

## **The Influence of the Transfer of Learning on Reading Speed**

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### **Abstract**

Reading English texts, efficiently, compels Arab learners to eliminate the habits they have already established in reading Arabic. This is due to the fact that Arab learners of English cannot utilize all the reading skills they have developed in their native language in reading English because English applies the Roman system of writing which differs sharply from that of Arabic. This means that they need to be exposed to English more than Arabic. On the other hand, excessive exposure to the foreign language may result in lowering the speed of reading the native language. Hence, this study is set to investigate this point.

The hypothesis of this study assumes that university students of English would read in lower speed, compared to their counterparts of Arabic, when reading Arabic texts because of the interference. The procedure of the study applied the device of the experimental and control group to study the differences in reading speed among the subjects of the study.

The results of the study have shown that the hypothesis is positive, which means that interference has taken place to the extent that reading speed has been lowered to show significant statistical differences at 0.05 in a one-tailed hypothesis. There are also differences according to sex and homogeneity.

### **1. Introduction:**

**1.1. Definitions:** The Following are the main terms used in this study.

**1.1.1. Transfer:** "It is a term used by psychologists in their account of the way in which present learning is affected by past learning" (Wilkins, 1972: 198–199).

Transfer is of two types: when a learner is subjected to a new learning task, he will try to make use of the knowledge and skills, he has already

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possessed, to ease the acquisition of the new learning task. The transfer may prove to be useful because the structure of the two learning tasks is similar, and here we get positive transfer or facilitation. Or else, it may prove to be useless or even harmful because the structure of the two tasks is different. Hence, we get negative transfer or interference. Those kinds of transfer occur in language learning, so when learning a foreign language, the learner tends to use what he has learnt in his native language and transfer it to the foreign language. When the foreign language is similar to the native language the transfer would be positive and when the two languages are different the transfer would be negative (ibid: 198–200).

**1.1.2. Skill** (in language teaching) refers to "(...) any linguistic accomplishment, but usually one which is assumed to be, or capable of becoming, automatic so that its exercise is spontaneous" (Brumfit, 1983: 208).

**1.1.3. Exposure** refers to the arrangements for letting the learner come into contact with the target language, or the time during which the learner is exposed to the target language (Ibid: 189).

**1.1.4. Reading Speed** refers to the skill of "recognition and response to the words and constructions already learnt and especially to make recognition immediate and response quick" (Gurrey, 1972: 86–87).

**1.1.5. Retroactive Transfer** is the throwback effect of a latter experience on the performance of an earlier one. If learning a new experience helps in performing the earlier one, the proactive facilitation or positive transfer has taken place. But, if the latter experience is hindrance then retroactive transfer (interference) has taken place (Mednick, 1964: 92).

**1.2 Theoretical Considerations:** Reading is one of the four major language skills identified by audiolingualism (in addition to listening, speaking, and writing). It is fundamental for the modern man since it helps to enhance his understanding of the world around him, and to develop his professional abilities in his specific field of work and activity. Reading is also helpful to educate oneself and promote one's interests and education. Given the fact that the time one can afford for reading is limited in one way or another, maximum use of the available time should be made. To do so, it is necessary to develop high speed in reading.

The significance and definition of reading speed, mentioned above, equally apply to reading in the native language and in the foreign language. Yet, the two situations are different. Reading in the foreign language involves the establishment of new habits. It also involves the persistence of the previously established habits i.e. the reading habits of the native language (See Corder, 1973: 132-33). This means that to be able to read efficiently

and with high speed, the foreign language learner has to eliminate and abandon the influence of the reading habits of his native language.

Congruently, Language transfer is considered a central process in foreign language teaching, which makes its investigation worthwhile: "(...) it is thought to interact with L<sub>2</sub> (the second language) developmental processes, in ways that are far from fully understood. Differences between the L<sub>1</sub> (native language) and the L<sub>2</sub> may affect second language learning (...) in the rate at which target language features are acquired" (Richards, 1985: 66).

However, reading habits of the native language are transferred to the new habits either positively (transfer) or negatively (interference). When the transfer is negative it hinders the development of the reading speed in foreign language. Most probably, this type of transfer occurs when the writing system of the foreign language differs from that of the native language. Arab learners of English, consequently, cannot utilize the reading skills they have developed in their native language (Arabic) when they learn reading in English because English applies the Roman system of writing which differs sharply from that of Arabic. Even the physical effort (eye movement, for example) that is required in reading each system is different. Arabic system of writing goes from right to left, whereas English goes from left to right. This means that developing eye movements to the opposite direction requires considerable time and effort to be established (Nuttall, 1982: 33, 34, 37).

Reading English texts in a sufficient way, compels Arab learners to eliminate the habits they have established in reading Arabic texts. This means that they need to be exposed to English more than they are exposed to Arabic to get the new habits dominate the old ones. Nonetheless, lack of exposure to the native language and attempts to ignore its habits may result in lowering the speed of reading in the native language itself. Precisely, this is the point that this study tries to investigate.

## **2. This Study:**

**2.1. The problem:** This study is set to investigate the influence of the transfer of learning to develop the reading skill in the foreign language on the reading speed in the native language.

**2.2. The hypothesis:** This study assumes that university students of the English department would read in lower speed than students of the Arabic department of the same level when they both read in their native language as a result of the retroactive transfer of learning.

**3. Procedure:** The procedure of this study comprises a description of the experimental design, the sample, the data and the test.

**3.1. Experimental design:** A basic research procedure for a problem like this has been the study of the learners' linguistic output, and making comparisons with studies of the native language. The use of an experimental

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group and a control group has developed much in this concern (See Stern, 1983: 320–321, 396). So, the experimental procedure applied in this study, to investigate transfer, has the following design:

Experimental Group	Learn A	Learn B	Test on A
Control Group	Learn A	Rest	Test on A

(Adopted from Mednic, 1964: 92)

Where learn A for both groups is learning to read in the native language, learn B for the experimental group is learning to read in the foreign language (English in our case). Test on A refers to testing the reading speed in the native language for both groups.

This study, then, is set to measure the retroactive transfer or the throwback effect of task B on task A. So, if B helps in the performance of A, the positive transfer has taken place, and if B hinders it then negative transfer has taken place.

**3.2. Sample:** Subjects were (70) students comprising the experimental and control groups. They were divided into two groups of (35) each, one included students of English and represented the experimental group, while the other included students of Arabic and represented the control group. They were taking their undergraduate courses in the College of Education, University of Basra. There were (15) males and (20) females in each group. Each subject has finished at least three years in his /her department, and is doing his fourth year. At the time of administering the test they have finished the first semester of the fourth year. The (35) students of English were all fourth year students in the English Department when the test was administered, while the (35) students of Arabic represent a randomly elected sample of the fourth year in the Arabic Department from those volunteered to the study representing 64% of that population.

Exposure to the native language and the foreign language is different between the two groups. The experimental group is exposed to English more than to Arabic throughout the four academic years. Whereas most of the exposure and instruction of the control group is done through Arabic except one course (literary translation), which uses both English and Arabic texts.

Table I below illustrates the number of teaching hours that each group has been exposed to.\*

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\* The number of teaching hours is taken from the syllabus of the departments of English and Arabic at the College of Education, University of Basra.

**Table I: Teaching Hours Throughout the four Academic Years**

Language of Instruction	Experimental Group	Control Group
English	2054	28
Arabic	493	2812

In addition to the exposure in the classroom, the subjects do their reading, daily preparation, writing academic reports and examinations preparation in the language of instruction of the courses for each group. This means that a comparable proportion of exposure that they get outside the classroom is realized through the language of instruction for each group.

**3.3. Data:** The data that were entered in the analysis included the scores on a reading speed test. The researcher counted the speed of reading in words per minute. The scores were then tabulated and treated statistically as will be explained hereunder.

**3.4. The test:** The test consisted of an unseen reading passage in Arabic of about (370) words; it was made up of expository prose with no new eloquent words and expressions in order to ensure that all the reading material is familiar and within the grasp of all the subjects.

The researcher explained that the subjects were required to read the passage once and decide a suitable title for its content. In fact the researcher was not interested in the choice of the title but wanted to make sure that the subjects would read the whole passage attentively. The researcher also explained to them that the activity was not competitive so that they would not cheat or read at a different speed rather than their ordinary one. Then, the researcher explained how the activity was to be organized. All of that was done before submitting the text to the subjects. The subjects received a copy each, and the researcher asked them to start reading. While the subjects were reading a demonstrator's task was to record the time that elapsed using a watch with a second-hand and writing figures on the blackboard as follows:

<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>( 1 minute )</b>
<b>7</b>	<b>8</b>	<b>9</b>	<b>10</b>	<b>11</b>	<b>12</b>	<b>( 2 minutes)</b>
<b>13</b>	<b>14</b>	<b>15</b>	<b>16</b>	<b>17</b>	<b>18</b>	<b>( 3 minutes)</b>

The figures represented ten-second intervals written on the board as the seconds pass. Each line represented one minute. When finished reading, each subject made a note of the time on a separate bad of paper, handed to him with the text and as instructed earlier. The speed was then calculated in words per minute by means of this equation:

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$$X/Y \times 6 = Z$$

X is the number of words in the text.

Y is the number of ten-second intervals required to read the text.

6 is the number of ten-second intervals in one minute.

Z is the reading speed in words per-minute.

### 4. Results:

The aim of the research, as noted earlier, is to find out the differences in reading speed between the experimental and control group in the native language.

Table II below shows the means and standard deviation of the experimental and control groups subdivided according to sex.

Table II : Means and Standard Deviation						
	Experimental Group		Control Group		Combined	
-	F	M	F	M	F	M
X	147.45	136.4	151.5	167.58	149.65	146.72
S.D	37.38	18.11	48.69	44.07	34.86	38.80
-	Combined		Combined			
X	142.71		160.23			
S.D	30.77		46.26			

The t values were obtained to find out the differences between the two groups, and to account for any differences that may result from the sex variable.

The following formula was used to obtain the t values:

$$t = \frac{\bar{X}_1 - \bar{X}_2}{\sqrt{\frac{S_1(n_1-1) + S_2(n_2-1)}{n_1 + n_2 - 2} \left[ \frac{1}{n_1} + \frac{1}{n_2} \right]}}$$

Adopted from (Guilford & Fruchter 1978: 157)

The results indicated that there is a significant difference between the two groups.

Table III t Values

Groups	T
Experimental vs. Control	1.865*
Experimental M vs. F	1.05
Control M vs. F	1.025
Control M vs. Experimental M	2.57**
Control F vs. Experimental F	0.28

\* The t value is significant at the 0.05 level (one-tailed hypothesis).

\*\* The t value is significant at the 0.02 level (two-tailed hypothesis).

The results can be summarized as follows:

- There is a statistically significant difference between subjects of the experimental group and control group in the skill being tested.
- There are statistically significant differences according to the sex variable within both groups.
- The most significant statistical difference is found between males of the experimental group and males of the control group.
- There is no significant statistical difference between females of the control group and the experimental.

## 5. Conclusion:

**5.1** It is apparent from the results that the research hypothesis is positive. That is to say, retroactive transfer has occurred to the extent that it lowered the reading speed of the experimental group as compared to the control group. The difference between the two groups was statistically significant at 0.05 level (one-tailed hypothesis).

**5.2.** As regarding the sex variable it was revealed that males in general tend to be more affected by transfer than females, since males of the experimental group read with lower speed than females of the same group. Males of the control group read with higher speed than females of the same group. The high statistical difference between males and females (0.02) is caused by males of both groups. Females of the two groups didn't show significant statistical differences in their reading speed.

**5.3.** The experimental group has more homogeneity than the control group. This was revealed by the lower SD of this group (30.77) as compared to that of the control group (46.26). This could be explained as due to the fact that the reading speed would develop at various rates under the influence of exposure. This point is supported by (Harris, 1969: 59).

**5.4.** The difference caused by the sex variable can't be explained through the results of this research. No previous study is available to the researcher to explain this influence through a sociolinguistic perspective. Further research

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will hopefully disclose the reasons behind the difference in reading speed according to sex, empirically, and in the near future.

**5.5.** This research does not, at all, claim to provide ready-made solutions to a teaching problem. All that it presents is an insight in a subject that worries those concerned with foreign language teaching. Hopefully it would help them to reach at more accurate decisions when dealing with this subject. Those decisions may take into their account the relative importance of the reading speed in the native language as compared to that in the foreign language according to the way they are stated in the teaching objectives, and the social needs and functions of the learners.

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## ملخص باللغة العربية

### أثر إنتقال التعلم على سرعة القراءة

تحتّم قراءة النصوص العربية بكفاءة على المتعلم العربي للغة الانكليزية التخلي الى حد كبير عن عادات القراءة التي إكتسبها وتجدرت لديه في تعلم لغته الام، وذلك يعود الى الاختلافات الكثيرة بين نظامي الكتابة في اللغتين. وهذا يعني بالضرورة أن يخضع متعلم اللغة الانكليزية الى عملية تعرض مكثفة لتلك اللغة يفوق تعرضه الى لغته الأم كي يتيح المجال للعادات الجديدة أن تهيمن على العادات السابقة. ولكن من الناحية الاخرى قد يؤدي التعرض المفرط للغة الأجنبية وما يرافقه من نقص في التعرض للغة الأم وإهمال عاداتها الى إنخفاض سرعة القراءة في اللغة الأم نفسها. ومن هذا الإفتراض إنطلقت هذه الدراسة لبحث أثر إنتقال التعلم على سرعة القراءة.

بُنيت هذه الدراسة على فرضية مفادها أن سرعة القراءة باللغة العربية لدى طلبة الجامعة في قسم اللغة الإنكليزية أبطأ من سرعة القراءة لدى أقرانهم في قسم اللغة العربية نتيجة للإنتقال السلبي للتعلم. وعليه إعتمدت الدراسة المجموعة التجريبية والمجموعة الضابطة وسيلة لدراسة الفروق بين المشاركين في الدراسة ضمن موضوع البحث.

أظهرت النتائج أن فرضية البحث موجبة مما يعني أن أثر الإنتقال السلبي للتعلم قد حصل لدرجة أن سرعة القراءة قد إنخفضت لدى المجموعة التجريبية إنخفاضاً له دلالة إحصائية عند مستوى (0.05) في فرضية أحادية الذيل. وكذلك كشفت النتائج عن إختلافات ذات دلالة إحصائية فيما يخص متغيرات الجنس والتجانس.