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*Original Research Article*

## Understanding The Cognitive Domain of A Second Language Learner: An Example of An Indo-Iranian Language

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A scientific evaluation of the difficulty of language learning was carried out at the Defence School of Languages (DSL), UK for a year long intensive language course. A questionnaire survey of exploratory nature was carried out aiming at the understanding of the Pashto learners' problems during their intensive professional language training at the DSL. Various statistical indices were calculated to correlate the difficulties in the language with other background factors affecting the language acquisition of the students while learning a second language. Results obtained from the Relative Frequency of Citation (RFC) show a very high RFC value for vocabulary and word order categories, concluding these two areas posing significant problems for the language learners at DSL. The results also suggest that still the highly salient problems for the students at DSL are the word order/sentence structure followed by vocabulary, and conditional sentences. Learning grammar ranked the second most important problem for the students at the institute. The two methods of Ordination Analysis (a multivariate analysis) applied using Canoco 4.5 for Windows were: Detrended Correspondence Analysis (DCA) and Canonical Correspondence Analysis (CCA). The DCA results for grammar learning show that subjunctive structure is at the top of the ordination plot. The results indicate vocabulary and verb conjugations can significantly, negatively affect the speaking ability of a student. It is recommended that for a systematic learning of a second language, a learner must be exposed to the basic grammar knowledge in the first language. A cognitive/cultural domain must be understood in order to develop a better learning plan. Further studies are recommended to be carried out on a wider scale, to get a better understanding of the hidden intricate relationships developed in second language learners.

**Key words:** Pashto language, Cognitive Domain, Defence School of Languages, Action research.

### INTRODUCTION

According to the Foreign Services Institute (FSI), Pashto language is linguistically and culturally considered significantly different from English and is placed in Category Four with regards to its level of difficulty for an English language speaker (FSI, 2011). It requires eleven hundred class hours or forty-four weeks to reach to a General Professional Proficiency level 3 in speaking (S3) and reading (R3) (FSI, 2011). For an English speaker, Pashto can be very difficult to learn because of a variety of reasons. These problems may include grammatical structure, limited vowels, strange alphabets, Arabic writing script, drastic cultural differences, etc. To address this issue, one need to understand what are the real difficulties/problems for an English speaker to learn Pashto language? An exploratory approach is needed to find out the most salient problems involved in Pashto learning.

Pashto is one of the national languages of Afghanistan and is commonly spoken in Afghanistan and Pakistan. It is

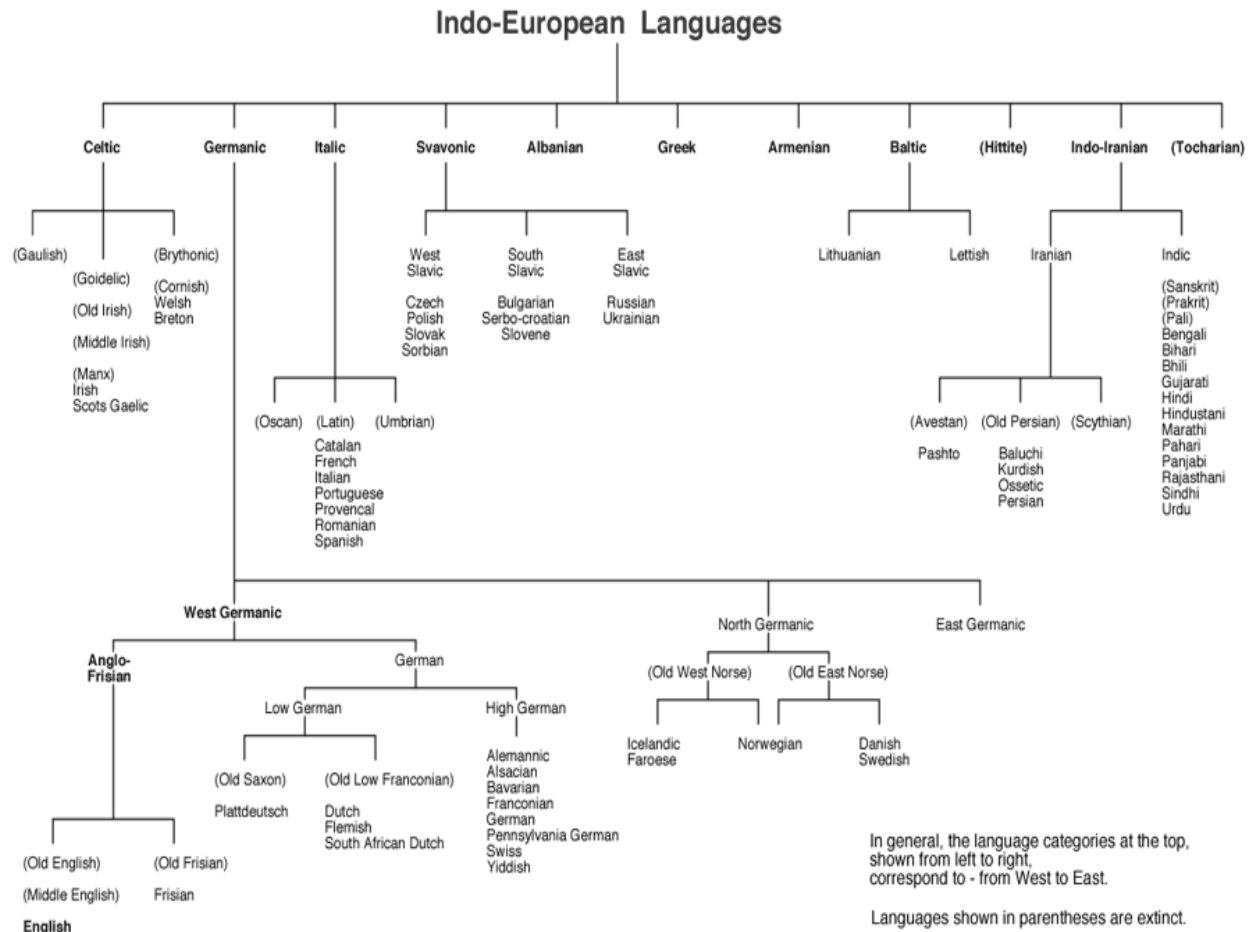
spoken by nearly half of the population of Afghanistan, estimating 7,500, 000 and over 90% of the natives of Khyber Pukhtun Khwa KPK (former NWFP) Province of Pakistan estimated to be roughly 14,000,000 people (Tegey and Robson, 1996) (see Figure 1.1).

### Pashto Language Affiliation with Other Languages

Pashto belongs to the East Iranian group of languages. East-Iranian and West-Iranian (which includes Persian) are the major sub-groups of the Iranian group of Indo Iranian branch of the Indo European family of languages. The Indo-Iranian languages are widely spoken in the area stretching from eastern Turkey and eastern Iraq to Western India. There is another sub-division of languages i.e. Indo-Aryan languages, which are spoken in the Indian subcontinent (see Figure 1.2).



**Figure 1.1:** Pashto speaking area (shaded) in Afghanistan and Pakistan (adopted from Tegey and Robson, 1996)



**Figure 1.2:** Indo-European language tree

## Orthography

Pashto is written in Arabic script or a variant of the Arabic script, since the 16th century. Due to the presence of pure Pashto words which do not sound like Arabic, needed some form of standardization and regularization. A great variation in the spelling system persisted until an attempt was made in the 18th century to standardize Pashto alphabets. Later on, a formal meeting of many Pashtun scholars, writers and authors from Afghanistan and Pakistan was held in Kabul during August 1958, proposed a number of standardizations in the use of the present alphabets and their pronunciation. These proposals, reported in full are published in the periodical Kabul, No. 465 of 23 September 1958 (MacKenzie, 1959).

## Dialectal Variations

There are tens of different dialects spoken in various parts of the Pashtun residing areas. The three most common ones are Southern (Kandahari), Central (Kabli) and Eastern (Peshawry) dialects. These dialects stem more to the pronunciation rather than the written script of the language. For example the Kandahari dialect is more retroflex while the Central dialect is palatal fricative in pronouncing even the name itself of the language, Pashto (Kandahari) Pukhto (Central/Eastern).

## Linguistic Analysis

Pashto has limited vowels in the written script, but many varied pronunciations, some authors consider that Pashto has a seven vowel system. Pashto language uses chunks of consonants, sometimes two or three letters at the start of words, unlike its sister, Persian language. Pashto also uses retroflex consonant sounds which are pronounced with the tongue tip curled back and has a complex grammatical structure having the verbs genders and numbers agreements, nouns-adjective gender and number agreements, prepositional and oblique cases, transitive and intransitive verbs, tense aspects, ergativity etc. Word order is another of the difficult issues with the language, being very rigid and has the subject-object-verb construction.

In regards to the above many complexities with the language, it is hard to tell which problem is the most salient and is the biggest hurdle for a foreigner to learn the language. To answer this question, a questionnaire survey was carried out at the Defence School of Languages (DSL), which is the biggest and the most important learning seat in the Europe. The venue provides a good sample of the distribution around the world, learning the Pashto language for their professional career.

The understanding of the salient problems and the hidden culture of the Pashto learners will help not just me being a language instructor, but the wider teaching community in general and the DSL in particular will particularly be highly benefited. Once identified the problems, suitable solutions can be worked out and new strategies can be made for the upcoming learners. This action research would be of a significant importance to the whole teaching community in the Pashto language.

### Need and Purpose of the Research

A self-reflective approach is always a good way to understand the validity of teaching and learning (Carr and Kemmis, 1986). Any kind of research which self-reflective is commonly termed as action research. The current study is simply a form of self-reflective enquiry undertaken by participants in a specific learning and social niche. This research will aid in the understanding of practice, and the situations in which practice is carried out in the following ways:

The current practice is reviewed, helps in identifying the aspect which we want to investigate, give us a direction forward, give us the courage to change and reform our teaching and learning styles in the event of teaching Pashto or similar language using teaching cycle (Whitehead, 1985).

### Benefits of Action Research

The action research for educators is an important aspect of continuous professional development; it can be a worthwhile pursuit for educators for a number of reasons. The most important of these is simply the desire to know more and to enhance the practice for the future. Without any doubt, a good teacher is, after all, a student. Action research is a way to look for ways to expand upon the existing knowledge.

According to Gerald Susman (1983) there are about five phases to be conducted within each research cycle. Initially, a problem is identified and data are collected for a more detailed diagnosis. This is followed by a collective postulation of several possible solutions, from which a single plan of action emerges and is implemented. Data on the results of the intervention are collected and analysed, and finally the findings are interpreted in the light of how successful the action has been. But further at this point, the problem is re-assessed and the process begins another cycle. At the simplest level, therefore, action research involves a spiral or cycle of planning, action, monitoring and reflection.

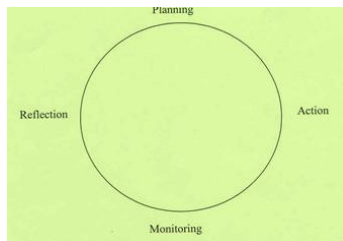
This process continues until the problem is resolved and new problems are thought of so to restart the cycle, see Figure 1.3.

### Literature Review

A brief literature review was carried out to understand the current and previous trends of researches in Pashto language. The following literature was found on the key words "Pashto" and "Pashto grammar". Historically, very little is written in Pashto grammar. Raverty (1880) was perhaps the first concise grammar book of Pashto. The book entitled as 'The Pushtu Manual: Comprising a Concise Grammar; Exercises and Dialogues; Familiar Phrases, Proverbs, and Vocabulary' was one of the pioneer writings about the grammatical structure and construction of the language. Kuiper (1955) carried out a descriptive study of Pashto grammar. His main focus of study was the differentiation of Kandahari dialect from Eastern dialect.

Mahdi (1986) discussed the unique features of the Pashto speakers and their peculiar code of conduct, the Pukhtunwali. It is recorded that in Pathan society ostracism functions simultaneously to deter behaviour that violates customary legal norms, to punish specific acts that are culturally defined as improper, and to unify the primary reference group on which individuals depend for protection and economic support. Although, not a linguistic article, but links the language speakers with specific traditions and very good insight of some primitive customs and traditions of the area. Taylor (1997) has published a paper on grammar concludes that the free relatives in Pashto are actually headed relative clauses, with the consequence that a single structure underlies the apparent diversity of relative clauses in the language. His data strongly suggest that the *wh*-word of free relatives is not in Spec of CP, but is entirely outside the relative clause, heading the apparently headless relative.

Thus, he further concludes that the Head Hypothesis of Bresnan and Grimshaw (1978) is a more appropriate analysis of Pashto relative clauses than is the Comp Hypothesis. Dryer, (2002) studied the Object-verb order and adjective-noun order. He recorded that the wide belief that there is a relationship between the order of object and verb and the order of adjective and noun, that Object-Verb (OV) languages tend to be Adjective-Noun (AdjN), while Verb-Object (VO) languages tend to be Noun-Adjective NAdj. He presented the evidence against this observation from a sample of 316 languages.



**Figure 1.3:** Research cycle (source: Waters-Adams, 2006)

The mechanism of Prefixing and suffixing universals in relation to the basic word order was studied by Hawkins and Gilligan (1988). They have also mentioned the rules in different languages referring to the Indo-Iranian languages as well. Klaiman (2003) studies the mechanisms of ergativity in South Asia. He used many local experts to organise his data on the peculiar mechanism of the ergativity in different South Asian languages including Pashto. Dixon (2003) further carried out Studies in ergativity and done some basic introduction to this phenomenon in different Indo-Iranian languages.

The concept of the compound verbs was studied in a restricted population sample of Munda by Hook (1991). He conducted a study of six Munda languages shows that the syntactic category compound verb (which alternates with simple verb) may be identified in each one of them. He related the compound verb system with the Indo-Iranian languages and found very much similarity. Septfonds (2006) carried out a comprehensive study on the dialectal variation of Pashto languages in Afghanistan and Pakistan. It was recorded that the languages is spoken by some 40 million people living on both sides of the border between Pakistan and Afghanistan. From a strictly genetic point of view, it belongs to the north-eastern group of Iranian languages.

The classification of the dialects is based on phonological criteria only. Some good grammar of the language was discussed in this article. Ingham (2006) studied the language situation in Afghanistan. It was recorded that Afghanistan is an area of considerable linguistic diversity, centered on an upland region separating Central Asia from the Indus valley and bordering Iran. Languages of all three regions are spoken. Pashto is the language of the ruling Pathan (Afghan) group. Shackle (2006) in the same manner studied the language situation in Pakistan and reported that Pakistan shares with India great internal linguistic diversity coupled with a prominent role for English as the elite language inherited from the colonial period. He further records that the establishment of Urdu as an authentic national language in keeping with the country's Islamic identity (which initially caused conflict with Bengali before the secession of Bangladesh) has been complicated by the continuing prestige of English, giving rise to a widespread hierarchical triglossia of English, Urdu, and local languages. Fradkin (2006), records the role of Arabic script on the Asian sub-continent.

He records that by 1100 b.c.e. The seafaring Semitic-speaking Canaanites of the eastern Mediterranean had a writing system consisting of 22 letters representing consonants. He concludes that the Arabic language has deep impact on the languages of the area which with the rise of Islam in the second half of the first millennium c.e. Tucker (2006) explained in detail the Indo-Iranian branch links Indo-European family. He stated that The Indo-Aryan and Iranian languages share a great number of features that set them apart from other Indo-European languages and point to a period of common development at a prehistoric date. His conclusion is that the historical and comparative linguistics

methods employ evidence from Vedic Sanskrit, Avestan, Old Persian, and other early attested Indo-European languages are used to reconstruct this Indo-Iranian ancestor. In other printed material and books, the important piece of work on Pashto grammar and text is that of Tegey and Robson (1993), Khan 1938: entitled as 'The Modern Pushtu Instructor', Pashtoon and Ziyar (2006) and Olson (2007). For other books and printed material see Appendix 1. It is very clear from the literature review that some work has been carried out on the overall grammar, structure and the nature of the difficulty of the Pashto language, but no records were found for saliency and free-listing technique in the current literature. Therefore, the current study will provide a new direction of research in Pashto language and this kind of research can be extended to the evaluation of other aspects of the language.

A scientific evaluation of the difficulty of language learning was carried out at the Defence School of Languages (DSL), UK for a one year intensive language course. Various statistical indices were calculated to correlate the learning, perception of the students towards learning a second language. Although, the approach of the current action research is exploratory in nature, but still some hypothesis have also been tested. It is hypothesised that among the Pashto learners in general, and at DSL in particular, there exist some salient problems/hurdles in learning towards Pashto language. These problems/issues make a cognitive domain of the learner and need proper evaluation and prompt solutions.

### Materials and Methods

This part of the research will explain the methodology of the research. Questionnaires are considered the cheap and robust way of obtaining a large amount of quantitative data about the perception and attitude of a community towards issues (Obiri and Lawes, 2002; White et al., 2003; White et al., 2005). Questionnaires mostly aim at the understanding of the actual behaviour of the subjects, but sometimes they may focus on the hypothetical behaviour of the subjects (White et al., 2005). Closed-format questions are very commonly used in questionnaires survey and the common ways of conducting a questionnaire surveys are by post, telephone and face to face interviews White et al. (2005).

For the current study, a questionnaire survey was carried out aiming at the understanding of the Pashto learners' problems during their phase-two professional language training at DSL, which is a quantitative exploratory approach. These students under considerations were taught for at least 6 months of DSL produced Pashto language material under a certain teaching regime and organisational structure. The data were collected in order to calculate necessary statistical indices. Questionnaires were designed to elicit information about a specific quantifiable variable (Newing, et al., 2010). The method was chosen because it is robust and inexpensive and is commonly used in sociological and ecological surveys (White et al., 2005).

**Table 2.1:** The calculated indices and their description

No	Index	Description
1	RFC	Relative Frequency of Citation
2	RII	Relative Importance Index
3	SI	Salience Index
4	IAR	Informant Agreement Ratio
5	CVI	Cultural Value Index
6	CII	Cultural Importance Index

Before the commencement of the study, permission for the use of the questionnaires was obtained from the Defence School of Languages ethics committee and the individuals were given a free will to take part in the survey voluntarily. Personal information i.e. names, addresses, etc. was not recorded in order to protect the respondents' privacy. A special form of questionnaire (Free listing questionnaire) was used for the purpose (see Appendix 2). Free listing was carried out after Borgatti (1998) by asking the respondents to list all the problems in order of their level of difficulty of the given six categories of language learning (i.e. Grammar, Listening, Speaking, Reading, Writing and Language aptitude). To restrict the choice of the responses and to obtain a valid set of response data, the total responses were restricted to 32. Two outlier responses were rejected from the study, which were "learning style" and "Pashto is written from right to left", as they have already been targeted in the other responses.

All current students of the different proficiency levels of the Pashto courses at DSL were given the questionnaires to fill in. In order to get a reliable data set, students were asked to fill in the questionnaire without consulting anyone else. This is to make sure that the true reflection of their mind is recorded and biased data are avoided. After a long process of formation of the questionnaire and suitable response list, the data collection took only half an hour for each class and was collected in a single day in December 2011. Two students who volunteered for the survey, but were not present at the time of data collection were not included in the survey in order to avoid the chances of bias in the data. A teacher was allocated to every class during questionnaire filling in phase to stop students talking to each other and to make sure the responses are valid.

A total of 35 questionnaires were returned. The data were transferred into MS Excel data sheets and raw data matrices were formed which were further analysed for important indices calculations (see Table 2.1). The Canoco version 4.5 for windows was also used for ordination analyses.

## Results and Discussion

Results obtained are presented below.

### Relative Frequency of Citation (RFC)

The first index calculated was the Relative Frequency of Citation. This index can be very easily calculated by dividing the Frequency of Citation (FC), which is the number of mentions of a problem, by the number of respondents (N) of the study (Tardio and Pardo-de-Santayana, 2008). FC is the number of informants who mentioned the problem, regardless of the category.

$$RFC_s = FC_s / N = \sum_{i=1}^{iN} UR_i / N$$

Relative Frequency of Citation (RFC) is a good measure of how many students realize a problem worth mentioning. The results show a very high RFC value for vocabulary and word order categories (see Figure 3.1). This shows that the word order and vocabulary for the students of DSL are the common problem in learning Pashto language.

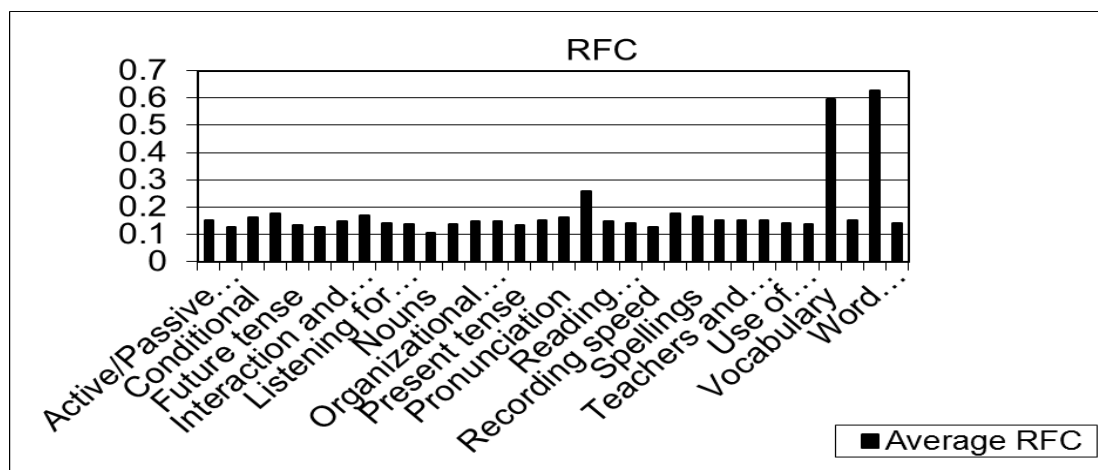


Figure 3.1: RFC Values

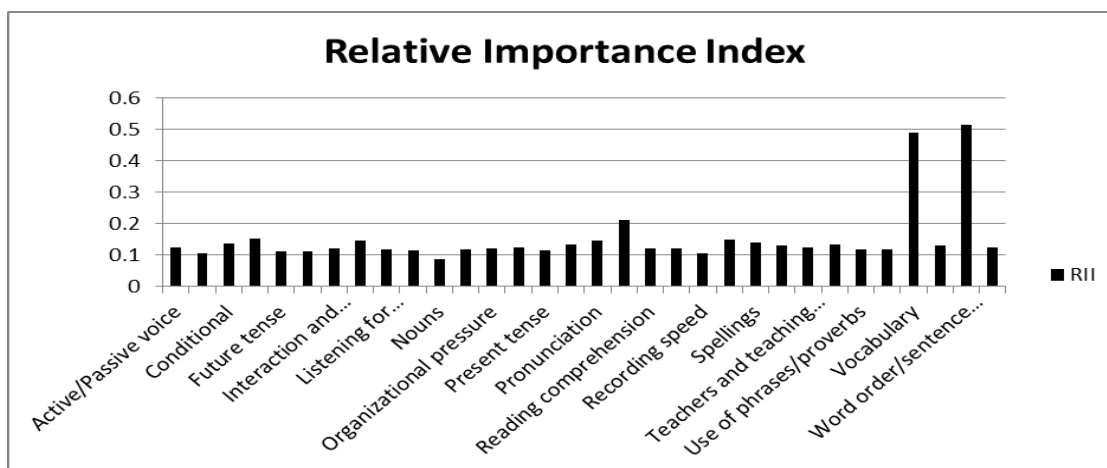


Figure 3.2: Graph of the Relative Importance Index (RII)

### Relative Importance Index (RII)

This index was created by Pardo-de-Santayana (2003), based on the response categories of the language only and does not take into account the sub-categories of the problems (Tardio and Pardo-de-Santayana, 2008). The following formula was used for calculating RII for the 33 responses of the students. In the formula RFC (max) is the relative frequency of citation over the maximum while RNU (max) is the relative number of response category over the maximum (for more details see Tardio and Pardo-de-Santayana, 2008). This index varies from 0 where no one mentions the problem in 1 where all the respondents mention the problem all the response-categories. The results for RII show similar pattern as for RFC. This is because the RFC value is the main determining factor of the RII.

$$RII_s = \frac{RFC_{s(max)} + RNU_{s(max)}}{2}$$

### Salience Index (SI)

The questionnaires were very useful to calculate Smith's Salience Index, which accounts for the frequency of mention and position of items in the freelists (Smith, 1993). The Value ranges from 0 to 1, the 1 being highly salient. The average saliency is calculated for all the species across the different problem categories. Using the symbology after Ghorbani et al. (2011), the following formula was used, where  $r_j$  is position of the item  $j$  in the freelist, and  $n$  is the number of all the items in the lists (see Figure 3.2).

$$S_j = 1/r_j \text{ or } S_j = nr_j/nl$$

Results suggest that still the highly salient problem for the students at DSL is Word order/sentence structure followed by Vocabulary but the third position this time is taken by Conditional sentences.

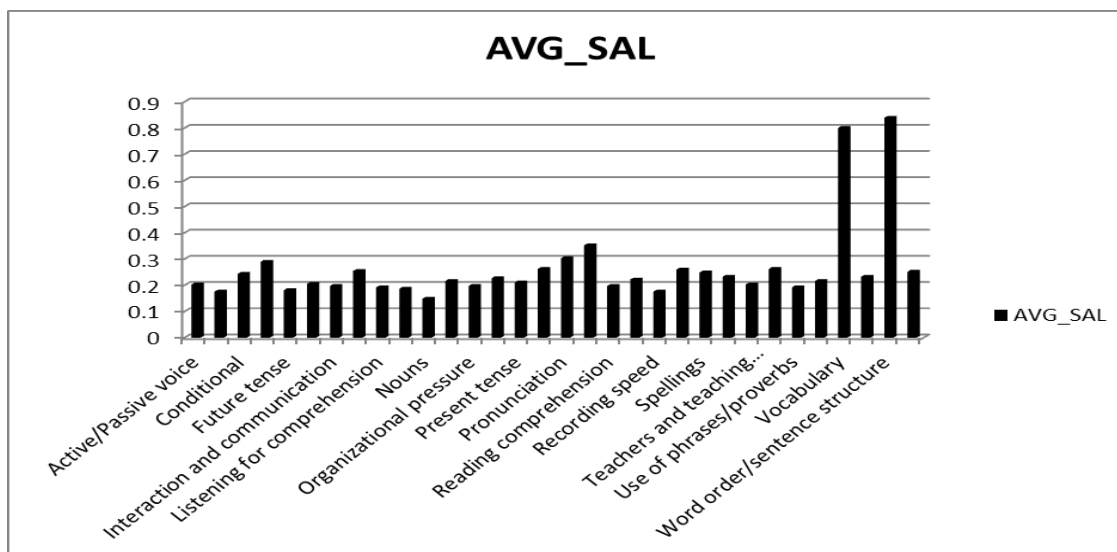


Figure 3.3: Graph of average Saliency

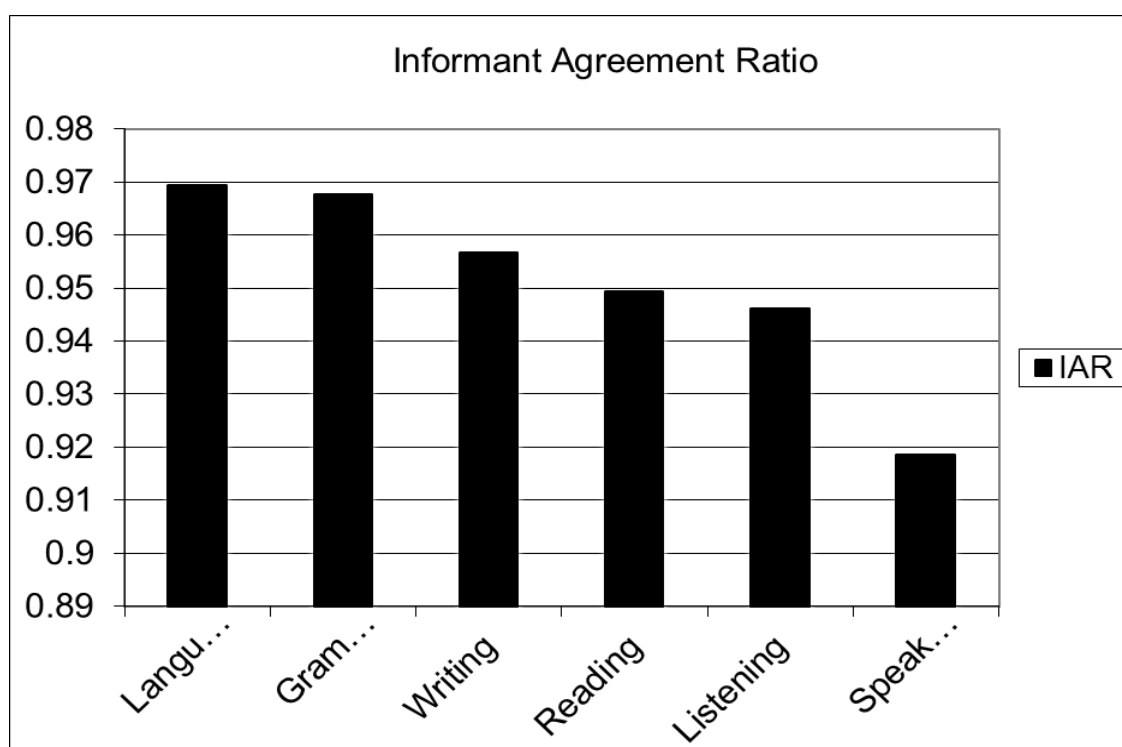


Figure 3.4: Graph of the Informant Agreement Ratio (IAR)

#### Informant Agreement Ratio (IAR)

This index was used to know the agreement ratio of the students regarding a particular problem category. This consensus analysis was called "informant consensus factor (FIC)" by Trotter and Logan, 1986) but Collins et al. (2006) named it as IAR. Using the formula below,  $n_{ur}$  is the number of citations in each category and  $n_t$  is the number of responses in that problem category. The range is from 0-1, where 1 shows the limited number of responses in a particular problem category, i.e. a high degree of consensus amongst the students for learning Pashto language. The results indicate that the highest

consensus is present on the problems category of Language aptitude. This category has the teaching style and organizational pressure the most salient responses, and majority of the students agreed on them. The Grammar is the second most important problem for the students at DSL and can be observed from the Figure 3.3.

$$IAR = \frac{n_{ur} - n_t}{n_{ur} - 1}$$



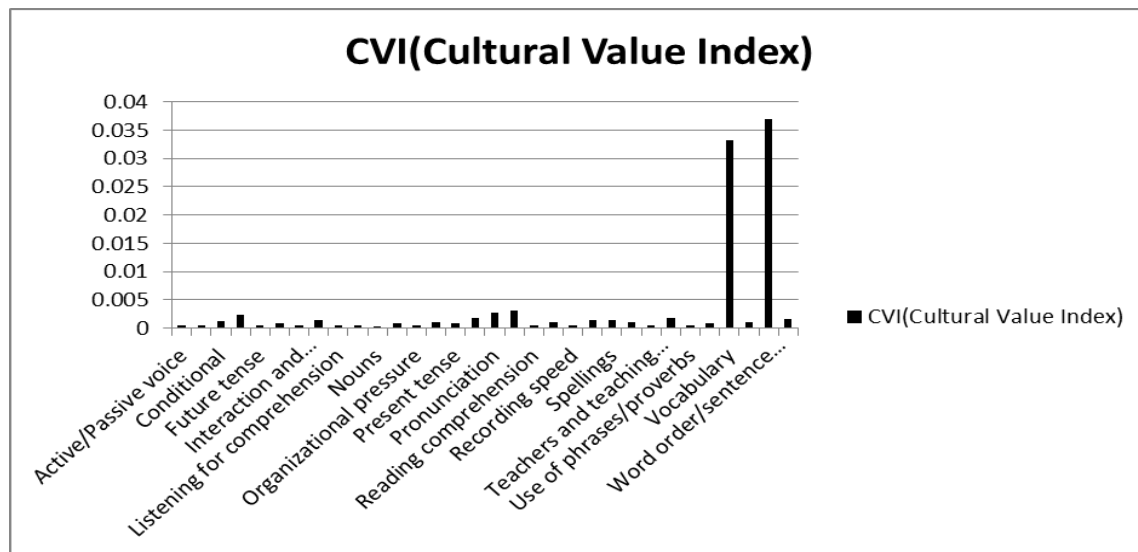


Figure 3.5: Graph of the Cultural Value Index (CVI)

### Cultural Value Index (CVI)

This index (CV in the original text of Reyes-García et al., 2006) is one of the most useful indices used in social sciences and ethnobiology, first introduced by Reyes-García et al. (2006) following the multiplication of the factors of Turner (1988). The following formula can be used for calculating the index, where three factors are multiplied together: NUs is the number of problem categories, NC is the total number of problem categories, FCs is the number responses in all categories and N is the total number of informants in the survey. The third factor is the sum of all the responses mentioned by the different informants in a particular category and is divided by the total number of the informants (see Figure 3.4 and Table 3.1).

$$CV_s = [NU_s/NC] \times [FC_s/N] \times \left[ \sum_{U=1}^{uNC} \sum_{i=1}^{iN} UR_{U_i} / N \right]$$

The results obtained for this index indicate very similar to the RFC and RII. This means that the highly salient two problems is making an important part of the culture of the learning environment at DSL.

### Cultural Importance Index (CII)

This is another useful index and is part of the cultural value index discussed above. As seen in the CVI, this index takes not just the use of the number of use of the species but the spread of use in different problem categories. This index shows the versatility of a particular problem.

$$CII_s = \sum_{U=1}^{uNC} \sum_{i=1}^{iN} UR_{U_i} / N$$

Cultural Importance Index is considered a sub factor of Cultural Value Index, and both have the same function, understanding the spread of a medicinal plant in a particular culture. So would the results would be different from CVI and

this is not calculated for this study (see Figure 3.5 and Table 3.2).

It can be concluded from IAR that Language aptitude and Grammar are the main problems for our students. The Language aptitude deals mostly with the organizational structure/pressure, teacher/teaching techniques and self-motivation and interest. Grammar comes under the cognitive skills developed by our student to be proficient in the language and will thus be further analysed. An ordination analysis can be carried out to see the interaction between the variables subcategorized in the grammar and other major problem categories and their overall effect on the learning ability of Pashto students.

### Ordination Analysis

Ordination analysis is a multivariate analysis, used to understand the intricate relationship (correlation) between multiple variables. The two methods of ordination analysis carried out using Canoco 4.5 for Windows (Ter Braak and Smilauer, 2002) were:

- Detrended Correspondence Analysis (DCA) and
- Canonical Correspondence Analysis (CCA)

The DCA ordination analysis was used to evaluate similarities/differences of the responses among respondents. The CCA ordination analysis was performed to establish the relationship of the Speaking problems with the grammar. The ordination results are presented in ordination graphs/plots. Another part of the investigation of this Chapter was to understand the respondents and problem responses relationship. Jongman, et al. (1995) preferred the use of regression models for such correlation analysis, on the condition that sufficient data is available, but some favoured other multivariate techniques like ordination (Palmer, 1993). For ordination techniques, there is also the requirement of large amounts of data (Palmer, 2003).

### DCA For Grammar

The DCA results of grammar show that subjunctive structure is at the top of the ordination plot indicating its high non-correlation with the rest of the responses (see Figure 3.6). Word order and weak pronoun are plotted at the bottom of the



ordination plot, means they both have close correlation, but both are highly un-correlated with the rest of the responses. Conditional sentences and Active passive voice correlated together, but are negatively correlated with the other responses like nouns, pronouns, adjective and oblique/prepositional cases. This suggests that any students who is having problems with conditional sentences and active passive voice, would have no difficulty in understanding the basic elements of the grammar, like nouns, pronouns, etc. The present tense, past and future tenses and imperative cases are clustered together and have a close correlation in terms of difficulty for the students.

The biplot ordination diagram for grammar shows very close responses for all the respondents and are closely clustered together in the ordination plot except for respondent 30 which has a considerably different response from the rest of the majority and can be classed as an outlier (see Figure 3.7). The respondent 2 and 28 are plotted together, but are less positively correlated with the bigger majority (see Figure 3.7).

### CCA Ordination Analysis

The CCA ordination analysis was performed to check if there is a link between grammar and speaking. This analysis will test our last hypothesis that the Pashto language grammar causes problem in speaking to the students at DSL.

The results indicate that present tense, past tense, imperatives, weak pronouns, oblique cases and subjunctive all have similar response and are positively correlated with the speaking ability of the students while Word order, Vocabulary and verb conjugations can drastically, negatively affect the speaking ability. The interest and motivation at the top of the ordination plot is an outlier.

From Figure 3.9, it is very clear that word order/sentence structure has the highest effect on the speaking, followed by type of verbs and verb conjugations. The use of present tense, imperatives, pronouns and adjectives were found be causing minimal problems in speaking to the students at DSL.

Interestingly, Conditional sentences and past clustered together show a negative correlation with the word order and

verb conjugations. For those students who struggle with the verb conjugations and types of verbs, and word order has no problem with conditional sentences or they have not yet come across to either of these things in their learning phases. Weak pronoun is another of the main problems hindering speaking (see Figure 3.10). It is obvious from Figure 3.10 that there is great number of respondents' agreement on the weak pronouns and past tense and conditional sentences (see Figure 3.10).

### Discussion and Conclusions

It can be concluded from the results that there exists a clearly well-established limiting factor in the way of learning the Pashto language for the students at DSL. These problems, mostly dominate in the areas of grammar and vocabulary, and the effect can be seen in their performance in speaking. The current study has established that the students have common core problems which have become some kind of psychological and cognitive culture of the institute.

The current study has also established a new concept of understanding problems of a particular set of students using free-listing questionnaires and ordination analysis, which are commonly used in other disciplines of natural and social sciences like ecology, ethno biology and anthropology. The indices calculated from the free-listing questionnaires can provide a simple and quick diagnostics of the students and can direct towards suitable solutions to the problems.

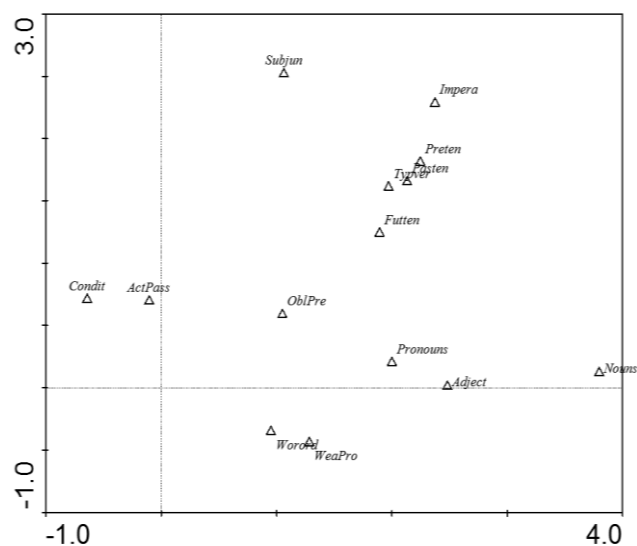
### Critical Analysis

Similar to other scientific studies, there were some limitations in this study as well. It would have been better to interview all the students of different campuses of the DSL to obtain better quality of quantitative and qualitative data, which could then be used for personal profiling of the students and the development of Individual Learning Plans (ILPs). The sample could have been extended to the Beaconsfield campus of the language school, which could have created better statistical significance of the results.

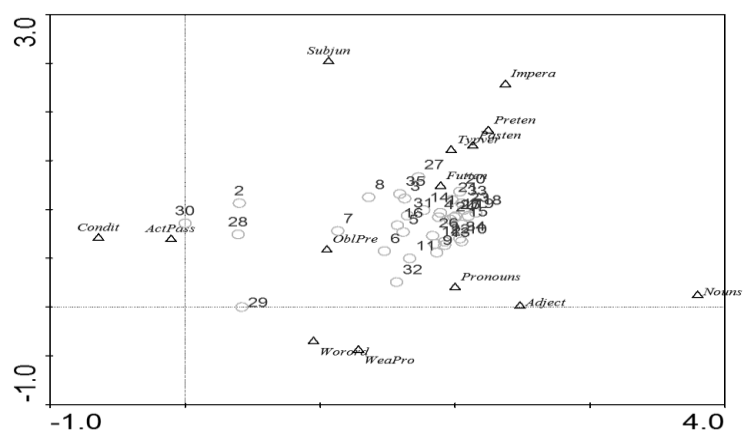
**Table 3.1:** Informant Agreement Ratio for different problem categories their rankings

No.	Problem	IAR	Rank
1	Language aptitude	0.969388	1
2	Grammar	0.967822	2
3	Writing	0.95679	3

4	Reading	0.949438	4
5	Listening	0.946237	5
6	Speaking	0.918605	6



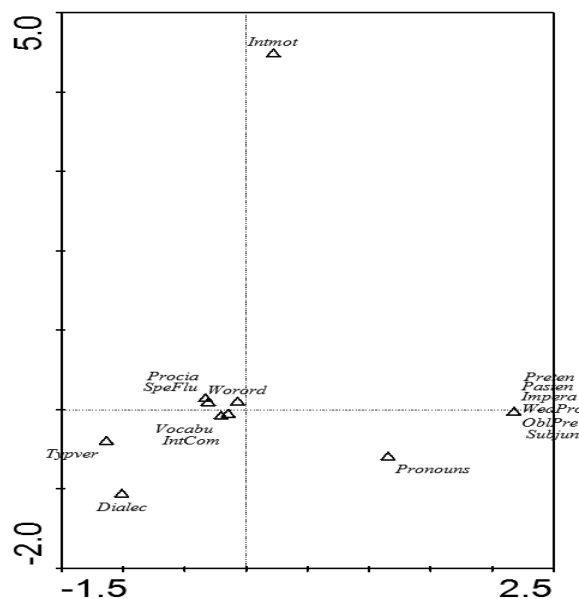
**Figure 3.6:** DCA ordination plot for grammar (see Table 3.3 for the abbreviation description)



**Figure 3.7:** DCA ordination biplot (small green circles 1-35 represent respondents)

**Table 3.2:** Top 10 responses based on the Saliency Index, SI=Saliency Index, RII= Relative Importance Index, CVI= Cultural Value Index, CII= Cultural Importance Index, CPI=Conservation Priority Index

No	Response	SI	RII	CVI	RFC
1	Word order/sentence structure	0.839	0.515	0.037	3.77
2	Vocabulary	0.800	0.488	0.033	3.57
3	Punctuation	0.352	0.212	0.003	1.54
4	Pronunciation	0.303	0.143	0.002	0.97
5	Dialect	0.289	0.151	0.002	1.05
6	Pronouns	0.262	0.132	0.001	0.91
7	Type of verbs	0.262	0.132	0.001	0.91
8	Speed (fluency)	0.259	0.147	0.001	1.05
9	Interest/motivation	0.254	0.143	0.001	1.02
10	Writing style/dialectal/regional variations	0.251	0.125	0.001	0.85

**Figure 3.8:** CCA ordination scattered plot see Table 3.3 for the abbreviation description)

**Table 3.3:** Codes used in the ordination plots and descriptions

S.No	Code	Name
1	ActPass	Active/Passive voice
2	Adject	Adjectives
3	Condit	Conditional
4	Dialec	Dialect
5	Futten	Future tense
6	Impera	Imperatives
7	IntCom	Interaction and communication
8	Intmot	Interest/motivation
9	Liscom	Listening for comprehension
10	Lisgis	Listening for gist
11	Nouns	Nouns
12	OblPre	Oblique/Prepositional cases
13	Orgpre	Organizational pressure
14	Pasten	Past tense
15	Preten	Present tense
16	Pronouns	Pronouns
17	Procia	Pronunciation
18	Puntua	Punctuation
19	Reacom	Reading comprehension
20	Reasty	Reading style/dialectal/regional
21	Recspe	Recording speed
22	SpeFlu	Speed (fluency)
23	Spell	Spellings
24	Subjun	Subjunctives
25	TeaStr	Teachers and teaching strategies/techniques

26	Typver	Type of verbs
27	Usephr	Use of phrases/proverbs
28	Varfon	Variations/fonts
29	Vocabu	Vocabulary
30	WeaPro	Weak pronouns
31	Worord	Word order/sentence structure
32	Wristy	Writing style/dialectal/regional variations

### Findings in a nut shell

- It was found that Pashto learners at DSL have a common cognitive domain and face similar problems in learning the language.
- The word order/sentence construction and vocabulary are the most salient and significantly important problems for the learners at DSL.
- There is a link between the grammar and speaking ability of the learners, correlated with the sub-categories of grammar.

### Solutions and Recommendations

The problems identified were grammar, speaking correlated with vocabulary and sentence structure. Thus the following would be useful directions for a solution to the problems:

- Preliminary English grammar teaching for our students. As most of the students have limited knowledge of English grammar, thus they should be provided with a short grammar course before the start of the Pashto course.
- The current course material should be strengthened more with additional instructions and exercises of the basic Pashto sentence structure SOV (Subject, Object, and Verb).
- Teachers training and additional CPD hours in English grammar for the teachers at DSL is thus recommended.
- Comparative grammar teaching should be introduced in the current course material.
- Extra IOPs (individual oral practice) should be arranged for the students to fulfil the shortcomings in speaking skills.
- Evening and weekend volunteer extra tuition classes for students should be arranged in DSL Chicksands, as it is a common practice in DSL Beaconsfield.
- It is highly recommended that more studies of this type should be carried out on a wider scale, to get a better understanding of the hidden intricate problems and its associated issues for the Pashto language learners at DSL in particular and Pashto wider learners in general.
- As action research can be used to investigate practical, everyday issues (Elliott, 1981), at DSL in-depth analysis of individual category of problems in

Pashto language can be performed and further action research can be carried out in this area. As action research is about the improvement of the current practice as stated by (Kemmis and McTaggart, 1982) 'All you need is a general idea that something might be improved'.

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## Appendix 1

### A list of other Publications in Pashto

#### Pashto Textbooks

Rakhmon Inomkhojaev 2009. *Pashto: An Elementary Textbook*. Indiana University, Center for Languages of the Central Asian Region. Currently available for order through Indiana University, though it will hopefully soon be published by Georgetown University Press. Accompanied by an audio CD.

Randall Olson 2007. *Speaking Afghan Pashto*, Third Edition. Peshawar: Interlit Foundation. ~450 pages.

Habibullah Tegey and Barbara Robson 1993. *Beginning Pashto Textbook and Workbook*, Revised Edition. Washington DC: Center for Applied Linguistics. ~370 pages. Part of CAL's Pashto textbook series. Available for free download from ERIC.

Habibullah Tegey and Barbara Robson 1993. *Intermediate Pashto Textbook and Workbook*, Revised Edition. Washington DC: Center for Applied Linguistics. ~340 pages.

Herbert Penzl 1962. *A Reader of Pashto*. Reprinted 2009 with an Introduction by Ismail Sloan. New York: Ishi Press. ~270 pages. Provides 25 authentic texts in Pashto script with transliteration, glossary, writing exercises and English translation.

#### Pashto Grammars

Habibullah Tegey and Barbara Robson 1993. *Pashto Conversation Manual and Pashto Conversation Tapescript*. Washington DC: Center for Applied Linguistics. ~230 pages. Organized as a series of lessons corresponding to those in the authors' *Beginning Pashto* and *Intermediate Pashto* textbooks. Part of CAL's Pashto textbook series. Available for free download from ERIC. Accompanying audio is available here.

G. Roos-Keppel, Abdul Ghani Khan and Abdul Qayum 1901. *A Manual of Pushtu*. London. ~330 pages of grammar and exercises. Available for free download from Archive.org



Manfred Lorenz 1979. Lehrbuch des Pashto: Afghanisch Leipzig. Reprinted 2006 by the Afghanistan Information Center: Bonn. ~300 pages. Pashto textbook recommended for German speakers.

### **Pashto Readers**

MRM Staff 1984. Pashto Newspaper Reader. Maryland: Dunwoody Press. ~250 pages. Provides 51 authentic newspaper articles of increasing length and complexity. Each article is printed in Pashto script accompanied by a glossary, transliteration, English translation and a photo-reproduction of the original source. Most material is taken from Hewad Daily and Islah Daily newspapers. Accompanying audio is available for ordering here.

Habibullah Tegey and Barbara Robson 1992. Pashto Reader. Washington DC: Center for Applied Linguistics. ~220 pages. Provides 45 authentic texts including essays, articles, and advertisements. Each text is accompanied by a glossary, exercises, and notes. Part of CAL's Pashto textbook series. Available for free download from ERIC. Transliteration of texts is available here and original photo-reproduction of texts is available here.

Habibullah Tegey and Barbara Robson 1996. A Reference Grammar of Pashto. Washington DC: Center for Applied Linguistics. ~240 pages. Part of CAL's Pashto textbook series. Available for free download from ERIC. Quite useful.

Naseer Hoonar Pashtoon and Ziyar A. Pashtoon 2006. A Handbook of Pashto Verbal Conjugation. Maryland: Dunwoody Press. ~625 pages. Provides conjugations in 20 major categories for 300 Pashto verbs. Also briefly describes the Pashto verb conjugation system.

Herbert Penzl 1955. A Grammar of Pashto: A Descriptive Study of the Dialect of Kandahar, Afghanistan. Reprinted 2009 with an Introduction by Ismail Sloan. New York: Ishi Press. ~200 pages. Oriented more towards linguists than language learners. Represents Pashto in a relatively obscure transliteration.

Qazi Rahimullah Khan 1938. The Modern Pushtu Instructor. Peshawar. Reprinted 2002 under the title Introduction to Pushtu. New York: Hippocrene Books. ~340 pages. Book is divided into two sections, with explanations and exercises: 'Grammar' and 'Prose Composition'.

D. Cox 1911. Notes on Pushtu Grammar. London. Reprinted 2001 in facsimile by Asian Educational Services. ~150 pages.

Henry George Raverty 1880. The Pushtu Manual: Comprising a Concise Grammar; Exercises and Dialogues; Familiar Phrases, Proverbs, and Vocabulary. London: W. H. Allen & Co. ~270 pages. Available for free viewing or download from Google Books.

Henry George Raverty 1855. A Grammar of the Pukhto, Pushtu or the Language of the Afghans. Calcutta: Baptist Mission Press. ~200 pages. Available for free viewing or download from Google Books.

D.A. Shafeev 1963. "A Brief Grammatical Sketch of the Afghan Language" in P.B. Zudin (ed) Russian-Afghan Dictionary. Moscow. ~130 page Russian language description of Pashto grammar.

### **Other Books**

David Burns 2007. Progressing in Pashto. Peshawar: Interlit Foundation. Intended as a supplement to Randall Olson's Speaking Afghan Pashto.

Babur Abbas 2010. Pashto Language: Teach Yourself Pashto Alphabet. Seattle: CreateSpace. ~50 pages of very large print.

Jane Wightwick 2003. Your First 100 Words in Pashto. New York: McGraw-Hill.

Accent on Languages 2006. Accent on Afghanistan: Pashto. Berkeley. ~60 pages. Intended for military personnel. Includes an audio CD, flashcards, and quick reference to ~350 Pashto words.

Khan Moulviz 1917. Pushtu Made Easy: Pushtu Rozmarra or Everyday Pushtu. Nowshera. Reprinted 2001 by Asian Educational Services. ~120 pages.

<b>Appendix 2</b>
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Name	Total reported categories	Reported (total reports)	RFC	RI (Relative importance index)	CVI(Cultural Value Index)	AVG_SAL
Active/Passive voice	1	32	0.914	0.125	0.000544	0.202
Adjectives	1	27	0.771	0.106	0.000390	0.175
Conditional	2	34	0.971	0.136	0.001262	0.243572
Dialect	3	37	1.057	0.151	0.002288	0.289667
Future tense	1	28	0.800	0.109	0.000418	0.181
Imperatives	2	27	0.771	0.109	0.000807	0.205618
Interaction and communication	1	31	0.885	0.121212	0.000511	0.197
Interest/motivation	2	36	1.028	0.143939	0.001410	0.254
Listening for comprehension	1	30	0.857	0.117	0.000479	0.192
Listening for gist	1	29	0.828	0.113	0.000448	0.186
Nouns	1	22	0.628	0.087	0.000261	0.148
Oblique/Prepositional cases	2	29	0.828	0.117424	0.000927	0.216
Organizational pressure	1	31	0.885	0.121	0.000511	0.197

Past tense	2	31	0.885	0.125	0.001054	0.227
Present tense	2	28	0.800	0.113	0.000866	0.211
Pronouns	3	32	0.914	0.132	0.001732	0.262
Pronunciation	4	34	0.971	0.143	0.002663	0.303
Punctuation	2	54	1.542	0.212	0.003117	0.352
Reading comprehension	1	31	0.885	0.121	0.000511	0.197
Reading style/dialectal/regional	2	30	0.857	0.121	0.000989	0.221
Recording speed	1	27	0.771	0.1061	0.000390	0.175
Speed (fluency)	2	37	1.057	0.147	0.001487	0.259
Spellings	2	35	1.000	0.140	0.001335	0.248
Subjunctives	2	32	0.914	0.128	0.001121	0.232
Teachers and teaching strategies/techniques	1	32	0.914	0.125	0.000544	0.202
Type of verbs	3	32	0.914	0.132	0.001732	0.262
Use of phrases/proverbs	1	30	0.857	0.117	0.000479	0.192

Variations/fonts	2	29	0.828	0.117	0.000927	0.216
Vocabulary	4	125	3.571	0.488	0.033241	0.800
Weak pronouns	2	32	0.914	0.128	0.001121	0.232
Word order/sentence structure	4	132	3.771	0.515	0.037007	0.839
Writing style/dialectal/regio nal variations	3	30	0.857	0.125	0.001531	0.251