

The Effectiveness of Psychotypology-reduced L2 Teaching On Three Linguistically different Groups Of Iranian Undergraduate EFL Learners' Reading Comprehension Skill

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Abstract

Three decades have passed since Kellerman (1978) introduced the concept of “psychotypology” within the realm of psycholinguistic studies. He defines it as “the proximity between the L1 and the L2 sensed by the L2 learners” exerting a limiting role on the extent to which the L2 learners would be able to make the best advantage of their language transfer potentials. However, psychotypological studies have not been paid the due attention they merit. The present article attempted to shed more light on the concept of psychotypology and the effect of psychotypology-reduced English teaching on reading comprehension of linguistically distinct adult L2 learners. Furthermore, a further attempt was made to delve into surveying the interactional effect of subjects’ motivational and attitudinal profiles on their psychotypology-reduced reading comprehension. The final results supported the main effect of psychotypology-reduced L2 teaching; however, the interactional effects did not meet the significance level.

Keywords: Psychotypology, Language transfer, Reading comprehension, Motivation, Attitude

1. Introduction

One of the most appropriate ways by the mediation of which L2 learners would be able to achieve the feat of SLA has long been believed to be applying language transfer processes. There is an enormous corpus of evidence underneath the issue that L1 plays an enormous role in assisting the L2 learners in their mastery over the L2 (Ellis, 1994; Gass, 1996; Kecskes & Papp, 2000a, 2000b; Kellerman, 1979; Odlin, 1989; Pavlenko, 1999; Singleton, 1995; Sharwood Smith & Kellerman, 1981). In principle it appears that everything can be transferred in the realm of L2 development (e.g., lexicon, discourse, semantics, syntax, phonetics, phonology and writing system; see Odlin, 1989). Jarvis and Pavlenko (2008) categorized such variables into learner-based (personality, aptitude and age) and language-based variables. Recently research into transfer studies has dwelt upon a wide array of areas, ranging from phonological influence (e.g., Bannert, 2005; Beach, Burnham & Kitamura, 2001) to the transfer of discourse patterns (e.g., Kellerman, 2001), metalinguistic awareness (e.g., Jessner, 1999; O’Laoire & Burke, 2000), pragmatic competence (e.g., Jorda, 2005), syntax (e.g., König et al. 2005), and lexis (e.g., Ringbom, 2001), just to mention a few.

According to Kellerman (1979) transfer processes are constrained by a range of variables including psychotypology. He defines it as “awareness of the typological relations between distinct languages” and claims that it is of no unvarying nature and it would go under revision as the learners obtain more information about the L2. The footprints of psychotypology can be discerned in a variety of L2 learning related fields. For instance they have been recognized in the transfer of lexical items in a number of studies (e.g. Cenoz, Hammarberg, de Angelis and Selinker, Ringbom, Herwig), in the realm of cognate transference studies (e.g., Kecskes & Papp, 2000), interlanguage studies (e.g., de Angelis & Selinker, 2001), and in the organization of the foreign mental lexicon (e.g., Ecke, 2001; Herwig, 2001).

It has also been found that the underlying processes in lexical transfer are common to learners of varying linguistic backgrounds. Supporting evidence as regards such claim has been advanced by Agustín Llach (2007b) for Spanish and German primary school EFL learners, Celaya and Torras (2001) for Catalan and Spanish primary school EFL learners, and Bouvy (2000) for French primary school EFL learners.

As the transfer studies mostly concern a large area of nearly all aspects of L1 transferred into the L2; i.e. positive transfer: cognates, lexical selection (Jarvis, 2000), negative transfer: lexical errors (Celaya & Torras, 2001; Celaya & Naves, 2009), the rate of acquisition of learners of different L1 backgrounds (Altenberg & Granger, 2002; Kempe & Mac Whinney, 1996), or the linguistic aspect affected by transfer (syntax, morphology, lexis) (Arabski, 2006), we decided to delve into the issue of language transfer from an entirely different perspective and hypothesized that, on the whole, it is possible to shift the focus of attention from the transferable items to the extent that it could be facilitated through minimizing at least one of its characteristic constraints; i.e. psychotypology.

2. Research Questions

The variables determined to be further investigated throughout the present study included; psychotypology, attitude, motivation, age and gender of linguistically distinct adult EFL learners. The underlying reason for the selection of such variables was that they would both incorporate the “affective” as well as the “cognitive” factors contributing to the process of second language learning. All through the study it was basically assumed that attitude is a subcomponent of sociocultural factors (strongly endorsed by Brown, 2000), motivation as an affective factor (*ibid.*), and psychotypology as a psycholinguistic/cognitive one (Kellerman, 1978). Broadly speaking, the following queries were sought to be addressed through the present study.

- 1- To what degree does psychotypology appear to be significant in the adult L2 learners’ reading comprehension development?
- 2- To what degree does the interaction effect of psychotypology reduced English teaching and gender affect adult L2 learners’ reading comprehension development?
- 3- To what degree does the interaction effect of psychotypology reduced English teaching and attitude affect adult L2 learners’ reading comprehension development?
- 4- To what degree does the interaction effect of psychotypology reduced English teaching and motivation affect adult L2 learners’ reading comprehension development?

3. Significance of the Study

The present study intended to unravel a set of psychotypologically affected aspects of L2 learners’ perceptual traits assumed to arise from their L2 typological perception. Throughout the study, based on the experiential information of the researcher, it was assumed that by advancing educational comments on the part of the L2 teachers the L2 learners would be better able to attenuate the psychological/psychotypological hurdles impeding them from proper L2 learning. The ultimate objective of this study aimed at affording the teachers, curriculum planners, and materials developers with a terra firma to delve more into the uncharted field of the perception of typological distance (psychotypology) which in turn would benefit them to tap into further intricacies of language transfer processes.

4. Literature Review

Broadly speaking, the study of psychotypology is closely tied to the concept of “language transfer” the root of which traces back to as early as Wilhelm von Humboldt (1767–1835) endorsing the dependability of the L2 on the L1 and asserting that the relation between ‘language’ and ‘thought’ is so highly specific to the native language to the extent that full attainment of another language is impossible. Condon (1973) attributed the concept of transfer to L2 learners’ perception. He focused on “perception” as one of the integral variables contributing to the process of language transfer and defined it as the “filtering of information even before it is stored in memory, resulting in a selective form of consciousness”. Tracing their footsteps Schwartz and Sprouse (e.g., 1994, 1996) argued in favor of a full transfer model, i.e., the Full Transfer/Full Access Hypothesis (FT/FA) according to which all “syntactic properties” of the L1 initially constitute a base for the new developing grammar, which is constructed with the involvement of Universal Grammar.

Currently the scope of language transfer has permeated the boundaries of semantics or syntax and it has incorporated the pragmatic knowledge between the L1 and the L2. For instance, Olshain (1983) attempted studying the ‘pragmatic knowledge’ between L1 and L2 in “apology situations” and concluded that while individual situations play a role in a learner’s choice of strategies in making an apology, language transfer also guides the choices to a large extent.

In a nutshell three broad transfer theories have been posited so far; a) The CEM (The Cumulative Enhancement Model) hypothesis suggesting that all previously learned languages can act as a transfer source in L3 acquisition; b) The LSFH

(Last System First hypothesis, Falk & Bardel, 2010) suggesting that an L2 is favored as transfer source relatively independently of the relative typological similarity or genetic relatedness of the languages involved; and c) The TPM (Typological Primacy Model) hypothesis according to which psychotypology determines whether the L1 or the L2 will be transferred in L3 acquisition.

As already noted earlier, in addition to the major contributing consideration as regards transfer process a number of constraining factors have also been posited to impose intrinsic limitations on it. Such variables, according to Jarvis (2000, pp. 260-261), are claimed to be age, personality, motivation and language attitude, social, educational and cultural background, language background, type and amount of target language exposure, target language proficiency, language distance between the L1 and the target language, task type and area of language use and prototypicality and markedness of the language feature. Odlin (1989) also adopted a similar position by asserting that “transfer can involve more than native language influence alone” and concluded a “fully adequate definition of transfer seems unattainable without adequate definitions of many other terms, such as strategy, process and simplification....in a sense that one might plausibly argue that a fully adequate definition of transfer presupposes a fully adequate definition of language” (p. 28). Parallel to him recently, advocating a compatible position, Ellis (2008) has also endorsed that “Evidence for transfer in all aspects of language- phonology, syntax, semantics, and pragmatics is truly abundant”.

4.1 The necessity of simultaneously plummeting L2 learners' negative attitudes and enhancing their motivational prospects through psychotypologically treating the L2 learners

The psychotypological profiles of L2 learners appear to be highly intertwined with their attitudinal status. The common ground between the attitudes and psychotypological profiles could be traced in Bakers' (1998) introduction of attitudinal characteristics; a) Attitudes are cognitive and affective, b) Attitudes are dimensional rather than bipolar – they vary in degree of favorability / unfavorability, c) Attitudes predispose a person to act in a certain way, but the relationship between attitudes and actions is not a strong one, d) Attitudes are learned, not inherited or genetically endowed. e) Attitudes tend to persist but they can be modified by experience. The common ground in between them turns up to be being both cognitive as well as affective, learned not inherited, and potentially modifiable. The complexity of attitude studies has of course been confirmed through different sorts of studies (Csizér & Dörnyei, 2005; Gardner, 1979, 2001a, 2001b; Gardner et al., 2004; Masgoret & Gardner, 2003) most of which converge on the issue that ‘positive attitudes’ towards the L2, its speakers and its ‘culture’ can be expected to enhance learning whereas ‘negative’ attitudes would most likely impede (or at least slowdown) its. However, it should be remembered that a straightforward relation between one's attitudes and L2 achievement still begs the question as the relation between the two is a highly complicated one. As a straightforward relation between one's attitude and L2 achievement still begs the question the present study was intended for seeking any possible relevance between the psychotypological trends of the adult L2 learners and their attitudinal perspectives. As a further goal the relevance of L2 learners' motivational profiles to their psychotypological trends was tended to be further investigated. Most studies coincide in pointing out the positive relationship between language achievement and motivation (Bernaus & Gardner, 2008; Yu & Watkins, 2008) and more specifically some studies report a positive effect of motivation on different aspects of FL vocabulary learning (Gardner & MacIntyre, 1991). However, such a correspondence has not been unanimously borne out. For instance, in 2009 a study conducted by Fernandez Fontecha and Agustin Llach revealed that lexical transfer (incorporating learners' psychotypology) is independent of motivation.

4.2. Language Transfer Studies in Iran

To the best of our knowledge specific studies to pin down the effectiveness of psychotypology have extremely rarely been conducted in Iran. The reason for such a shortcoming could be claimed to be the extreme subjectivity of such a notion. Instead, it emerges that transfer studies have almost been abundantly utilized. For instance, Faghih (1997) overviewed language transfer and a renewal of interest in contrastive analysis (CA) as a suitable testing ground for language transfer or Ghazanfari (2003) examined interference from the perspective of language proficiency in a study of Iranian English-as-a-Foreign-Language learners or Yarmohammadi (1995) focused upon formulating contrasts between American English and modern Persian within the system of ‘reported speech’.

5. Method and Design of the Study

The present study comprised three distinct pretest-posttest control group experimental designs with utilization of randomization for each group of participants. The dependent variable in the study was decided to be the level of ‘English reading comprehension’ in the EFL adult learners and the independent variable was determined to be ‘comment oriented L2 teaching’ (reducing the psychotypology profiles of the L2 learners) to the subjects.

5.1 Study Participants

One hundred and fifty randomly selected subjects in comprising three distinct sample groups each containing fifty individuals took part in the study. They were randomly derived from three branches of Islamic Azad University; Kaboudar Ahang IAU, Kermanshah IAU, and finally Shoushtar IAU, representing three distinct language varieties; Turkish, Kurdish, and Arabic respectively. The age range of the subjects ran from nineteen to forty four years of age with a mean of 26.88 and a standard deviation of 4.842. The first group; Turkish speakers was derived from a population of 121 undergraduate students studying "Islamic Laws". The second group; Kurdish speakers, was derived from a population of 109 undergraduate students studying accounting and the last group; Arabic speakers was derived from a population of 93 undergraduate students studying business management. They were encouraged to attend the study by being assigned a free of charge ELT class in order to have their general reading comprehension improved. Three professional instructors; i.e. including the researcher and two substitutes, treated the subjects for seven sessions. They were also fully knowledgeable as to the textbooks' contents taught to the subjects and were required to keep using the L2 all through the training sessions.

5.2 Instruments

The most appropriate modus operandi to investigate into the research topic emerged to be conducting a couple of opinionnaires. The choice of such a decision was theoretically motivated; i.e., to ensure that all subjects would have the same frame of reference in their responses and to code the responses directly as data and feed it/them into SPSS software for analysis. The items in the opinionnaires revolved around the feelings and impressions of the subjects toward the English language, its interlocutors, structure, pronunciation system, and the motivating reasons of the subjects for trying to learn it. To substantiate the validity and reliability of the opinionnaire items two of the researcher's colleagues; one an MA holder lecturer, and the other a PhD candidate, were consulted to contribute their own ideas on the points targeted. The opinionnaires were chiefly of three distinct types. The first contained twenty items on psychotypology presumably encountered by the language learners involving items on the proximity (in terms of the syntax, pronunciation, or vocabulary items) sensed by the language learners between the languages involved. The second centered on the extent of the motivation (both integrative and instrumental) experienced by the subjects. As with the psychotypology opinionnaire the items on this opinionnaire also centered on investigating into the subjects' initial motivational status prior to the treatment and to truly decipher the motivational nuances frequently encountered by them. The ultimate objective underlying asking the participants such questions was to make a comparison and contrast between the scores obtained on the participants' motivational status and their status on the psychotypological-reduced language learning. The third opinionnaire centered on the extent of attitude already developed by the study subjects. The attitudinal question items mostly involved social, political or economical barriers inherent in the L2 learning which in turn would hinder the proper acquisition of it. To empirically investigate the impact of psychotypology reduction on L2 achievement of the study subjects it was decided to treat them using language liaison comments. To get a general grasp of reading comprehension status of the study subjects two parallel sets of reading comprehension tests were designed and administered to them (prior and subsequent to the treatment) to work out if there was any meaningful correlation between them. They were devised in the form of multiple choice complete random sampling cloze tests and were almost of a roughly equal level of readability; i.e. ($r_1 = 21.6$; $r_2 = 25.5$) as well as reliability; i.e. 0.23 & 0.46 respectively. Pre and post treatment reading comprehension tests; i.e. RC1 & RC2, were derived from a reading passage in the textbook "Reading through Interaction" by B. Wegmann and M. Knezevic (2001). Throughout the treatment two English teaching textbooks served as the teaching materials to teach loan words and cognates to the subjects; i.e. (a) "Interchange (1)" by Jack C. Richards, Jonathon Hull, and Susan Proctor, (b) "Inside Meaning (1)" by Arline Burgmeier and Cheryl Boyd Zimmerman (2009). Seven deliberately chosen reading passages were selected from each textbook; i.e. fourteen passages all in all. Three separate lists of cognates and loan words corresponding to the local languages used by the L2 learners were also prepared and handed to the substitutes by the researcher. A major number of these items were collected through the dictionary of "Webster New World Dictionary (third edition)" and "internet". The control subjects received no special pedagogical comment rather they received traditional grammatical instructions; basically based on different prepositions, tenses, and passive/active sentences for fifteen minutes every session.

5.3 Procedure

Three randomly selected sample groups attended the study each comprising fifty subjects; 150 altogether. The instructors, already familiar with the respective language spoken by subjects, were individually contacted nearly ten days prior to the treatment and given the teaching materials. The subjects underwent L2 reading comprehension instruction for nine sessions whose first and last teaching sessions were devoted to the pretest and the posttest of the study. In the first step of the study three sets of opinionnaires, structured according to Likert scale, were administered to

the subjects in all three sample groups. The opinionnaires were on psychotypological, motivational, attitudinal profiles of the study subjects. A time limit of 60 minutes; i.e. one minute for each item was given to the subjects. No subject took longer time than the allocated to respond the items. Subsequent to the administration of the opinionnaires a reading comprehension cloze test, containing 70 items was also administered to them. The subjects were given 50 minutes to do the test. Afterwards the subjects in each sample group were randomly assigned into two groups; i.e. experimental, control. Each group comprised 25 subjects. The instructors were advised to adopt a unanimous teaching methodology (moderate form of Audiolingual Approach) throughout the treatment sessions. They were also required to teach the materials by the mediation of frequently resorting to points of commonality and liaison between the two languages involved as well as the cognates and loan words common in them. The comments were mostly afforded in English but using the subjects' local language or even Persian to clarify the troublesome points was not entirely forbidden. In the final session three equal sets of opinionnaires were administered to the subjects in all three sample groups to see if there was any difference between their initial and final psychotypological, motivational, attitudinal profiles. Following doing the opinionnaires the subjects were administered a parallel reading comprehension test (RC2) of nearly the same level of reliability and readability of the previously administered reading comprehension test (RC1) to see if there was any meaningful difference in the mean scores in between the control and experimental groups involved.

5.4 Data Collection

As already noted above in the first stage of the study two parallel reading comprehension tests of a total score of 70 were administered to the subjects both at the outset and final stage of the treatment. In the second stage of the study three distinct opinionnaires on psychotypological, motivational and attitudinal profiles of the L2 learners were constructed and distributed among the subjects. Each questionnaire contained twenty items. The items were constructed based on the Likert test of probability of four distinct choices. There was no specific time limit for answering the items; however, as the number of items was not a great one; i.e. 60 in total, they were done in almost one hour. The items on questionnaires were mostly designed to elicit a negative response from the subjects. The scores assigned to each choice in the items were assumed of being of equal value.

5.5 Data Analysis

To assess the first study question three distinct independent-samples t-test(s) were employed. To assess the rest of the study questions a range of two way ANOVA statistical measures were utilized.

5.5.1 General Data Presentation

General data on the number, gender, linguistic backgrounds, RC1 scores prior and subsequent to the treatment of subjects attending the study are presented by Tables 1 & 2 below.

<Tables 1-4 about here>

As already mentioned, three sets of scores; i.e. attitude, motivation and psychotypology along with a reading comprehension test for each sample were derived prior and subsequent to the administration of questionnaires. The mean scores obtained in each group have been represented in table 5 depicting the overall data in one look.

<Tables 5 & 6 about here>

6. Conclusions and Discussions

To address the first study question the mean psychotypological scores of the experimental Turkish, Kurdish and Arabic speaking subjects before and following the treatment were calculated to be 3.21, 3.34 and 3.38 as opposed to 2.87, 2.64 and 3.34. In the control groups the mean psychotypological scores of Turkish, Kurdish and Arabic speaking subjects before and following the treatment were calculated to be 3.51, 3.40 and 3.45 as opposed to 3.462, 3.464 and 3.456.

The mean reading comprehension scores of the experimental Turkish, Kurdish, and Arabic speaking subjects before the treatment were estimated to be 34.08, 32.88 and 32.16 respectively but their mean reading comprehension scores increased to 40.88, 36.56 and 37.40 after the treatment. The mean reading comprehension scores of the control Turkish, Kurdish and Arabic speaking subjects before the treatment was 34.92, 32.92, and 30.92 respectively whereas after the treatment (applying the placebo) there was no great change in them; i.e. 35.12, 32.24, and 30.80.

Using independent sample t-test statistics in all three linguistically different groups the range of difference between the two mean scores of the groups (control and experimental) were estimated to be 5.15, 4.77, and 6.16 respectively. The eta squared

(applying the Eta squared = $\frac{t^2}{t^2 + (N_1 + N_2 - 2)}$ formula)

for each of the linguistically distinct experimental groups was estimated to be 0.35, 0.37 and 0.44 respectively.

As $P < 0.05$ then the first three null hypotheses stressing the equality of the means were rejected. This result could be interpreted as the major role of reducing the psychotypological constraints of the adult L2 learners in order to help them make the best use of their transference potentials.

The second through the last study questions addressed the issue of the extent to which the interaction effect of psychotypology reduced English teaching and subjects' gender, attitude, and motivation would impact their L2 reading comprehension development. In the first stage to answer these questions the extent of issuing educational comments to the experimental subjects in all three sample groups was calculated. The effect size of it in Turkish speaking group was estimated to be $(6.8 - 0.92 = 5.88)$ scores, whereas in Kurdish speaking group it was estimated to be $(3.680 - -.6800 = 4.36)$ scores and in Arabic speakers it was calculated to be $(5.2400 - -.1200 = 5.36)$. Differently put, the experimental subjects who received educational comments throughout the study outperformed the subjects receiving no such comments.

In the second stage to answer the second study question the effect size of the subjects' gender on their reading comprehension was calculated. The mean reading comprehension scores obtained by the experimental male subjects in Turkish, Kurdish, and Arabic speaking groups after the treatment were estimated to be 4.51, 3.66, and 2.84 respectively; whereas, the mean reading comprehension scores obtained by the experimental female subjects in the same groups were estimated to be 1.54, 0.81, and 2.38 respectively. In the third stage of addressing the second query a couple of two-way between groups ANOVA statistics were used. The results demonstrated that the main effect of gender did not reach statistical significance; i.e., $(F(1, 46) = .271, p = .605)$ in Turkish speaking group, $(F(1, 46) = .883, p = .352)$ in Kurdish speaking group, or in Arabic speaking group $(F(1, 46) = .062, p = .806)$. However, the main effect of 'treatment' on their 'reading comprehension' reached statistical significance; i.e., $(F(1, 46) = 9.445, p = .004)$ in Turkish speaking group, $(F(1, 46) = 15.77, p < 0.0005)$ in Kurdish speaking group, and $(F(1, 46) = 34.332, p < 0.0005)$ in Arabic speaking group. Besides it was found that the interaction effect of 'gender' and 'treatment type' on the subjects' 'reading comprehension' was not meaningful; i.e., $(F(1, 46) = .086, p = .771)$ in Turkish speaking group, $(F(1, 46) = .086, p = .359)$ in Kurdish speaking group, and $(F(1, 46) = .002, p = .966)$ in Arabic speaking group. Accordingly no meaningful interaction effect of psychotypology reduced English teaching and gender was found to affect L2 learners' reading comprehension development.

The third study query addressed the extent to which the interaction effect of psychotypology reduced English teaching and attitude would impact adult L2 learners' English reading comprehension development. In the first step to answer this question the extent of issuing educational comments to the experimental subjects on their reading comprehension scores was calculated. The effect sizes were estimated to be $40.88 - 35.12 = 5.76$ scores for Turkish speaking group, $36.56 - 32.24 = 4.32$ scores for Kurdish speaking group and $37.4 - 30.8 = 6.6$ scores for Arabic speaking group. Differently put, the experimental subjects who received educational comments throughout the study outperformed the subjects receiving no such comments. In the second step to answer these questions the effect sizes of the subjects' attitude were calculated. The mean attitude score obtained by the experimental subjects in Turkish, Kurdish, and Arabic speaking groups before the treatment were estimated to be 3.93, 3.37, and 3.39 respectively. Whereas the mean attitude score obtained by them after the treatment were 3.34, 2.83, and 3.45 respectively. In the third stage to answer this question a series of two-way between groups ANOVA statistics was used. It was found that the main effect of attitude of the participants was meaningful $(F(2, 44) = 4.654, p = .015)$ for Turkish speaking group, $(F(2, 44) = 4.654, p = .015)$ for Kurdish speaking group, and $(F(2, 44) = .682, p\text{-value} = .511)$ for Arabic speaking group. The main effect of treatment given to the participants was also found to be meaningful $(F(1, 46) = 8.968, p = .004)$ for Turkish speaking group, $(F(1, 46) = 8.968, p = .004)$ for Kurdish speaking group, and $(F(1, 44) = 6.533, p\text{-value} = .014)$ for Arabic speaking group respectively. However, it was found that the interaction effect of attitude and treatment-type was not meaningful in any of the groups; i.e., $(F(2, 44) = .179, p = .836)$ for Turkish speaking group, $(F(2, 44) = 2.92, p = .094)$ for Kurdish speaking group and $(F(2, 44) = .254, p\text{-value} = .777)$ for Arabic speaking group. Accordingly no meaningful interaction effect of psychotypology reduced English teaching and attitude was found to affect L2 learners' reading comprehension development.

The fourth study query addressed the extent to which the interaction effect of psychotypology reduced English teaching and motivation would impact adult L2 learners' English reading comprehension development. In the first step to answer this question the effect of issuing educational comments to the experimental subjects on their reading comprehension scores was calculated. The effect size in Turkish speaking group was estimated to be $40.88 - 34.08 = 6.8$ scores. Whereas in the Kurdish speaking group it was estimated to be $36.54 - 32.88 = 3.68$ scores and in Arabic speaking group it was estimated to be $37.4 - 32.16 = 5.24$ scores. Differently put, the experimental subjects who received educational comments throughout the study outperformed the subjects receiving no such comments. In the second step to address this question the effect size of the subjects' motivation was calculated. The mean motivation scores obtained by the

experimental subjects in Turkish speaking group before the treatment was estimated to be 3.42, 3.32 in Kurdish speaking group, and 3.21 in Arabic speaking group. Whereas the mean motivation score obtained by Turkish speaking group after the treatment was 2.95, in Kurdish speaking group 2.77, and in Arabic speaking group it was 3.63. In the third step to answer this question a range of two-way between groups ANOVA statistics was used and it was found that the main effect of motivation was statistically significant in Turkish speaking group; i.e., ($F(2, 45) = 4.466$, $p\text{-value} = .017$), meaningful in Kurdish speaking group ($F(2, 44) = 2.739$, $p\text{-value} = .076$), but not meaningful in Arabic speaking group ($F(2, 44) = .845$, $p\text{-value} = .437$). The main effect of pedagogical treatment was also found to be statistically significant in Turkish speaking group, $F(1, 45) = 5.002$, $p\text{-value} = .030$, not significant in Kurdish speaking group ($F(1, 44) = .293$, $p\text{-value} = .591$). However, it was meaningful in Arabic speaking group; i.e. ($F(1, 44) = .5725$, $p\text{-value} = .021$). The interaction effect of motivation and the type of pedagogical treatment was not statistically significant in any of the groups; i.e., ($F(1, 45) = 0.467$, $p\text{-value} = 0.498$) in Turkish speaking group, ($F(2, 44) = .293$, $p\text{-value} = .071$) in Kurdish speaking group, and ($F(2, 44) = .569$, $p\text{-value} = .570$) in Arabic speaking group. Accordingly no meaningful interaction effect of psychotypology reduced English teaching and motivation was found to affect L2 learners' reading comprehension development.

In conclusion, the results described above confirmed the findings of the earlier studies on psychotypology that have actually underscored the impact of psychotypology and the tendency of the L2 learners to stay in a foreign language mode in the processing of additional languages. Accordingly, based on the results procured, it appears logical to conclude that psychotypology is primarily of psychological reality (as empirically confirmed by the results of the study). Secondly, it is of negative impact on the learning rate of the language learners. Thirdly, by the mediation of constructively structured pedagogical comments, as to the liaison of the language(s) being learned and the local language already possessed by the learners, it could be claimed that the detrimental impacts of psychotypological profiles of the language learners could be strikingly reduced to a great extent. However, no unequivocal findings were found as to the interaction effect of gender and psychotypology reduced, attitude and psychotypology reduced, and motivation and psychotypology reduced impacts on the subjects' L2 reading comprehension. The reason for such a shortcoming, most likely, does not imply that there is no relation; rather, owing to the extremely limited scope of the study one could deduce that such relations await further probe.

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Table 1. General data on the number and gender of subjects attending the study

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Male	70	46.7	46.7	46.7
	Female	80	53.3	53.3	100.0
	Total	150	100.0	100.0	

Table 2. Data on the overall linguistic backgrounds of the subjects in all three sample groups

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Turkish	50	33.3	33.3	33.3
	Arabic	50	33.3	33.3	66.7
	Kurdish	50	33.3	33.3	100.0
	Total	150	100.0	100.0	

Table 3. Reading Comprehension scores before the treatment

N valid	Missing	Mean	Median	Mode	SD.	Minimum	maximum
150	0	32.8600	32.000	29.00	4.74311	19.00	44.00

Table 4. Reading Comprehension scores after the treatment

N valid	Missing	Mean	Median	Mode	Std. Deviation	Minimum	maximum
150	0	35.5000	36.0000	36.00	6.14123	22.00	51.00

Table 5. Overall Data in one Look

Motivation Scores	Before treatment		After treatment	
	EX.G	CON.G	EX.G	CON.G
Kurdish s.	3.3240	3.3980	2.7720	3.4400
Turkish s.	3.4280	3.3420	2.9580	3.4000
Arabic s.	3.2180	3.5900	3.6340	3.6620
Attitude Scores	Before treatment		After treatment	
	EX.G	CON.G	EX.G	CON.G
Kurdish s.	3.3700	3.3140	2.8300	3.3960
Turkish s.	3.3440	3.3480	2.9360	3.3320
Arabic s.	3.3980	3.2660	3.4500	3.3060
Psychotypology Scores	Before treatment		After treatment	
	EX.G	CON.G	EX.G	CON.G
Kurdish s.	3.3440	3.4040	2.6420	3.4620
Turkish s.	3.2100	3.5120	2.8740	3.4640
Arabic s.	3.3840	3.4540	3.3420	3.4560
Reading comp. Scores	Before treatment		After treatment	
	EX.G	CON.G	EX.G	CON.G
Kurdish s.	32.8800	32.9200	36.5600	32.2400
Turkish s.	34.0800	34.2000	40.8800	35.1200
Arabic s.	32.1600	30.9200	37.4000	30.8000

Table 6. Summary of the overall means of attitude, motivation, psychotypology scores of both the experimental and control sample group subjects before and after the treatment.

Attitude				Attitude		
Ex. after	N	M	SD	Ex. before	M	SD
	25	3.0720	.68405		3.3707	.32206
Cont. after	N	M	SD	Cont. before	M	SD
	25	3.3447	.27245		3.3093	.27859
Motivation				Motivation		
Ex. after	N	M	SD	Ex. before	M	SD
	25	3.1213	.75028		3.3233	.30351
Cont. after	N	M	SD	Cont. before	M	SD
	25	3.5007	.26117		3.4433	.29297
Psych.				Psych.		
Ex. after	N	M	SD	Ex. before	M	SD
	25	2.9527	.65584		3.3127	.26624
Cont. after	N	M	SD	Cont. before	M	SD
	25	3.4607	.26576		3.4567	.27142

APPENDICES

Appendix-I

AN EXCERPT OF MOTIVATION QUESTIONNAIRE

1- Learning English will not be highly effective in your job prospect.

A: Strongly disagree B: Disagree C: Undecided D: Agree E: Strongly agree

2- You generally have a rather low interest in learning English.

A: Strongly disagree B: Disagree C: Undecided D: Agree E: Strongly agree

3- Learning English will not be highly crucial in helping you with finding your favorite career.

A: Strongly disagree B: Disagree C: Undecided D: Agree E: Strongly agree

4- You are not required to continue learning English to accomplish a job promotion.

A: Strongly disagree B: Disagree C: Undecided D: Agree E: Strongly agree

5- If learning English does not bring about any change in your employment status then you will not continue learning it any further.

A: Strongly disagree B: Disagree C: Undecided D: Agree E: Strongly agree

AN EXCERPT OF ATTITUDE QUESTIONNAIRE

1- You have always been interested in learning English since you generally consider the English people as some prestigious ones.

A: Strongly disagree B: Disagree C: Undecided D: Agree E: Strongly agree

2- You have always been interested in learning English since you generally consider the English people as rich ones.

A: Strongly disagree B: Disagree C: Undecided D: Agree E: Strongly agree

3- You generally believe that political relationships will negatively affect your interest in learning English.

A: Strongly disagree B: Disagree C: Undecided D: Agree E: Strongly agree

4- You generally believe that social relationships will negatively affect your interest in learning English.

A: Strongly disagree B: Disagree C: Undecided D: Agree E: Strongly agree

5- You consistently feel that the existing cultural differences between you and the English speakers will harm your English language acquisition.

A: Strongly disagree B: Disagree C: Undecided D: Agree E: Strongly agree

AN EXCERPT OF PSYCHOTIPOLOGY QUESTIONNAIRE

1- You generally believe that there is not a close relationship between the Persian language and English.

A: Strongly disagree B: Disagree C: Undecided D: Agree E: Strongly agree

2- You generally believe that there is not much resemblance between the pronunciation system of your ethnic language and that of English.

A: Strongly disagree B: Disagree C: Undecided D: Agree E: Strongly agree

3- You believe there is not much resemblance between grammatical structures of your ethnic language and that of English.

A: Strongly disagree B: Disagree C: Undecided D: Agree E: Strongly agree

4- You see not much similarity between the Persian vocabulary and the English vocabulary.

A: Strongly disagree B: Disagree C: Undecided D: Agree E: Strongly agree

5- You generally do not see any similarity between the English language and your ethnic language.

A: Strongly disagree B: Disagree C: Undecided D: Agree E: Strongly agree

Appendix-III

A partial sample of pedagogical comments afforded by the language teachers in the study

Extra Turkish cognates taught to the experimental participants

English word	Turkish word	English word	Turkish word
Bachelor	Bekar	Cat/kitty	Kedi
Goose	Kaz	Hurry	Huddy
Cut	Kest	Brain	Beyin
Better	Behter	Scarf	Esharp

Extra Kurdish cognates taught to the experimental participants

English word	Kurdish word	English word	Kurdish word
Nail	Nall	Blaze	Bl öza
Leave	Levay	Gaze	Gez
Tribe	Taiphe	Light	Lait
Run	Ramay	Long	Leng
Regular	Rek	Jackel	Chag ä

Extra Arabic cognates taught to the experimental Arabic speaking participants

English word	Arabic word	English word	Arabic word
Magic	Mojeze	Here	Hona
Harry	Häyæ	Zero	Sefer
Taramind	Altambr	Mummy	Almumiaee
Guitar	Tar	Giraffe	Alzarrafe
Ghoul	Ghoul	Elixir	Alexir

A partial sample of the cognates and loan words commented on throughout teaching the textbook of “interchange-1” to different groups*

English words	Turkish-speaking G.	Kurdish-speaking G.	Arabic speaking G.
(p.1) Name	näm/äd	näm	näm
(p.1) Jacob	yagh üb	yagh üb	yagh üb
(p.1) Big	boy ük	big	big
(p.2) Shopping	shop	shop	shop
(p.2) Musical	müzik	müzik	almüsighi
(p.2) Company	company	company	company

*“P” stands for passage number.

A partial sample of the cognates and loan words commented on throughout teaching the textbook of “Inside Meaning-1” to different groups*

English words	Turkish G.	Kurdish G.	Arabic speaking G.
(p.1) Steel	steel	steel	steel
(p.1) Giant	gian	gian	
(p.1) Design	design	design	design
(p.1) Market	market	market	market
(p.2) Chill	chill/chaiden	chill	
(p.2) Start	start	start	start
(p.2) Far away	fara	fara	
(p.2) Drug	daroo	daroo	dawa

*“P” stands for passage number.