Young Persian readers' understanding of L2 grammatical contrasts and their L2 reading proficiency.

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If an adequate picture of reading comprehension deficits is to be obtained, the problem of structural knowledge needs to be explored. Once the words in a sentence are recognised, the structure of the sentence needs to be figured out. This understanding plays a crucial role in helping the readers to compute the appropriate relationship between the "people or objects" referred to in the sentences. Individual words within the sentences as well as their order influence the assignment of structural roles to a sentence. Mitchel, Cuetos and Zagar (1990) argue that two kinds of computation are carried out by a reader: understanding the categories of word strings and managing the order in which they appear in sentences. The order of the items used in a sentence like "The dog chased the cat" and its reversal of the roles in the same sentence "The cat chased the dog" illustrate the significance of word ordering in sentence interpretation. Thus, for a reader, a grammatical sentence is not merely a haphazard collection of words, but an arrangement of words which must include identifiable relationships. In this regard, of course, there are formal signals which help readers to recognise sentence structures (Taha, 1983) among which two structures will be discussed later in this article. But we need to explore a little bit about structure understanding before we go to these structures.

syntactic understanding

Until recently it was often assumed that five year old children had achieved a grasp of the basic syntactic structures of their language and could be considered competent communicators. It was thought they had little to learn about their language after the age of five (Oakhill & Garnham, 1988). Later development was conceived to consist mainly of the addition of a sophisticated lexicon.

This idea of early mastery was challenged by a linguistic study pioneered by Chomsky (1969). She hypothesised that those rules corresponding to a great number of constructions across a language are in the child language repertoire. For example, the implicit subject of a complement verb is the noun immediately preceding it (Minimal Distance Principle) and the surface order of the items in the sentence would be assumed to correspond to the underlying system "agent-action-patient" or "subject-verb-object" (S-V-O). According to Chomsky (1969) and Karmiloff-Smith (1986) all linguistic structures which violate the canonical order (S-V-O) are acquired after the age of five. It was found for instance that children have difficulty understanding the "easy to see" construction until they are about eight years old.

This idea was very important in developing an understanding of children's reading skill; for syntactic complexity in written language needed special attention. In spoken languages there are body gestures and prosodic cues like stress and intonation which are not available in written forms of language. It was confirmed that children's language skills were at an incomplete stage specially when they came to reading. In reading, owing to the lack of situational cues to guide understanding, a greater degree of reliance on syntactic structure of the message is required. As Beaumont

(1982) argues, children need to decipher the words quickly to change them into meaningful chunks; deficiency in this ability owing to linguistic or conceptual complexity or infrequent use create problems for children when they face them in reading.

Complex structures

Two constructions, relative clauses and passive structures, have been selected to be discussed in the following paragraphs for three reasons. Firstly, it is speculated that these grammatical structures develop during the school years which correspond to the age level of the groups selected for the study. Secondly, they have been considered as the most problematic areas in children's syntactic understanding and have thus been extensively discussed in the language research literature. Third, the test selected for the study covers the structures and provides an opportunity to check the subjects' understanding of the structures and its link, if any, to other studies.

As it was pointed out, relative clauses and passive sentences are difficult for early readers to grasp because the expected rule of noun-verb-noun (N-V-N) corresponding to (S-V-O) is violated. There are many investigations refering to this points. Byrne (1981) found that children with low level reading skill had great difficulty understanding sentences in which the surface subject was different from the underlying subject. Bodian (cited in Stein, Cairns & Zurif, 1984) found that in middle childhood less-skilled readers had difficulty in processing sentences containing relative clauses. Beaumont (1982) studying the same structure proposed the variable of constituent features, some were mastered later than others. She found for instance that relative clauses without relative

pronous functioning as object in relative "The cat the boy is chasing is fat" were more difficult to understand than those where they were present "The cat that the boy is chasing is fat".

Oakhill and Garnham (1988) in their review of the literature indicate that two factors contribute to the structure of relative clauses: embeddedness and the focus of the relative clause. Embeddedness shows which part of the main clause the relative clause modifies. If the clause modifies the subject it is centre embedded (CE) and if it modifies the object it is right branching (RB). Focus refers to the function the noun in the main clause plays in the relative clause: whether it is subject, object or indirect object (Table 1).

Table 1: Four kinds of relative clauses

NP = Noun phrase MC = Main clause RC = Relative clause

CE = Centre embedded RB = Right branching

Embeddedness (role of NP in MC)	***Focus (role of NP in RC)***	***Example sentence***
Subject (CE)	*Subject*	*The cat that bit the dog chased the rat.*
Subject (CE)	*Object*	*The cat that the dog bit chased the rat.*
Object (RB)	*Subject*	*The cat bit the dog that chased the rat.*
Object (RB)	*Object*	*The cat bit the dog that the rat chased.*

Subject-focus and object-focus relative clauses are often named, in turn, subject relative and object-relative clauses.

Processing of relative clauses

Based on an extensive review of literature, Sadighi (1994) argues that there are three universal factors which can be identified in the

formation of relative clauses. Corresponding to these, three hypotheses are examined to test the difficulty that the different relative clauses impose on linguistic processing.

The first hypothesis is that main clauses with the noun phrase and the verb phrase separated by a relative clause are harder to understand than sentences in which the main clause is not separated by a relative clause. In this regard, "The cat that bit the dog chased the rat" is more difficult to interpret than "The cat bit the dog that chased the rat".

The second hypothesis concerns the order of the coreferential noun in relative clauses. The hypothesis is that relative clauses with (S-V-O) word order are easier to comprehend than those with (O-S-V) word order. For example, "The cat bit the dog that chased the rat" is easier than "The cat bit the rat that the dog chased".

The third hypothesis, "The parallel function hypothesis" is that sentences with coreferential noun phrases are easier to understand than the sentence with no coreferential ones. "The cat that the dog bit chased the rat "is to be easier to process than "The cat the dog bit chased the rat".

Cross-language studies support the notion that the phenomenon is universal. Sadighi's study (1994) concludes that the processing of the relative clause by adult L1 and L2 learners of English has been substantially governed by the universal grammar involved in the formation of such structures. He points out:

> *"Learners with diverse language backgrounds (Persian, Chinese, Japanese) followed the constraints that these universal factors imposed on their perception of these sentence types regardless of their native language specificities, e. g. the*

position of the relative clauses and the head noun phrases in their mother tongues "(P.147).

Processing of passive sentences

In another type of complex structure, passive sentences, children may assume that a passive sentence follows canonical order (S-V-O). So the reversal of roles in passive sentences like "The boy was followed by the man" causes children to think that "the boy" is the real subject and "the man" is the real object which leads to a misinterpretation of the sentence. Bever (1970) argues that for children word order necessarily reflects canonical order. Also in the Competition Model developed by Bates and Macwhinney (1989) grammar is viewed as a system which uses linear forms (e. g., word order) to mark non-linear function (e. g., actor-patient). For example, in the sentence "The boy overturns the bottle" the cues of preverbal word order and noun animacy point to the boy as the actor (Heilenman & McDonald, 1993). In its passive form "The bottle was overturned by the boy", the preverbal position marks the bottle as the subject whereas noun animacy and the preposition "by" favour the "boy" as actor. According to Model designers the mapping between any particular form and any particular function is probabilistic and not absolute. In this way the interpretation of a sentence, as the name of the model indicates, is a process of competition among various cues. The strength with which these cues influence the process depends on the total form-function mapping distributions of a given language. Heilenman and McDonald (1993) state "the stronger the mapping between a particular form and function, the more strongly that from will be used in assigning that function" (p. 510). The model implies that if a child/adult L1/L2 learner

has not mastered such delicate mapping between form and function they resort to Minimal Attachment principles (Frazier cited in Mitchell, Cuetos, Zagar 1990). Minimal Attachment assigns the simplest possible structure (S-V-O) to a string of words. Facing a passive sentence as a new structure, the children tend to assign actor - action - patient to the word order causing misinterpretation of the passive construction. Such strategies have been argued to be universal and to have little to do with any specific language. They contribute, it is supposed, to the improvement of the general information processing efficiency of a reader.

The present study

Subjects, Materials and procedure

The background of the study, now, challenging the researcher to recapitulate the issue in the present study. The subjects of the study were Iranian students acquiring English as an L2 in the Iranian and non Iranian schools in the United Kingdom. Iranian students in the UK are in many respects a relatively homogenous group. They are both the children of Iranian people who have been living in UK for many years or the children of Iranian students who are studyin for their PhD degrees. The children who go to Iranian schools study the same Iranian national curriculum, sit exactly the same final examination as children in Iran and follow the same religion and social customs. Those who go to non Iranian schools follow the main stream curriculum of Uk. Therefore, Iranian children with the similar traits of level of parental education, socioeconomic status and religious traditions represent the target population of this research.

Because the target population of the present study was

geographically dispersed and because the researcher did not have access to student records, it was not possible to perform a perfect type of random sampling of the target population.

Due to the above constraints, the researcher chose to study the Iranian children in the city of Manchester. This accessible population was one that was manageable both in terms of time and resources, as well as in terms of the instruments to be employed; for it would have been quite difficult, if not impossible to conduct tests in cities across the UK.

From the accessible population of Iranian students in Manchester (155 boys and girls) about 105 children were selected. They were at age level of 10-15 which constituted the last year of primary school (junior year pupils in year 5) and the three years of guidance "Junior" school (early secondary puplis in year 6, 7, 8) as well as the first year of high school (early secondary puplis in year 9).

Selection of the measurements

What the researcher needed at first was to measure the subjects' English Proficiency and English reading abilities. He initiated, therefore, the selection of proper instruments with a review of reference sources as well as journals for information about published tests and task-based measurements. The main sources consulted were the British council (1976), Pumfrey (1985), Levy & Goldstein (1984) and Davies & West (1989). The materials of educational test publishers such as NFER-Nelson, Hodder & Stoughton, NEAB and the Pitman Examination Institute were also examined. From all these sources three measuring instruments were selected. The choices will now be explained.

L2 reading proficiency test

In the absence of any standardised reading comprehension test designed specifically to measure the reading ability of those readers who were non-native speakers of English particularly at the age range of the subjects (10-15 years old), the Edinburgh Reading Test "ERT stage 1" (ERT & score manual "stage 1", 1994) was thought suitable for use as a reading proficiency scale.

An effort was made to assess the appropriateness of the test to the present study. The test was originally designed for native English speakers 7-9 years old who usually begin to learn to read formally at age 6. It was thought the test would also be applicable to subjects a little older who had been acquiring English in an English community. Unlike their younger English counterparts who had been absorbing English from their birth and had well-developed language competence these subjects were acquiring English in Manchester. However, there were also strong commonalties. The content of the test items as well as their face validity matched roughly the type of materials and examinations to which the subjects were accustomed (Fazilatfar, 1998).

On 15th March 1995, the test was ccarried out. The subjects were encouraged to attempt all of the items of the test and to consider the test as part of a general evaluation of their language proficiency. Out of 105 test papers collected at the end of the exam session two of them were insufficiently complete to be included in the study. The 103 test papers left were corrected following the scoring procedure recommended in the manual.

In the light of this view, an attempt was made to classify the groups according to their reading proficiency levels. So that the levels established

by ERT result could be used as an independent variable in the series of the experiments planned for the study. Four levels were established by the position each subject took in relation to the mean and standard deviation established by ERT original standardisation. (Mean=60 SD=20).Those with two SDs above the mean were defined as the reading-level group (1) and respectively those with one SD above the mean, one SD below the mean and two SDs below the mean were operationally characterised as groups (2), (3) and (4).

Ten students for each level respectively (40 subjects) formed the sample of the present study. The descriptive statistics of these four selected groups (10 each) is shown in table 2.

Table 2: Descriptive statistics of the selected groups

Groups	*Age average*	*Male*	*Female*	*Mean*	*SD*
G1	*12.6*	*5*	*5*	*83.7*	*2.66*
G2	*12.3*	*5*	*5*	*73.3*	*5.41*
G3	*11.6*	*5*	*5*	*52.3*	*5.61*
G4	*11.7*	*5*	*5*	*33.8*	*5.52*

Reliability

Kuder-Richardson formula 20 was used to estimated the reliability coefficient of the test for these 40 subjects. The obtained value (0.95) was satistactory for the present study. Also ANOVA and Scheffe test showed a significant difference between all four groups F (3,36)=199.38P<0.00 regarding their mean reading scores achieved in ERT.

L2 Proficiency test

To show the correlation between the reading level of the groups and their general language proficiency, two more measurements were applied in addition to their performance on ERT. In relation to Alderson's (1984) assertion on the revelation of nature of L2 proficiency, their English teachers judgement on the subject speech development were employed as well as a language proficiency test designed for young non-native speakers of English. The correlation between ERT as a base for subjects classification and the above mentioned measurements result was intended to confirm the picture of their language proficiency level and provide further justification of the use of ERT as a base for subject classification (Fazilatfar, 1998).

After consulting several sources such as: British Council (1976); Carroll & West (1986) and Davies & West (1989) and considering the English context in which the subjects were and their aim in pursuing English courses it was decided to give the subject the Pitman Examination Institute's test (PEIESOL, 1992). The level called basic in young learners, version "EL-YESOL 1 No. 40097" was selected.

The Pearson correlation ceofficient of the test with the ERT result was. 82 which was significant at P<00. The apparently close correlation between the ERT as the base of the subjects classification and their performance on Mills' language development checklist and pitman proficiency test in all was consistent with the pupils. having a fairly stable general L2 proficiency level in their language skills. It also supported the suitability of the ERT as an instrument for classifying the subjects.

Materials and Procedure

In the present study, the subjects selected in the reading groups may find the embedded and passive sentences problematic. Therefore, an attempt was made to select a test for the study covers different grammatical contrasts including these complex structures. As the study incorporates four levels of reading proficiency, the researcher may be able to examine the relationship between language strata and the processing of structures such as relative clauses.

The purpose of this part of the study is to see whether the four groups of L2 learners at different reading proficiency levels respond differently to a test specifically designed to assess their understanding of grammatical contrasts in English. There is an attempt to examine the null hypothesis proposed at the beginning of the study that there is no significant relationship between the children's understanding of L2 grammatical contrasts and their L2 reading proficiency.

Materials

The present study required a measurement to assess its subjects' syntactic understanding. No measuring instrument can cover all grammatical aspects of a language. However, among the very few published tests which were specifically designed to evaluate comprehension of grammatical structures, TROG (Test for Reception of Grammar) covers a number of critical structures and also appeared to be applicable to the study.

The test for age level from 4 to 13 years old was developed by Bishop (1982). It consist of 80 four-choice items and should be administered individually. One of the requirements it is devised to meet is

pinpointing specific areas of difficulty in the comprehension of grammatical contrasts in English. In the original pictorial design of the test, the pupils are read sentences and for each sentence they are asked to select from four pictures the one that best matches what the experimenter reads.

The test items are divided into blocks of four items, each block testing understanding of a specific grammatical structure. For example, the first few items of twenty blocks of items in the test as a whole assess the pupils' ability to identify individual words and simple word combinations. For instance, for the utterance "the dog is running", the appropriate picture has as its distractor pictures showing "a girl running", "a dog drinking" and "a woman sitting".

The most difficult block tests the comprehension of embedded sentences such as "the circle the star is in is red". The distractors in this case all feature circles and stars, one red and one white in each case, but showing, for instance, a red star inside a white circle. The pupil has to choose the correct picture for all four sentences in order to pass a block. Testing continues until the child fails five consecutive blocks.

The test has been standardised on more than two thousand britis pupils. Regarding the reliability of the test, the test designer states that in each block consisting of four test items "the probability of a person getting all four items correct by chance is. 004" (Manual p.17).

Pilot study

The applicability of the test to the study design was supported by the students' English teachers with respect to compatibility of grammatical structures of English courses the students studied in the school and the

grammatical constructs covered in the test. Furthermore, a pilot study with the four selected subjects at the same level of the groups was carried out.

To prepare the test for pilot study, the procedure recommended for administration of the test was followed except in one respect. As it was stated in its original format, the children were read the sentences and for each sentence they needed to select one of the four pictures that went with what the tester said. However, focusing on the subjects' reading measurement, the study required the subjects themselves to read the sentences and select the corresponding pictures among the four choices. Therefore, each sentence was printed in bold 12 font type in the middle of the A4 page on which the four pictures were painted.

Each of the four subjects selected for pilot study was tested individually. Each pupil was given the full instructions specified in the test manual but did not know anything in advance about the purpose of the study. The result as indicated in Table 3 showed some differences in the accuracy of doing the task. In this pilot study, as in the previous ones, a progressive decrease in score from the more skilled subject to the less skilled subject can be observed.

Table 3: The result of the pilot study on TROG

SUBJECTS	*S1*	*S2*	*S3*	*S4*
The number of blocks passed	*17*	*14*	*11*	*10*

As the test was expected to highlight the area of difficulty in understanding the grammatical constructs that pupils usually face at this age level, the similarities and differences were carefully examined. While the subjects showed correct performance for content words like nouns,

verbs, and adjectives, and easy structures such as two element/three-element combinations and comparative adjectives, all four had problems with difficult constructs like embedded sentences, postmodified subjects.

Main study

In the main study the same materials and procedure were used. The subjects were the same as those selected for the previous experiments. The material as was described, consisted of a sentence-picture matching task in which the subjects were presented with four pictures and a sentence and had to say which picture matched the sentence.

Results

The test was administered and the data was collected. The errors can be classified by presenting the percent of the items failed over the test as a whole in each of the selected four groups of the study (table 4). With respect to the number of wrong answers in each block, the mean percent of errors in a block for each group based on the equation "%error=100 x (N of wrong answers) / (10 x 4)" has been calculated. "10" is the number of the students in each block and "4" is the number of the groups. For example, the total number of the wrong answers for the group 4 in block 8-H (table 4) is "5" which is considered "12.5" percent error regarding the equation (100 x 5 / 10 x 4 = 12.5).

It is also possible to show the mean number of blocks (each block consisted of four given pictorial multiple choice items) passed by groups from the more to less skill level which are respectively 16.60, 13.50, 10.80 and 9.

The groups' performance (table 4) was particularly poor on block 20 (embedded sentence) with over 75 percent error and moderately poor on blocks 19 (neither/nor) with 48 percent, block 16 (above and below) with 44 percent, block 12 (reversible passive) with 41 percent, block 14 (postmodified subject) with 38 percent, block 10 (singular/plural noun inflection) with 36 percent and block 18 (relative clause with over 35 percent mean error. Subjects showed poor performance on block 17 (not only / but also). block 15 (x but not y(and block 9 (masculine / feminine pronoun). However, they performed very well on the other ten remaining blocks. The percent of error for all the blocks are shown in (table 4).

Table 4: The four groups' performance on TROG (percentages of errors) as the function of reading levels and grammatical contrasts

BLOCKS	*GROUPS*				
(FOUR ITEMS PER BLOCK)	*G1% OF ERR.*	*G2% Of ERR.*	*G3% OF ERR.*	*G4% OF ERR.*	*MEAN% OF GS. ERR. IN EACH BLOCK*
1-6 A-F (these blocks are omitted because few errors were made)					
7-G (singular/plural personal pronoun)	*0*	*0*	*2.5*	*10*	*3.12*
8-H (reversible active)	*5*	*5*	*0*	*12.5*	*5.67*
9-I (masculine/feminine pronoun)	*2.5*	*7.5*	*12.5*	*22.5*	*11.25*
10-J (singular/plural noun inflection)	*12.5*	*37.5*	*52.5*	*42.5*	*36.21*
11-K (comparative)	*0*	*5*	*5*	*17.5*	*6.87*
12-L (reversible passive)	*7.5*	*25*	*57.5*	*75*	*41.25*
13-M (in/on)	*0*	*2.5*	*15*	*12.5*	*7.5*
14-N (Postmodified subject)	*12.5*	*30*	*47.5*	*62.5*	*38.12*
15-O (x but not y)	*5*	*15*	*25.5*	*27.5*	*18.25*
16-P (above and below)	*22.5*	*20*	*65*	*70*	*44.3*
17-Q (not only but also	*2.5*	*20*	*27.5*	*30*	*20*
18-R (relative clause)	*7.5*	*37.5*	*47.5*	*47.5*	*35*
19-S (neither x nor y)	*0*	*35*	*77.5*	*80*	*48*
20-T (embedded sentence)	*40*	*80*	*57.5*	*95*	*75.62*
Mean % of error	*5.87*	*14.2*	*24.4*	*30.6*	

The one way ANOVA result shown in

Table 5 indicates a statistically significant difference between the groups. To show where the differences exist between the groups, the Scheffé test with 0.05 level of significance was applied. Those blocks in which no significant differences were observed were omitted.

Table 5: Mean per cent of errors among the groups and the result of one-way ANOVA of their differences vs=versus

BLOCK	*MEAN % OF ERRORS*	*F FATIO*	*PROB.*	*SCHEFFE TESt AT. 0.05 LEVEL*
T (embedded sentence)	*75.62*	*12.33*	*0.000*	*1 vs 2, 3, 4*
S (neither x nor y)	*48.12*	*13.31*	*0.000*	*1 vs 3, 4 2 vs 4*
P (above and below)	*44.37*	*7.32*	*0.0006*	*1, 2 vs 3, 4*
L (reversible passive)	*41.25*	*14.88*	*0.000*	*1 vs 3, 4 2 vs 4*
N (Postmodified subject)	*38.12*	*5.44*	*0.0034*	*1 vs 4*
J (singular / plural noun infl.)	*36.25*	*7.581*	*0.000*	*1 vs 3, 4*
R (relative clause)	*35*	*4.095*	*0.0134*	*1 vs 3, 4*
G(singular/plural pers. pronoum)	*3.125*	*3.909*	*0.0163*	*1, 2 vs 4*

Furthermore, a two way analysis of variance (4 different skill levels in 20 different grammatical blocks) of the total number of errors for all the blocks showed a significant difference between the groups (Table 6), F (3, 36) = 68.25 P<0.001. The effect of different grammatical contrasts was also significant F (19, 684) = 51.95 P<0.001. The significance of F (57, 684)=4.26 P<0.01 for the interaction resulted from differences between the groups on complex structures like embedded statements, passives and relative clauses but performing similarly in the easy grammatical constructions listed from A to I.

Table 6: ANOVA analysis of grammatical contrasts

keys: GR=Groups CGP=Classification of different grammatical contrasts

SOURCE	SS	D.F.	MS	F	P
Gr	117.544	3	39.181	68.257	0.000
CGP	566.644	19	29.823	51.955	0.000
GR X CGP	139.481	57	2.447	4.263	0.000
Explained	823.669	79	10.426	18.163	0.000
Residual	413.300	720	0.574		
Total	1236.969	799	1.548		

A comparison between the order of difficulty established by the TROG test based on percent of blocks passed by native children speakers (4-12 years old) and the present study confirmed that the problematic areas were by and large the same (Table 7). Disregarding the difference between the norm group's age range (4-12) with the current study's (10-15), one cna observe that higher skilled groups equalled or even exceeded the performance of the norm group while the lower level groups scored somewhat less.

Table 7: Mean per cent of some of the blocks passed by different groups on TROG

BLOCK	G1	G2	G3	G4	NORM G
Other blocks have been omitted due to relative similarity of performance between the groups					
J (singular/ plural noun inflection	50	0	0	0	60
L (reversible passive)	80	30	0	0	55
N (Postmodified subject)	60	40	20	10	50
P (above and below)	50	60	0	10	52
R (relative clause)	70	30	20	10	36
S (neither x nor y)	100	50	10	10	42
T (embedded sentence)	20	0	0	0	4
Total	61	30	7	6	43

Discussion

The result shows that there is a relation between L2 syntactic knowledge and L2 reading attainment. What significantly separates the groups is performance on the complex structures. There is a good support for the idea that the less skilled readers have a general deficit at the level of complex sentence processing. In particular at embedded sentence, group one outnumbered the other groups and the difference was singnificant at 0.05 level (table 4).

In this type of structure "The book that the pencil is on is red" the pronoun "that" is removed "The book the pencil is on is red". This is usually termed a reduced simultaneously with understanding subject-verb agreement and singular / plural objects in the test, there is also the possibility of cognitive overload.

Nevertheless, regardless of the necessary qualifications that a grammatical test should have, TROG was able to diagnose some of the weaknesses that the lower level reading groups in comparison to higher ones suffer from. It also shed light on the structures which the four groups performed similarly.

The findings should be viewed in terms of the grammatical test that was applied and the orientation that the study has pursued. TROG was originally designed for those who suffer from language disorders to check their understanding of English grammatical contrasts. With respect to the result of the pilot study, it was thought to be suitable for use in the present study. Being in pictorial design and multiple choice formats and covering critical English structures, the test made it possible to get more reliable results in comparison to previous experiments. The test designer argues that the probability of selecting a correct answer by chance is 0.004.

Furthermore, the vocabulary level of the test was kept easy, so as to focus on the subjects' problems in syntactic structures which were ordered on the scale of easy to difficult. Patterns like embedded, passive and relative clauses, of critical importance to reading comprehension, were also included.

In relation the emphasis Alderson (1984) puts on the process rather than the procuct of reading comprehension and its subskills, the study tried to deal with the explanation of the processes underlying understanding of those above mentioned structures. A similarity was observed between the type of errors made by the subjects in this study with those made by ths subjects of other studies reviewed in the study.

In spite of the advantages, the limitations of the test should be outlined. For example, the inclusion of a very difficult structure like embedded sentence (block 20) is questionable. The mean per cent of errors in this block four groups is 75. Additionally, just 4 percent of the native English speaking norm group have been able to pass this block. Also the pictorial design of the test has constrained the use of other critical structures in English like "reported speech" and "conditional sentences". In spite of the high reliability of the test (0.004), it seems that the types of distracters used for each test item need to be improved in line with guidelines found to be significant in language-testing.

To conclude, despite the advantages and disadvantages of TROG, the experiment was apparently able to pinpoint the groups' understanding of English grammatical constructs as defined by TROG, and its interaction with the degree of their L2 reading proficiency.

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