible utilitarian purposes that the learning of German might represent.

It is known that the learning of a language is an exceedingly complex task. Its difficulty will generally depend on what aspects of language are to be learned, on the degree of mastery desired and on the degree to which the target language differs from the native language. Languages differ in their inherent degree of complexity either on their sound system, their grammatical structure or their traditional writing systems.

The German language has few resemblances with the Portuguese language regarding pronunciation, grammar or the writing system. It is a language to which Portuguese children rarely have contact. German is a complex language due to its grammatical structure and it is not easy to achieve oral or written fluency in German. In the bilingual program of the GSL the degree of mastery to be achieved is very high since the final level to be attained is comparable to the one expected from native speaking German students. Under these conditions it is clear that the complexity demanded from pupils is very high. Obviously it is expected that students with high general abilities will accomplish these demands with more success. This relation was confirmed in the present study but our results indicate an additional finding namely that the nonverbal intellectual abilities play a preferential role on attainment in German. We suggest that this finding might reflect precisely the complexity of German grammar. However, it has been shown that intelligence is in no way the most important variable when predicting success in language learning.

Specific aptitudes for learning foreign languages have not been investigated exhaustively, so that correlations to attainment in German were not significant for the total sample. Nevertheless, some significant relationships were found for grade 5, which indicates that it is important to measure specific language aptitude more in detail in future investigations.

Concluding, the results of the present study indicate that in the particular case of the studied children, the most determinant factors for success in German that could be identified in this study are the attainment in the subject Portuguese (that includes to a certain extent the linguistic abilities in the native language), intellectual abilities specially the nonverbal aptitudes and attitudes to the German teacher, to Germans and to the German language. Together these factors are able to predict attainment in German to a considerable extent. However, success in German also depends on influences that were not identified by the measured variables.

The conclusions based on these results can have concrete practical applications. On the one hand, they concern the criteria for the selection process and on the other hand, they lead also to implications respecting the instruction process itself in grade 5 and 6.

Concerning the selection process, it has been shown that the application of the intelligence test BADIG-E is reasonable since its total score is highly significantly related to general school attainment. In addition, the non verbal abilities measured by this test play a considerable role in German attainment so that this information can be of great value.

Nevertheless, perhaps the most important result reported in this study is the extraordinary importance of the attainment in Portuguese when predicting attainment in German. The studied children all have had the possibility to develop their mother tongue without interferences since it was the only language used in school and at home. Belonging to average to high SES their parents also are likely to have a differentiated language use that they transmit to their children. Obviously the investigated students show differences in their linguistic abilities in the native language that are reflected among other factors in their attainment in the subject Portuguese. Interestingly these differences are very strongly associated to the differences in German attainment. For these reasons it seems necessary to attach a special importance to the abilities in Portuguese of the children of the intensive course which should be analysed and evaluated by a Portuguese teacher of the school.

Concerning the role played by attitudes the question is more delicate because of the reciprocal influences existing between attainment and attitudes. Further, attitudinal factors are likely to oscillate depending on changeable external conditions. There is no guarantee that the attitudes of children in the intensive course will remain the same in the following school grades. The only inference that can be made from the results concerning attitudes is that attitudes are strongly related to attainment in German when both variables are measured concurrently. This indicates that teachers should pay a special attention to the attitudes of their pupils along all grades and should always be aware of how much they are associated to attainment. Although the teachers' influence on the attitudes of their pupils might only be diminute, they can probably positively affect students' attitudes to the German language by making its learning interesting and attractive or by giving them the necessary support when difficulties arise.

Although the results of the present investigation are on the whole quite satisfactory we are conscient that it is very important to carry on this study with better measures of some variables, trying to control some effects that influence the found relationships as well as using nonconcurrent criterion measures for prediction in order to find out whether the present results can be confirmed or even strengthened.

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VIII. APPENDICES

41.	Os adultos não estão verdadeiramente interessados em tentar compreender os sentimentos dos jovens.	a b o d e	41	Lê atenta e cuidadosamente as instruções.
42.	Quando alguém se mete em complicações na escola, a culpa é muitas vezes do professor.	a b o d e	42	Este questionário, em duas partes, contém comentários feitos pelos alunos sobre a sua escola e o seu trabalho escolar. Até que ponto concorda ou discorda dos seus comentários? Como os comentários são sentimentos baseados na experiência pessoal, não pode haver respostas certas ou erradas. Estamos interessados na sua opinião e/ou experiência.
43.	Parece-me que as pessoas têm dificuldade em darem-se bem comigo.	a b o d e	43	
44.	Prefiro sempre resolver as coisas por mim próprio.	a b o d e	44	
45.	Perco rapidamente o interesse se os novos assuntos são difíceis.	a b o d e	45	
46.	Há muitas aulas que considero "giras" e interessantes.	a b o d e	46	Lê cuidadosamente cada comentário e mostra de imediato o quanto concorda ou discorda dele, fazendo um círculo à volta de uma das letras apresentadas do lado direito da folha. Por exemplo:
47.	Se se espera que eu faça determinada coisa, eu faço.	a b o d e	47	
48.	Esforo-me sempre bastante naquilo que nos pedem para fazer na escola.	a b o d e	48	
49.	Estou pronto a assumir a responsabilidade pelos meus actos, aconteça o que acontecer.	a b o d e	49	
50.	Parece-me totalmente irrealista aquilo que os meus pais esperam que eu alcance na escola.	a b o d e	50	
51.	Se vou bem na escola, os meus pais mostram sempre que estão satisfeitos comigo.	a b o d e	51	
52.	A maioria dos professores esforça-se verdadeiramente por ajudar todos os seus alunos.	a b o d e	52	
53.	Existe realmente uma boa camaradagem entre os alunos desta escola.	a b o d e	53	
54.	Esperam de mim que resolva sempre demasiadas coisas por mim próprio.	a b o d e	54	
55.	Não me importo de trabalhar a valer se aprender alguma coisa com isso.	a b o d e	55	
56.	Considero que o trabalho escolar é realmente muito interessante.	a b o d e	56	
57.	Tento sempre corresponder à confiança que os meus pais depositam em mim.	a b o d e	57	
58.	Se pessoas fracas precisam de regras e de ordem.	a b o d e	58	
59.	Um sentimento de culpa é ainda pior que um castigo severo.	a b o d e	59	
60.	Os adultos parecem esperar sempre demasiado dos jovens.	a b o d e	60	

Capçalho das colunas

V V ? X XI

Cesto do trabalho prático na escola a **b** o d e

Escolhe as letras de acordo com a resposta que pretendes dar.

- a) Concorro totalmente VV
- b) Em geral concordo V
- c) Não tenho a certeza ou não compreendi T
- d) Em geral discordo X
- e) Discordo totalmente XI

Tenta evitar a resposta(c) se te for possível. É importante que dês uma resposta a todas as questões.

As respostas a este questionário são confidenciais e destinam-se exclusivamente a um trabalho de investigação. É, portanto, anónimo.

	V	V	?	I	XX	
Costo de falar com os meus pais acerca do que se passa na escola.	a	b	c	d	e	1
A maior parte dos professores são justos para com todos os alunos.	a	b	c	d	e	2
Ser amigo dos outros alunos é mais importante para mim do que competir com eles.	a	b	c	d	e	3
Quando estou muito absorvido com alguma coisa os meus pais não me interrompem.	a	b	c	d	e	4
Envolve-me tanto com alguns assuntos escolares que tento segui-los por mim próprio.	a	b	c	d	e	5
A escola é um lugar maçador.	a	b	c	d	e	6
Quando não me saio bem na escola sinto vergonha de mim próprio.	a	b	c	d	e	7
Quero que os professores saibam que podem confiar em mim.	a	b	c	d	e	8
O castigo nas escolas é sempre injusto.	a	b	c	d	e	9
Os adultos exigem demasiado dos jovens e dão pouca ajuda em troca.	a	b	c	d	e	10
Os meus pais ficam muito contentes quando vou bem na escola, e isso também me faz sentir bem.	a	b	c	d	e	11
Sentia-me mal se desapontasse o professor.	a	b	c	d	e	12
Costo de ajudar os meus colegas nos seus trabalhos escolares.	a	b	c	d	e	13
Não gosto de ter de trabalhar sozinho.	a	b	c	d	e	14
Geralmente deixo para a última hora a realização do trabalho de casa.	a	b	c	d	e	15
Muitas aulas são chatas e desinteressantes.	a	b	c	d	e	16
Prefiro admitir que fiz algo errado do que tentar escondê-lo.	a	b	c	d	e	17
Eu gostaria muito mais da escola se os professores deixassem fazer tudo o que os alunos querem.	a	b	c	d	e	18
Prefiro ser chamado à atenção do que me deixarem fazer algo errado.	a	b	c	d	e	19
Os meus professores nunca parecem estar satisfeitos com o que faço, mesmo quando me esforço muito.	a	b	c	d	e	20
Os meus pais não parecem estar muito interessados com o que faço na escola.	a	b	c	d	e	21
Raros são os professores que posso realmente admirar	a	b	c	d	e	22
Sinto-me mesmo bem quando os meus amigos reconhecem que consigo fazer bem as coisas.	a	b	c	d	e	23
Não se pode esperar que os alunos surjam com ideias próprias boas.	a	b	c	d	e	24
A escola fornece uma grande quantidade de conhecimentos úteis sobre a vida.	a	b	c	d	e	25
Ocupo muito do meu tempo livre a descobrir coisas sozinho.	a	b	c	d	e	26
Se me é dado algo para fazer, tento sempre fazê-lo o melhor possível.	a	b	c	d	e	27
As regras da escola são razoáveis: tento sempre cumpri-las.	a	b	c	d	e	28
Se faço algo errado, estou sempre preparado para sofrer as consequências.	a	b	c	d	e	29
Considero injusta a pressão que os professores exercem sobre nós.	a	b	c	d	e	30
Os meus pais são sempre prestáveis e encorajadores no meu trabalho escolar.	a	b	c	d	e	31
A maioria dos professores nunca se preocupa em explicar as coisas suficientemente bem.	a	b	c	d	e	32
No fundo, não me importo nada com o que os outros pensam de mim.	a	b	c	d	e	33
Os meus pais valorizam sempre a minha opinião.	a	b	c	d	e	34
As coisas que aprendemos na escola não têm realmente nenhuma utilidade para mim.	a	b	c	d	e	35
Fico entusiasmado quando um novo assunto é introduzido.	a	b	c	d	e	36
Encontro sempre uma boa desculpa quando não faço o trabalho de casa.	a	b	c	d	e	37
Quando o trabalho escolar é difícil, geralmente desisto.	a	b	c	d	e	38
Verifico que estou sempre a arranjar desculpas para tudo.	a	b	c	d	e	39
Os meus pais exigem demasiado de mim e põem-me sempre uma enorme pressão.	a	b	c	d	e	40

Capacidade Mental Verbal

EXEMPLOS:

T O CÃO tem sempre:

- | | | |
|---------------|------------|------------------------|
| A) Longa vida | C) Coleira | E) Patas |
| B) Dono | D) Fome | F) Instinto para caçar |

U Qual o número que se segue? 11 - 9 - 7 - 5 ...

- | | | |
|------|------|------|
| A) 7 | C) 6 | E) 4 |
| B) 3 | D) 2 | F) 1 |

V Ordena as palavras e responde à frase correcta: TERMÓMETRO - UM - MEDE

- | | | |
|----------------|------------------|--------------------|
| A) De mercúrio | C) O médico | E) 30 graus |
| B) O calor | D) A temperatura | F) De 0 a 40 graus |

X Qual é a palavra que sobra?
TRIÂNGULO-QUADRADO-LOSANGO-PENTÁGONO-
-HEXÁGONO-SECTOR CIRCULAR

- | | | |
|--------------|--------------|--------------------|
| A) Quadrado | C) Triângulo | E) Losango |
| B) Pentágono | D) Hexágono | F) Sector circular |

Y Qual é o número que se segue? 2 - 4 - 6 - 8 ...

- | | | |
|-------|-------|-------|
| A) 10 | C) 11 | E) 12 |
| B) 16 | D) 9 | F) 14 |

Z Ordena as palavras e responde à frase correcta: DOIS - TERRA - TEM - A

- | | | |
|-------------------|-----------------|---------------|
| A) Pólos centrais | C) Continentes | E) Satélites |
| B) Pólos | D) Vias lácteas | F) Atmosferas |

-
- Todas as PERGUNTAS TÊM SÓ UMA RESPOSTA CERTA.
 - Tenta responder por ordem, de maneira que o número da PERGUNTA COINCIDA com o número da RESPOSTA. Repara que nas perguntas 1, 10, 20, 30 e 40 há um sinal para poderes controlar se a pergunta e a resposta coincidem.

(Continua)

- Se fôr necessário usa como rascunho a parte de TRÁS DA FOLHA DE RESPOSTAS.
- TRABALHA O MAIS DEPRESSA QUE PUDES MAS SEM TE ENGANARES.
- SE ALGUMA PERGUNTA TE PARECER MUITO DIFÍCIL, PASSA À FRENTE sem perderes muito tempo e no fim se te sobrar tempo poderás revê-la.
- SE NÃO ACABARES NÃO TE PREOCUPES PORQUE É NORMAL.

NÃO VIRES A PÁGINA ANTES QUE TE DIGAM

- 1 - Ordena as palavras e responde à frase correcta: TEM - CARRO - O
- A) Duas janelas C) Muitos quilómetros E) Cinco lugares
 B) Rodas D) Tejadilho F) Carroçaria de aço
- 2 Qual é a palavra que sobra ?
 PENSAR - IMAGINAR - LER - ESTUDAR - REVER - PASSEAR
- A) Passear C) Rever E) Imaginar
 B) Pensar D) Ler F) Estudar
- 3 Qual é o número que se segue ? 70 - 60 - 50 - 40 ...
- A) 38 C) 30 E) 10
 B) 35 D) 20 F) 40
- 4 Ordena as palavras e responde à frase correcta:
 SERVEM - PARA - LIVROS - OS
- A) Dialogar C) Escrever E) Ler
 B) Folhear D) Brincar F) Aprovar
- 5 Sandra e André são irmãos gémeos. A soma da idade dos dois juntos é 22 anos.
 Quantos anos tem a Sandra ?
- A) 11 anos C) 10 anos E) 12 anos
 B) 22 anos D) 8 anos F) 16 anos
- 6 O PÃO faz-se sempre com :
- A) Açúcar C) Cevada E) Ração
 B) Farinha de algum cereal D) Centeio F) Milho
- 7 Ordena as palavras e responde à frase correcta :
 CADEIRA - USA-SE - PARA - A
- A) Se sentar C) Decorar E) O cadeirão
 B) Num móvel D) Tem 4 pés F) É confortável
- 8 Qual é a palavra que sobra ?
 ÁRVORE - TOMATE - PEPINO - CENOURA - ALFACE - CEBOLA
- A) Pepino C) Tomate E) Alface
 B) Árvore D) Cenoura F) Cebola
- 9 Qual é o número que se segue ? 27 - 29 - 31 - 33 ...
- A) 31 C) 37 E) 30
 B) 34 D) 35 F) 36

▲ 10 A MESA deve sempre ter :

- | | | |
|---------------------------------------|------------|-------------------|
| A) Madeira | C) Gavetas | E) Livros em cima |
| B) Algo que sirva para apoiar no chão | D) Ferros | F) Enfeites |

11 Qual é a palavra que sobra ?
CEREJEIRA - GINGEIRA - PEREIRA - MATAGAL - LARANJEIRA - MACIEIRA

- | | | |
|--------------|-------------|---------------|
| A) Cerejeira | C) Gingeira | E) Laranjeira |
| B) Macieira | D) Pereira | F) Matagal |

12 Qual é a palavra que sobra ?
TAÇA - COMIDA - JARRA - COLHER - GARFO - COPO

- | | | |
|-----------|-----------|----------|
| A) Taça | C) Comida | E) Jarra |
| B) Colher | D) Garfo | F) Copo |

13 Se me encontro em último lugar numa fila de 15 pessoas e avanço 7 lugares, em que lugar me encontrarei no fim ?

- | | | |
|--------------|-------------|-----------|
| A) Sétimo | C) Oitavo | E) Nono |
| B) Penúltimo | D) Primeiro | F) Décimo |

14 Qual é o número que se segue ? 4 - 13 - 4 - 12 - 4 - 11 - 4 ...

- | | | |
|------|-------|-------|
| A) 1 | C) 9 | E) 10 |
| B) 4 | D) 11 | F) 13 |

15 A Maria tem oito anos e a sua irmã Sofia tem três anos menos que ela. O seu primo Roberto tem tantos anos como as duas juntas. Quantos anos tem Roberto?

- | | | |
|---------------|--------------------|----------------------|
| A) Cinco anos | C) Menos que Sofia | E) O dobro de Maria |
| B) Treze anos | D) Onze anos | F) O triplo de Sofia |

16 Um EDIFÍCIO tem sempre :

- | | | |
|-----------------------|-------------|-------------|
| A) Porteiro | C) Elevador | E) Dimensão |
| B) Escadas de mármore | D) Varandas | F) Vigas |

17 Um MINERAL tem sempre :

- | | | |
|-------------------|--------------------|-------------------|
| A) Peso | C) Ferro | E) Tamanho grande |
| B) Terra agarrada | D) Arestas afiadas | F) Sílica |

18 Qual é o número que se segue ? 15 - 30 - 45 - 60 ...

- | | | |
|-------|-------|-------|
| A) 95 | C) 70 | E) 85 |
| B) 65 | D) 75 | F) 55 |

19 Uma **COMPETIÇÃO** tem sempre :

- | | | |
|------------------------|--------------|-------------------------|
| A) Competidores | C) Problemas | E) Animação e interesse |
| B) Muitos expectadores | D) Ganâncias | F) Um único vencedor |

● 20 Os **LIVROS** têm sempre :

- | | | |
|------------------------|------------------|-----------------------|
| A) Desenhos de pessoas | C) Capas de pele | E) Lombada |
| B) Menos de 50 páginas | D) 50 páginas | F) Mais de 50 páginas |

21 Antes do segundo é o primeiro. E antes do último?

- | | | |
|--------------------|--------------------|---------------|
| A) O antepenúltimo | C) O posterior | E) Nenhum |
| B) O penúltimo | D) O último também | F) O seguinte |

22 Qual é a palavra que sobra?

LARANJADA - VINHO - ANIS - LICOR - BRANDY - GIN

- | | | |
|----------|----------|------------|
| A) Vinho | C) Anis | E) Brandy |
| B) Gin | D) Licor | F) Laranja |

23 De Lisboa a Leiria são 100 quilómetros. Quantas horas se leva para chegar a Leiria num carro que sai de Lisboa a 50 quilómetros por hora?

- | | | |
|--------------|-----------------|-------------------------|
| A) Uma hora | C) Duas horas | E) Uma hora e meia |
| B) Meia hora | D) Quatro horas | F) Três quartos de hora |

24 Qual é a palavra que sobra?

FRANÇA - ESPANHA - ITÁLIA - INGLATERRA - MÉXICO - PORTUGAL

- | | | |
|-------------|---------------|------------|
| A) Portugal | C) Inglaterra | E) Espanha |
| B) México | D) Itália | F) França |

25 Qual é a palavra que sobra?

ESCREVER - CADERNO - ESFEROGRÁFICA - LÁPIS - LIVRO - PAPEL

- | | | |
|----------|------------|------------------|
| A) Lápis | C) Caderno | E) Esferográfica |
| B) Livro | D) Papel | F) Escrever |

26 Qual é o número que se segue ? 12 - 14 - 28 - 30 - 60 ...

- | | | |
|-------|-------|-------|
| A) 62 | C) 64 | E) 70 |
| B) 66 | D) 65 | F) 63 |

27 Um **COMBOIO** tem sempre:

- | | | |
|-----------------------------|------------------------|---------------------|
| A) Uma carruagem para carga | C) Duas carruagens | E) Insegurança |
| B) Carris largos | D) Sistema de arranque | F) Carris estreitos |

28 Qual é o número que se segue ? 80 - 40 - 20 - 10 ...

A) 8
B) 5

C) 2
D) 4

E) 15
F) 6

29 O fumo de uma locomotiva desloca-se para Sul. Em que direcção vai a locomotiva ?

A) Para Norte
B) Para Leste

C) Para Sul
D) Na direcção do vento

E) Para trás
F) Para a frente

30 Ordena as palavras e responde à frase correcta:
UMA - O - FECHADA - DE - PORÇÃO - É - LAGO

A) Oceano
B) Lago

C) Água
D) Continente

E) Terra
F) Mar

31 O Luís acabou o curso antes do António e o António antes do André mas depois do Gerardo. Quem acabou em último lugar ?

A) António
B) Gerardo

C) Luís
D) Não se sabe

E) André
F) Nenhum

32 Quanto é uma sexta parte do dobro de 12 ?

A) 25
B) 300

C) 4
D) 10

E) 5
F) 6

33 Uma LOJA tem sempre:

A) Alimentos para vender
B) Mercadorias para vender

C) Muitos compradores
D) Boa venda

E) Electrodomésticos
F) Tecidos e roupas

34 Ordena as palavras e responde à frase correcta:
DE - UMA - CONJUNTO - PALAVRA - É - UM

A) Frases
B) Palavras

C) Símbolos
D) Vocabulário

E) Orações
F) Letras

35 O CARRO tem sempre :

A) Embraiagem
B) Travões eléctricos

C) Mau tratamento
D) Segurança

E) Carroceria
F) Faróis anti-nevoeiro

36 Uma estante tem quatro prateleiras. Na de baixo há 10 livros, na seguinte o dobro dos livros, na terceira tantos como nas duas anteriores juntas e na quarta metade do que na terceira. Quantos livros tem a estante completa?

- | | | |
|--------------|--------------|--------------|
| A) 95 livros | C) 39 livros | E) 75 livros |
| B) 65 livros | D) 55 livros | F) 80 livros |

37 Ordena as palavras e responde à frase correcta :
SÃO - E - BRANCO - PALAVRAS - PRETO

- | | | |
|------------------------|--------------------|-----------------|
| A) De origem diferente | C) Contraditórias | E) Da linguagem |
| B) Sinónimas | D) A noite e o dia | F) Opostas |

38 Um avião demora 12 horas a fazer um trajecto. Quanto demorará a fazer esse mesmo trajecto outro avião que vai a metade da velocidade?

- | | | |
|-------------|-------------|-------------|
| A) 18 horas | C) 2 dias | E) 6 horas |
| B) 24 horas | D) 12 horas | F) 22 horas |

39 Qual é a palavra que sobra?
OUVIR - SENTIR - CORRER - SABOREAR - VER - CHEIRAR

- | | | |
|-----------|------------|-------------|
| A) Correr | C) Ver | E) Saborear |
| B) Ouvir | D) Cheirar | F) Sentir |

40 Qual é o número que sobra ? 21 - 30 - 32 - 39 - 48 - 57 ...

- | | | |
|-------|-------|-------|
| A) 32 | C) 39 | E) 30 |
| B) 57 | D) 21 | F) 48 |

FIM DA PROVA

Se te sobrou tempo, revê o que fizeste nesta prova.

COMPREENSÃO VERBAL

EXEMPLOS:

X Qual é o contrário de AMARGO?

- | | | |
|----------|-------------|-------------|
| A) Doce | C) Suave | E) Saboroso |
| B) Azedo | D) Agridoce | |

Y O que expressa melhor o que é uma ÁRVORE?

- | | | |
|---------------|---------------|---------------|
| A) Um mineral | C) Um objecto | E) Tem tronco |
| B) Um animal | D) Uma planta | |

Z Um PÁSSARO a VOAR é como um PEIXE a...

- | | | |
|-----------|---------------|------------|
| A) Andar | C) Nadar | E) Navegar |
| B) Correr | D) Barbatanas | |

-
- Tenta responder por ordem, de maneira que o número da PERGUNTA coincida com o número da RESPOSTA. Repara que nas perguntas 1, 10, 20 e 30 há um sinal para poderes controlar se a pergunta e resposta coincidem.
 - Trabalha o mais depressa que poderes mas sem te enganares.
 - Se tiveres dúvidas numa pergunta escolhe a resposta que te parecer melhor sem perderes muito tempo. Tenta responder a todas as perguntas.

NÃO VIRES A PÁGINA ANTES QUE TE DIGAM

- 1 Que palavra significa o mesmo que MAGRO?
- A) Delgado C) Pequeno E) Estreito
B) Fino D) Curto
- 2 Que palavra significa o mesmo que HÚMIDO?
- A) Cheio de fumo C) Encharcado E) Molhado
B) Pantanoso D) Estampado
- 3 Que palavra significa o contrário de ÀSPERO?
- A) Delicado C) Suave E) Mole
B) Sedoso D) De algodão
- 4 O CATA-VENTO serve para...
- A) Prever a C) Se orientar na E) Parar os raios
 tempestade escuridão
B) Saber a força D) Saber a direcção
 do vento do vento
- 5 CAÇAR está para ESPINGARDA como PESCAR para...
- A) Rio C) Anzol E) Isca
B) Paciência D) Cana
- 6 ANEL está para DEDO como GRAVATA para...
- A) Camisa C) Tecido E) Enfeite
B) Blusão D) Pescoço
- 7 VOAR está para AVE como ARRASTAR-SE para...
- A) Réptil C) Verme E) Terra
B) Serpente D) Pés
- 8 Qual das seguintes palavras é um ELECTRODOMÉSTICO?
- A) O frigorífico C) As cadeiras E) A máquina fotográfica
B) O carro D) Uma mesa
- 9 TECTO está para EDIFÍCIO como CUME para...
- A) Telhado C) Montanha E) Torre
B) Altura D) Casa

27 Um rapaz PRECOCE é ...

- A) Muito alto C) Muito esperto E) Muito gordo
B) Tonto D) Sardento

28 O AZULEJO serve para...

- A) Colocar as flores D) Cestos e vasos
B) Adornar chãos e paredes E) Guardar em vitrinas
C) Enfeitar os tectos

29 ESTRONDOSO é o mesmo que...

- A) Tenebroso C) Pesado E) Tremendo
B) Suave D) Ruidoso

◆ 30 Que palavra significa o contrário de PENÚRIA?

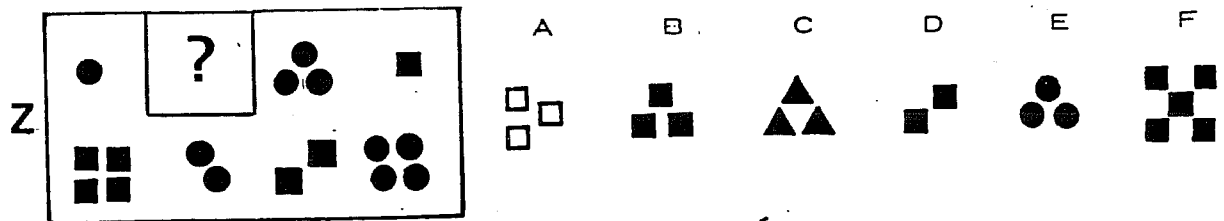
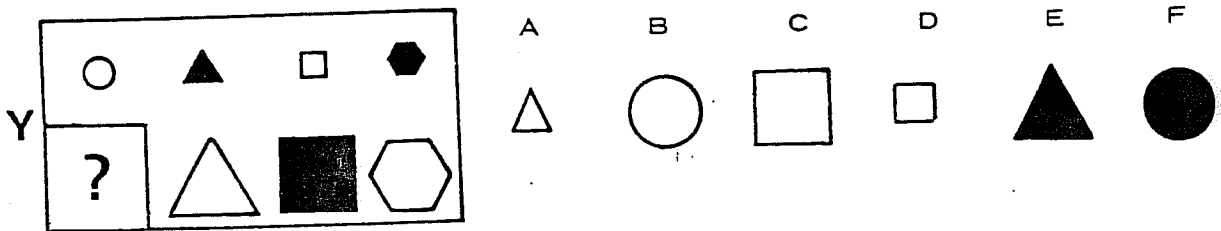
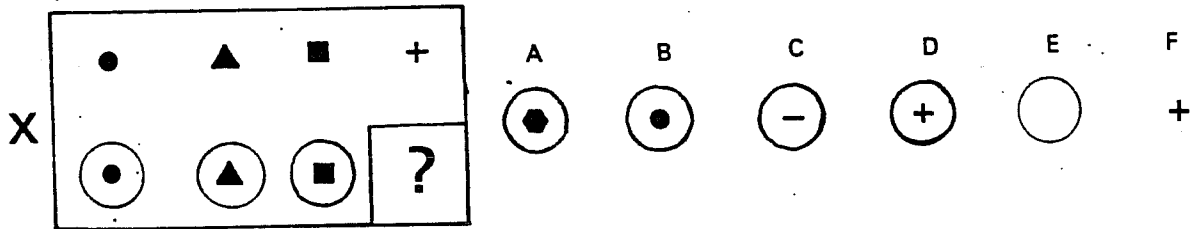
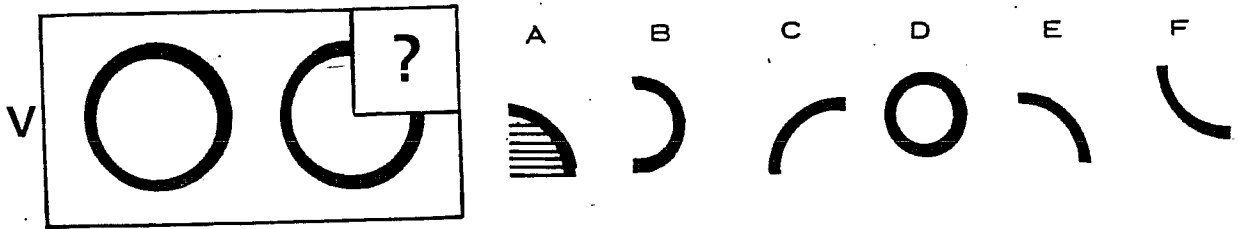
- A) Suavidade C) Facilidade E) Pobreza
B) Abundância D) Miséria

FIM DA PROVA

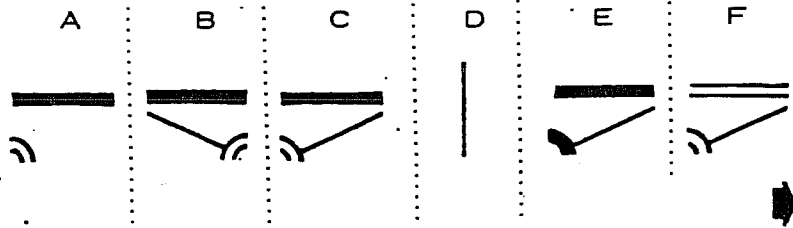
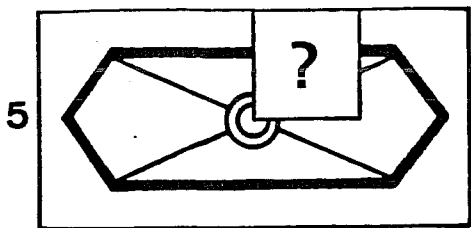
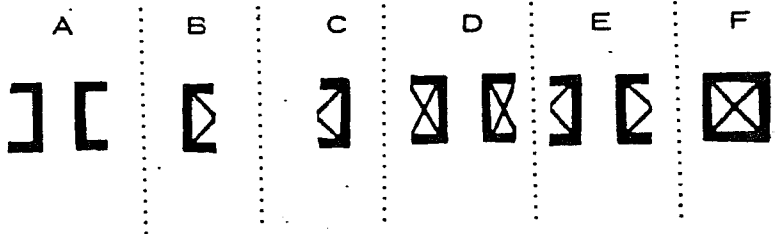
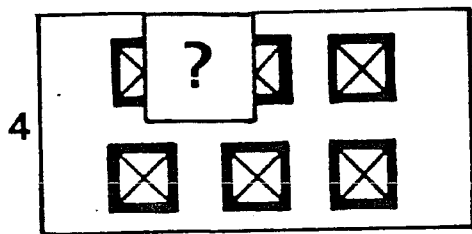
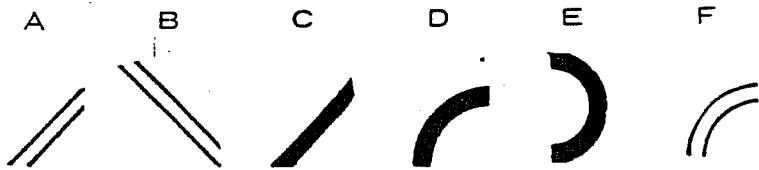
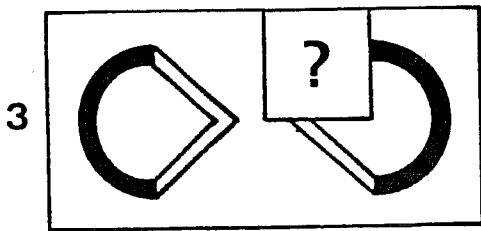
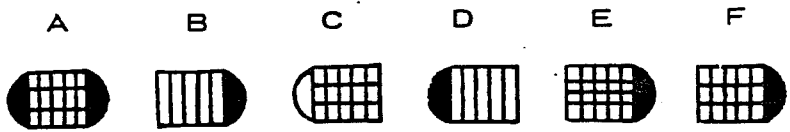
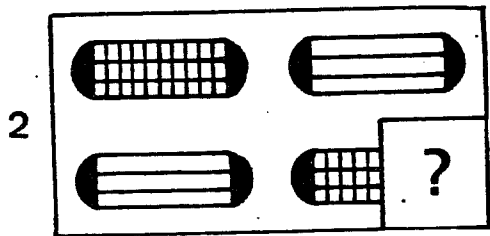
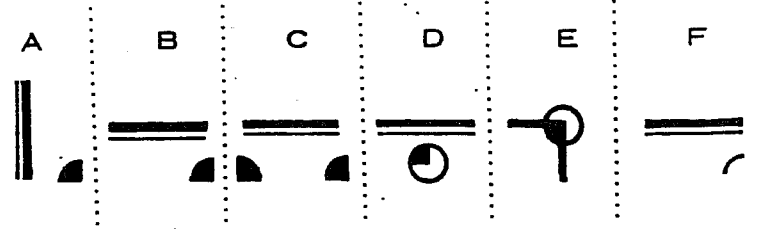
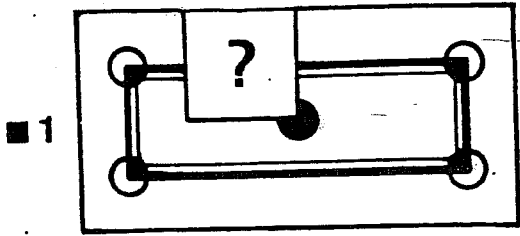
Se te sobrou tempo revê o que fizeste nesta prova.

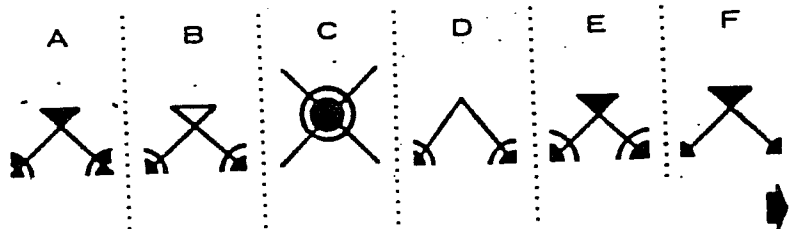
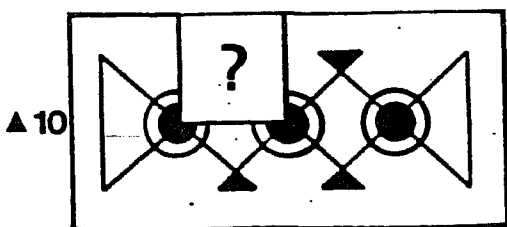
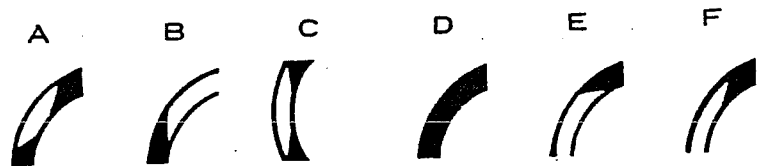
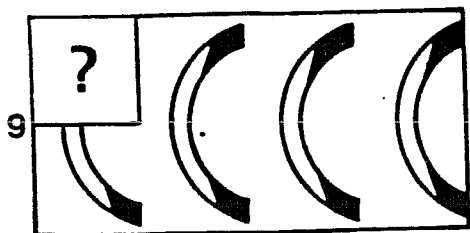
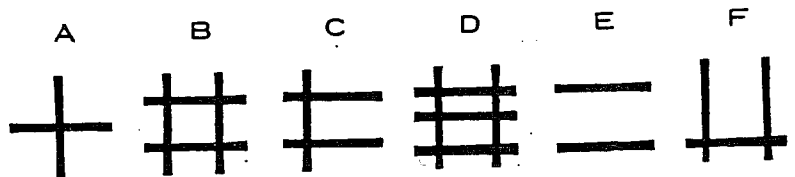
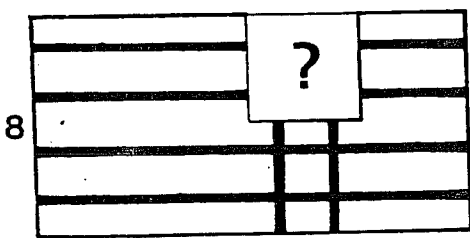
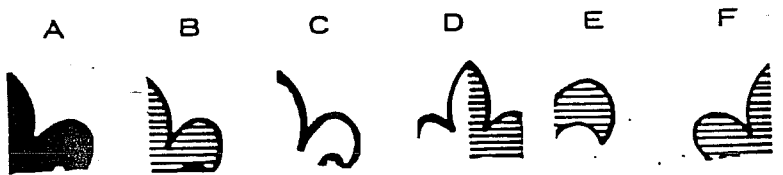
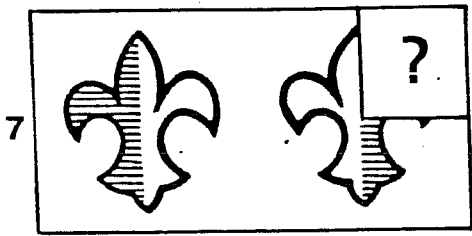
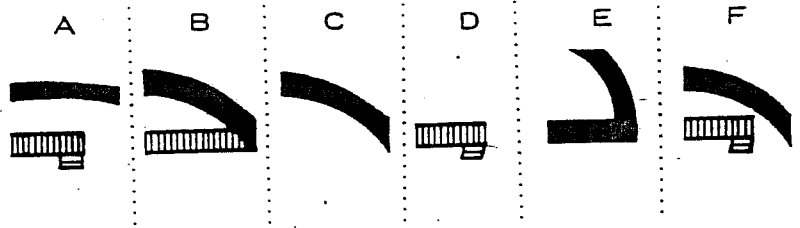
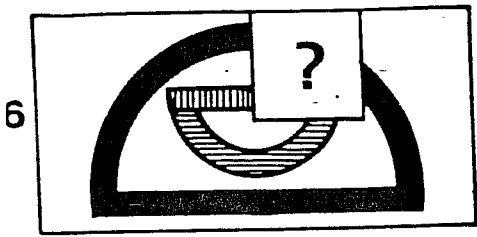
CAPACIDADE MENTAL NÃO-VERBAL

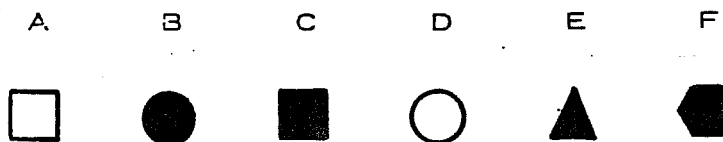
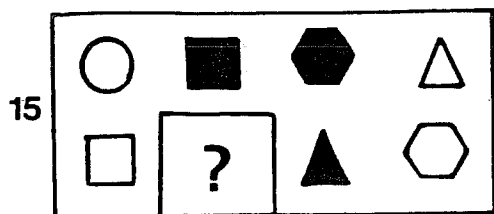
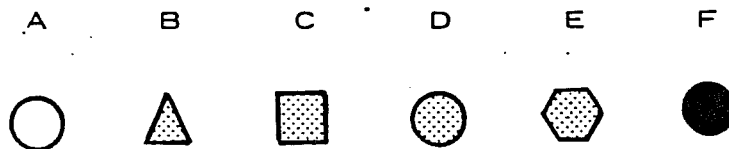
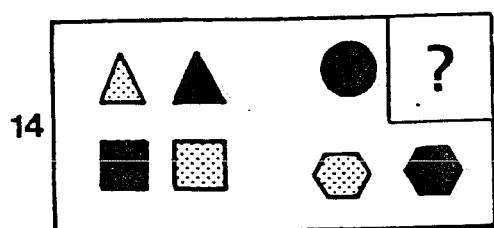
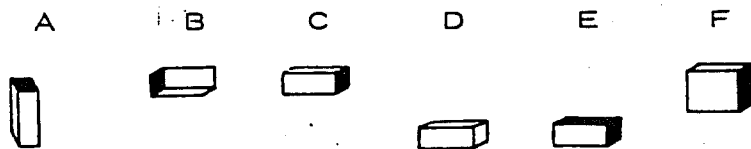
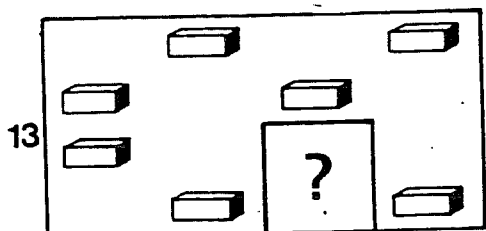
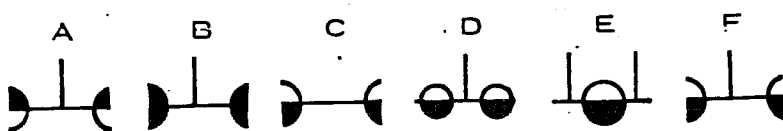
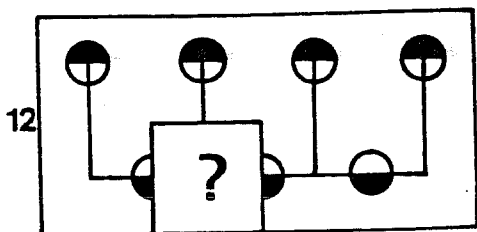
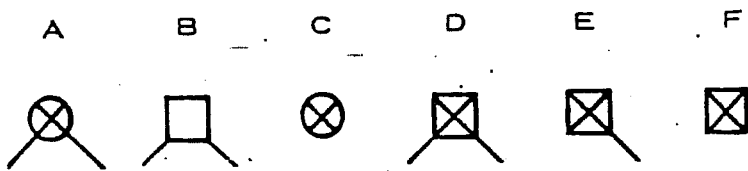
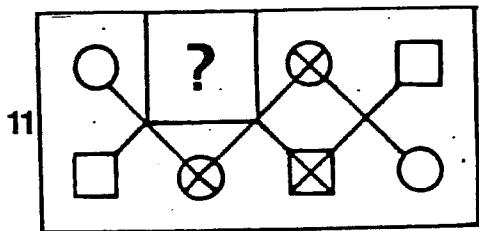
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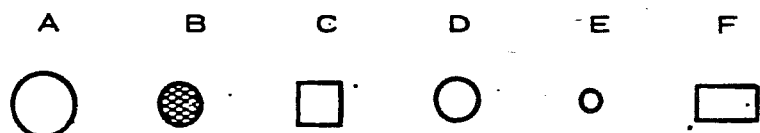
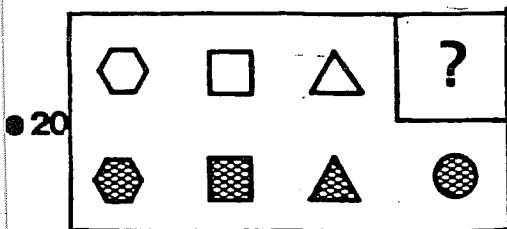
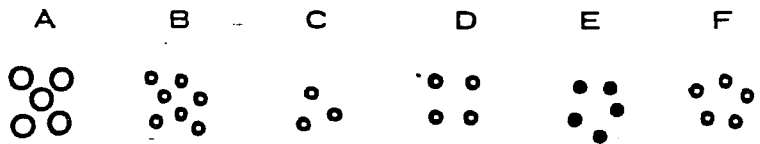
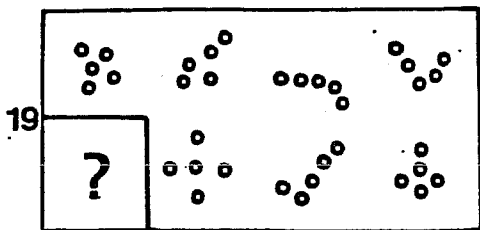
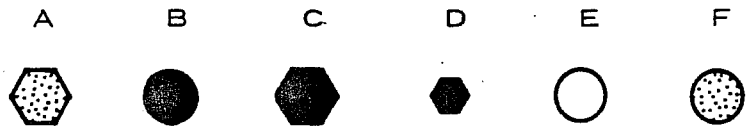
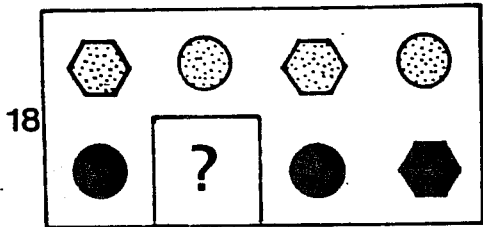
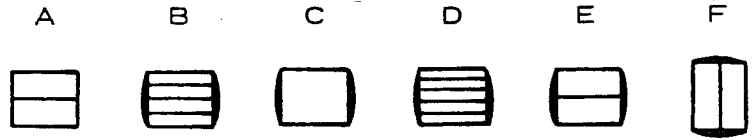
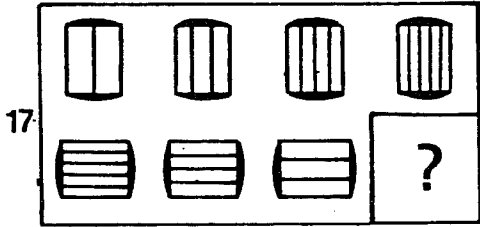
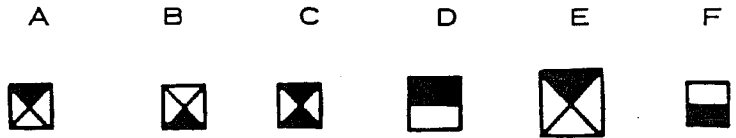
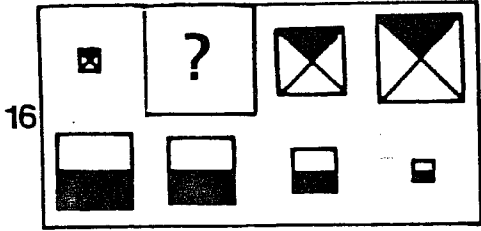


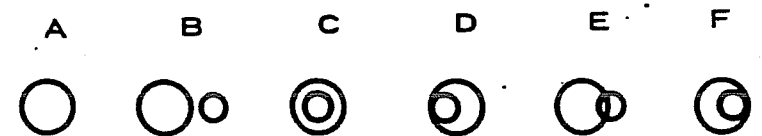
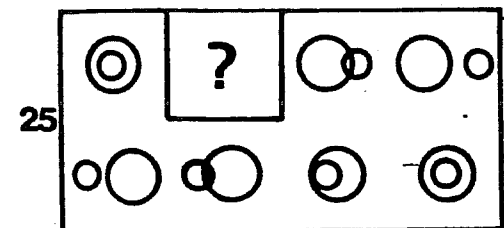
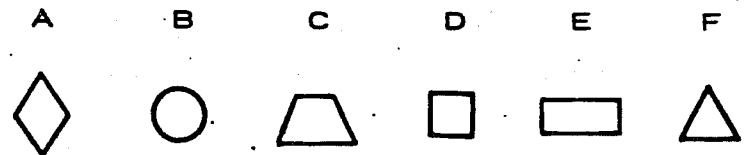
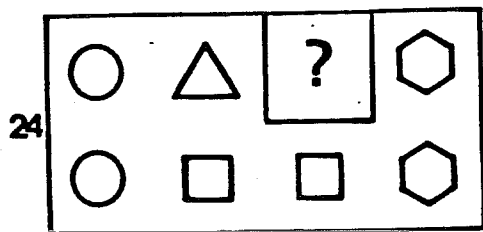
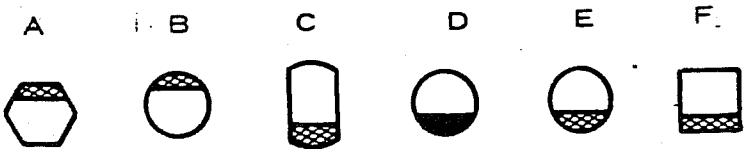
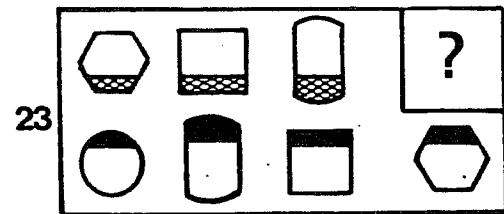
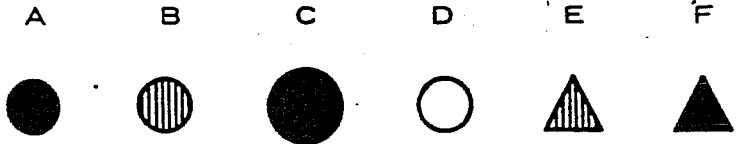
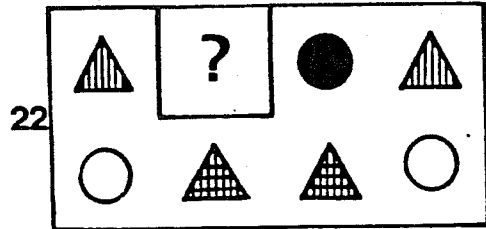
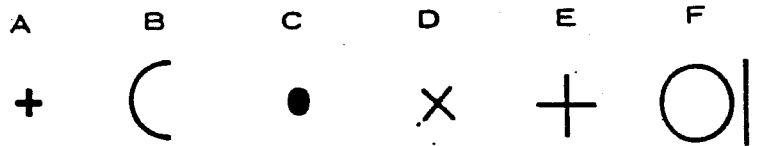
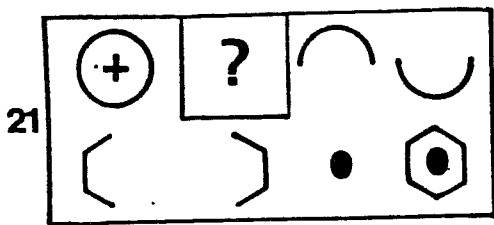
- TODAS AS PERGUNTAS TÊM SÓUMA RESPOSTA CERTA.
- Tenta responder por ordem, de maneira que o número da PERGUNTA COINCIDA com o número da RESPOSTA. Repara que nas perguntas 1, 10, 20, 30 e 40 há um sinal para poderes controlar se a pergunta e a resposta coincidem.
- SE ALGUMA PERGUNTA TE PARECER MUITO DIFÍCIL, PASSA À FRENTE sem perdeses muito tempo e no fim se te sobrar tempo poderás revê-la
- SE NÃO ACABARES NÃO TE PREOCUPES PORQUE É NORMAL.



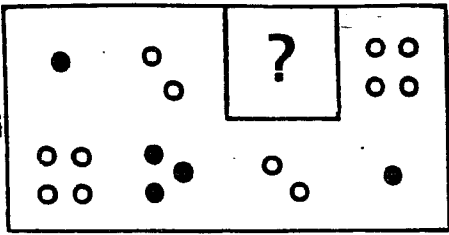






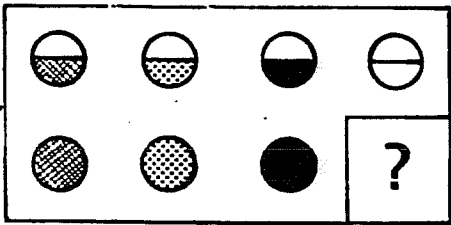


26



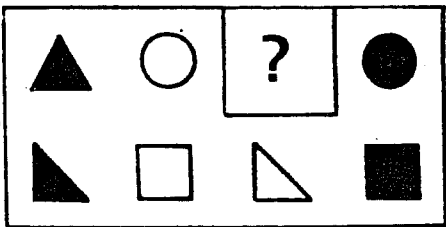
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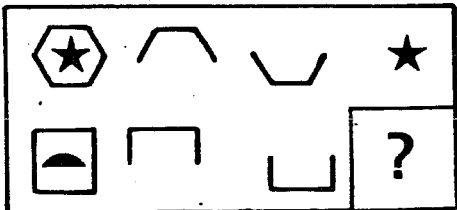
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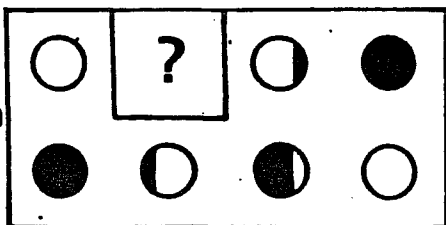
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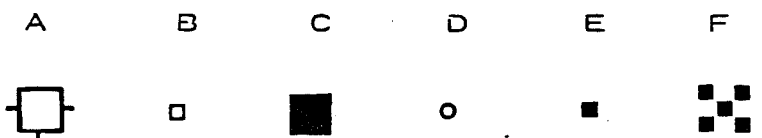
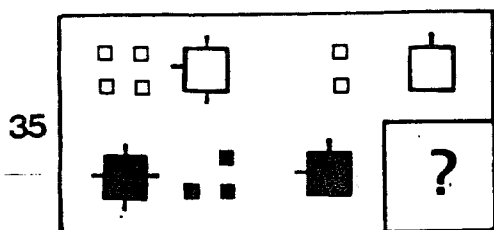
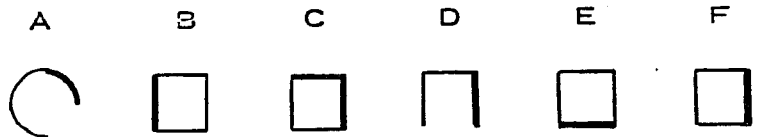
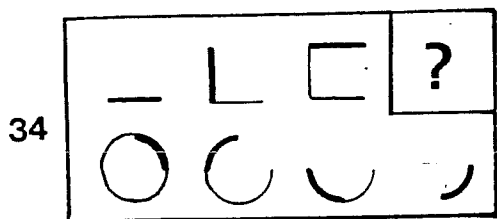
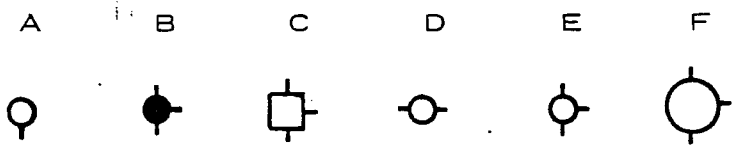
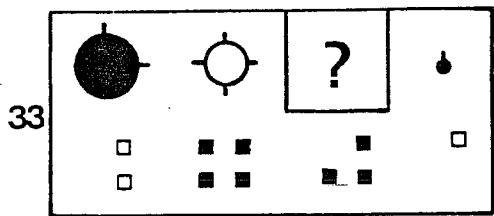
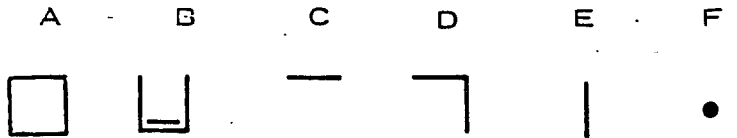
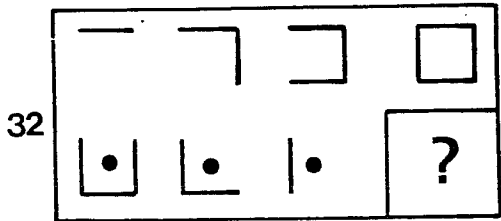
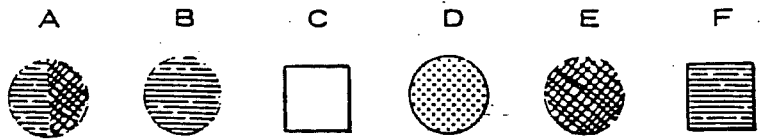
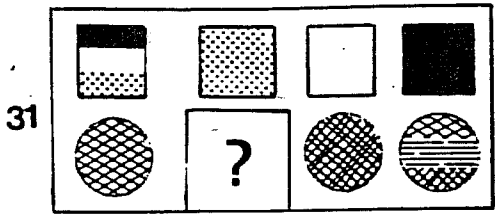


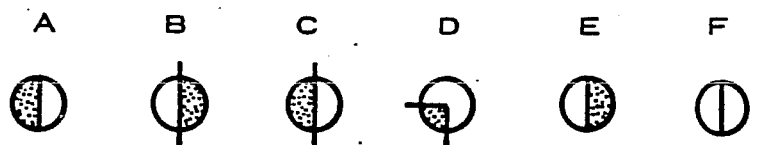
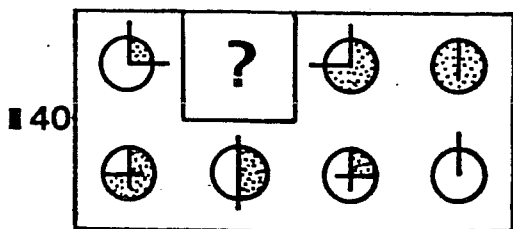
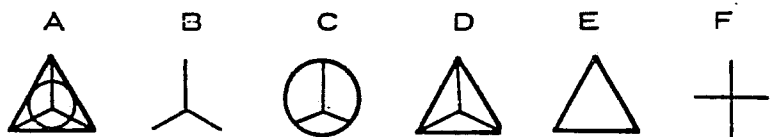
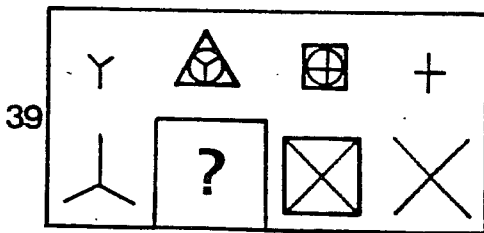
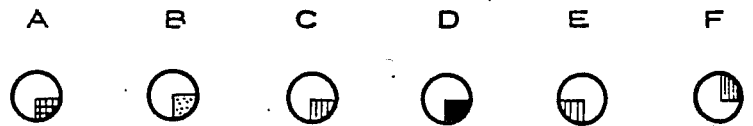
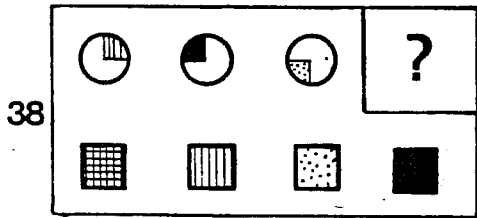
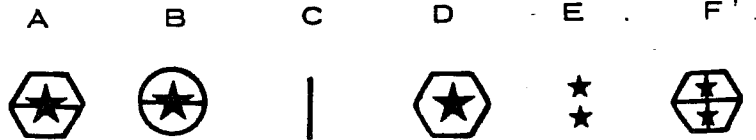
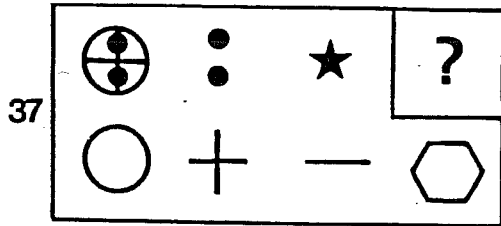
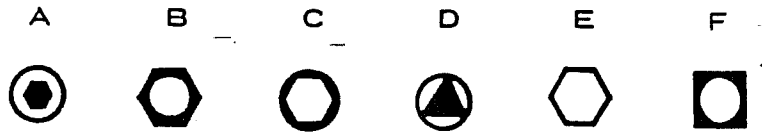
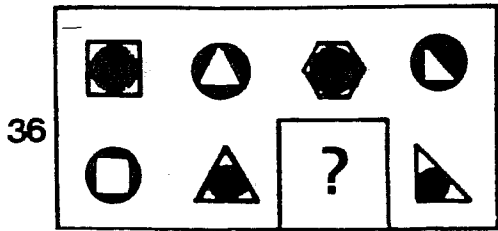
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◆ 30



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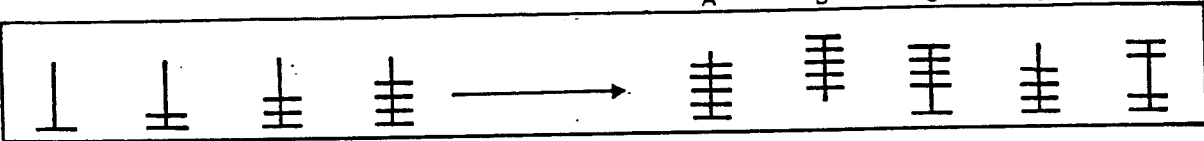
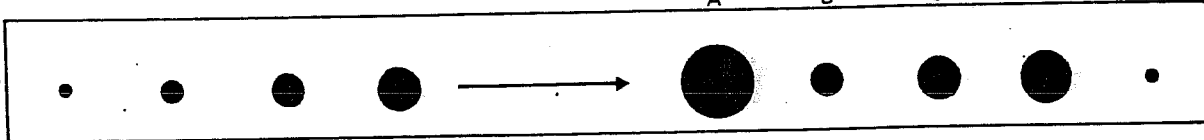
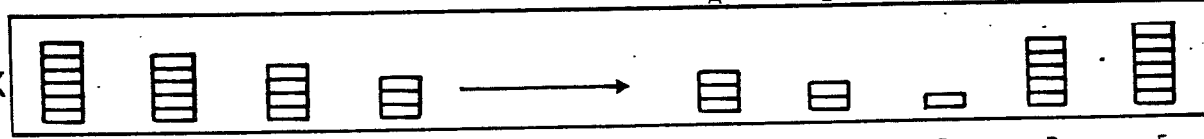
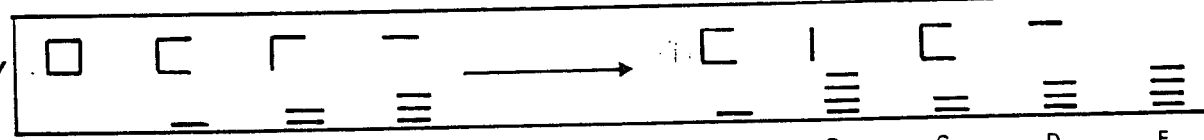
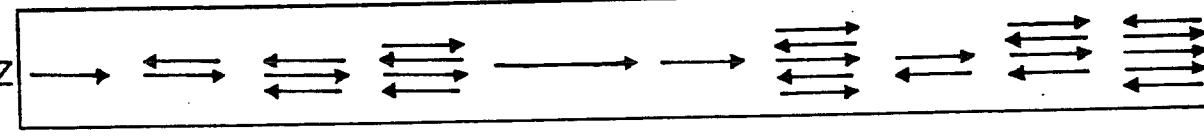


FIM DA PROVA

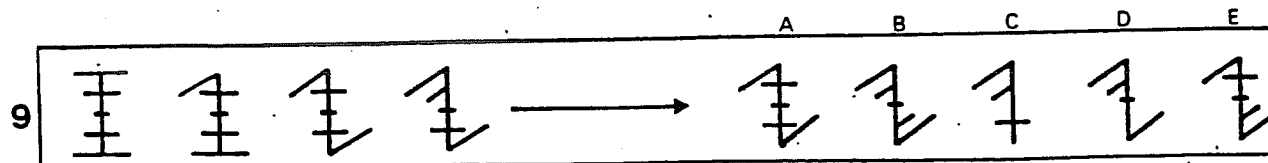
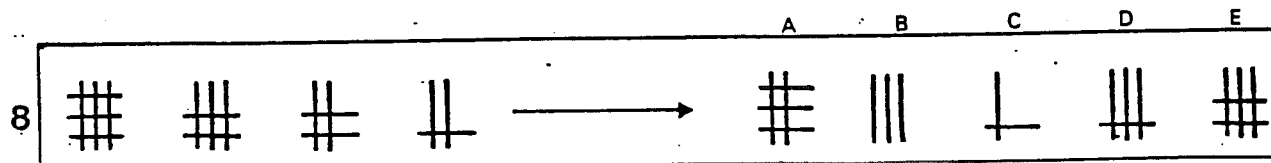
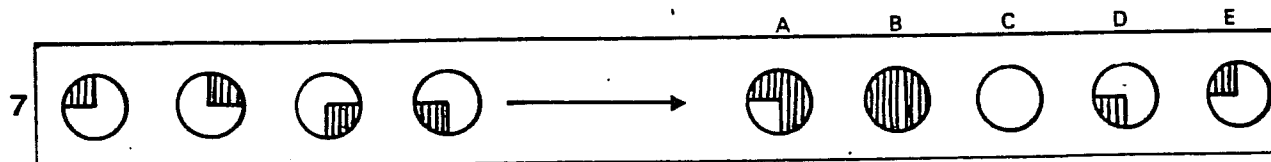
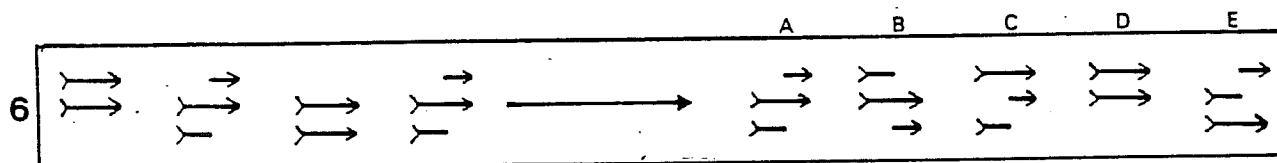
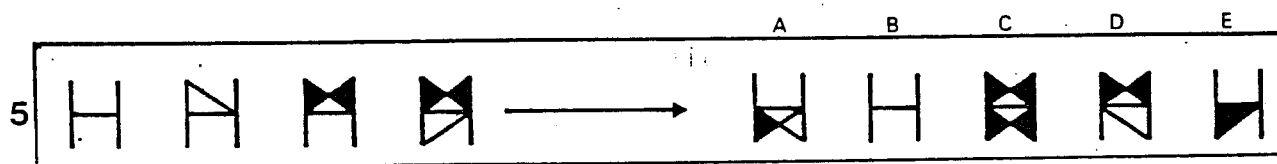
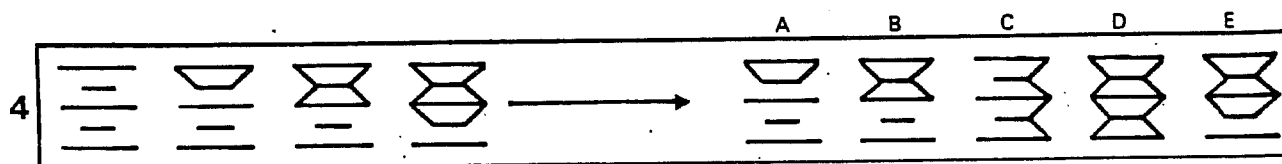
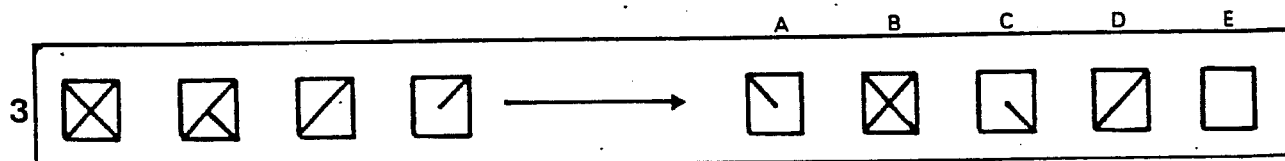
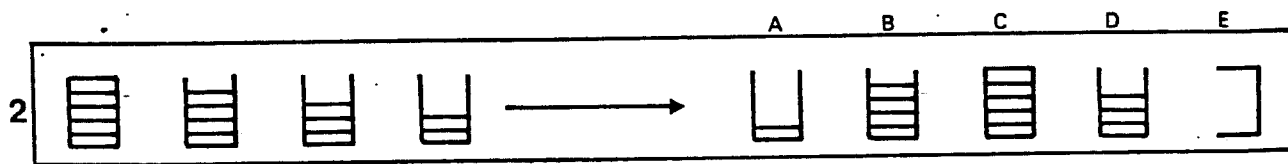
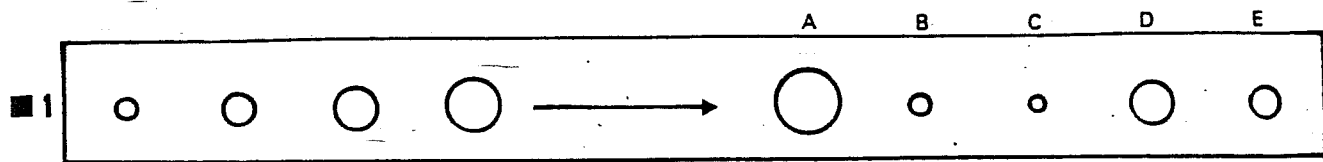
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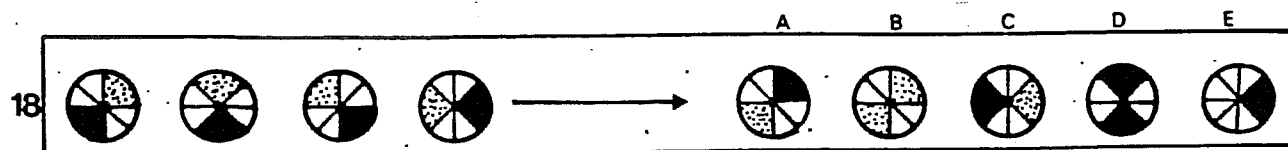
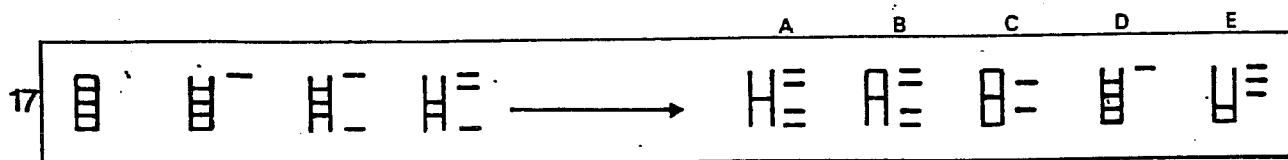
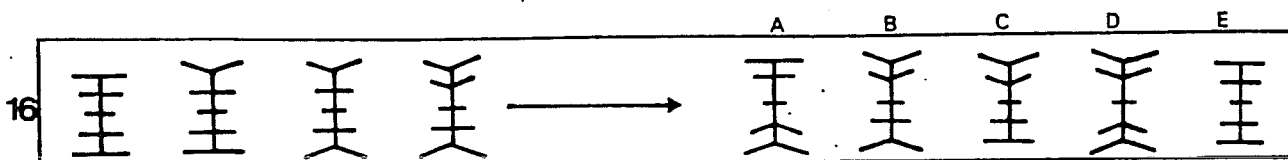
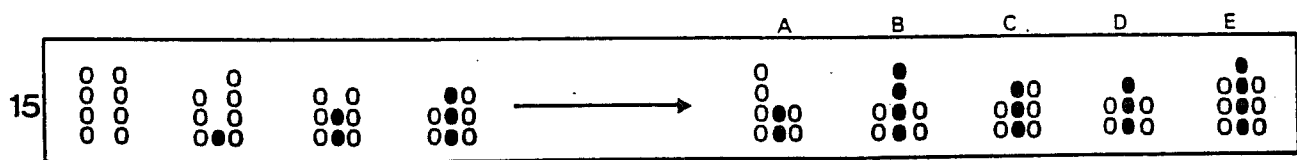
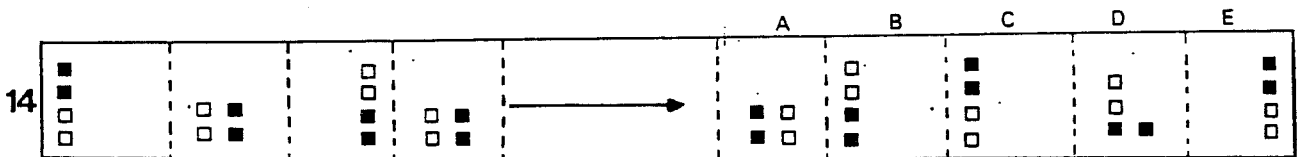
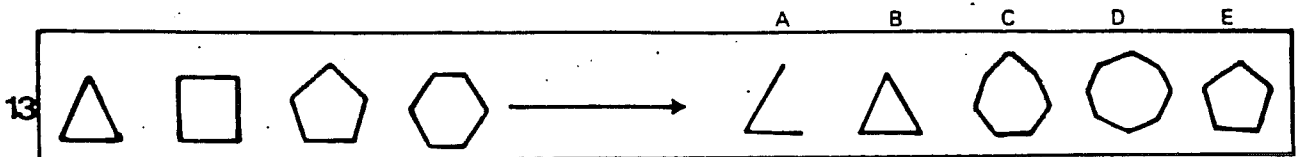
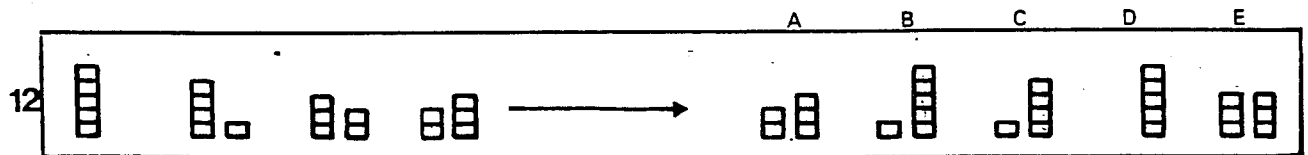
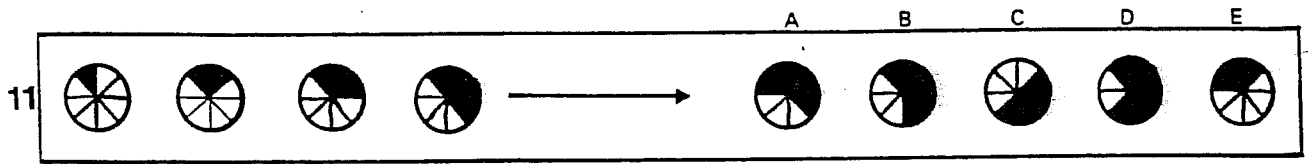
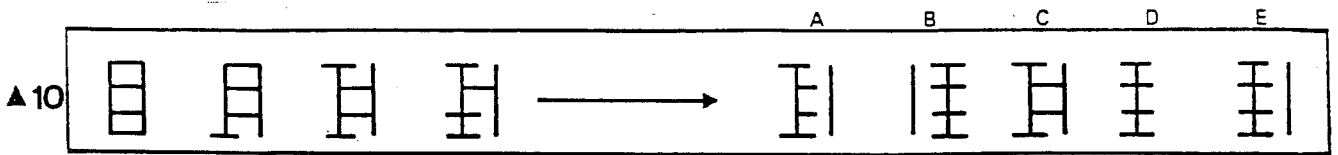
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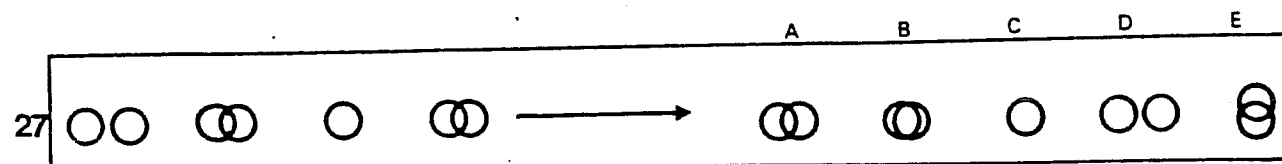
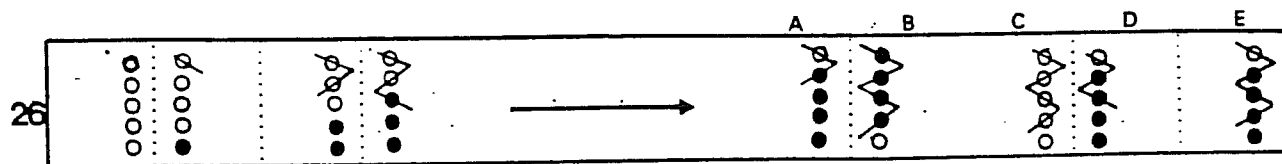
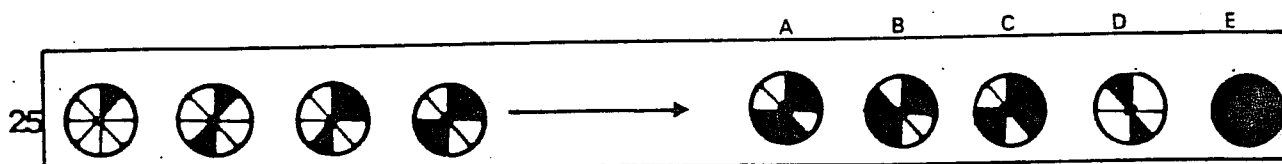
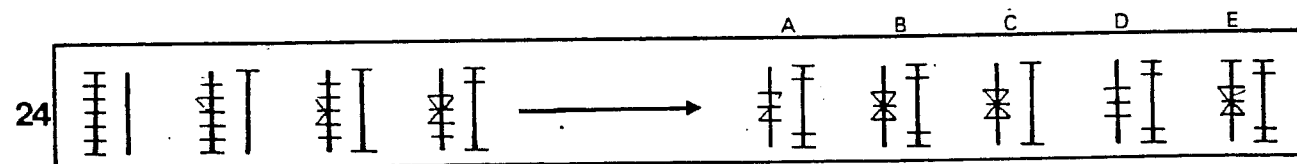
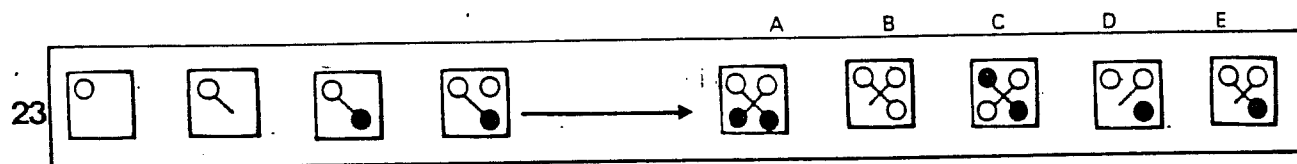
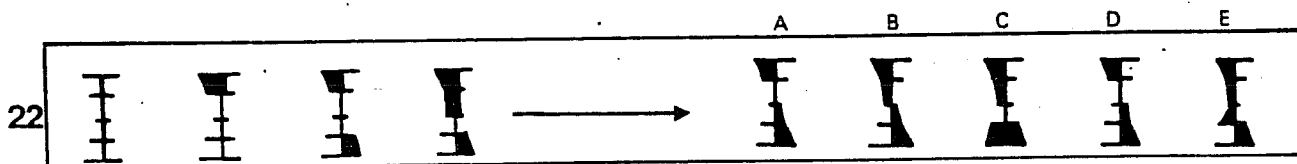
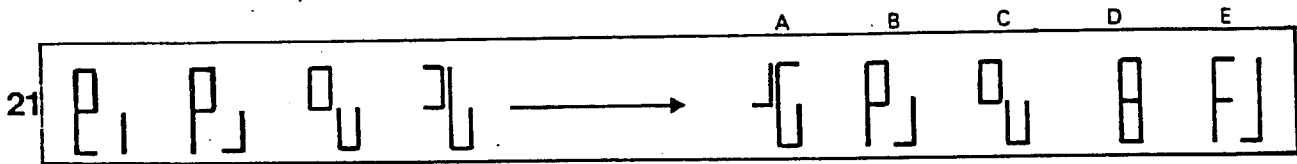
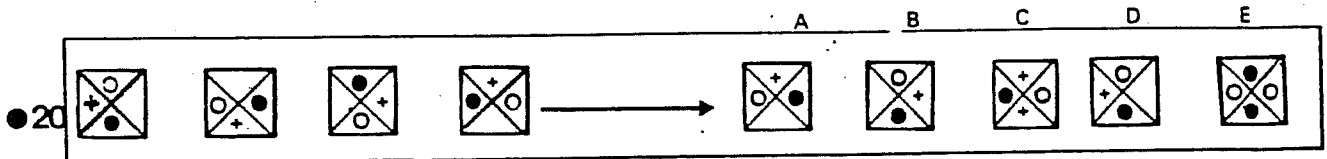
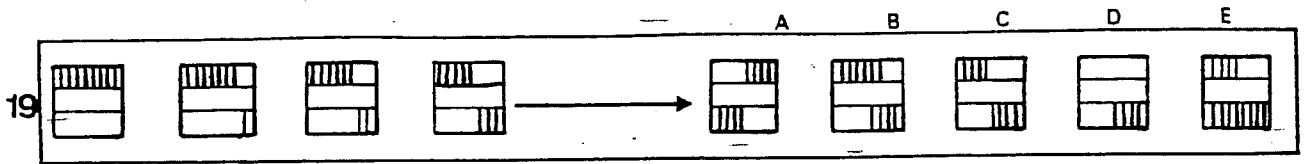
EXEMPLOS :

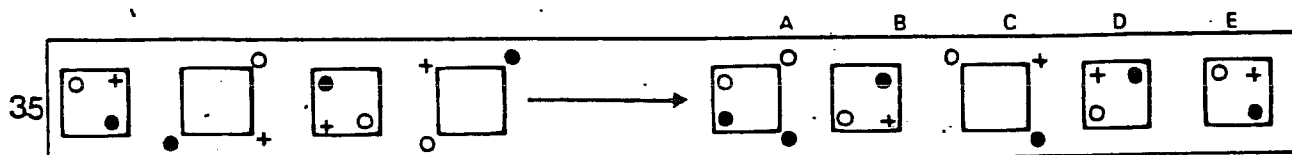
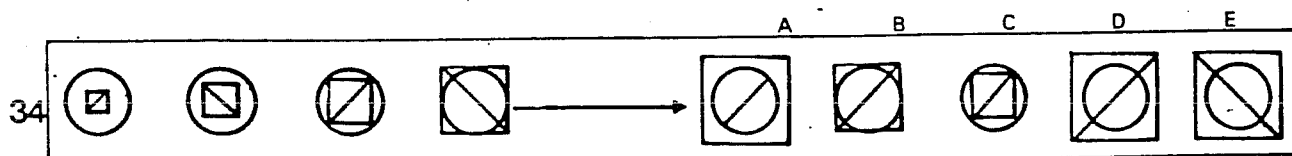
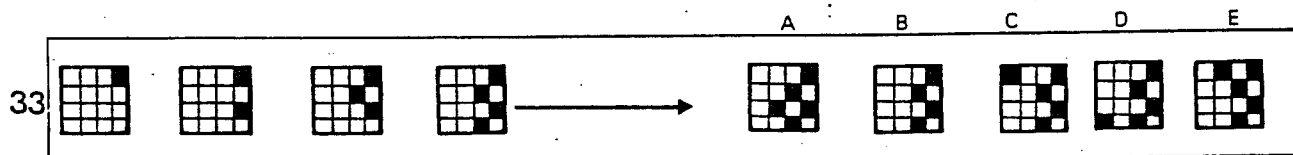
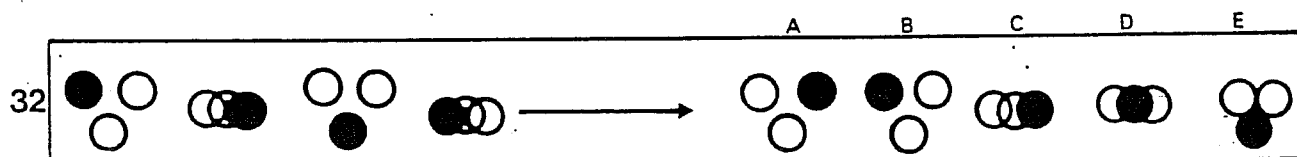
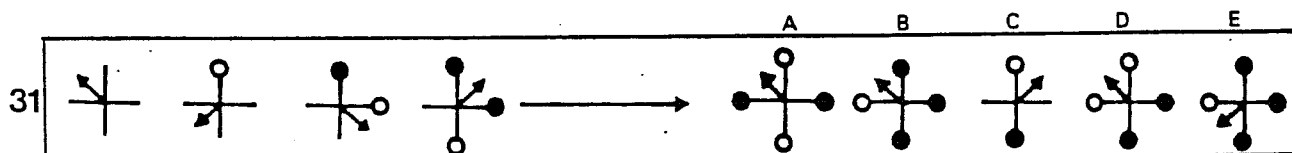
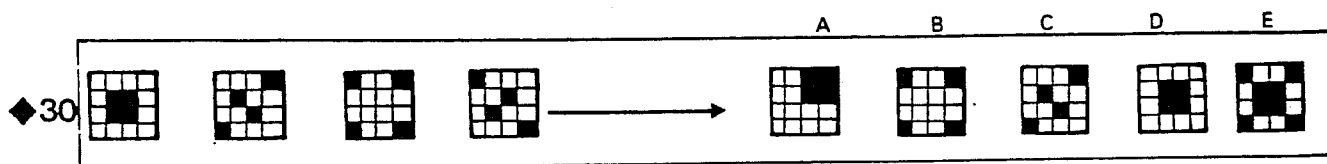
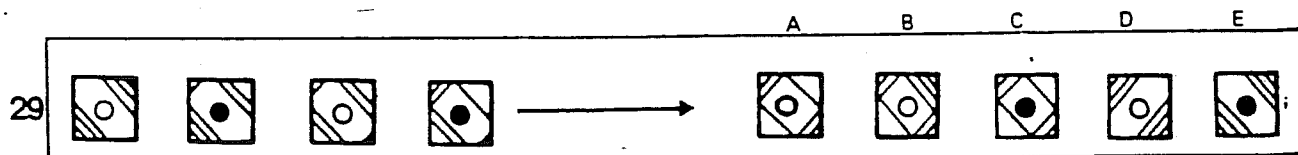
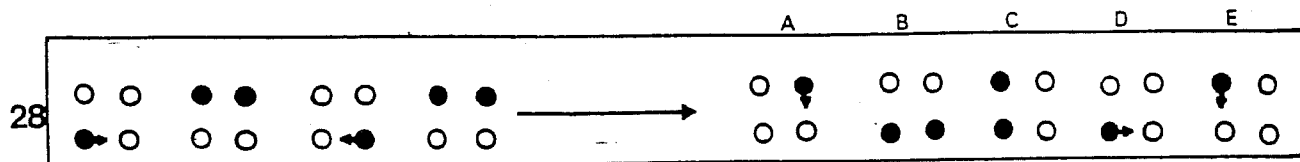
U	
V	
X	
Y	
Z	

- Tenta responder por ordem, de maneira que o número da PERGUNTA COINCIDA com o número da RESPOSTA. Repara que nas perguntas 1, 10, 20, e 30 há um sinal para poderes controlar se a pergunta e a resposta coincidem.
- TRABALHA O MAIS DEPRESSA QUE PUDERES MAS SEM TE ENGANARES.
- SE ALGUMA PERGUNTA TE PARECER MUITO DIFÍCIL, PASSA À FRENTE sem perdeses muito tempo e no fim se te sobrar tempo poderás revê-la.
- SE NÃO ACABARES NÃO TE PREOCUPES PORQUE É NORMAL.









FIM DA PROVA

Se te sobrou tempo, revê o que fizeste nesta prova.

MEMÓRIA

EXEMPLOS :

Y Qual foi o título da redacção lida?

- A) Os animais
- B) Os seres pequenos
- C) Curiosidades dos insectos
- D) Os insectos

Z Os insectos são:

- A) De tamanho minúsculo
- B) Abundantes em número e espécies diferentes
- C) Animais muito prejudiciais
- D) Animais pequenos mas de grande importância

-
- Tenta responder por ordem, de maneira que o número da PERGUNTA COINCIDA com o número da RESPOSTA. Repara que nas perguntas 1, 10, 20 e 30 há um sinal para poderes controlar se a pergunta e a resposta coincidem.
 - TRABALHA O MAIS DEPRESSA QUE PUDES MAS SEM TE ENGANARES.
 - SE TIVERES DÚVIDAS NUMA PERGUNTA ESCOLHE A RESPOSTA QUE TE PARECER MELHOR SEM PERDERES MUITO TEMPO. TENTA RESPONDER A TODAS AS PERGUNTAS.

NÃO VIRES A PÁGINA ANTES QUE TE DIGAM

- 1 Os insectos formam uma classe de animais...
- A) De pequeno volume
B) Diminutos em tamanho
- C) Pouco considerados
D) Pequenos e diminutos
- 2 De cada cem animais que vivem no planeta...
- A) Muitos são insectos
B) 25 são insectos
- C) 75 são insectos
D) Há inúmeros insectos
- 3 Encontraram-se fósseis de libelinhas que mediam até...
- A) Oito ou dez centímetros
B) 70 centímetros de envergadura
- C) 70 centímetros de estatura
D) 50 centímetros de envergadura
- 4 As térmitas vivem em colónias...
- A) De muitos membros
B) De milhões e milhões
- C) De mais de um milhão de membros
D) Terrivelmente grandes
- 5 As termiteiras podem ser...
- A) Subterrâneas ou sobressair do solo
B) Aéreas ou subterrâneas
- C) Enterradas no solo
D) Sobressaindo do solo
- 6 As térmitas fazem os seus ninhos juntando grãos de areia e massas de argila com...
- A) Um líquido especial
B) Saliva e excrementos
- C) A saliva da rainha
D) Excrementos de outros animais
- 7 A rainha pode viver mais de ...
- A) Mil anos
B) Setenta e cinco anos
- C) Cinquenta anos
D) Cem anos
- 8 Os soldados...
- A) Não parecem dedicar-se a nenhuma tarefa útil
B) Não sabem fazer nada
- C) Lutam contra os intrusos
D) Dedicam-se a defender o recinto
- 9 As térmitas podem constituir um perigo para...
- A) As grandes construções
B) As casas de pedra antigas
- C) As vigas de madeira das casas
D) As construções e mobiliário

- ▲ 10 Por causa das térmitas perdem-se...
- A) Muitas casas mal construídas
B) Muita madeira
C) Obras de arte antigas
D) Numerosas obras arquitectónicas
- 11 As obras muito danificadas são...
- A) As torres das igrejas
B) Alguns mosteiros
C) Algumas igrejas
D) Os palácios
- 12 A espécie mais abundante de insectos é...
- A) A dos gafanhotos
B) As abelhas e formigas
C) A das térmitas
D) A dos escaravelhos
- 13 O esqueleto externo dos escaravelhos serve-lhes ...
- A) De defesa
B) Para se sustentar
C) Para se esconderem dos seus inimigos
D) Para não precisarem de casa
- 14 Duas das asas dos escaravelhos endureceram-se...
- A) Em forma de estojo
B) Em forma de membranas
C) Em forma de élitros
D) Para que não se rompam
- 15 A maioria dos escaravelhos alimentam-se de...
- A) Talos das plantas
B) Grãos de trigo e cereais
C) Raízes, talos, folhas, flores ou frutos
D) De folhas secas, ervas
- 16 Os terríveis devastadores de árvores de fruta são...
- A) Os gorgulhos
B) Os são-joaneiros
C) O escaravelho peloteiro
D) O escaravelho da árvore
- 17 As joaninhas alimentam-se ...
- A) De pulgões
B) Com ovos de mosquito
C) De cereais armazenados
D) Com ovos de gafanhotos
- 18 As cantáridas alimentam-se ...
- A) De gafanhotos
B) De outros insectos mais pequenos
C) Da farinha das despensas
D) Dos ovos dos gafanhotos

19 Os gafanhotos causam...

- A) Enorme prejuízo na agricultura
- B) Enormes prejuízos no gado
- C) Grandes devastações
- D) Prejuízos nas quintas

20 Habitualmente o gafanhoto...

- A) Vive de uma maneira solitária
- B) Vive em enormes colónias
- C) É enorme comparado com outros insectos
- D) É um animal benéfico

21 Chegam a constituir verdadeiras pragas em algumas regiões ...

- A) Do Sul da Europa e Norte da Ásia
- B) Do Norte de África e Ásia Ocidental
- C) Do Sul de África e Norte da Ásia
- D) Da Ásia Ocidental e África Central

22 Contra as pragas de gafanhotos é ...

- A) Muito difícil acertar
- B) Muito difícil lutar eficazmente
- C) Necessário utilizar meios modernos
- D) Fácil combater se se actuar com precisão

23 Os gafanhotos podem estragar...

- A) Muitas colheitas de qualquer país
- B) A agricultura e o gado
- C) As colheitas de países inteiros
- D) A horticultura de países inteiros

24 A formiga-leão captura as suas presas...

- A) Através de um procedimento engenhoso
- B) Atraíndo-as como pode
- C) Escondendo-se atrás de um monte de areia
- D) Cravando-lhes os seus dentes afiados

25 Ao aproximar-se um insecto...

- A) Empurra-o para que escorregue
- B) Atira-o para a areia
- C) Cega-o com um punhado de areia
- D) Atira-lhe um esguicho de areia

26 As longas e enormes mandíbulas...

- A) Cravam-se no seu corpo
- B) Matam a sua vítima
- C) Aprisionam-no rapidamente
- D) Acabam com a vítima indefesa

27 Quem domestica uma espécie de pulgões?

- A) A formiga leão
- B) Os gafanhotos

- C) As formigas comuns
- D) As cantáridas

28 Os pulgões proporcionam-lhes...

- A) Um alimento muito saboroso
- B) Um alimento riquíssimo

- C) Um alimento muito nutritivo
- D) Uma espécie de leite

29 Seria interminável enumerar...

- A) Todas as curiosidades da vida dos insectos
- B) Todos os costumes curiosos dos insectos
- C) Todos os insectos que são curiosos para o estudioso
- D) Tudo relacionado com a vida dos insectos

◆ 30 Ainda se poderia falar muito ...











- A) Das vespas, aranhas e borboletas
- B) Das abelhas, aranhas e borboletas
- C) Das abelhas, vespas e borboletas
- D) Das abelhas, borboletas e mosquitos

FIM DA PROVA

Se te sobrou tempo revê o que fizeste nesta prova.

PERCEÇÃO DE DIFERENÇAS

EXEMPLOS :

modelo									
	A 	B 	C 	D 	E 	F 	G 	H 	I 

- TRABALHA O MAIS DEPRESSA QUE PUDES MAS SEM TE ENGANARES.
- SE NÃO ACABARES NÃO TE PREOCUPES PORQUE É NORMAL.
- ATENÇÃO AO TEMPO. É MUITO CURTO E NESTA PROVA É IMPORTANTE QUE TRABALHES INTENSIVAMENTE E COM MUITA CONCENTRAÇÃO SEM DESPERDIÇARES TEMPO.

NÃO VIRES A PÁGINA ANTES QUE TE DIGAM

MODELO										
1	A	B	C	D	E	F	G	H	I	
2	A	B	C	D	E	F	G	H	I	
3	A	B	C	D	E	F	G	H	I	
4	A	B	C	D	E	F	G	H	I	
5	A	B	C	D	E	F	G	H	I	
6	A	B	C	D	E	F	G	H	I	
7	A	B	C	D	E	F	G	H	I	
8	A	B	C	D	E	F	G	H	I	
9	A	B	C	D	E	F	G	H	I	
10	A	B	C	D	E	F	G	H	I	

Na próxima parte do teste aparece uma palavra curda e cinco escolhas em português.

Exemplo:

hij

- A. rá
 - B. perguntar
 - C. corpo
 - D. desenhlar
 - E. dia
- Como hij significa desenhlar a resposta D é a correcta. Faz um círculo à volta da letra D.

PARES ASSOCIADOS

A tua tarefa é memorizar o vocabulário curdo-português que se encontra na página seguinte.

Espera pelo sinal, depois vais ter 1 minuto para estudar o vocabulário.

No fim desse minuto vais receber outro sinal para poderes começar a preencher os espaços em branco na folha de exercícios. Podes olhar para a página do vocabulário enquanto preenches os espaços em branco na folha de exercícios.

Quando acabares de preencher a folha de exercícios continua a estudar se ainda tiveres tempo.

Tens de recorrer à memória para responder às perguntas.

NÃO VIRES A PÁGINA ANTES QUE TE DIGAM !!

VOCABULÁRIO

(memoriza em 1 minuto)

FOLHA DE EXERCÍCIOS

Escreve o significado em português
à frente de cada uma destas palavras

<u>Curdo</u>	-	<u>Português</u>	-	<u>Curdo</u>	-	<u>Português</u>	-	<u>Curdo</u>	-	<u>Português</u>
hij	-	desenhar	-		-		-		-	
naq	-	aquilo	-	lohong	-		-	nung	-	
sidqu	-	notícias	-	ngoç	-		-	mupa	-	
nente	-	senhora	-	roo	-		-	naq	-	
ja	-	dia	-	tsep	-		-	chomco	-	
ngoç	-	escuro	-	hij	-		-	nente	-	
tsep	-	entrar	-	ja	-		-	sidqu	-	
lohong	-	perguntar	-		-		-		-	
mupa	-	fúria	-		-		-		-	
nung	-	rã	-		-		-		-	
chomco	-	corpo	-		-		-		-	
roo	-	arte	-		-		-		-	

Desenha um círculo à volta da letra da resposta que consideras correcta.

1. tsep

- A senhora
- B fúria
- C entrar
- D rã
- E desenhar

2. chomco

- A arte
- B corpo
- C aquilo
- D notícias
- E escuro

3. nente

- A entrar
- B fúria
- C senhora
- D corpo
- E escuro

4. mupa

- A notícias
- B desenhar
- C rã
- D entrar
- E fúria

5. naq

- A corpo
- B dia
- C aquilo
- D arte
- E perguntar

6. ja

- A desenhar
- B dia
- C notícias
- D arte
- E senhora

7. roo

- A arte
- B desenhar
- C perguntar
- D fúria
- E corpo

8. ngoz

- A entrar
- B senhora
- C aquilo
- D escuro
- E dia

9. nung

- A perguntar
- B escuro
- C dia
- D aquilo
- E rã

10. lohong

- A rã
- B notícias
- C corpo
- D perguntar
- E entrar

11. hij

- A senhora
- B dia
- C aquilo
- D desenhar
- E arte

12. sidqu

- A rã
- B perguntar
- C notícias
- D escuro
- E fúria

Nome:

Classe:

ANÁLISE DE LINGUAGEM

A seguinte lista contém palavras de uma língua estrangeira assim como as palavras equivalentes em português:

gade	-	o pai
chi	-	o cavalo
gade chir le	-	o pai vê o cavalo

Baseando-te nesta lista de palavras tenta descobrir, sem escreveres nada, como se diz a seguinte frase na língua estrangeira:

o cavalo vê o pai

Não continues a ler enquanto não chegares a uma resposta.

A resposta é: chi gader le. Repara especialmente no "r " final de "gader" que é adicionado ao complemento directo, ou seja, à palavra que sofre a acção.

Se não respondeste correctamente, olha novamente para o problema e vê se agora o compreendes. Não podes fazer perguntas.

Há 15 problemas semelhantes nas páginas seguintes. Lê cada um cuidadosamente e escolhe uma das respostas fazendo um círculo à volta de uma das 4 letras A, B, C ou D.

Não vires a página antes que te digam!

Lista de palavras

gade chi	o pai o cavalo
gade chir le gade chir la	o pai vê o cavalo o pai viu o cavalo
be	leva

Usando esta lista de palavras tenta descobrir como se dizem as frases que vêm a seguir. Logo que decidires como dizer uma frase, olha para as 4 respostas e escolhe aquela que fôr igual à tua. Desenha um círculo à volta da letra da resposta que consideraste correcta.

1. O pai leva o cavalo

- A gade chir be
C chi gader be

- B gade chir ba
D chi gader ba

2. O pai levou o cavalo

- A gade chir be
C chi gader be

- B gade chir ba
D chi gader ba

3. O cavalo levou o pai

- A gade chir be
C chi gader be

- B gade chir ba
D chi gader ba

4. O cavalo leva o pai

- A gade chir be
C chi gader be

- B gade chir ba
D chi gader ba

A lista que se segue contém as mesmas palavras da primeira lista e algumas outras. Usa esta lista para descobrires como se dizem as frases 5 a 15.

gade	o pai	so	eu, me
chi	o cavalo	wo	tu, te
gade chir le	o pai vê o cavalo	so chir le	eu vejo o cavalo
gade chir la	o pai viu o cavalo	sowle	eu vejo-te
be	leva	so chir lem	eu não vejo o cavalo

5. Tu levas-me

- A sowle B sowbe
C wosle D wosbe

6. Tu viste o pai

- A wo gader le B so gader le
C so gader la D wo gader la

7. Eu levei-te

- A wosba B sowbe
C sowba D sowla

8. Tu levaste o pai

- A wo gader ba B wo gader be
C wo gade ba D wo gade be

9. Tu viste-me

- A sowla B wosba
C wosla D wosle

10. Tu não levas o cavalo

- A wo chir lem B wo chir bem
C wo chir bam D wo chi bem

11. Tu não me vês

- A sowlem B wosle
C wosolem D woslem

12. Eu não levei o pai

- A so gader bam B so gade bam
C so gader bem D so gader lam

13. Tu viste o cavalo

- A wo chir le B wo chir la
C wo chir be D wo chir ba

14. Eu não te vi

- A woslam B sowlam
C sowlem D woslem

15. O pai não leva o cavalo

- A gade chir bem B chir gader bem
C gade chi bem D gade chir bam

Nome:

Classe:

Qual é a tua opinião sobre a Alemanha ?

Qual é a tua opinião sobre os Alemães ?

Gostas de andar na Escola Alemã ?

Não

Sim

Porquê ?

Gostas de aprender a língua alemã ?

Não

Sim

Porquê ?

Lê cada comentário e mostra de imediato o quanto concorda ou discorda dele, fazendo um círculo à volta de uma das letras do lado direito da folha.

Escolhe as letras de acordo com a resposta que pretendes dar:

- a) Concordo totalmente
- b) Em geral concordo
- c) Não tenho a certeza ou não compreendi
- d) Em geral discordo
- e) Discordo totalmente

1. Acho que estou mais interessado nas qualificações que vou ter em alemão do que nos assuntos dados nas aulas. a b c d e
2. Fico muito entusiasmado com a matéria dada nas aulas de alemão. a b c d e
3. Não gosto do professor de Alemão. a b c d e
4. A principal razão que me leva a estudar alemão é que assim vou arranjar um bom emprego. a b c d e
5. Só estou nesta escola porque realmente não tenho outra escolha. a b c d e
6. A razão principal de eu estudar alemão é a vontade de aprender mais sobre uma língua que me interessa. a b c d e