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FOREWORD

I am glad to observe that in line with the original concept of ALA, papers chosen for publication in this issue are addressing a variety of problems pertinent to a multifaceted phenomenon such as language. There are five papers, two dealing with Japanese, one with Punjabi and two with Persian, employing multiple perspectives and methodologies.

The first paper, by **Irena SRDANOVIĆ** and **Kumiko SAKODA**, is concerned with Japanese as a second language. In it the authors present a learner's corpus (C-JAS) based analysis of learner's production of adjectives. They illustrate the general trend in adjective acquisition on the example of the adjective *takai* (high), examining the correlation of learners' ability with semantic domains covered in their use of adjectives. Paper also proposes new methodology to be further tested on a new larger learner's corpus now being developed at the National Institute for Japanese Language and Linguistics.

The second paper, by **LI Wenchao**, is looking at Japanese from the historical perspective, focusing on verb compounds in Early Middle Japanese (ENJ). The author argues that verb compounds actually developed in EMJ, from a looser association of verbs in earlier stagers of Japanese. Through weakening, compounds develop in two directions, one where the first verb morphs into a prefix, and the other where the second verb is transmuting into a directional/resultative complement, a result in accordance with grammaticalization theory.

In the third paper, the authors, **Barirah NAZIR**, **Umair AFTAB**, and **Ammara SAEED**, are dealing passionately with the language shift away from Punjabi. The situation of Punjabi is very complex, being the second major language in Pakistan and also one of the major languages India. The authors are focusing their research on Sargodha region of Pakistan, arguing, based on analysis of questionnaires and interviews, that Punjabi indeed is experiencing language shift, due to the shifting perception of the social role of rival languages, Urdu, the national language, and English, the official language of Pakistan. This result is surprising, since Punjabi in India does not seem to be experiencing a similar shift towards Hindi and/or English.

The fourth paper, by the authors **Mahla SAEDI**, **Fateme ALAVI**, and **Akram SHEKARIAN BEHZADI**, is a psycholinguistic study of the rate and intelligibility of speech in hearing impaired Persian speaking pupils. Their findings confirm the expected lower performance of hearing impaired pupils as compared to normally hearing ones. The findings also show statistically significant difference between hearing impaired boys and girls, boys performing better in both speed and intelligibility. On the other hand, in the group of normal pupils, it is the girls that perform better than boys. It would be interesting to know what factors, most probably social, are responsible for such a difference.

The last paper, by **Azadeh Sharifi MOGHADDAM** and **Farimah Farrahi MOGHADDAM** also deals with Persian. While pointing out the lively cultural contacts between Iran and France since the 17 c. the authors are examining the semantic change undergone by French loanwords in Persian during the last 150 or so years. To explain and categorize the changes the authors propose an elaborate synchronic model of semantic change, able to encompass all of the observed changes.

Andrej Bekeš

RESEARCH ARTICLES

ANALYSIS OF LEARNER'S PRODUCTION OF ADJECTIVES USING THE JAPANESE LANGUAGE LEARNER'S CORPUS C-JAS: THE CASE OF *TAKAI*

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Abstract

In this paper, we explore learner production of adjectives using the Japanese language learner's corpus C-JAS (Corpus of Japanese As a Second language). Firstly, we describe the overall usage of adjectives in the corpus and discuss the distribution of the adjectives among learners including their correct and incorrect usages. Then, we take the frequently used adjective *takai* "high/tall/expensive" as an example and show how the learners' production of adjectives develops in terms of form, correct/incorrect usages, and lexico-semantic coverage.

Keywords: Japanese language adjectives; C-JAS corpus; second-language acquisition; language production; learner's errors

Izvleček

V tem članku raziskujemo, kako učenci japonskega jezika uporabljajo pridevnike v korpusnem gradivu C-JAS (Corpus of Japanese As a Second language, korpus japonščine kot tujega jezika). Najprej predstavimo celotno rabo pridevnikov v korpusu in opišemo distribucijo pridevnikov pri učencih posamezno vključno s pravilno in nepravilno rabo pridevnikov. Potem se osredotočimo na pogost pridevnik *takai* "visok/drag" in pokažemo, kako se raba pridevnikov razvija glede na obliko, pravilno in nepravilno rabo, ter leksikalno-semantično pokritost.

Ključne besede: pridevniki v japonskem jeziku; korpus C-JAS; učenje tujega jezika; jezikovna raba; napake učencev

1. Introduction

The development and analysis of second language learner's corpora is of an essential importance since it can show us the way language learners' use and understand the target language, as well as point out their language learning progress and potential obstacles during the learning process. Correct usages and mistakes, as well as the gaps between covered and not covered language usages can also provide valuable information for understanding second language learning acquisition. The objective of this paper is to explore learner's production of adjectives using the Japanese language learner's corpus C-JAS (Corpus of Japanese As a Second language).

Dixon (2004, p.12) states that an adjective class can be recognized for every language, but the criteria for distinguishing adjectives from nouns or verbs are subtle in some cases. There are numerous researches that state that there are no adjectives in some languages. Some approaches still treat adjectives as a sub-type of verbs. Here we take the view that the differences between the function and the structural properties of adjectives in different languages can indicate some possible learning burdens for second language learners. It is therefore important to explore language learners' usage of adjectives in greater detail.

This paper, first, describes the overall usage of adjectives in the corpus and offers discussion on the distribution of the adjectives among learners, with a particular focus on comparing their correct and incorrect usages. Then, we take the frequently used adjective *takai* "high/tall/expensive" as an example and show how learners' production of adjectives develops in terms of form, correct and incorrect usages, and lexico-semantic coverage.

2. C-JAS corpora and its characteristics

C-JAS stands for the Corpus of Japanese As a Second language. It is a learner corpus consisting of natural conversations of Japanese learners that has been collected as part of a longitudinal study for three years. The target students are three Korean native speakers, two males and one female (K1 ~ K3), and three Chinese native speakers, females (C1 ~ C3), who were attending the same Japanese school in Japan during their first year of Japanese language studies. The interactions between each of the students with the native Japanese speaker was recorded on tape once every 3-4 months, with each session consisting of 60- or 30-minute conversations recorded at 8 different periods. The total recorded time is 46 hours, which corresponds to script data of about 87 million words. The corpus is tagged for morphological information and for learners' errors and it is possible to search through the corpus systematically using the web page available at https://ninjal-sakoda.sakura.ne.jp/c-jas/web/.

In general, the following topics are covered during the different periods:

Period 1: Memories of my primary or secondary school teacher; Period 2: Looking back at the first year of study abroad; Period 3: My Japanese friend; Period 4: My student life; Period 5: About Japanese people: Period 6: How I spend holidays; Period 7: Food, clothing and housing in Japan; Period 8: Looking back at the last 3 years in Japan. Although the topics set in the spoken corpus were the same for all the students, the discussion developed differently with each student and covered various related subtopics.

The C-JAS corpus is an essential contribution to the study of second language acquisition of Japanese language and is especially useful in observing language learning through the viewpoint of its development.

3. Analysis of learners' production of adjectives in C-JAS

This section analyzes learner production of adjectives in C-JAS, shows the developmental sequence of used adjectives, and classifies learner mistakes into different types.

3.1 Overall production of adjectives

The number of adjectives that appear in the corpus is 8459, out of which on average approximately 85% (7204) are produced correctly and 15% (1255) are produced as an error. Table 1 shows the usage of adjectives by six learners (Korean K1-3 and Chinese C1-3) within eight different periods – a) shows the overall correct and incorrect usage of adjectives, b) covers only incorrect usages, and c) shows only correct usage of adjectives. As can been expected, there are obviously differences among students in their production of adjectives, but above the mere observation of differences, there are some tendencies in the adjective usage that can be noticed. Chinese student C2 produces the most adjectives and he/she is followed by Korean students K3 and K2 and Chinese student C1 who produce adjectives at an average or above average rate (where an average is calculated based on the overall usage of the target students). This group also shows a relatively correct usage of adjectives, where Korean student K2 displays above average performance. On the other hand, the Chinese student C3 is characteristic due to the below average usage of adjectives, but with a high percentage of correct usage, while the Korean student K1 has by far the lowest usage of adjectives with the highest production of mistakes, which might be an indicator of the lowest level of Japanese language proficiency among the target students.

Further on, Figure 1 summarizes wrong usages of adjectives and shows how the error production is at the highest level in the learning phases at the beginning, then lowers down, being especially low in the periods 3 and 4 or 4 and 5, and then goes up

again. Only C3 shows a slightly different tendency with less mistakes in the beginning than later on and with a number of ups and downs during the learning curve.

Table 1: Adjectives -i in the C-JAS corpus per speaker and language learning period

a) Overall usage (correct and incorrect)									
S	**P1**	**P2**	**P3**	**P4**	**P5**	**P6**	**P7**	**P8**	**TOTAL**
K1	10	36	134	121	101	126	112	113	753
K2	230	181	188	199	191	171	181	168	1509
K3	123	202	212	203	262	260	249	281	1792
C1	69	/	158	298	183	226	215	249	1398
C2	249	221	210	220	237	235	253	226	1851
C3	137	190	131	147	103	133	164	151	1156
									8459
b) Only wrong usage									
S	**P1**	**P2**	**P3**	**P4**	**P5**	**P6**	**P7**	**P8**	**TOTAL**
K1	3	11	47	25	15	25	20	25	171
K2	61	29	15	7	8	14	18	14	166
K3	29	54	35	30	42	21	31	27	269
C1	12	/	23	41	32	40	27	36	211
C2	87	40	22	26	35	18	19	26	273
C3	13	35	22	19	14	25	15	22	165
									1255
c) Only correct usage									
S	**P1**	**P2**	**P3**	**P4**	**P5**	**P6**	**P7**	**P8**	**TOTAL**
K1	7	25	87	96	86	101	92	88	**582**
K2	169	152	173	192	183	157	163	154	**1343**
K3	94	148	177	173	220	239	218	254	**1523**
C1	57	/	135	257	151	186	188	213	**1187**
C2	162	181	188	194	202	217	234	200	**1578**
C3	124	155	109	128	89	108	149	129	**991**
									7204

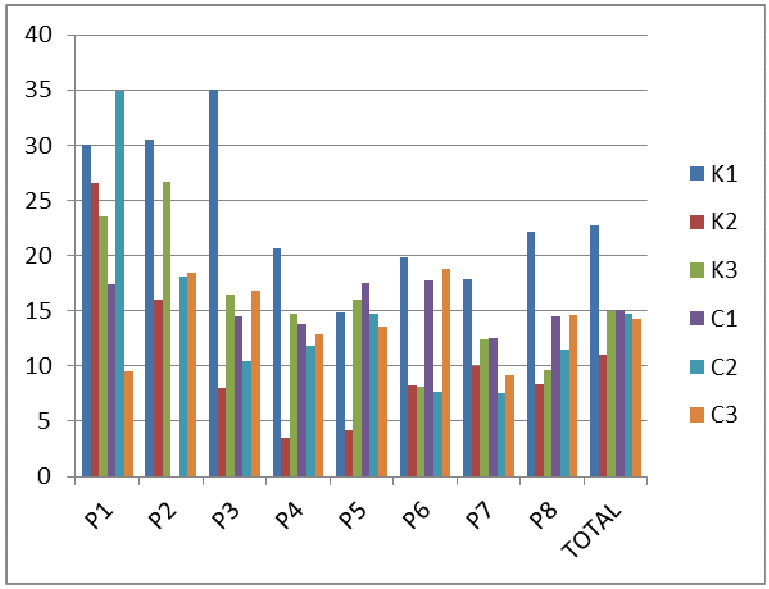

Figure 1: Only wrong usage of adjectives (%)

3.2 Production and analysis of mistakes

This section describes the types of mistakes that appear in the production of adjectives and provides a few examples of incorrect production and possible explanations in the case of the adjective *takai*.

3.2.1 Overall production

Table 2 shows a) the overall usage of correct and incorrect forms and b) incorrect usage of the adjective *takai* by six learners within different periods. Similar to the overall usage of adjectives described above in section 3.1, the differences in performance can be observed and summarized as:

- rare usage of the adjective *takai* and no mistakes (K1),
- quite a productive usage of the adjective *takai* and almost no error (actually, one mistake out of 39 usages of the adjective) (K2),
- frequent usage of the adjective *takai* and a high rate of produced mistakes (K3),
- relatively frequent usage of the adjective *takai* and a few errors produced (C1,2,3).

Korean student 1 performs with the lowest usage of the adjective *takai*, which is in line with his overall adjective usage. Korean student K2 displays above average performance with a largely productive usage of the adjective *takai* and almost no errors, which is the case for his overall adjective usage as well.

Looking into the percentage of errors out of the overall *takai* usage per period reveals that the number of errors is higher in the beginning and lowers down later on,

but there is a tendency to produce a high number of errors in the middle periods 4 and 5. The number of errors lowers down with period 6 and stays low until the last periods covered by the data.

Table 2: Language learners' usage of *takai*

a) Overall usage (correct and incorrect)										
S	**P1**	**P2**	**P3**	**P4**	**P5**	**P6**	**P7**	**P8**	**Total**	
K1	0	0	1	0	1	2	0	2	**6**	
K2	8	17	2	1	5	1	2	3	**39**	
K3	4	4	1	2	12	0	5	2	**30**	
C1	1	0	3	1	0	3	11	6	**25**	
C2	4	3	0	0	3	5	6	4	**25**	
C3	4	0	2	4	4	2	8	3	**27**	
Total	**21**	**24**	**9**	**8**	**25**	**13**	**32**	**20**	**152**	
b) Only wrong usage										
S	**P1**	**P2**	**P3**	**P4**	**P5**	**P6**	**P7**	**P8**	**Total**	**%of mistakes**
K1	0	0	0	0	0	0	0	0	**0**	**0**
K2	1	0	0	0	0	0	0	0	**1**	**2.6**
K3	0	3	0	2	3	0	0	0	**8**	**26.7**
C1	0	0	0	0	0	0	2	1	**3**	**12.0**
C2	2	1	0	0	1	0	0	0	**4**	**16.0**
C3	0	0	1	0	1	1	0	0	**3**	**11.1**
Total	**3**	**4**	**1**	**2**	**5**	**1**	**2**	**1**	**19**	**12.5**
% of mistakes	**14.3**	**16.7**	**11.1**	**25.0**	**20.0**	**7.7**	**6.3**	**5.0**	**12.5**	

Table 3 shows the types of mistakes per period and student in the production of the adjective *takai*. Mistakes related to lexical selection, either missing a collocate or choosing a wrong one, are quite often in the case of *takai*. Grammar mistakes are the next type of mistake that often appears. The number of mistakes is still relatively small to be able to draw conclusions about tendencies per separate periods or between different students. With some caution it can be noticed that grammar mistakes are spread all over the periods while lexical mistakes tend to appear more in earlier phases, though they are present later on as well. However, this needs to be clarified using larger data and expanded to cover a greater variety of adjectives. Some students are prone to make some type of mistakes more than others; in the case of adjectives, for

example, the Chinese student C2 does not display grammar mistakes, while making mostly lexical ones with some pronunciation mistakes as well, when producing the adjective *takai*.

Table 3: Types of language learners' mistakes per period and per student (the case of *takai*)

Mistakes per period	Lexical (missing collocate)	Grammar	Pronun-ciation	Lexical (wrong collocation)	Discourse	General knowledge	Total
1	2			1			**3**
2	1	1		1	2		**5**
3		1		1			**2**
4		1	1				**2**
5	2	1	3				**6**
6		1					**1**
7	1	1		1			**3**
8						1	**1**
Total	**6**	**6**	**4**	**4**	**2**	**1**	**23**

Mistakes per student	Lexical (missing collocate)	Grammar	Pronun-ciation	Lexical (wrong collocation)	Discourse	General knowledge	Total
K3	2	3	1	1	2		**9**
C2	3		2	1			**6**
C1	1	1		1		1	**4**
C3		2					**2**
C3							**1**
K2			1	1			**1**
Total	**6**	**6**	**4**	**4**	**2**	**1**	**23**

3.2.2 Usage examples

Example 1 is produced by the Chinese learner C2 in period 2: When asked to describe a person, the learner uses adjectives *takai* and *ookii* "big", both in the correct conjunctive form (*renyou-kei*). The grammar is correct but the lexical mistake (missing collocate) can be noticed in line 87L (L stands for learner, and N for native): in Japanese 背 *se* "back" needs to be used to specify the attribute (*se ga takai hito* "a tall person"). The following native speaker's question in the conversation *nani ga* (line 88N) "What is?" also indicates the lack of that part of the collocate. The next line (line 89L) shows a lexical mistake (wrong collocate) where *kao* "face" is produced instead of *se*. The reason for this mistake needs to be further explored, but one possible

interpretation is that the newly learnt words *kao* and *se* were mixed up. Here, the native speaker jumps in and suggests *se ga* "the back is" (in the corpus indicated with brackets), which helps the learner to produce the intended correct expression.

Example 1: Chinese learner C2, period 2, lexical mistake (missing collocate, wrong collocate) for *sei ga takai*

86 N ふーん, どんな人だった?
Fuun, donna hito datta?
"What kind of person he was?"

87 L **うーん, 高くて, 大きくて**
Uun, takakute, ookikute
"Well, a high, big"

88 N 何が
Nani ga
"What was high, big?"

89 L **顔が〈背が?〉せい[背], 背がたか, 高い**, あとは, 優しいの顔してるけどね
Kao ga <sei ga?> sei, sei ga taka, takai, ato wa, yasashii no kao shite ru kedo ne
"**The face <the back?> the back, the back is high** (meaning "he is tall"), and, he has a very friendly face" [Note by translator: The learner makes a mistake and does not specify "what is high", which is actually required in Japanese for the adjective *takai* "tall/ high/expensive" where "a tall person" is literary formed as "the back is high + person".]

90 N ほんと
Honto
"Really"

91 L うん
Un
"Yea"

While in English and some other languages the expression *a tall person* is formed by combining an adjective and a noun, in the case of Japanese, 背 *se* "back" is used to specify the attribute (*se ga takai hito*). The need to specify the attribute comes from the semantic range of the adjective *takai* (see also Section 3.4) covering not only high and tall things but also those expensive and high in quantity or quality. Since *takai hito* can also be referred to, for example, using the expressions *kyuuryou ga takai hito* "a person with a high salary", *komyunikeeshon nouryoku ga takai hito* "a person with a high level of communication ability" the attributive role of *takai*. As discussed in detail within Srdanović (2013), the form of this combination is unpredictable[1] by Japanese language learners who are native speakers of English, but not exclusively, and as such directly related to language burden and learner's possible mistakes. Therefore, such kinds of unpredictable combinations need to be paid special attention to in the teaching/learning

[1] The phenomenon of predictability and unpredictability of collocations is introduced in Nation 2001.

process. This is also confirmed by the error analysis. Such kind of mistakes tends to appear with some learners. In C-JAS data and in the case of *takai*, this kind of mistake reappeared a number of times especially in the case of the Chinese learner C2.

Example 2 is an obvious example of wrong usage of the adjective *takai* in connection with one's age. Although in Japanese it is possible to say 高齢者 *koureisha* "an old person" using the character 高い *takai/kou*, *takai* is not used as a predicate or noun attribute to refer to the noun 歳 *toshi* "year(s)" Similarly the noun is not used in combination with the adjective 多い *ooi* "a lot of". The reason that these two language mistakes happened can be found in the influence of the native language of the speaker, Korean, where adjectives with the meaning *ooi* and *takai* appear as predicates of the noun denoting someone's age.

Example 2: Korean student K2, period 1, lexical mistake (wrong collocate)

226 L はい, 私は友達が, 多いおお多くてー, ぺんきょ[勉強]がー, よくしー, ん, ぺんきょう[勉強]するのがーよくできま, ませんです, できません, それでも, 私は, もう父と, 父がー, 今**歳が**, ほんとに, んー, **高いです**, 歳が, **多いい**{方言}です, ん, まだー, ん, 今もう, 66 歳?
*Hai, watashi wa tomodachi ga, ooi oo ookutee, penkyo[benkyou]gaa,yokushii, n, penkyou [benkyou] suru no gaa yoku dekima, masen desu, dekimasen, soredemo, watashi wa, mou chichi to, chichi gaa, ima **sai ga**, hontoni, nn, **takai desu**, sai ga, **ooii** {hougen} desu, n, madaa, n, ima mou, 66 sai?*
"Yes, I have a lot, a lots of friends, I don't, I cannot study enough, and my father, he is old [Note by translator: the learner makes a mistake and says lit. **he has high years*], is old [Note by translator: the learner tries to correct and says lit. **he has lots of years {nonstandard, used in some dialects}*]. Now he **still*, he is already 66 years."

227 N んーんー, あそう
nn nn, asou
"I see"

Example 3 shows the usage of *takai* and the particle *kara* "because", where a grammar mistake appears since *da* is used after the plain form of the adjective. This type of mistake appears due to the transfer of learnt grammar rules for nouns and na-adjectives into the i-adjective. Besides this mistake, the form of the verb and the particle usage is not appropriate as well. The suggested corrections in the corpus are *moraeru kyuuryou ga takai kara* "it is because the salary they can get is high" or *moraeru kyuuryou ga sara ni fueru kara* "it is because the salary they can get gets even higher".

Example 4 Korean student 3, period 5, grammar mistake

106 L はい, 仕事をもったい[持ちたい], 持ちたいです
Hai, shigoto wo mottai [mochitai], mochitai desu
"Yes, I want to get a job. [Note by translator: the learner makes a mistake in the verb form *mottai*, which is corrected into *mochitai*]"

107 N でも, 別に大学に行かなくても仕事
Demo, betsu ni daigaku ni ikanakutemo shigoto
“But, a job without going to a university?”

108 L うんそうですよでも, 専門的な仕事はないと思います
Un sou desu yo demo, senmontekina shigoto wa nai to omoimasu
“Yes, that’s right, but I think there is no specialized job”

109 N 高校だけでは?
Koukou dake dewa?
“Only with a high school?”

110 L はい高校だけではー, 〈うん〉専門的な, んーたっとえば [例えば], 〈はい〉高校そちゅぎょ [卒業] したら, 〈はい〉もらうきゅうりょ [給料] は少ないんだけどー, 〈うん〉たいがく [大学] そちゅぎょ [卒業したら] しったら, もらう給料は, **もっと高いだ〉からー**, 〈うんうんうん〉4 年間行ったー, 結果ーがあるんじゃないかなーと思います
Hai koukou dake de waa, 〈un〉 senmontekina, nn tattoeba [tatoeba], 〈hai〉 koukou sochugyo [sotsugyou] shitara, 〈hai〉 morau kyuuryo [kyuuryou] wa sukunai n dakedoo, 〈un〉 taigaku [daigaku] sochugyo [sotsugyou shitara] shittara, morau kyuuryou wa, **motto takai da karaa**, 〈ununun〉 yon nenkan okonattaa, kekkaa ga aru n janai kanaa to omoimasu.
“Yes, only with a high school, a specialized one, for example when one graduates from a high school, the salary he gets is lower, and when one graduates from a university, the salary he gets is higher, so I think there is a merit in studying four years” [Note by translator: the learner makes some mistakes in pronunciation of *tattoeba* instead of *tatoeba*, *sochugyo* instead of *sotsugyou*, *shittara* instead of *shitara* etc. The teacher often confirms that she follows the conversation by backchannel markers *hai* and *un*]

111 N あーなるほどね
Aa naru hodo ne
“Oh, I see”

3.3 Developmental sequence of adjectives

In this section we explore the developmental sequence of adjectives through the case of the frequent adjective *takai* “high, tall, expensive”. We take the Chinese student C2, who showed an average performance on adjective usage and production of *takai*, as an illustrative example.

Sakoda et al. (2012) explores the developmental sequence of verbs by making a C-JAS survey of the verbs *omou* “think” and *taberu* “eat”. The study revealed that there are phenomena both similar to and different from the patterns of first language acquisition. Deriving a new correct form (e.g. *omou kara* “because (I) think” based on the plain form acquired before (e.g. *omou* “think”) is common to both first and second language acquisition, whereas plain verb forms characterize Japanese children’s verbs in their first appearances which is in contrast to the polite forms seen in learners’ verbs.

Additionally, in the development of verb acquisition, a unique learners' interlanguage form "*plain verb + desu*" (e.g. *omotta desu* "thought COP (POLITE)") appears, which seems to be a transitional form.

Table 4 shows the development sequence of the adjective *takai* in the case of the Chinese student C2. In the first period, simple plain forms of the adjective in its predicative role can be observed. It can be noticed that the learner is already in the beginner phase and fluent in colloquial forms *un, desho* "yes, probably", and particle *mo* "also". The following period shows that *takai* is appropriately produced in its continuous form (*renyou-kei*). From the later periods, 5-8, we can notice a slight transition from the usage of *takai* in plain forms and short simple sentences into usage of *takai* inside more complex sentence structure and various combinations of *takai* with other elements in a sentence and with various functions. In period 5, the attributive role (*rentai-kei*) and the adverbial role (*renyou-kei*) appear: *takai gakureki* "a high educational history", *takaku mottara ikenai* "it shouldn't get that high". The complex sentence structure *N1 wa N2 ga takai* "N1 has a high N2" and the conditional form with *–tara* "if/when" also appears in this period and is repeated later on. The following period brings conjunctional usages with *–kara* "because/from", *-shi* "and/as well as", while the final periods 7 and 8 show clause-final modality forms such as *no do* ka (no ..to ka)* "[marks the preceding utterance as a reason/explanation and hints at additional reasons]", *naa to omotta* "I thought that", and *n de* "[marks the preceding utterance as a reason/explanation]".

Table 4: Development sequence of *takai* in the case of the Chinese student C2

Per.	**Explan.**	**Examples**	
1	Form	Un, *takai takai*	N mo *takai*
	(Wider) context	(sotsugyou shitara, kyuuryou ga)	senmon gakkou mo *takai* (sotsugyou shitara, kyuuryou ga)
	Form	*N, *takai* desho	**takai*
	(Wider) context	otousan, oniisan, minna, *takai* desho	Hontou ni *takai* (otousan, oniisan, minna)
	Correction	→ otousan, oniisan, minna, se ga *takai* desho	→ Hontou ni se ga *takai* (otousan, oniisan, minna)
2	Form	*Un, *takakute*,	*kao ga <N:se ga> se ga *taka, takai*
	(Wider) context	*Un, *takakute*, ookikute (hito)	(hito)
	Correction	→ Un, se ga *takakute*, karada ga ookikute	
	Form	N *takai* desho	
	(Wider) context	*seikatsudai *takai* desho	
	Correction	→ seikatsuhi *takai* desho	

Per.	Explan.	Examples	
5	Form	*Ano, N wa, ne, *takkai* N motte tara, yoku nai	*N *takkaku* mottara ikenai
	(Wider) context	*Ano, josei wa, ne, *takkai* gakureki motte tara, yoku nai	*Gakureki *takkaku* mottara ikenai
	Correction	→ Ano, josei wa, ne, *takai* gakureki motte tara, yoku nai	→ Gakureki *takaku* mottara ikenai/Gakureki takakattara ikenai
	Form	**Takkai* N wa…	Se ga *takakute*,
	(Wider) context	**Takkai* hito wa …	
	Correction	→ *Takai* hito wa ⋯	
6	Form	Se ga *takai*?	
	(Wider) context	(repeating native speaker's expression)	(repeating native speaker's expression)
	Form	Ato, N wa, N ga *takai* desho,	, N mo *takai* shi,
	(Wider) context	Ato, Nihon wa, seikatsuhi ga *takai* desho,	, hikoukidai mo *takai* shi,
	Form	, nandemo *takai* kara,	
7	Form	*N mo … konna ni *takai* no do ka	*Takai* (3x)
	(Wider) context	*Heya mo konna ni semai de, konna ni *takai* no do ka	(ie, an answer to a question by native speaker; nikuman 2x)
	Correction	→ Heya mo konna ni semakute, konna ni *takai* no to ka	
	Form	*Shikamo *takai* da shi	Dakara, N nandemo *takai* naa to omotta
	(Wider) context	(oniku)	Dakara, Nihon nandemo *takai* naa to omotta
	Correction	→ Shikamo *takai* shi	
8	Form	Ano, *takai* N wo V_past n de,	… nanka *takai* N
	(Wider) context	Ano, *takai* kutsu wo *haita n de,	Ano, kutsu no ichiban, ushiro no hou, nanka *takai* bubun
	Correction	→ Ano, takai kutsu wo haite ta n de,	
	Form	*Ano, ushiro *takai* N	… kara, V no N ga N ga *takai*
	(Wider) context	*Ano, ushiro takai bubun ga ochite shimatte	… kara, deru *no hou ga kyuuryou ga takai
	Correction	→ Ano, ushiro no takai bubun ga totte shimatte	→ … kara, deru hou ga kyuuryou ga takai

It is interesting to observe that although some grammar items are used correctly and seem to be already acquired, after some time they are reused as a transitional learner's interlanguage form. For example, although *takai shi* "as well as high/tall/expensive" is correctly used in period 6, the transitional interlanguage form is created in period 7 *takai *da shi* "as well as high/tall/expensive [with an unnecessary copula *da*]", where the usage of *da* seems to be influenced by noun and adjective *–na* forms.

In addition, the lexical mistake mentioned in section 3.2.2 seems to re-appear and it is interesting to bring its progress to attention. The omission of *se* in *se ga takai* already appears in period 1, and then repeats in the following period. During the conversation in period 6, the native speaker uses the expression *se ga takai*, and then the learner repeats it twice, which can also be noted as a good practice for overcoming learner's errors.

Finally, it is interesting to notice the practical role of the adjective *takai*. As a basic adjective it is used by learners to descriptively denote some notions for which lexical representations are unfamiliar to them. For example, in period 8, *takai* is used to denote high heels: *Ano, kutsu no ichiban, ushiro no hou, nanka takai bubun* "the high part that is the most behind on a shoe".

3.4 Lexical domains used by language learners

This section describes the lexical domains of the adjective *takai* that are covered by language learners. Nouns that are modified by the adjective are grouped based on their meaning and are observed in comparison to the lexical domains of the same adjective used by native speakers.

As described in Srdanovic (2013), the adjective *takai* in combination with the modified nouns covers three large lexical domains: positional relations (*takai yama* "a high mountain", *takai tokoro* "a high place", *takai kabe* "a high wall/a high barrier"), quantitative relations (*takai kakuritsu* "a high probability", *takai wariai* "a high percentage") and superior/inferior relations (*takai hyouka* "high evaluation", *takai nouryoku* "a high ability"). Each of the domains is further divided into subgroups of meanings and sorted from more concrete to more abstract, from more natural to more artificial, from ordinary to metaphorical meanings. Figure 2 shows a lexical map of the most frequent domains used with the adjective *takai*. For example, the positional relations domain starts with the concrete nouns observable in nature (*yama* "mountain", *ki* "tree"), further covers those created by humans (*biru* "building", *kabe* "wall") and finally introduces metaphorical meanings (*kabe* "barrier", *haadoru* "barrier")

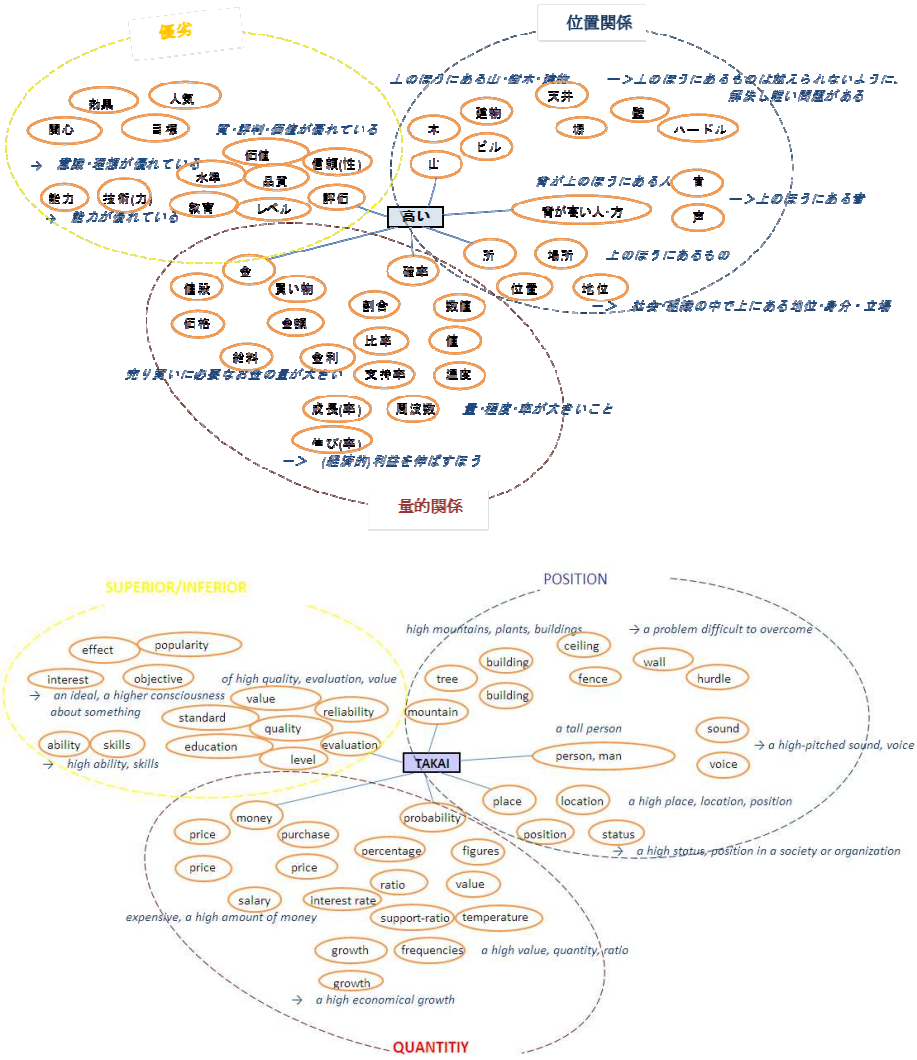

Figure 2: Lexical map of the adjective *takai* and the modified nouns, Japanese and English version
(Figure reproduced from Srdanovic,2013)

Analysis of learners' production of the adjective *takai* shows that learners overwhelmingly use the first two semantic domains: positional and quantitative, but do not use the more abstract superior/inferior relation. Only one Korean learner (K2) out of 6 uses the third superior/inferior domain. The same learner is described as "being above average in his performance" based on the quantitative and qualitative analysis of the overall correct and incorrect adjective production (see Section 3.1). Observed wider usage of lexical domains might be related to the learner's richer vocabulary.

4. Conclusion

In this paper we present learners' production of Japanese language i-adjectives using the Japanese language learner's corpus C-JAS. First we showed how adjectives are produced by learners and pointed out differences in learners' language performances. Analysis of errors showed that error production is at the highest level in the learning phases in the beginning, then lowers down, is especially low in the middle periods, and then again grows a bit.

Interestingly, the overall usage of adjectives reveals a big similarity with the differences in learners' performances observed for the adjective *takai*. The analysis of the production of *takai* and overall adjectives provide good indications about each learner's language competence. Analysis of error types in the case of *takai* showed that lexical errors (omitting and wrong usage of a collocate) appear often, followed by errors in grammar.

Analysis of the developmental sequence of adjectives showed the development from plain simple forms of *takai* to usage of *takai* in more complex sentence structures with various roles. The transitional learner's interlanguage form is also observed (*takai da* shi ← takai shi* "as well as high [**with* and without the copula *da*]").

Analysis of the lexical domains of the adjective *takai* used by the language learners revealed that the majority of target learners use only two domains relating to positional and quantity relations, while the third more abstract lexical domain referring to quality relations (superior) is widely used only by one learner, who seems to be the most proficient and with the richest vocabulary.

This study explained the overall usage of adjectives in C-JAS corpus and analyzed in detail the usage of the adjective *takai*. In the future, there is a need to do the analysis for other frequent adjectives, as well as expand the analysis to encompass various Japanese language learners' corpora. The development of a large-scale Japanese language learner corpus of written and speech data for learners who are native speakers of twelve different languages is currently in progress at the National Institute for Japanese Language and Linguistics (Sakoda 2013) and will surely contribute to the empirical study of Japanese learners' data as introduced in this research.

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ON THE FORMATION OF VERB COMPOUNDS IN EARLY MIDDLE JAPANESE

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Abstract

This paper is dedicated to the formation of verb compounds in Early Middle Japanese, a stage of the Japanese language used in the Heian Period (794–1185). The findings reveal that current verb compounds have come a long way from Old Japanese. Multiple verbs in Old Japanese are assigned to an associate type, rather than a compounding type of relation. Thus, the serial constituents receive equal syntactic weight, giving rise to the extensive use of the coordinate type and succession type of multi-verbs. In Early Middle Japanese, the combinations of the two constituents seem much tighter, giving rise the frequent use of the modifier-predicate V-V. The conclusion emerging from this study is that it was not until Early Middle Japanese that verb compounds in the strict sense appeared. Moreover, two types of verb weakening are observed in Early Middle Japanese: (a) transformation of the first verb into a prefix, (b) grammaticalization of the second verb into a directional/resultative complement.

Keywords: Old Japanese; Early Middle Japanese; verb compounds; argument structure; grammaticalization

Izvleček

Članek se posveča formaciji sestavljenih glagolov v zgodnje-srednji japonščini (obdobje Heian, 794-1185). Rezultati raziskave kažejo, da so današnje oblike sestavljenih glagolov precej drugačne od tistih v stari japonščini. V večbesednih glagolih v stari japonščini so bili odnosi med posameznimi deli na ravni navezovanja, medtem ko današnji pripisani povezovanju. V stari japonščini je imel vsak posamičen del sestavljenega glagola dodeljeno enakovredno sintaktično vlogo, kar je privedlo do razširjene uporabe priredno sestavljenih in zaporedno sestavljenih večbesednih glagolov. V zgodnje-srednji japonščini je vez med členi takšnega glagola postala tesnejša, kar je spodbudilo odnos določilo-povedkovnik. Iz tega lahko zaključimo, da sestavljeni glagoli izvirajo iz zgodnje-srednje japonščine. Poleg tega smo ugotovili, da sta v zgodnje-srednji japonščini obstajala dva tipa glagoskega šibljenja, to sta a) dodajanje predpon glagolom in (b) gramatikalizacija glagolov, pri kateri nastanejo smerno-rezultatska dopolnila.

Ključne besede: stara japonščina; zgodnje-srednja japonščina; sestavljeni glagoli; struktura argumenta; gramatikalizacija

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5. Introduction

Early Middle Japanese is a stage of the Japanese language that was used in the Heian Period (794–1185). Compared with Old Japanese, there is a range of phonological changes. Firstly, the sound characteristics, reflected in *Jōdai Tokushu Kanazukai* are completely lost. From the 10th to the 11th century, /e/ and /je/ merge into /e/; /o/ and /wo/ merge into /o/. Second, prenasalised consonants shift to voiced consonants. The change further accompanies the development of the writing system. Early Middle Japanese shifted from *man'yōgana* to the purely phonetic script *hiragana*. Three forms of writing existed: (a) a mixture of *hentaikanbun* and *man'yōgana*, mostly used in documentary; (b) *hiragana kanji majiri bun*, "a mixture of Chinese characters and Japanese hiragana syllabary characters", mostly used in poems or tales; (c) *kanji katakana majiri bun*, "a mixture of Chinese characters and katakana syllabary characters", extensively used in the Late Heian Period.

This brings us to the issue of whether verb compounding might differ accompanying the shift of writing systems in Early Middle Japanese. This paper takes the multi-verbs[1] in Old Japanese as a point of departure and moves towards a more unified account of how verb compounds are built in Early Middle Japanese. The paper is organized as follows.

Section 2 gives a brief introduction to the formation of multi-verbs in Old Japanese; this serves as the starting point of this study.

Section 3 moves on to the formation of verb compounds in Early Middle Japanese, focusing upon the argument structure.

Section 4 searches for the shifts that lie in the morphology and lexicon in the different stages, in order to ascertain trends in the development of V-V formation from Old Japanese to Early Middle Japanese.

Section 5 highlights the distinct formation conditions of V-V compounds and concludes the paper.

The data for this paper come from: (a) Monogatari literature, including *Eiga Monogatari* (EGM), *Genji Monogatari* (GJM), *Heike Monogatari* (HKM), *Ise Monogatari* (ISM) and *Ujijui Monogatari* (UJM); (b) Nikki diaries, including *Tosanikki* (TSK), *Makura no Sōshi* (MKS); (c) Waka poetry, including *Kokin Wakashū* (KKW); (d) Setsuwa literature, including *Konjaku Monogatarishū* (KJM).

[1] To make a distinction with V-V combinations in Early Middle Japanese, this paper refers to serial verb constructions of Old Japanese as multi-verbs. Moreover, this paper only deals with two-verb constructions. Three-verb constructions are not tackled.

6. Multi-verbs in Old Japanese

Before attempting to see how the verb compound in Early Middle Japanese is built, it seems appropriate to sketch an overview of multi-verb constructions in Old Japanese.

6.1 An introduction to Old Japanese

The Japanese language employed Chinese characters to represent vernacular Japanese on paper before the development of the purely phonetic *hiragana* script (in the late 800s AD). *Kojiki*, the oldest extant chronicle in Japan, is written in a mixed Chinese-Japanese script, which is termed *hentai-kanbun* "variant Chinese". Variant Chinese refers to a script that is a combination of Chinese and a phonetic transcription of Japanese. *Nihon shoki* is the second oldest extant chronicle and was written in classical Chinese. *Man'yōshū* is the oldest collection of Japanese poetry and was written in *man'yōgana*, with Chinese characters used roughly in three principal ways, i.e., to represent Japanese words, to represent Japanese syllables, and to write Chinese loanwords.

6.2 Variation of multi-verbs in Old Japanese

Given this background and on the basis of Li's (2012) insights, perhaps we can give a rough description of multi-verbs (M-V) in Old Japanese as:

a. Coordinate M-V, i.e. (1)-(2)
b. Successive M-V, i.e. (3)-(4)
c. Modifier-predicate M-V (V1 modifiers V2), i.e. (5)-(6)
d. Predicate-modifier M-V (V2 modifiers V1), i.e. (7)-(8)
e. Predicate-complement M-V, i.e. (9)-(10)

Coordinate M-V:

(1) 石橋　　**生　靡　留**　　玉藻　　毛　　叙[2]
ipapasi ni　　**opwi-nabik-yeru**　　tamamo　　mo　　zo
stepping-stone　　grow-flutter.CONCL　　water-weeds　　FOC　　FOC
"The water-weeds grow along the stepping stone in a fluttering way."
(MYS.2.196)

[2] The analysis and glossing of Old Japanese examples follow Frellesvig (2010). A list of abbreviations is given at the end of the paper.

(2) 足受利 四管 頓 情 **消失** 奴
asi-zuri situtu tatimatini kokoro **ke-use-** nu
feet scoot-INF. CONT quickly.ADV heart vanish-get lost PERF
"Keep scooting over, then, the heart does not vanish nor get lost"
(MYS.9.1740)

Successive M-V:

(3) 佐韋 賀波 用 久毛 **多知** **知多理**
sawi gapa ywo kumwo **tati-** **watari**
Sai river ITJ cloud rise- cross.INF
"Marry the older, and the first person who reaches the top of the mountain."
(KK. 20)

(4) 物乃布 能 八 十氏 河 尓 玉藻成[3] **浮倍 流 礼**
mononopu no ya- swoudi gapa ni tamamonasu **ukabe-nagas-ere**
Samurai GEN many clan river DAT seaweed float-flow.PASS
"Many people throng into the river to work like seaweed."
(MYS.1.50)

In (3) and (4), V1 and V2 are interpreted to be in successive relation. In other words, the V-V combination is considered to be equivalent to Modern Japanese "participle complex predicate (V-te-V) ".

Modifier-predicate M-V:

(5) 青 香具 山 者 日經 乃 大 御 門 尓
awo kagu yama pa pi notate no opo-mi kadwo ni
green Kagu hill TOP eastern GEN HON gate DAT

春 山 跡之 美 **佐備** **立 有**
paru yama tosi mi **sabwi-** **tat-eri**
spring-time hill PART HON towerin- stand.NMNL

"The green hill of Kagu of Yamato stands at the eastern gate, a luxuriant spring-time hill."
(MYS.1.52)

(6) 十 六社 者 **伊波比 拝目** 鶉 己曽 **伊波比 廻礼**
sisi koso ba **ipapi-worogame** udura koso **ipapi-motopore**
pig deer FOC COND creep-worship quail FOC creep-worship
"Pigs, deer and quails creep to worship."
(MYS.3.239)

[3] 玉藻成: 枕詞 for 浮倍流礼

Predicate-modifier M-V:

(7) 引馬 野 尓 仁保布 榛原 **入乱**
pikuman wo ni nipopu paripara **iri-midare**
Hikuma Plain DAT beautiful bush-clover push through-freely
"Pushing freely through the bush-clovers, flowering on Hikuma plain."
(MYS.1.57)

(8) 玉桙[4] 乃 道 **行晩**
tamapoko no miti **yuki-kurasi**
Tamahoko COP road go-benighted.INF
"I walk on the way until it gets dark."
(MYS.1.79)

Predicate-complement M-V:

(9) 妹女 乃 袖 **吹 反** 明日香 風
une mye no swode **puki-kapyesu** asuka kaze
lady GEN sleeve blow-flutter.CONCL Asuka wind
"The gentle winds at Asuka fluttered the ladies' sleeves."
(MYS.1.51)

(10) 秋 立 者 黄葉 頭刺 理 **逝 副**
aki tate ba momiti kazas-eri **yuki-sopu**
fall come. COND tinted leaves plug.INF go along
"When autumn comes, the leaves tint (the god of mountains) godly tributes to the throne."
(MYS.1.38a)

To sum up briefly, multi-verbs in Old Japanese contain three variations in argument structure, as shown in Table 1.

Table 1: Variation of argument structure of multi verbs in Old Japanese
(The examples are drawn from MYS)

Argument structure	**Example**
1. intransitive V + intransitive V	出で行く, 出で来, 鳴き渡る, なづみ来, 濡れ通る, 乱れ出づ 越え去ぬ, 越え行く, 越え来, 咲き散る, 立ち往ぬ
2. transitive V + unaccusative V	負ひ来, 恋ひ行く, 恋ひ来, 恋ひ渡る, 持ち行く
3. intransitive V + transitive V	出で見る、帰り見る

[4] 玉桙: 枕詞 for 道 road

With this in place, perhaps we can pause and draw a preliminary conclusion here: morphosyntax played a central role in Old Japanese. Crucially, the combination of the two constituents appears relatively loose. The two constituents in other words seem to receive equal weight syntactically and morphologically.

7. Verb compounds[5] (V-V) in Early Middle Japanese

We are now in the position to consider the formation of verb compounds in Early Middle Japanese by focusing upon the argument structure. Based on our data, it appears that at least four variations are available for building a verb compound, namely, (a) modifier-predicate type, (b) coordinate type, (c) succession relation type and (d) complement type.

7.1 Modifier-predicate type [v' V [V_M-V]]

It should be noted that, unlike Old Japanese, in which coordinate multi-verbs have the largest applicability of all complex predicates, the modifier-predicate type appears relatively productive in Early Middle Japanese. Typical examples would be (11) and (12):

(11) あるか　なきか　に　**消え入り**　つつ　もの　し
aruka　nakika　ni　**kieiri**　tsutsu　mono　shi
have　have-NEG　DAT　disappear-into　CONT　thing　REST

給ふ　を　御覧ずる　に
tamahu　o　goransuru　ni
HON　ACC　HON　DAT

"Looking at (Kooi), who is dying."
(GJM・Kiritsubo)

(12) 水　の　流れ　も　心　ゆき、池　の　面　**澄み渡り**
mizu　no　nagare　mo　kokoro　yuki　ike　no　men　**sumiwatari**
water　NOM　flow　FOC　heart　go.INF　lake　GEN　surface　pellucid
"Heart goes as the water's flowing, prellucidly."
(EGM. Vol. 36)

A salient property of (11) and (12) is that it involves two verbal forms: a main verb, denoted by V2, i.e., 入る *iri* "come in", 渡る *wataru* "cross", and an adverbial verb denoted by V1, i.e., 消える *kie* "disappear", 澄む *sumu* "to be pellucid". All the constituents are intransitive.

[5] The reason why this paper refers to multi-verb construction as verb compounds will be explained shortly.

There is another pattern of modifier-predicate V-V, formed by a transitive V combined with an intransitive V, as illustrated in (13):

(13) 月影 ばかり ぞ, 八重葎 に も 障らず
Tsukikage bakari zo yaemugura ni mo sayarazu
Moonlight REST FOC cleaver DAT EMPH hinder-NEG.CONCL

差し入り たる。
sashiiri taru
shine into ASS

"Only the moonlight shines in, without being hindered by the cleavers."
(GJM・Kiritsubo)

It should be noted at this point that it was not until Early Middle Japanese that the combination [V+*iru*] was allowed.[6] Illustrations include *omohi-iru* "think over", *kie-iru* "disappear", *taei-ru* 絶え入る, *shini-iru* 死に入る, *nagame-iru* 眺め入る, *naki-iru* 泣き入る, and *ne-iru* 寝入る. In Old Japanese, such combinations are not allowed, as the combination of the two constituents seems quite loose. The reason, perhaps, has to do with the grammaticalization that *iru* has received in Early Middle Japanese, exhibiting a verb weakening. Though it may still indicate change of location, in most cases, the meaning has been metaphorized. In such constructions, the first constituent is the head and could bear either transitive or intransitive features. After Late Middle Japanese (a Japanese linguistic period spanning c. 1200–1600), *osore-iru* 恐れ入る, *yorokobi-iru* 喜び入る appears, which further indicates that *iru* has become more dependent on the first constituent.

7.2 Verb weakening

The phenomenon of verb weakening is worth commenting on. Our data show the following words tend to appear in the preceding position in quite high frequency: 引く *hiku* "pull" (quadrigrade[7]), 押す *osu* "push" (quadrigrade), 掻く *kaku* "scratch" (quadrigrade), 打つ *utsu* "hit" (quadrigrade).

The frequencies of these verbs appearing in the preceding position as well as the later position are the given in Table 2.

[6] There is a similar reference in Hyakutome (2001) regarding the auxiliarisation of the verb *iru*.
[7] Quadrigrade verb conjugation: a type of verb conjugation in classical Japanese.

Table 2: Frequency of *utsu*, etc. appearing in the preceding / later position

Lexicon	Preceding position	Later position	Total	Percentage of preceding position
押す *osu* “push”	46	1	47	97%
打つ *utsu* “hit”	67	8	75	89%
掻く *kaku* “scratch”	35	1	36	97%
為 *su* “do”	23	2	25	92%
引く *hiku* “pull”	69	8	77	89%

As can be confirmed by citing the frequency from the database, *hiku* “pull”, *osu* “push”, *kaku* “scratch”, *utsu* “hit” are likely to appear in the preceding position, which further indicates that their properties as action verbs are reduced and that these verbs appear to function like prefixes. It should be noted that when it comes to Modern Japanese, they are generally used as action verbs and bear strong agentivity.

At this stage, it would be appropriate to suggest these prefix-like verbs received “degrammaticalization” as the Japanese language developed.

It is also noticed that the following verbs are likely to appear in the later position: いだす *idasu* “exit” (quadrigrade), 付く *tsuku* “stick to” (quadrigrade), 騒ぐ *sawagu* “make a noise” (quadrigrade), ありく *ariku* “walk” (quadrigrade), 勝る *masaru* “surpass” (quadrigrade), 入る *iru* “in” (quadrigrade), 遣る *yaru* “give” (quadrigrade), 立つ *tatsu* “stand” (lower bigrade), 為す *nasu* “do” (quadrigrade), 寄る *yoru* “approach” (quadrigrade), いづ *idu* “exit” (quadrigrade), 果つ *hatsu* “realise” (quadrigrade), ゆく *yuku* “push” (quadrigrade), 来 *ku* “come” (ka-irregular), 来る *kitaru* “come” (quadrigrade), 得 *u* “gain” (lower bigrade), 置く *oku* “put” (quadrigrade), 渡る *wataru* “cross” (quadrigrade).

The frequencies of the above verbs appearing in the preceding or the later position are given in Table 3.

Table 3: Frequency of idu etc. appearing in the preceding/later position

Lexicon	Preceding position	Later position	Total	Percentage of Later position
いづ *idu* “exit”	21	101	122	82%
ありく *ariku* “walk”	2	45	47	95%
得 *u* “gain”	2	31	33	93%
ゆく*yuku* “push”	19	78	97	80%
来 *ku* “come”	18	77	95	81%
為す *nasu* “do”	3	43	46	93%
渡る *wataru* “cross”	9	78	87	89%

Lexicon	Preceding position	Later position	Total	Percentage of Later position
いだす *idasu* “exit”	6	34	40	85%
寄る *yoru* “approach”	6	45	51	88%
立つ *tatsu* “stand”	15	51	66	77%
入る *iru* “in”	15	76	91	83%
付く *tsuku* “stick to”	5	39	44	88%
置く *oku* “put”	15	31	46	67%
果つ *hatsu* “realise”	3	63	66	95%
勝る *masaru* “surpass”	1	31	32	96%
来る *kitaru* “come”	10	37	47	78%
遣る *yaru* “give”	7	35	42	83%
騒ぐ *sawagu* “make a noise”	3	19	22	86%

Table 3 indicates the following issue: verbs that are likely to appear in the later position are grammaticalized. Their meaning is metaphorized, i.e. either indicating a resultative state or spatial motion. In this regard, perhaps we can give the following rough subcategorization of verb weakening in Early Middle Japanese:

(I) Verbs indicating motion:

いづ *idu* “exit” (quadrigrade), ゆく *yuku* “push” (quadrigrade), 渡る *wataru* “cross” (quadrigrade), 来 *ku* “come” (ka-irregular), ありく *ariku* “walk” (quadrigrade), いだす *idasu* “exit” (quadrigrade), 入る *iru* “in” (quadrigrade), 立つ *tatsu* “stand” (lower bigrade), 来る *kitaru* “come” (quadrigrade), 寄る *yoru* “approach” (quadrigrade)

(II) Verbs indicating resultative state:

遣る *yaru* “give” (quadrigrade), 果つ *hatsu* “realise” (quadrigrade), 付く *tsuku* “stick to” (quadrigrade), 為す *nasu* “do” (quadrigrade), 勝る *masaru* “surpass” (quadrigrade), 得 *u* “gain” (lower bigrade), 騒ぐ *sawagu* “make a noise” (quadrigrade)

Among the metaphorized meanings, verbs indicating motion occur more frequently than those that bear resultative state implications. This is possibly due to the fact that, during the Early Middle Japanese period, these verbs were partially grammaticalized. After Late Middle Japanese, *iru* became more dependent on the first constituent.

Bearing all this in mind, this paper postulates that verb weakening in Early Middle Japanese comprises two types, i.e. (a) transformation of the preceding verb into a prefix, (b) verbs whose meaning are transformed metaphorically and should be considered as directional/resultative complements.

7.3 Coordinate type [v' V [V-V]]

Having drawn a picture of the verb weakening, the following data present a further situation, where the coordinate type appears to be a common option for building a V-V in Early Middle Japanese.

(14) 今日　明日　**帰り去り**　なむ　と　するに
Kyo　ashita　**kaerisari**　namu　to　suru ni
Today　tomorrow　return-leave　AUX　COMP　do DAT
"When he leaves and goes back (to his own country)"
(GJM. Kiritsubo)

Note that in (14) the predicate is composed of two open-scale change morphemes, i.e. V1 *kaeru* "return" and V2 *saru* "leave". The two morphemes receive the same morphological and syntactic weighting.

7.4 Succession relation type [v' V [V-V]]

The following example is an illustration of succession V-V, whereby action or state denoted by V2 succeeds the one denoted by V1.

(15) 年ごろ、　うれしく　面だたし　き　ついでに
toshigoro　ureshiku　omodatashi　ki　tsuideni
age　happy.INF　honour.　ACOP.ADN　incidentally

て**立ち寄り**　給ひ　し　もの　を…
te **tachiyori**　tamahi　shi　mono　o
come over.　HON　PAST　thing　ACC

"Please come over again at your convenience, for a rest."
(GJM・Kiritsubo)

The two constituents are involved in a succession relation, and both of them, i.e. 立 *tatu* "stand" and 寄る *yoru* "approach", are independent motion verbs and equally contribute to the motion information.

7.5 Complement relation type [v' V [V-C]]

There is another type of V-V, not as frequently used as the three patterns we have seen above, and is considered the least productive type in Early Middle Japanese, namely, the complement relation V-V, which contains the following different argument structures.

Table 4: Different argument structures in Complement relation V-V

Argument structure	Example	V-V
1. unergative V + unaccusativeV	(16)	*omoi-midareru*
2. transitive V + transitive V	(17)	*hiroi-atsumeru*

(16) 宮 に 逢う またとない 機会 に、 **思い乱れる** 源氏
Miya ni au matatonai kikai ni **omoi midareru** genji
Court DAT meet precious opportunity DAT think-muddled Genji
"Genji, who appears muddled when thinking it a precious opportunity to meet in the court."
(GJM・Wakamurasaki)

(17) かつて の 愛 の 思い出 を **拾い集めて**
Matsute no ai no omoide o **hiroiatsume** te
former GEN love COP memory ACC collect

むせび泣きました
musebi naki mashita
choke cry.PAST

"Thinking of the love once upon a time, could not help crying."
(ISM)

7.6 Interim recapitulation of the argument

What the discussion so far demonstrates that morphosyntax has played the most significant role in Early Middle Japanese. The modifier-predicate type appears to have the largest applicability of all complex predicates and in this case it is the first constituent that is the head of the whole compound. Crucially, at this stage, a couple of verbs are grammaticalized and display verb weakening. In terms of the semantic constraints on argument structure, three ways of building V-V are possible, as listed in Table 5:

Table 5: Variation of argument structure of V-V in Early Middle Japanese

Argument structure	Examples
1. transitive V + transitive V	a. *hiki-agu* "pull-ascend"
	b. *kikoshimeshi-iru* "have someone in"
2. unaccusative V + unaccusative V	a. *yuki-kaeru* "go-return"
	b. *kaeri-idu* "return-exit"
	c. *tachi-sofu* "stand-escort"
	d. *tachi-hanaru* "stand up-leave"
	e. *ide-afu* "exit-meet"
	f. *uki-agaru* "float-rise"
	g. *hahi-hairu* "claw-enter"
	h. *yori-ku* "approach-come"

Argument structure	Examples
3. transitive V + unaccusative V	a. *yuki-hanaru* “go-leave”
	b. *tazune-ku* “come to visit”
	c. *mi-kaeru* “look back”

8. The shift of V-V type from Old Japanese to Early Middle Japanese

The development of the formation of verb compounds deserves thorough consideration. A closer look at multi-verb construction in Old Japanese (see (18)) reveals that the combination of the two constituents is rather loose. This might suffice to support the conclusion that in Old Japanese, the multiple verbs are assigned to an associate relation type rather than a compounding relation type.

Examples of V-V combinations in Nara period

(18) a. 出で行く *ide-yuku* “exit-go” b. 出で来 *ide-ku* “exit-come”
c. 鳴き渡る *naki-wataru* “cry-cross” d. 濡れ通る *nure-tooru* “get wet-pass”
e. 乱れ出づ *midare-idu* “disrupt-exit” f. 越え去ぬ *koe-inu* “cross-leave”
g. 越え行く *koe-iku* “cross-go” h. 越え来 *koe-ku* “cross-come”
i. 立ち往ぬ *tachi-inu* “stand-leave”

If we compare an illustration drawn from the *Kokin Wakashū* (19a), an anthology of the *waka* form of Japanese poetry published in the Early Heian Period, with an illustration taken from the *Tale of Genji* (19b), a novel written in the Middle Heian period, we can see that the combination of the two motion verbs, i.e. *sugu* “pass” and *yuku* “go”, appears quite loose and that their location can be reversed (see *sugi-yuki* vs. *yuki-sugi*).

(19) a. 神奈備 の 山 を **過ぎ行く** 秋 なれば
Kanabi no yama o **sugiyuku** aki nareba
Kanabi GEN mountain ACC go by.CONC fall come-PROV
“Fall, which has gone by the Kanabi Mountain.”
(KKW. Akishita)

b. 朝 ぼらけ 霧立つ空 の まよひにも
asa borake kiri tatsu sora no mayohi ni mo
morning break mist rise sky GEN haziness DAT FOC

ゆき過ぎ がたき 妹 が 門かな
yukisugi gata ki imo ga kadokana
pass hard lady NOM door IJP

“Even in the misty dawn, it is hard to pass the door of that lady.”
(GJM. Wakamurasaki)

The free combination yields the claim that the two constituents receive equal morphological and syntactic weight. This leads us to deduce that multi-verbs in Old Japanese and Early Middle Japanese (Early Heian Period) probably exhibit a similar formation.

Bear in mind that combinations such as [V+入る *iru*] are not tolerated in Old Japanese, as *iru* is an independent motion verb entailing a spatial meaning. With regard to Middle Heian, the pattern of [V+入る *iru*] is extensively employed, as the following illustrations show:

Examples of V-V combinations in Middle Heian period

(20) [V+入る *iru*] (*iru*: partially grammaticalized)
a. 差し入り *sashiiri* “shine in”
b. 消え入り *kieiri* “vanish”

The original meaning of *iru*, indicating a spatial meaning, remains, but is weakened and the whole V-V presents a metaphoric reading. V1 heads the whole compound and V2 conflates the path. Such V-V can be categorized as the complement relation type. Satellite framing is potentially suggested since the path is conveyed by an element other than the main verb. In Late Heian, *iru* has been fully grammaticalized and the following verb compounds result:

Examples of V-V combinations in Late Heian period

(21) [V+入る *iru*] (*iru*: fully grammaticalized)
a. 恐れ入る *osore-iru* “be obliged”
b. 喜び入る yorokobi-iru “pleased”
c. 思ひ入る *omohi-iru* “think over”
d. 絶え入る *tae-iru* “to expire”
e. 眺め入る *nagame-iru* “observe”
f. 泣き入る *naki-iru* “to burst into tears”

This directs our attention towards an assumption that it was not until the Middle Heian Period that verb compounds in the strict sense appeared. Accepting this, it seems appropriate to surmise that the development of writing systems might have lead to the shift of preference in the formation of the V-V compounds.

9. Conclusion

This paper dealt with the formation of verb compounds in Early Middle Japanese based on a comparison of multi-verb constructions in Old Japanese. The findings strongly hint that it is the syntax/lexical semantics interface that mainly facilities the formation of multi-verbs in Old Japanese, whilst in Early Middle Japanese

morphosyntax has a crucial role to play. Furthermore, compared with Old Japanese, verb compounds in Early Middle Japanese have come a long way. Multiple verbs in Old Japanese are assigned to an associate relation type rather than compounding relation type. Thus, the serial constituents receive equal syntactic weight, giving rise to the extensive use of the coordinate type and succession type of V-V combinations. In Early Middle Japanese, the combinations of the two constituents seem much tighter, resulting in the modifier-predicate type of V-V compounds being employed most frequently. The conclusion that one can draw here is that it was not until Early Middle Japanese that verb compounds in strict sense appeared. Furthermore, in Early Middle Japanese, several verbs became grammaticalized and display verb weakening. Two variations of verb weakening have been observed: (a) verbs transformed into prefixes, (b) verbs whose meanings are metaphorized so that they can be considered directional/resultative complements.

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古事記 *Kojiki* (AD. 712)

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源氏物語 *Genji Monogat*ari (AD. Early 11th century)

平家物語 *Heike Monogatari* (AD. 13th century)

宇治拾遺物語 *Ujishui Monogatari* (AD. Early 13th century)

(b) Nikki:

土佐日記 *Tosanikki* (TSK)

枕草子 Makura no Sōshi (MKS)

(c) Waka:

古今和歌集 Kokin Wakashū (KKW)

(d) Setsuwa:

今昔物語 Konjaku Monogatarishū (KJM)

LANGUAGE SHIFT – THE CASE OF PUNJABI IN SARGODHA REGION OF PAKISTAN

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Abstract

This paper examines the linguistic scenario of Punjabi (second major language in Pakistan after Urdu) in Sargodha and the social mechanism which poses threat to the sustainability of Punjabi on a broader scale. It deals with the attitudes, causes and effects of the language shift from Punjabi to other languages due to prestige, modernity and social mobility issues. Triangulation (Questionnaires from n=80 and In-depth interviews from n=3) was used in order to observe the trends of shift. The findings exhibit that Punjabi speakers are not so loyal to their language, Punjabi language shift is a real not perceived phenomenon and a day may not be far away when Punjabi will be considered endangered language in Pakistan.

Keywords: Punjabi; Language Shift; Language Loyalty

Izvleček

Članek razpravlja o jezikovnem scenariju pandžabščine (po urdščini drugem najbolj razširjenem jeziku v Pakistanu) v mestu Sargodha ter socialnih mehanizmih, ki v širšem smislu ogrožajo njuno ohranitev. Raziskuje splošno vedenje, razloge in posledice uporabe drugih jezikov namesto pandžabščine, katere vzroki so prestiž, modernizacija in socialna mobilnost. S triangulacijo (vprašalniki in intervjuji) smo preverili trende omenjenih sprememb. Rezultati kažejo, da materni govorci pandžabščine niso zvesti svojemu jeziku, da se ne zavedajo postopnega omejevanja rabe tega jezika, in mogoče ni več tako daleč dan, ko bo pandžabščina v Pakistanu razglašena za ogrožen jezik.

Ključne besede: pandžabščina; jezikovni premiki; zvestoba jeziku

1. Introduction

Weinreich (1953) defines language shift as "*the change from habitual use of one language to another*" and argued that even sociological aspects of the process should be studied as well. Language shift is a long process influenced by plethora of factors more of which are sociological in nature. (Swadesh, 1948) Language shift is mostly a slow and gradual process in which cultural and linguistic attitude of a group of people counts a lot in changing stable linguistic situation to the favor of one or more governing languages (Falk-Bano, 1986). The term "Punjabi Language Shift" as we are using it does not denote to the absolute migration of Punjabi language speakers to other languages but most often it is shift in domains of language use with particular set practices.

1.1 Punjabi in Pakistan

Pakistan is a multilingual country with rich linguistics heritage. Its national language is Urdu while official language is English. The table below explicates the percentage of speakers using regional languages.

Table 1: Pakistani Regional Languages
(Source: Census, 2001, p. 107, taken from Rehman, 2003)

Languages	Percentage of speakers
Punjabi	44.15
Sindhi	14.10
Siraiki	10.53
Urdu	7.57
Balochi	3.57
Others	4.66

In order to render the current size of the Punjabi speaking population, one has to determine the definition of "Punjabi" first, and this in turn depends on the definition of "language". Ethnologue lists not one but three languages that are called "Punjabi": Western Punjabi, Eastern Punjabi and Mirpur Punjabi. On the other hand, if we use the criterion of mutual intelligibility, it can be grouped into a whole chain of language varieties together and give it a convenient label, such as Greater Punjabi. Restricting ourselves to Pakistan, this would probably include Hindko of Peshawar, Kohat, Attock, Hazara, and Azad Kashmir, Pahari of the Murree hills, Mirpuri in Azad Kashmir, Potohari spoken in the plains around Rawalpindi, the different Punjabi varieties spoken in central Punjab, and the forms of Siraiki to the South and West of that.

1.2 The Site

Sargodha is located in Northern Punjab. It is twelfth largest city of Pakistan and is famous for citrus fruits. It is known as “city of eagles”. District Sargodha lies between two rivers, Chenab and Jehlum. It is bounded on the North by District Jehlum, on the South by District Jhang, on the North East by District Mandi Bahaudin, on the South East by District Hafizabad and on the West by District Khushab. According to the 1998 census of Pakistan, the district had a population of 2,665,979, of which 27.96% lived in urban settlements. According to the Punjab Education Department’s figures, Punjab’s average literacy rate was around 44 percent in 2003, Sargodha has 46.3 percent while female literacy rate in Sargodha is 32.66 percent. Why we selected this site? It was selected because of convenience to researchers, emotional attachment with motherland and the ease of access.

2. Language Shift – Causes

Language is supposed to be passed on from one generation to the other for its survival and is posed to threat when either speakers of a community stop imparting it breaking the continuous chain of language transmission. Grosjean’s (1982) model of intergenerational shift shows that the first generation is mostly monolingual in the home language, the second generation is bilingual in the home language and the language of the dominant society, and the by the third generation, the speakers are all monolingual in the language of the dominant society. Though the situation is a bit different in multilingual Pakistan, the changes in linguistic scene manifest analogous patterns. Furthermore, development and maintenance of any language is prior and of grave importance for the language to sustain and endure. There are several causes of language shift which are social, economic and political in nature.

2.1 Economic Factors

Economy is one of the factors leading to Punjabi language shift. Urbanization has led to migration of people from urban areas to the rural ones for search of better jobs and professional opportunities, due to migration they tend to use the language of that area they have migrated to and do not pass on their c mother tongue because it would be of no use in the area they have migrated. Related with economic factor is the concept of Power associated with language. Rehman (2003) defines it as “quality which enables the users of a language to obtain more means of gratification than the speakers of other languages.” Simply put Punjabi won’t be able to bring employment to its speakers as unlike Urdu and English, it is not the language of offices.

2.2 Demographic Factors

Language requires speakers for its survival; it is quite evident that larger the size of a community (using one language), the more are the chances of language survival, vitality, sustainability and vice-versa. If the speakers of a language die out and it's is not being transferred to the next generations then the language suffers from loss. The elder members of a community may be *fluent* and *language loyal* but their children and grand children may not necessarily be that much *fluent* and *language loyal.*

2.3 Status of Language

Power and dominance comes with status. The status of a language determines how powerful it is. An *official* or *national* language may be the reason of shift from local languages and even the mother tongue. The more dominant languages have severe effects on all other languages because people tend to learn and use the language that is more powerful in order to gain mobility and higher status in the society. Moreover, another important factor is that which language is considered more reputable and influential. People will prefer to speak the prestigious one over the non-prestigious one for obvious reasons. The languages that lack instituitional support (non-usage in education, media and offices) are usually the one that are cast off by their users.

3. Research Methodology

The research was performed using both qualitative and quantitative methods i.e. survey method and interviewing. This combination of methods was mandatory to generate a complete picture of Punjabi linguistic scenario. Survey was done through questionnaires (including both open and close ended questions) in which a total number of 80 participants (both male and female) took part. The number of both young and elder participants was 20. Similar was the case of females, 20 participants from both young and elder generations. The age limit was specified within two categories i.e. 18-25 and 45-80. The reason for specification of age limit was to analyze trends of language shift between different age groups by comparison and contrast. Questions were included regarding habitual use of language in several domains and with several people e.g. with parents, in market. In addition to these, several opinion based poll questions were included regarding the prestige, transmission, education policy, maintenance, and last but not the least, effects of other languages on Punjabi. Moreover, in-depth interviews were set up with two speakers – each from one category. These interviews were then transcribed and coded in data analysis phase.

4. Data Analysis

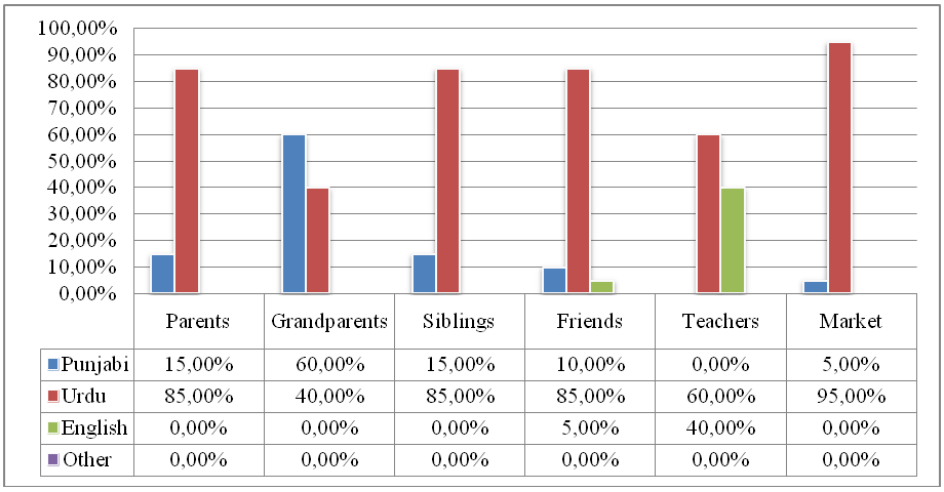
In this section, first of all the analysis of questionnaires will be presented. After this, coded answers from interviews will be provided and a combined picture will be drawn.

4.1 Gender/ Age and Language Shift

The questionnaires were analysed firstly according to variable of gender and then of age. As discussed in Research methodology, out of sample size of 80, 40 (20 each from Age group 1 and 2) are female. In age group, the population is evenly distributed i.e. 40 each. Frequency was generated and results were tabulated for display purpose.

4.1.1 Female Speakers from Age Group 1

Figure 1 presents information regarding use of language by young female speakers in different domains and with people of different age groups. Clear shift is to be seen from Punjabi to other languages especially Urdu (85% with parents, 40% with grand parents, 8% with siblings, 85% with friends, 60% teachers and 95% at market). The speakers tend to use Urdu in most of the domains, with most of people, except for the grandparents. Moreover, they tend to use English with their friends (5%) and within educational institution with teacher (40%) but still usage of Urdu prevails within educational institutions.

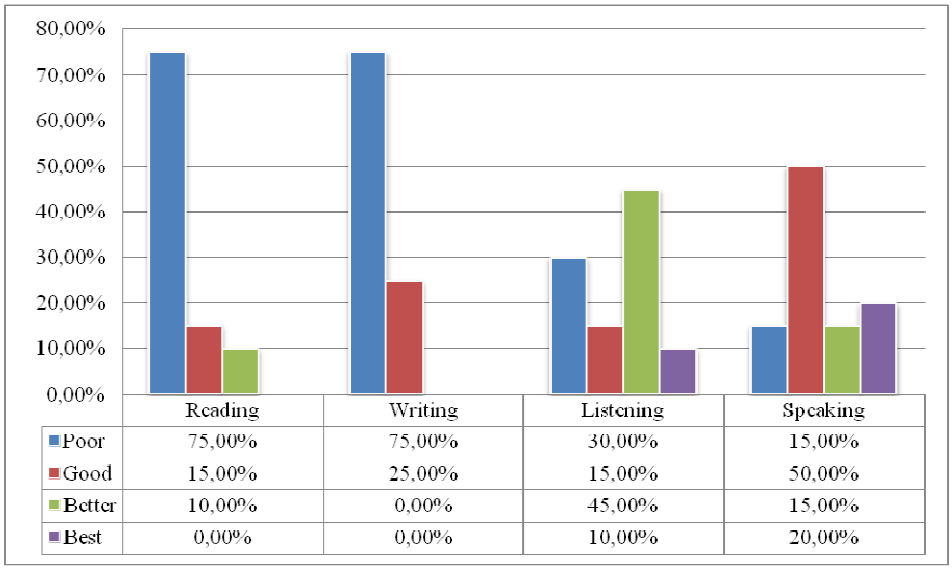


	Parents	Grandparents	Siblings	Friends	Teachers	Market
Punjabi	15,00%	60,00%	15,00%	10,00%	0,00%	5,00%
Urdu	85,00%	40,00%	85,00%	85,00%	60,00%	95,00%
English	0,00%	0,00%	0,00%	5,00%	40,00%	0,00%
Other	0,00%	0,00%	0,00%	0,00%	0,00%	0,00%

Figure 1: Language use in different social contexts (young female speakers)

Figure 2 shows trend of proficiency of speakers in Punjabi. It is observed that they have relatively good listening abilities because they have been hearing that from their parents and speaking to some extent as well. On the other hand, reading (25%) and writing abilities (25%) were relatively poor (as the data collected via questionnaires

exhibit) because they did not have much exposure to Punjabi. The most important issue was the lack of different registers/styles in Punjabi speakers' speech. Code mixing is more common and often they switch altogether to Urdu when they cannot find vocabulary item.



	Reading	Writing	Listening	Speaking
Poor	75,00%	75,00%	30,00%	15,00%
Good	15,00%	25,00%	15,00%	50,00%
Better	10,00%	0,00%	45,00%	15,00%
Best	0,00%	0,00%	10,00%	20,00%

Figure 2: Punjabi language proficiency (young female speakers)

Figure 3 shows the results of several poll questions based on the opinion of the participants regarding transmission, prestige, social importance, maintenance and last but not the least, educational policy with respect to Punjabi.

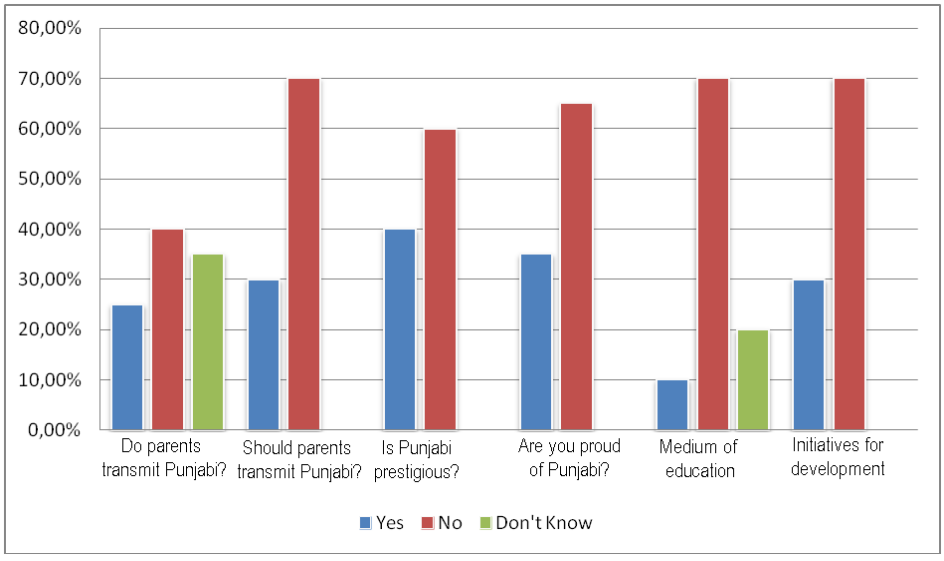


Figure 3: Opinion on Punjabi (young female speakers)

The results clearly show that most of the young participants i.e. 40% that took part in survey were of the view that Punjabi is not being transmitted by parents to the next generation while in the same context 70% think that it should not even be transmitted to children by the parents. Contrary to this, a minority of 25% participants were of the view that it is being transmitted and in the same context 30% of them think that Punjabi should be transmitted to the children by their parents. While 35% answered that they do not know whether Punjabi is being transmitted to the younger generations or not.

Prestige is another matter of significance when it comes to language. The results show that 60% of the participants think that Punjabi is not a prestigious language and 65% are not even proud of being Punjabi speaker. On the other hand, 40% of the participants think that Punjabi is a prestigious language and 35% of them are proud of being Punjabi speakers. The reason for considering Punjabi to be non-prestigious is that "*it has been associated with Sikhs which were considered enemies*" (Zaidi, 2010). Moreover, it is considered as language of abuse, villagers and illiterates, as illustrated below.

> "When two Punjabis verbally fight, the one who does not have a sister, wins by default." (Punjabi Tips #12, Facebook, https://www.facebook.com/youngteacherz)

For a long time, sociolinguists and educational linguists have been of the view that education should be provided to children in their mother tongue (Rahman, 2002). The results of survey show that 70% of participants believe that Punjabi should not be used as the medium of education, 10% were of the view that it should be used while 20% answered that they do not know whether it should be or shouldn't be used for educational purposes. Moreover, most of the participants i.e. 70% think that initiatives are not being taken for the development of Punjabi while 30% think the other way.

Participants were asked in the questionnaire about *language that they think would help them gain prestige in society*, the results show incredible shift to Urdu and especially to English as 55% opted for English, 45% for Urdu and 0% for Punjabi. Moreover, another question was asked regarding *which language they would wish to be fluent at.* 90% expressed that they would like to be fluent at English while 10% opted for Urdu, with Punjabi again at 0%.

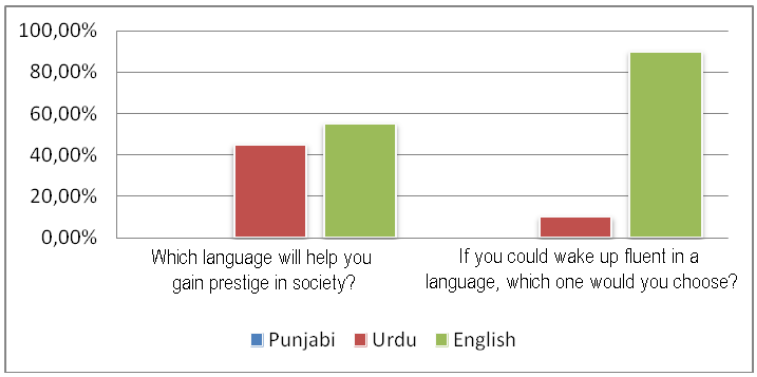
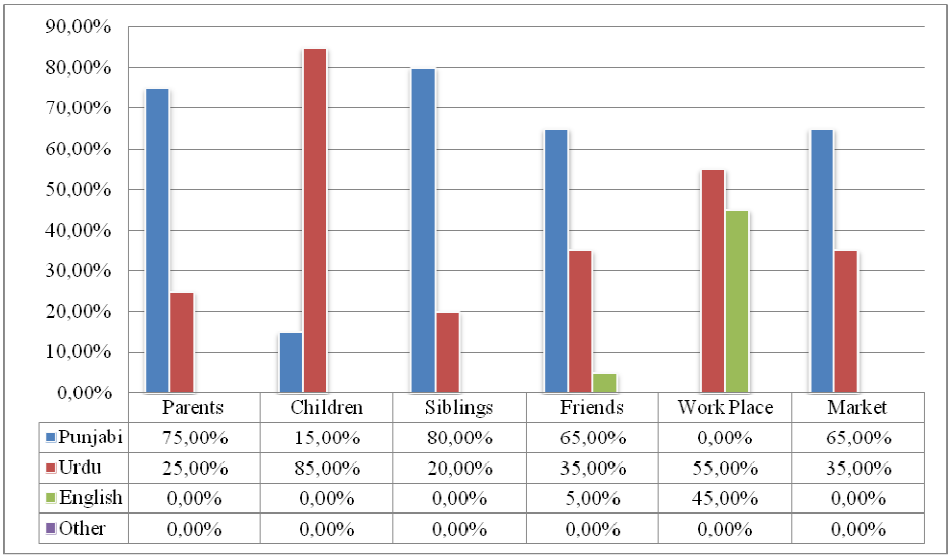


Figure 4: Prestige value of Punjabi, Urdu and English (young female speakers)

4.1.2 Female Speakers from Age Group 2

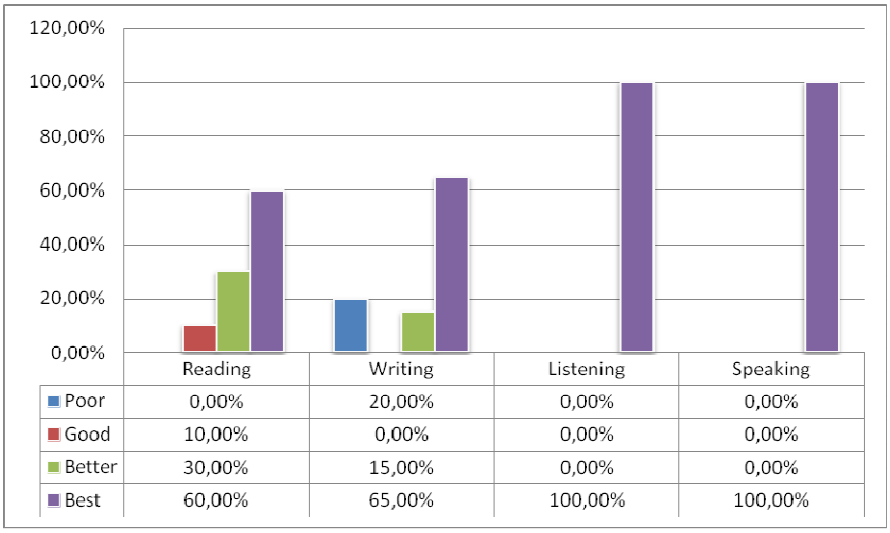
Figure 5 includes information regarding use of language by elder female speakers in different domains and with people of different age groups. It is clearly seen that they maintain to use Punjabi within most of the domains (75% with parents, 15% with children, 80% with siblings, 65% with friends and 65% at market place). There is exception of usage of Punjabi with the children (to a great extent) and in workplaces (totally), as the employer may restrict the employee from using certain language and force one to prefer another one. This shows that English proves to be an important factor for determining the social mobility because those having good command of English are preferred over other individuals.



	Parents	Children	Siblings	Friends	Work Place	Market
Punjabi	75,00%	15,00%	80,00%	65,00%	0,00%	65,00%
Urdu	25,00%	85,00%	20,00%	35,00%	55,00%	35,00%
English	0,00%	0,00%	0,00%	5,00%	45,00%	0,00%
Other	0,00%	0,00%	0,00%	0,00%	0,00%	0,00%

Figure 5: Language use in different social contexts (elder female speakers)

Figure 6 shows the proficiency levels of the speaker in Punjabi. It is observed that the elder speakers have relatively better reading and writing abilities as compared to younger ones. Moreover, elder speakers have excellent listening and speaking abilities in Punjabi. The reason behind this high proficiency level is that they have been using it throughout their life.



	Reading	Writing	Listening	Speaking
Poor	0,00%	20,00%	0,00%	0,00%
Good	10,00%	0,00%	0,00%	0,00%
Better	30,00%	15,00%	0,00%	0,00%
Best	60,00%	65,00%	100,00%	100,00%

Figure 6: Punjabi language proficiency (elder female speakers)

Figure 7 show the results of the same poll based questions, as asked in the case of young female speakers. It was observed that 40% of them think parents are transmitting Punjabi, 50% think they do not transmit it while 10% don't know. Moreover, 45% were of view that it should be transmitted to children while 55% believed it should not be.

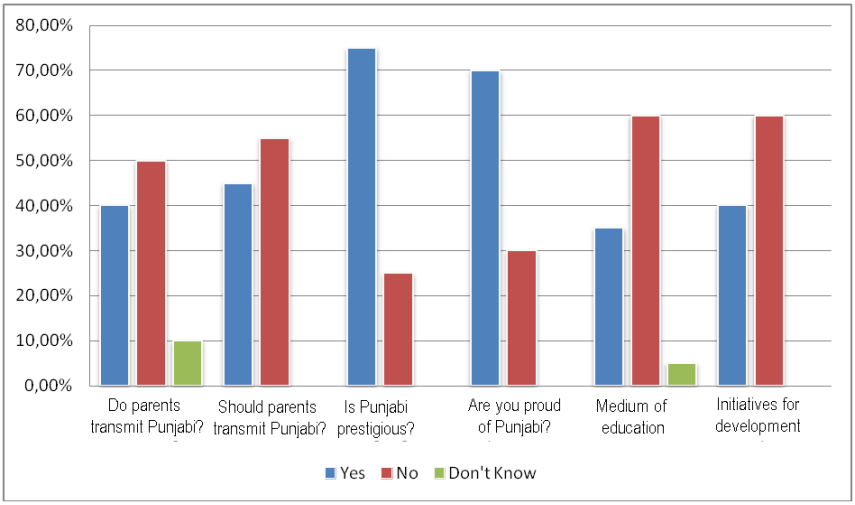


Figure 7: Opinion on Punjabi (elder female speakers)

Regarding the matter of prestige, 75% think it is prestigious language and 70% are proud of being Punjabi speakers. On the other hand, 25% think it is not prestigious while 30% are not proud of being Punjabi speakers. A greater level of language loyalty is to be seen in the case of elder speakers as compared to the younger ones. Similarly as in case of young speakers, shift is also observed in elders ones but not to that greater scale as compared to young speakers. 35% of them think it should be used as medium of education, 60% think it should not be and 05% do not know. Moreover, 40% of elders were of view that initiatives are being taken for Punjabi while 60% do not think likewise.

Elder participants were also asked in the questionnaire about *language that they think would help them gain prestige in society*, the results (as in Figure 8) show shift to Urdu and English but was less as compared to be in case of young speakers as 35% opted for English, 45% for Urdu and 20% for Punjabi. Moreover, another question was asked regarding *which language they would wish to be fluent at.* 55% expressed that they would like to be fluent at English while 40% opted for Urdu, with Punjabi at only 05%.

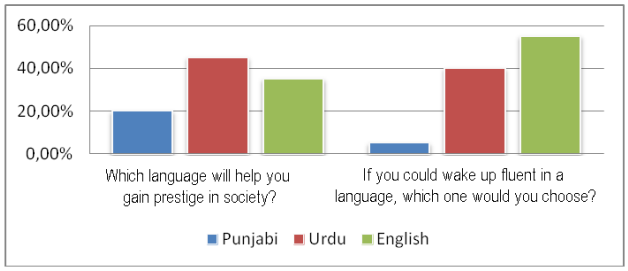
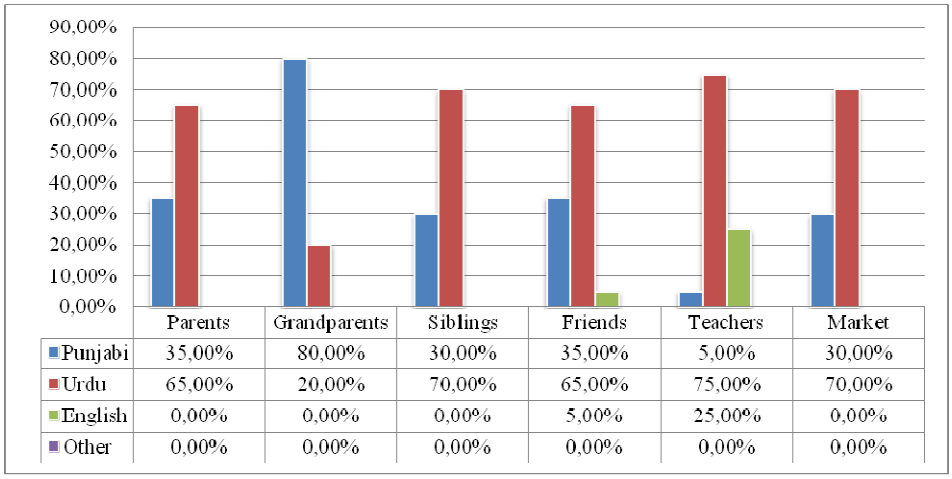


Figure 8: Prestige value of Punjabi, Urdu and English (eder female speakers)

4.1.3 Male Speakers from Age Group 1

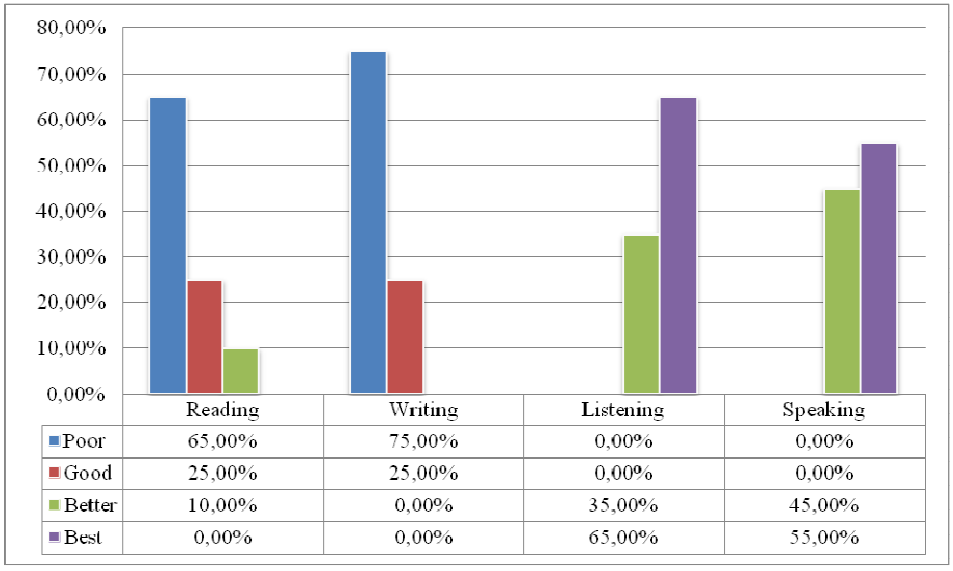
Figure 9 includes information regarding use of language by young male speakers in different domains and with people of different age groups. Shift is to be observed from Punjabi to Urdu but it is somewhat on a lesser scale than that in case of young female speakers. The reason for this may be that females tend to use more prestigious language as compared to males. Still, the speakers tend to use Urdu in most of the domains, with most of people, except for the grandparents (with them Punjabi is used). Moreover, they tend to use English with their friends and within educational institutions (to a great extent) with teachers, but still the use of Urdu prevails. In additions to this, the comparison of male and female data shows that female speakers tend to use English (within educational institutions) more than the male speakers, English being considered a more prestigious language.



	Parents	Grandparents	Siblings	Friends	Teachers	Market
Punjabi	35,00%	80,00%	30,00%	35,00%	5,00%	30,00%
Urdu	65,00%	20,00%	70,00%	65,00%	75,00%	70,00%
English	0,00%	0,00%	0,00%	5,00%	25,00%	0,00%
Other	0,00%	0,00%	0,00%	0,00%	0,00%	0,00%

Figure 9: Language use in different social contexts (young male speakers)

Figure 10 shows trend of proficiency of speakers in Punjabi. The results show that as female speakers, male speakers are also not that much skilled in reading and writing Punjabi but they have excellent skills in listening and speaking Punjabi. The comparison between data from male and female participants show that the ability of males to speak and listen Punjabi is much better than that of females, this may be because males tend to use Punjabi regularly (even if on a smaller scale) in several domains.



	Reading	Writing	Listening	Speaking
Poor	65,00%	75,00%	0,00%	0,00%
Good	25,00%	25,00%	0,00%	0,00%
Better	10,00%	0,00%	35,00%	45,00%
Best	0,00%	0,00%	65,00%	55,00%

Figure 10: Punjabi language proficiency (young male speakers)

Figure 11 shows the result of the poll questions added in the questionnaire. It was observed that 35% of them think parents are transmitting Punjabi, 40% think they do not transmit it while 25% don't know. Moreover, 35% were of view that it should be transmitted to children while 65% think it should not be. Regarding the matter of prestige, 25% think it is prestigious language and 30% are proud of being Punjabi speakers. On the other hand, 75% think it is not prestigious while 70% are not proud of being Punjabi speakers. Similarly, as in case of young female speakers, shift is also observed in young male speakers. Question was added regarding the use of Punjabi for educational purposes. 15% of the participants think it should be used as medium of education, 65% think it should not be used. The reason for not selecting the use of Punjabi for educational purposes may that it lacks that prestige as it is considered to be the language of abuse and is not considered fit for educational matters. A more amazing fact is that in some schools students have to pay fine if they speak Punjabi within the domains. Moreover, 30% of participants were of view that initiatives are being taken for Punjabi while 70% said the efforts are negligible.

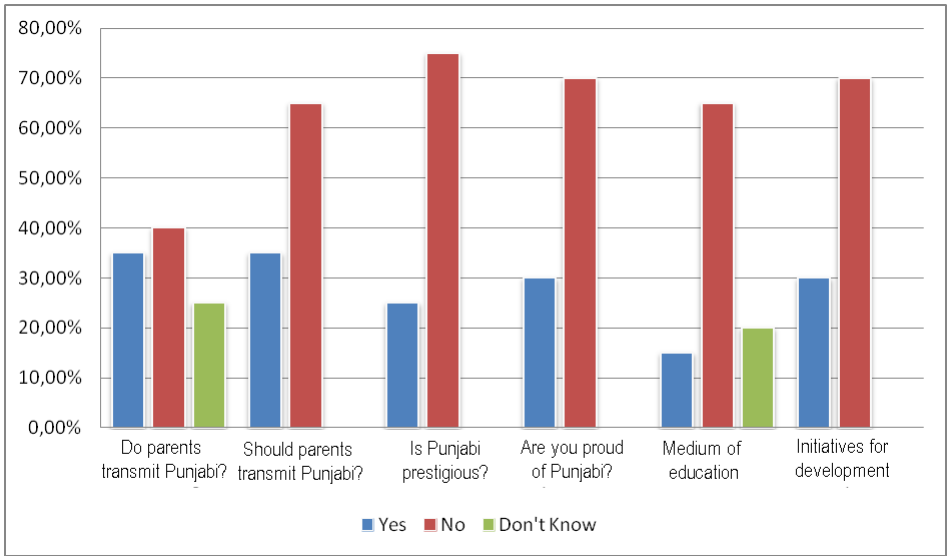


Figure 11: Opinion on Punjabi (young male speakers)

Participants were also asked about *language that they think would help them gain prestige in society*, the results show incredible shift to Urdu and especially to English as 60% opted for English, 40% for Urdu and 0% for Punjabi. Moreover, another question was asked regarding *which language they would wish to be fluent at.* 70% expressed that they would like to be fluent at English while 30% opted for Urdu, with Punjabi again at 0%, as shown in Figure 12.

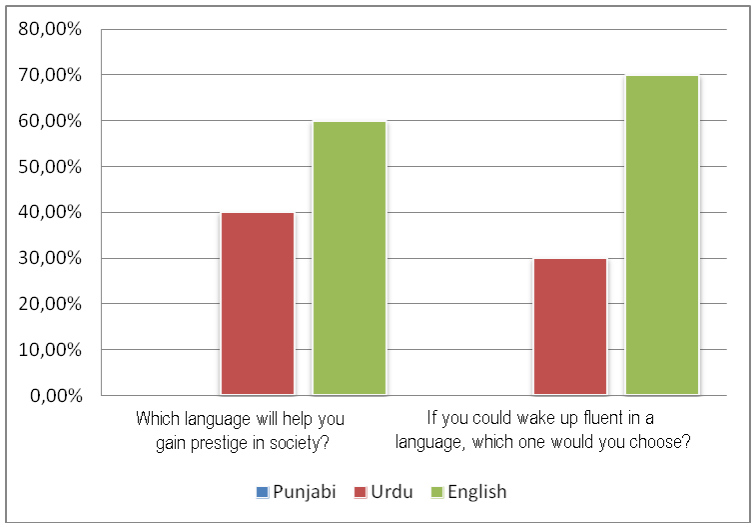
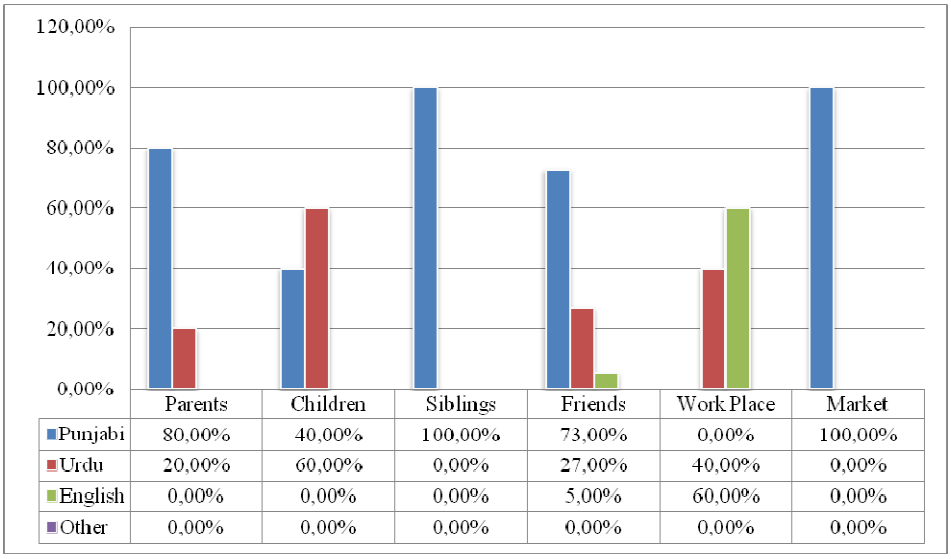


Figure 12: Prestige value of Punjabi, Urdu and English (young male speakers)

4.1.4 Elder Male Speakers from Age group 2

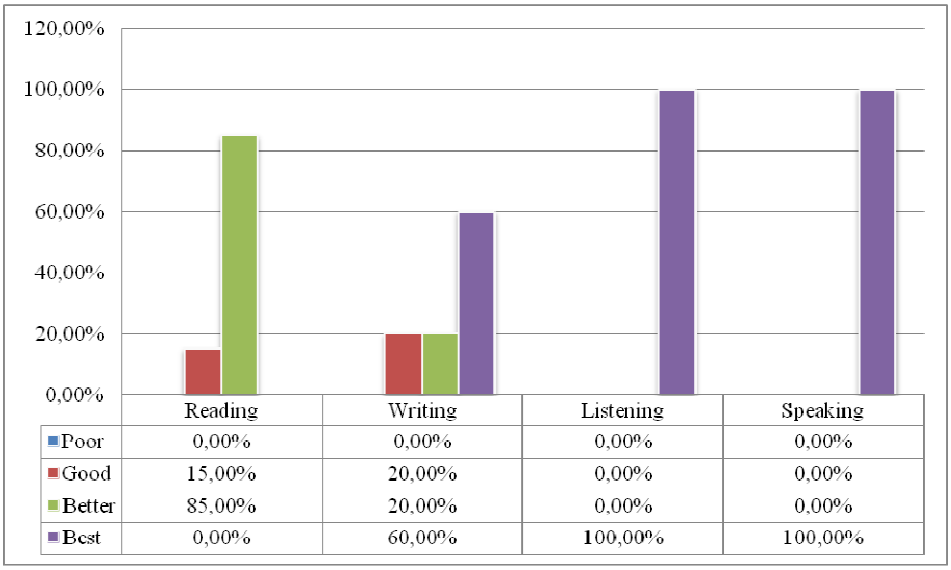
Figure 13 includes the figures containing information regarding use of language by elder male speakers in different domains and with people of different age groups. It is clearly seen that they maintain to use Punjabi within most of the domains. There is exception of usage of Punjabi with the children (to a great extent) as 40 % of them use Punjabi while 60% use Urdu. Shift is seen in the use of language within workplaces. 40% of the participants use Urdu while 60% of them use English. The reason for shift is that employers may restrict the employees from using certain language and force one to prefer another one. This shows that English proves to be an important factor for determining the social mobility because those having good command over English are preferred over other individuals.



	Parents	Children	Siblings	Friends	Work Place	Market
Punjabi	80,00%	40,00%	100,00%	73,00%	0,00%	100,00%
Urdu	20,00%	60,00%	0,00%	27,00%	40,00%	0,00%
English	0,00%	0,00%	0,00%	5,00%	60,00%	0,00%
Other	0,00%	0,00%	0,00%	0,00%	0,00%	0,00%

Figure 13: Language use in different social contexts (elder male speakers)

Figure 14 shows the proficiency levels of the speakers in Punjabi. It is observed that the elder speakers have relatively better reading and writing abilities as compared to younger ones. Moreover, elder speakers have excellent listening and speaking abilities in Punjabi. The reason behind this high proficiency level is that they have been using it throughout their life because of being loyal to their mother-tongue.



	Reading	Writing	Listening	Speaking
Poor	0,00%	0,00%	0,00%	0,00%
Good	15,00%	20,00%	0,00%	0,00%
Better	85,00%	20,00%	0,00%	0,00%
Best	0,00%	60,00%	100,00%	100,00%

Figure 14: Punjabi language proficiency (elder male speakers)

Figure 15 show the results of the same poll based questions, as asked in the case of young male speakers. It was observed that 35% of them think parents are transmitting

Punjabi, 40% think they do not transmit it while 25% don't know. Moreover, 40% were of view that it should be transmitted to children while 60% think it should not be.

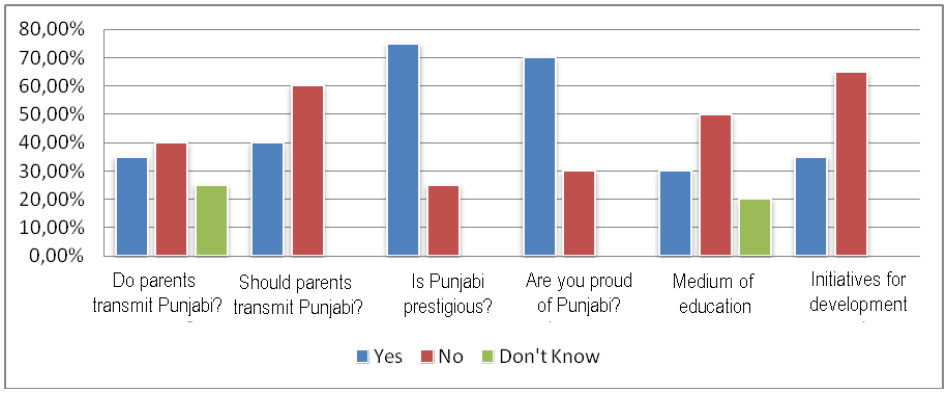


Figure 15: Opinion on Punjabi (elder male speakers)

Regarding the matter of prestige, 75% think it is prestigious language & 70% are proud of being Punjabi speakers. On the other hand, 25% think it is not prestigious while 30% are not proud of being Punjabi speakers. A greater level of language loyalty is to be seen in the case of elder speakers as compared to the younger ones. Similarly as in case of young speakers, shift is also observed in elders ones but not to that much greater scale as compared to young speakers. 30% of them think it should be used as medium of education, 50% think it should not be and 20% do not know. Moreover, 35% of elders were of view that initiatives are being taken for Punjabi while 65% do not think likewise.

Elder participants were also asked in the questionnaire about *language that they think would help them gain prestige in society*, the results in Figure 16 (as in Figure 8) show shift to Urdu and English but was less as compared to be in case of young speakers as 65% opted for English, 40% for Urdu and 20% for Punjabi. Moreover, another question was asked regarding *which language they would wish to be fluent at.* 70% expressed that they would like to be fluent at English while 30% opted for Urdu, with Punjabi at 0%.

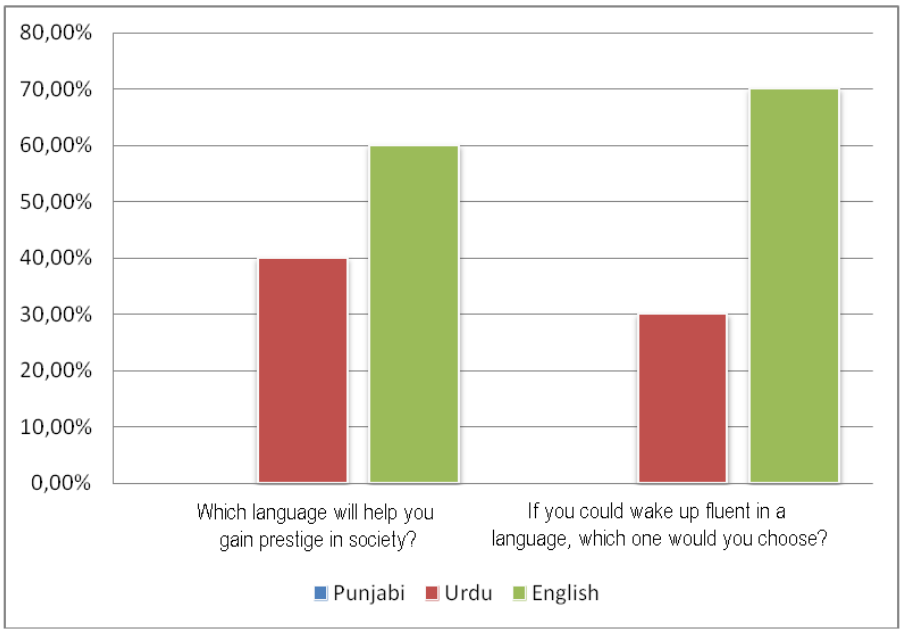


Figure 16: Prestige value of Punjabi, Urdu and English (elder male speakers)

4.2 Semi-Structured Interviews

In order to establish validity of data, Interviews (semi-structured) were conducted. For this one informant from each age group was selected and several questions were asked regarding the Punjabi language and its current scenario in Pakistan. The speakers were identified from the original group and the two were selected who had quite divergent point of views about the status of Punjabi in the eyes of its speakers.

Speaker A is a male, 45 years of age (Age group 2) living in urban locality of Sargodha and a teacher by profession. Speaker B is a male, 18 years of age (Age group 1) and belongs to rural side of Sargodha region while studying at University.

4.2.1 Do you think Punjabi is a prestigious language?

For Speaker A, the answer was “Obviously yes, I’m of the view that Punjabi is a prestigious language. It has rich literature and a very historic and strong background. It’s a sweet language to speak. The problem here in Pakistan is that we consider Punjabi to be language of abuse and lower class (villagers). Young ones should meet the experienced elders in the struggle to find out how sweet and prestigious Punjabi really is.” For Speaker B, the answer was an emphatic “No”. He elaborated further by saying, “Nobody, if given choice, would like to learn Punjabi. I believe that schools should strictly enforce No Punjabi policy as Punjabi causes accent problems for speakers when they use English later on.”

4.2.2 Which language do you think helps people gain prestige in society?

In the words of Speaker A, "Urdu is the right choice as it is national language and symbol of pride and honor." Let us quote Speaker B, to him it is

> "English obviously, Don't you see all these academies for English, Ielts Toefl, Language courses. Why they are for? To teach English like goras'. If we have adopted their dresses why are people ashamed of adopting their language?"

Notice the train of thought of young speaker from Age group 1. There is no doubt that English is global language and mandatory for communication but he depicts most of the youngsters of his times who consider sticking to their mother tongue as remaining "paindos" [uncultured]

4.2.3 Should Punjabi be used as a medium of education?

The answer was in affirmative by speaker A. Supporting his view point he cited the example of Sindh where primary focus is on Sindhi language. Speaker B believed that it's impossible to use Punjabi as medium of education for Punjabi lacks scientific vocabulary and "sophisticated" expressions.

> Speaker B: Aj tak Urdu main to parha nahi sky science, bat ap kr rahy hain Punjabi ki. Bhai aisa kaisay hoskta hai?
>
> [We have been unable to use Urdu for scientific Education. How is it possible to use Punjabi when Urdu has failed. It is quite impossible, brother]

4.2.4 What effects do you think other languages are having on Punjabi?

The question was asked because Urdu and English are dominating linguistic scene of Pakistan. It is quite obvious that giving more status to one language gives the very language power and prestige. The powerful language will tend to be used in the important domains of society such as media, education and movies. Speaker A, in this regard, opined that due to the more powerful and more prestigious languages, Punjabi is being marginalized, being rather slowly murdered at their hands. For Speaker B, the effect is positive and it must be continued till Punjabi "absorbs more vocabulary and becomes a standard language".

5. Field work Findings

The main variable considered for this research was Age and the findings show that the trends of shift are more evident in young speakers who tend to use Punjabi less than the elder speaker and prefer Urdu and English over Punjabi though some of them speak Punjabi with elders such as parents and grandparents. In informal settings like hanging out with friends, preference is given to Urdu language over Punjabi as Punjabi lacks prestige. Modern Punjabi speaker has inculcated Punjabi linguistic shame that is

hard to be dispelled of and this is the reason why young speakers are not loyal to their mother tongue. Most of the young speakers are of the view that Punjabi should not be used as a medium of education because not everyone has that much receptive and productive ability in Punjabi. This speaks volumes about the future of Punjabi in multilingual Pakistan.

Elder speakers use Punjabi nearly in all the domains of life. Sometimes with children too but not in most cases as, due to changing trends of society, they do not want them to learn Punjabi. Elder speakers may switch to languages other than Punjabi for sometime in certain special circumstances (teaching in school, talking to people who cannot understand Punjabi) but they prefer using Punjabi in normal circumstances. It must be noted that their writing competency in Punjabi is also not as good as in Urdu or English – the languages they have learnt in formal settings. Elder speakers consider Punjabi prestigious and it is an honor for them to speak it. For them, it is instrumental to express thoughts and ideas. It must be promoted as medium of education so that its survival and development is ensured. They are of the view that language should be taught to children in order to ensure the continuous transmission through generations.

The study findings show the signs of language shift, but they also exhibit signs of hope for Punjabi. Language attitudes expressed in these interviews showed that (a) speakers are aware of Punjabi attrition, (b) members want to try to keep Punjabi alive, (c) elder speakers are more loyal to their language, and (d) it is usually the youngest children who have weak affiliation with Punjabi. They know just the most “imperfect” registers of language and are mostly “semi-speakers”.

6. Conclusion

Punjabi being the second most spoken language in Pakistan is declining and losing hundreds of speakers day by day due to more powerful languages which pose a threat to the existence of Punjabi. Language maintenance and shift are the long-term, collective consequences of consistent patterns of language choice (Fasold, 1984). The phenomenon is far beyond language attrition as a huge majority of speakers are shifting their loyalties to Urdu. The reasons of shift are numerous like lack of prestige, lack of power, lack of institutional support, linguistic shame etc. It is, therefore necessary, to start projects for the development of Punjabi and moreover parents should teach their children the language as mother tongue (at least the Punjabi families) in order to ensure the sustainability of language.

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A Study of Rate of Speech and Intelligibility of Speech in Hearing impaired Pupils of Baghcheban School of Zahedan, Iran[1]

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Abstract

Hearing loss results in disruption of coordination in muscles and structures engaged in speech timing tasks and consequently acquisition of speech sounds is affected. The purpose of this study is to investigate and compare the speed and intelligibility of speech in hearing impaired and normal hearing Persian speaking elementary school boys and girls. 33 hearing impaired students are randomly selected from three hearing impaired groups (profound, severe and moderately-severe) and compared with 60 normal hearing students. The speed of speech was measured according to reading Words Per Minute (WPM), and speech intelligibility was tested by a 5-rank scale method. As expected, the normal hearing had more speed and intelligibility of speech in contrast to the hearing impaired group. Also hearing impaired boys had a better speed and intelligibility of speech compared to hearing impaired girls but in normal hearing group, girls had better speed. The amount of P-value for moderately-severe and sever hearing impaired was 0.006 and this amount for profound and moderately-severe hearing impaired was 0.002, so p-value is <0.05 and significantly important. Profound hearing impaired group read the text more slowly and had lower speech intelligibility than other two hearing impaired groups.

Keywords: speed of speech; speech intelligibility; profound hearing impaired; severe hearing impaired; moderately-severe hearing impaired, Persian

Izvleček

Izguba sluha ima za posledico motnje v koordinaciji mišic in struktur, ki sodelujejo pri tempiranju govora, kar posledično vpliva na usvajanje glasov govora. Cilj te študije je raziskati in primerjati hitrost in razumljivost govora pri slušno prizadetih in pri normalnih osnovnošolskih otrokih, katerih materinščina je perzijščina. 33 slušno prizadetih učencev je bilo

[1] Our special thanks goes to the staff and students of Baghcheban school of Zahedan who helped us during the whole period of administering our tests.

na slepo in izbranih izmed treh skupin slušno prizadetih (globoko prizadetih, hudo prizadetih in lažje do hudo prizadetih), da bi jih primerjali s 60 slušno normalnimi otroki. Hitrost govora se je merila s številom besed na minuto (WPM), razumljivost pa s petstopnejsko lestvico. V skladu s pričakovanji so normalni otroci v primerjavi s slušno prizadetimi dosegli večje hitrosti pri govoru ter so bili bolj razumljivi. Prav tako so slušno prizadeti dečki dosegali boljše rezultate pri hitrosti in razumljivosti govora kot pa slušno prizadete deklice. Nasprotno pa so deklice z normalnim sluhom dečke prekašale v obojem. Koeficient P za lažje do hudo slušno prizadete ter za hudo slušno prizadete je bil 0.006, za globoko in lažje do hudo prizadete, 0.002, v obeh primerih < 0.05, torej statistično signifikanten. Globoko slušno prizadeti so brali besedilo počasneje in so bili bolj nerazumljivi kot ostali dve skupini slušno prizadetih.

Ključne besede: hitrost govora; razumljivost govora; globoko slušno prizadeti; hudo slušno prizadeti; lažje do hudo slušno prizadeti, perzijščina

1. Introduction

Language learning is one of the skills that should be tackled from the very early years of life and in case of neglect, human beings are faced with a lot of irreparable damage. Some factors are involved in impeding language learning one of the most important of which is hearing impairment. In learning a language a special place should be reserved for hearing since it has (at least) temporal priority compared to other human senses. From the first day of life, a child reacts to the sounds of his/her environment and later s/he produces sounds known as cooing. Here we first review some of the studies that have been conducted in the field of hearing impairment. Then we explain the method of our research and the results. After that we have a discussion part in which we compare and contrast the findings of the present paper with the previous research.

Venkatagiri (1999; also cited in Ahadi et al., 2009) examined the speed of speech in three tasks of reading a text, describing a text and conversation by 16 male and female college students between the ages of 19 to 31. The results were as follows:

- speed in reading a text: 174-186 words per minute, 249-251 syllables per minute
- speed in describing a text: 133-147 words per minute, 171-181 syllables per minute
- speed in conversation: 136-144 words per minute, 183-204 syllables per minute

Svirsky (2000) measured English language skills of children who had lost their hearing ability in pre-language period, before and after cochlear implantation and reached the conclusion that in the face of personal differences, people with the best scores had developed their oral language systems based on the *auditory data* received from cochlear implantation.

Another research by Oliveria, Ortiz, and Vieira (2004) was carried out on 11 people with speech paralysis aged from 18 to 69. In the control group, for every patient

there were 3 normal people with the same age and gender. The results showed that in both tasks of reading a text and two-minute conversation, the speech-paralyzed group had a significantly lower speed of speech compared to the control group.

According to Pena-Brooks and Hedge (2000) deaf children can not learn and imitate the mental activity of their parents and other hearing adolescents just because these children can't hear these people's talks. The process of development in spoken and written language is essentially slower in hearing impaired people than the normal and in the case of congenitally hearing impaired children. According to them, speech intelligibility is also a problem.

Finally it's useful to refer to a research conducted by Tye-Murrey and Woodworth (1989) on 28 deaf children with cochlear implantation to measure their speech intelligibility. The hearing of these children had begun to decrease when they were in their pre-linguistic period. The score for the speech intelligibility was obtained by analyzing the percentage of correct phonemes and words which they produced during both spontaneous and imitative speech. The results indicated low speech intelligibility for children who had used cochlear implantation for 3 years (i.e. 53 percent of phonemes and 22 percent of words were correct). This research also showed that children with cochlear implantation before 5 years of age were better in speech production skills compared to children who were cochlear-implanted after 5.

In line with the above studies, the present research combines two methods of Rank Scale and WPM to the aim of investigating the speed and intelligibility of speech in hearing impaired students in Baghcheban school and examine if the findings are approved here or not.

2. Research Method

The method of this research is a combination of descriptive study and fieldwork and it tries to investigate the effects of hearing on speed and intelligibility of speech. Our statistical population consisted of two groups: Hearing impaired children from a school for exceptional children named Baghcheban as our experimental group and normal hearing male and female children from Salman Farsi and Sama schools as our control group. The control group consisted of 60 male and female elementary school students with normal hearing (15 girls and 15 boys in the third grade, 9 years old; 15 girls and 15 boys in the fifth grade, 11 years old). Since we had no variability for age, the standard deviation, which is an index of dispersion, was zero. The number of hearing impaired students was 33 (17 boys, 16 girls) who were at the third, fifth, and complementary fifth grades. 7 girls were profound hearing impaired between the ages of 10-16, average 12, standard deviation 2.23; 4 girls, severe hearing impaired between 10-13, average 11, standard deviation 1.51; 5 girls, moderately severe hearing impaired between 10-15, average 12.5, standard deviation 2.19.

Among boys, 4 students were profound hearing impaired, between the ages of 10-16, average 12.5, standard deviation 2.51; 7 students, severe hearing impaired between 10-14, average 11.42, standard deviation 1.61; and 1 student was moderately-severe hearing impaired aged 13.

For calculating the students' speed of speech we requested them to read a selected text from their Farsi (Persian) course book. Then by counting the number of pronounced words, dividing it by the total time spent on reading and multiplying it by 60, we gained the speed of speech in terms of words per minute (WPM):

$$\text{WPM} = \frac{the\ number\ of\ pronounced\ words}{total\ talking\ time\ (TTT)} \times 60$$

(Richard E. Ham, 1999)

For evaluating the students' intelligibility of speech, we used the results of a research by Peng, Spencer, and Tomblin (2004) in which the intelligibility of speech of children with cochlear implantation had been evaluated. The children participated in this study had lost their ability of hearing before the pre-linguistic period. Peng and his colleagues presented these children's speech samples for non-professional adolescents with normal hearing. 3 Normal hearing students judged the speech of every child by a scale of 5 ranks. Rank 5 meant a completely intelligible speech and rank 1 meant a speech not intelligible at all. This method of calculating the intelligibility of speech is called "Rank Scale Method".

In our research, recorded samples of students' speech which had been read from a 100-word text were played for 3 non-professional adolescent normal hearing listeners. They were requested to give a rank from 1 to 5 to the intelligibility of speech of students without consulting each other. Among the ranks given by the listeners, the rank which was agreed on by two of the listeners was considered as the correct rank. Most of the time, ranks given by the listeners were the same or similar. For comparing the statistical rank of male and female students' intelligibility of speech with hearing impairment, we used Levin Test. For comparing the statistical rank of male and female students' intelligibility of speech with hearing impairment according to their hearing status, we used ANOVA.

For analyzing the relationship between the speed of speech and intelligibility of speech in male and female students with hearing-impairment, we used Spearman Test and for analyzing the same relationship according to the students' hearing status, we used Kruskal-Wallis Test.

3. Results

Dispersion and central indices of speed of speech in male and female students with hearing-impairment in elementary school according to their hearing impairments are as follows:

The average of speed of speech in male students with profound hearing-impairment was 38.77, severe hearing impairment 51.66 and moderately-severe hearing impairment, 51.91. The average of speed of speech for female students with profound hearing impairment was 35.18, severe hearing impairment 43.5 and moderately-severe hearing impairment, 45.25. In students with hearing impairment the speed of speech of boys was higher than girls but in control group girls perform better in this task.

For intelligibility of speech, none of the hearing impaired boys obtained rank 5. Totally, 52.9 percent of them obtained rank 1, 17.6 percent of them rank 2 and 3 and finally 11.8 percent rank 4. Hearing impaired girls could not obtain rank 4 and 5. Totally, 75 percent of them got rank 1, 18.8 percent rank 2 and 6.3 percent rank 3.

According to Table 1 below, 85.71 percent of all students with profound hearing impairment obtained rank 1. This means that the speech of most of them was not intelligible. In severe hearing impaired group, 37.5 had unintelligible speech, 50 percent of them obtained rank 2 which means 20 percent intelligible speech and 50 percent rank 4 which means 80 percent intelligible speech. According to the same table, 100 percent of hearing impaired girls had completely unintelligible speech. In severe hearing impaired group too, 100 percent of their speech was unintelligible. Finally, in moderately-severe group, 60 percent obtained rank 2 meaning that 20 percent of their speech was intelligible.

Table 1: Intelligibility of speech (in reading a text) for students with hearing impairment in elementary school according to hearing status and gender

Gender	Rank Scale for Speech Intelligibility	Profound Freq./%	Severe	Moderately-severe	Total
Boys	Rank 1	6 85.71%	3 37.5%	0 0%	9 52.95 %
	Rank 2	1 14.29%	1 12.5%	1 50 %	3 17.65 %
	Rank 3	0 0%	3 37.5%	0 0%	3 17.65 %
	Rank 4	0 0%	1 12.5	1 50 %	2 11.75 %
	Rank 5	0 0%	0 0%	0 0%	0 0%

Gender	Rank Scale for Speech Intelligibility	Profound Freq./%	Severe	Moderately-severe	Total
Girls	Rank 1	7 100 %	4 100 %	1 20 %	12 75 %
	Rank 2	0 0%	0 0%	3 60 %	3 18.75 %
	Rank 3	0 0%	0 0%	1 20 %	1 6.25 %
	Rank 4	0 0%	0 0%	0 0%	0 0%

According to table 2 (Tukey test), there is a meaningful difference between severe and moderately severe group and also between profound and moderately-severe group but there is no meaningful difference between profound and severe group.

Table 2: Comparison of the statistics of speech intelligibility in male and female students with different hearing status using Tukey test

Hearing Group (I) Hearing Group (J)	Mean Difference (I-J)	Standard Deviation	P-Value
Profound/ Severe Moderately-severe	0 -1	24% 23%	1 0.002
Severe/Profound Moderately severe	0 -1	24% 23%	1 0.006

4. Discussion

Our research investigates three factors of speed of speech, intelligibility of speech and gender in students with hearing impairment. In this section we compare our studies with some of the previous researches.

In the field of speed of speech, our observations confirm the findings by Nickerson (1975), Pissoni (2000) and Geers (2002) in which there is a relationship between the degree of hearing impairment and speed of speech: With increasing the degree of hearing impairment, speed of speech decreases. Our research doesn't confirm the findings of Venkatigiri (1999) which was mentioned in the introduction. The reason may come from the fact that in our test the unit of measurement was "word" and the test was carried out on children while in Venkatagiri, the unit was "syllable" and the research was carried out on adolescents.

Another slightly different research was Zellner (1998). It shows that the difference between the threshold of hearing between two groups of profound hearing impaired

and moderately-severe hearing impaired children causes a meaningful difference in the speed of speech between these two groups. In general, this is done through two mechanisms, i.e., of "pause" and "extending the length of speech units". In our research the only mechanism used by examinees to decrease the speed of speech was "pause".

Regarding the intelligibility of speech, our findings confirm studies such as Munson, Edwards and Beckman (2005), Rob and Peng (1992) and Seifpanahi (2006) which point to the existence of a relationship between intelligibility of speech and degree of hearing impairment.

We didn't use hearing aid or cochlear implantation for our students. Therefore, we couldn't make any comparison with other researches in this field. However, other studies including Chin, Finnegan and Chung (2001) and Tobey, Geers, Brenner, Altuna, and Gabbert (2003) were in line with the present research. These studies also emphasize better intelligibility of speech in normal hearing people compared to the hearing impaired. They showed that there is a direct relationship between the progress of hearing impairment and decline in intelligibility of speech. Groups with moderately-severe, severe and profound hearing impairment in this order gained the highest statistical scores in intelligibility of speech.

Another research which is different from the present study in terms of ranking hearing impairment is Smith (1975). As we said earlier he believes that the speech of profound hearing impaired people is 20 percent intelligible, which equals rank 2 in the present research. Looking at our results we observe that most of the people with profound hearing impairment are put in rank 1 (completely unintelligible) and therefore different from the study by Smith. The reason can be attributed to the fact that Smith has used spontaneous speech by examinees for his test but we have used a guided method of reading a 100-word text.

As for the relationship between speed of speech and intelligibility of speech in hearing impaired people, an interesting finding is reported in Seifpanahi (2006). He contends that the speed of speech in examinees with rank 5 is higher than examinees with other 4 ranks but there isn't any meaningful difference among those 4 ranks. This shows that in completely intelligible speech, speed of speech is higher but even if 20 percent of speech is unintelligible (for example in rank 4), the rate of speech intelligibility can not have any positive meaningful effect on children's speed of speech. This finding was confirmed in our study and we observed that in hearing impairment higher than moderately-severe, the intelligibility of speech does not make any meaningful difference in the speed of speech.

In the previous studies, speed of speech and intelligibility of speech were measured according to the status of hearing-impairment but the present research adds up the factor of "gender". Here we found that speed of speech in reading words and intelligibility of speech are different for hearing impaired boys and girls. Boys had a

higher speed and more intelligible speech than girls while in normal hearing boys and girls, girls had a better performance.

5. Conclusion

According to the finding of this research, children with hearing-impairment have a lower speed and intelligibility of speech than normal hearing children. In the hearing impaired group, moderately-severe, severe, and profound hearing impaired children in this order had higher speed and intelligibility of speech. In general, there is a direct relationship between the status or rate of hearing impairment and the speed and intelligibility of speech: with increasing hearing impairment, the speed and intelligibility of speech declines. In terms of gender, boys have a better performance than girls in tasks of speed and intelligibility of speech.

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TECHNICAL NOTES

A SEMANTIC CHANGE MODEL FOR FRENCH LOANWORDS IN PERSIAN

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Abstract

The aim of this study is to propose a model of semantic change which corresponds to synchronic analysis of the data set. For this purpose, the study examined semantic change orientation of French loanwords in Persian. Zomorrodian's (1373/1994) book on European loanwords in Persian was selected as the database from which 1878 French loanwords were extracted. The data was analyzed semantically by consulting Bellows and Bellows' (1919) dictionary in order to compare meanings of the original lexical items against the present meaning of the loanwords. A number of 330 loaned items were found to have undergone a type of semantic change. The corpus was examined against the existing semantic change typologies. Finding these models to be incomplete, a new model was proposed. This model, being synchronic and non-linear, is of a more elaborate design with the following advantages: a) all items (loanwords) of the corpus could be contained in it, and b) all categories of this model were filled up by loaned items.

Keywords: Persian; loanwords; semantic changes; denotational meaning; connotational meaning

Izvleček

Cilj te študije je predložiti model pomenskih sprememb v besedišču, ki bi ustrezal sinhroni analizi podatkov. V ta namen je bila proučena orientacija pomenskih sprememb pri francoskih tujkah v perzijščini. Na osnovi Zomorrodianovega (1373/1994) dela o evropskih izposojenkah v perzijščini je bilo izbranih 1878 izposojenk iz francoščine. Ta korpus je bil analiziran na osnovi slovarja Bellows and Bellows (1919), da bi lahko primerjali tedanje pomene izposojenih besed v francoščini s pomeni, ki jih imajo te izposojenke v sodobni perzijščini. Tako je bilo najdenih 330 izposojenk, pri katerih je prišlo do spremembe pomena. Te spremembe so bile kategorizirane na osnovi obstoječih tipologij pomenskih sprememb. Ker pa so se te tipologije izkazale za nezadostne, študija predlaga nov model tipologije sprememb. Ta, sinhroni in nelinearni model je bolj podrobno načrtovan in ima naslednje prednosti: a) tipološki model pokriva vse lekseme v preiskovanem korpusu, ter b) vse kategorije modela so zapolnjene z leksemi iz korpusa.

Ključne besede: perzijščina; izposojenke; pomenske spremembe; denotativni pomen; konotativni pomen

1. Introduction

Geographical or social closeness between languages known as “language contact” results in the growth of loanwords through the process of borrowing, a technique which is truly believed to be a common and frequent means of acquiring new words in all languages (Crystal, 2008; Trask, 2003). Following this general tendency, Persian has borrowed numerous words from many languages, such as English, German, Greek, Russian and particularly from Arabic and French, the biggest source of loanwords in Persian among different European Languages.

Iran has favored foreign relations with Europe since Shah Abbas I of the Safavieh (Safavid) dynasty. The turning point in the relations of Iran and Europe definitely dates back to Qajar dynasty, especially at the time of second Shah, Fath Ali Shah, who allied Persia with France, resulting also people going to France to pursue education or just to visit (Zomorrodian, 1373/1994). Later on, a group of French officers was sent to Iran upon Mohammad Shah’s (also of Qajar dynasty) request for military help (Ghani, 2006). This contacts paved the way for loanwords from European languages to enter into Persian, in particular in the areas of military, science, everyday usage etc.

Borrowed French lexical items have been adopted in different ways:

- Some items have undergone no change in form/signifier as well as in meaning/signified.
- Some items may have undergone change in form/signifier but no change in meaning/signified.
- Some items may have undergone change in meaning/signified with no change in form/signified
- Some items may have undergone changes in both form/signifier and in meaning /signified.

Table 1: Samples of form/meaning changes in the loanwords

No.	Original/loan word	Meaning in French	Meaning in Persian
1	marmalade /marmalad/	jam	jam
2	tulle /ture/	net	net
3	park /park/	park; cow pen	park
4	figure /figur/	form; diagram; face; human shape	form; human sense; gesture

Changes in loanwords can be initiated by the time they are borrowed or in the course of time upon further use and application, as Kay (1995) explained:

> "Loan words are especially open to modification, both on entering the language, and with time…. The flexibility of form and meaning of loanwords enables them to adapt easily to the structure of the host language, and current trends and needs." (Kay (1995, p. 72)

For example, while the meaning of the French Loanwords "blonde" has been specialized by the time of borrowing to mean *a fair girl*, the word "manteau" has after the Islamic Revolution of 1979 in Iran been generalized to mean *women's customary outfit*.

As a universal rule, all living languages change through time (Trask, 2003), and as loanwords become part of the target language through the process of borrowing, the change in their lexical meaning is neither strange nor extraordinary, but seems to be unavoidable.

1.1 Semantic Change Typologies

In the quest for finding a model which could properly correspond to the mechanism of semantic changes of French loanwords in Persian, a number of proposed typologies have been found. All these typologies were found to have two shared features: a) a diachronic approach to the study of semantic change and b) being based and tested on a single language.

Also, the models tend to be progressively refined so that classifications based on them get more and more mature and complete through time. Below, a list of semantic change models will be introduced:

The first typologies of semantic change were proposed since about mid-19c. It was Stern (1931) who extended the typology into seven items: substitution, analogy, shortening, nomination, regular transfer, permutation and adequation.

In a period of two years, Bloomfield (1933) proposed his own semantic change classification being the most widely accepted in the English-speaking academic world: narrowing, widening, metaphor, metonymy, synecdoche, hyperbole, litotes, degeneration and elevation.

Ullmann (1957/1962) made a distinction between the nature and consequences of semantic change: I) Nature of semantic change: metaphor, metonymy, folk-etymology, ellipsis and II) Consequences of semantic change: widening of meaning, narrowing of meaning, amelioration of meaning and pejoration of meaning.

Finally the most recently devised and elaborated categorization in course of semantic change typology, which has gained and attracted increasing acceptance, belongs to Blank (1998): metaphor, metonymy, synecdoche, specialization, generalization, cohyponymic transfer, antiphrasis, auto-antonymy, auto-converse,

ellipsis and folk-etymology. He refused to include amelioration and pejoration of meaning as well as strengthening and weakening of meaning in his typology, as he believed them not to be objectively classifiable.

1.2 Statement of the Problem, Objectives and Research Questions

Based on the great number of French loanwords in Persian, this study aims to propose a model which can properly describe semantic change behaviors in this language. The objectives of the present paper are to arrive at a model which favors two premier features: a) all items (loanwords) can be fitted into it so that no item is left out; b) all categories of this model are filled up with the items of the corpus so that no category would be left blank.

In the light of the goal stated above, this paper seeks to find the answer to the following questions: 1) How relevant are the previously proposed semantic change typologies in terms of French loanwords in Persian? 2) How feasible is it to propose a new semantic change model whose categories are all filled up which is accounting for all the loaned items in the data?

The present study thus aims to examine sufficiency of the existing models as well as the need for a new model for semantic changes of French loanwords in Persian.

2. Methodology

In order to study the semantic change behavior of French loanwords in Persian, Zomorrodian's (1373/1994) book on European loanwords was used as the data source for the extraction of French loanwords in Persian. Zorrodian provides a full account of straightforward borrowings as well as the meanings according to the contemporary Persian language.

In this study of semantic changes of French loanwords in Persian the meanings are studied at two discrete points in time: the first one is the time when loanwords first were borrowed in Persian, i.e., some 170 years ago (Qajar era) and the second point is the contemporary Persian.

Iran and France generally enjoyed a friendly relationship since the Middle Ages. The Qajar era was taken since it served as the turning point in the two countries' relations paving the way for the entrance of French terms in different areas into Persian (Ghani, 2006).

From among 1878 French loanwords that were examined, a number of 330 lexical items were identified to have undergone semantic changes. For this purpose, the meanings of all of the 1878 lexical items were checked in Persian based on Moeen (1353/1974) and French based on Bellows and Bellows (1919). Then, the meanings were compared and the changes classified according to the observed types of semantic

change they indicated. The items that did not undergo any change (1548 items) were excluded from the study and were not further analyzed.

The theoretical framework employed in this study builds on the existing models of semantic change. The models are studied against the data to see their adequacy to explain the change of all examined French loanwords in Persian. Based on the results, a new model of semantic change is to be proposed, which is the main objective of this study.

3. Review of the Related Literature

Studies done on semantic changes in Persian especially on the French loanwords are scanty. Below is the list of related studies on the subject:

Gomnami (1370/1991, cited in Ahadi, 2002) focused on the varied linguistic and metalinguistic causes and consequences of lexical and semantic changes in Persian after the Islamic revolution of 1979.

Safavi (1387/2008) reviews the main semantic changes of lexical items in contemporary speech variety of Persian.

This study became the guideline for another one conducted by Gandomkar (1389/2010) who studied semantic change resulted from "projection" in Persian proverbs. She concluded that proverbs retain the whole semantic load pertinent to a story or an allegory with which they are ascribed

Regarding loanwords, Ghaffari (1378/1999) examined how Persian affected or better to say changed English and French loanwords in forms and meanings from Mashrouteh era (1285/1906) to date.

Pakar's (1381/2002) research centered round the study and analysis of phonological changes pertinent to French and English loanwords in Persian.

4. Results and discussion

In this research, 330 semantically changed French loanwords were analyzed against the existing models to determine the adequacy of these models to deal with the data as well as the need for a new model in which all items are fitted in and all categories are filled up.

4.1 Inadequacy of the Semantic Change Models

In order to have enough evidence to propose a new semantic change model, the first step is to find adequate reasons in rejecting the existing models in the analysis of French loanwords in Persian. Two main features which are questioned against each

existing model are: A) Are all categories in a single typology filled up so that none is left blank in that no members fit in? B) Are all items in the corpus of the present study included in a single typology?

Typologies of change proposed in 19c turn out to be inadequate, not being rich enough to comprise all types of observed changes.

Stern's (1931) typology does not account for "metaphorical changes". Also, the data did not have any items for "analogy". It sounds inadequate to maintain analogy in a semantic change classification since analogy involves a change in the syntactic structure of the word and more obviously in its parts of speech.

Regarding Bloomfield's (1933) typology, there is no category to cover "ellipsis", and also the data showed no "hyperbolic items".

As for Ullmann (1957/1962), he did not entail "synecdoche" in his observation. Also, the analyzed data presented no items in the "ellipsis" category.

Blank's (1998) typology, as the most elaborated model, did not include "ellipsis" and "amelioration". Also, no semantic change item in the present study was found to belong to such types as "auto-antonymy" and "auto-converse". The points made so far are summarized in Table 1 below.

Table 2: Features of semantic change typologies against the corpus of the study

Authors	**All items in the corpus are included**	**All categories in the typology are filled up**
Stern	No	No
Bloomfield	No	No
Ullmann	No	No
Blank	No	No

As the table shows, both columns are homogeneously negative which means there are some semantic changes that are not included in any of the mentioned typologies.

Now that the insufficiencies of these typologies have been made clear, the next step would be to develop a new model that can effectively and practically describe the corpus of the present study which is indeed the concern of the next section of this chapter.

4.2 Proposing a Model for Semantic Changes

Search for a comprehensive semantic change model has been based on the analysis of all the French loanwords in Persian regarding their meanings in French at the time of borrowing and their meanings in cotemporary Persian. From here, the change types

were extracted and organized in a model that covers all the semantic changes observed in the data and whose categories are filled up by the relevant items (loanwords).

French loanwords have shown to be of three types:

1. Denotational semantic changes, which are changes in the referential, literal or explicit meaning(s) of the word, for example when a word with different meanings in the source language is has its meaning narrowed down to one meaning in the target language. As an example, the word "pipe" meaning "tube used for smoking tobacco, windpipe, flute and whistle" in French, is used in Persian with only its first meaning.
2. Connotational semantic changes, which are changes in the non-referential, implicit or metaphorical meaning(s) of the words in the source language, for example the French loanword "fossile" has changed metaphorically to mean "the old man" in Persian.
3. Denoconnotational semantic changes, which are changes of both types of denotational and connotational in a single word. For example, one of the four meanings of the French loanword "tableau" as well as a figurative meaning are used in Persian.

Examining the results of the semantic change analysis, it can be seen from Table 3 that denotational changes are more frequent than connotational changes. Also, the least frequent changes are deconnotational type. Table 3 shows the frequency of each semantic type, which are also diagrammatically represented in Figure 1.

Table 3: Percentage table of semantic changes

Semantic change	**Number**	**Percentage across loanwords**
Denotational	254	76.96%
Connotational	50	15.16%
Denoconnotational	26	7.88%
Total	**330**	**100%**

Indeed, as the above table shows, denotational changes with (76.96%) are the most frequent semantic change while connotational changes (15.16%) are the second most frequent semantic change. Finally, the denoconnotational changes (7.88%) are ranked third.

In what follows, each of the aforementioned changes will be discussed in full and illustrated with examples (Persian words associated with French loanwords are phonemically transcribed according to IPA font and placed in two slashes / /). In what follows, the types of changes as well as their subtypes are explained and illustrated:

4.2.1 Denotational Semantic Changes

Based on the data, denotationally-changed loanwords have either undergone "specialization" or "projection" that are discussed below:

Specialization

"Specialization" describes a state of change in the denotational properties of a word so that it is applicable in fewer contexts than were appropriate for the original word (Campbell and Mexico, 2007). That is, when a word has three senses in the source language and only one or two of them become evidently feasible in the target language. For example, the loanword /korokodil/ meaning "an aquatic reptile" and "the skin" in French, is specialized in Persian so that it only refers to "an aquatic reptile". Other examples of this type are:

Table 4: Examples of specialization

No.	Original/loan word	Meaning in French	Meaning in Persian
5	orchestra /ʔorkesr/	orchestra; band	orchestra
6	occasion /ʔokɑzijon/	great bargain; opportunity; circumstances	great bargain
7	boulevard /bolvɑr/	boulevard (main road); promenade	boulevard (main road)

Projection

The data provided a number of cases, which are structurally compound in the target language (i.e. French in the present study). When borrowed into Persian, these items tend to shorten, changing into some simple forms. In this process, the whole meaning is shifted or pejorized to only one part of the compound upon borrowing. Fore example, in French, *fer à friser* means "curling iron", *fer* corresponds to "iron" and *friser* is associated with "curl". In Persian, the shortened loanword, /fer/ absorbs the whole meaning of the compound. To clarify the point, more examples are offered:

Table 5: Examples of projection

No.	Original/loan word	Meaning in French	Meaning in Persian
8	nœud papillon /pɑpijon/	bow tie	bow tie
9	Prise de courant /periz/	power outlet	power outlet
10	Courant d'air /kurɑn/	draught	draught

Comparing the two types of denotational changes, "specialization" is more frequent than "projection". The following table shows the frequency of each type.

Table 6: Descriptive statistics regarding denotational semantic change

Semantic change	Number	Percentage
Specialization	247	97.24%
Projection	7	2.76%
Total	254	100%

As the table shows, specification outnumbers projection in the change process of the loanwords under study.

4.2.2 Connotational Semantic Change

According to the data, connotational aspect of semantic changes is subdivided into two groups, namely "figurative load" and "emotional load", each being correspondingly pertinent to the inferential properties of meanings.

Figurative Change

The figurative semantic load associated with loanwords concerns the inferred meanings based on resemblance, vicinity and similarity. According to Cruse (2006), "linguistic expressions are said to be figurative, or used figuratively, if their intended meaning is (a) something other than their literal meaning and (b) can be understood on the basis of generally applicable principles of meaning extension…"(p.63).

This sense of relatedness is a mental perception of a single sense attributed to the original word in the source language. The corresponding figurative changes could accompany yet another state of change being either narrowing or widening which explains their area of usage.

In this study, the two terms of "specification" and "narrowing" are meant and used differently; while in narrowing a single sense of a word is affected, in specification the whole-scale level (all senses) is changed. Moreover, narrowing and not specification points to a connotational type. Figurative change comprises: 1. metaphor, 2. metonymy, and 3. synecdoche.

1. Metaphor

Cruse (2006) defines metaphor as "a relation of resemblance or analogy, although this is not explicitly stated" (p. 106). It therefore describes a state in which a new meaning is generated based on implicit or explicit similarity or conceptual parallelism with the original word's meaning. For example, the loanwords /pɑsɑʒ/ takes a metaphoric sense as it refers to a "shopping center". A state of resemblance exists in French and Persian senses, though it is not explicitly stated. Corresponding changes in metaphoric

senses could accompany yet another state of change being either narrowing or widening. Further examples are offered below:

Table 7: Examples of metaphor

No.	Original/loan word	Meaning in French	Meaning in Persian	Type of change
11	antenne /ʔɑnten/	signal receiver	signal receiver; figurative use (spy)	widening
12	manteau /mɑnto/	over coat; mantle; cloak	Woman's uniform	narrowing

2. Metonymy

It is a change based on nearness in space or time (Bloomfield,1933). It is therefore a kind of semantic change in which a concept retains the name of another word that is placed adjacent to it in order to refer to something else. In French, *épaule* means "shoulder". In Persian, the loanword /ʔepol/ takes a metonymic sense as it refers to a "shoulder pad". A state of nearness in place is obvious in the Persian sense, which explains the vicinity attributed to shoulder and shoulder pad that is placed over the shoulder. The corresponding changes in metonymic sense could accompany yet another state of change being either narrowing or widening. Below are further examples:

Table 8: Examples of metonomy

No.	Original/loan word	Meaning in French	Meaning in Persian	Type of change
13	bottine /putin/	boot	soldier's boot	narrowing
14	locomotive /lokomotiv/	engine of a train	train	widening

3. Synecdoche

"Synecdoche" is a semantic change based on whole-part or part-whole associations so that either a part of a whole would represent the whole, or the whole would be established in a way to represent the part associated with the whole. Campbell and Mexico (2007) referred to it as "A kind of semantic change, that involves a part-to-whole relationship in which a term with more comprehensive meaning is used for a less comprehensive meaning or vice versa"(p.199). In French, *blond* means "light in color". In Persian, the loanword /blond/ also has a synecdocheic sense as it refers to a "woman who has light-colored hair". A part-to-whole relation is observed in the

Persian sense. The corresponding changes in synecdocheic sense could accompany yet another state of change being only widening.

Comparing the mentioned types of figurative semantic changes, metaphor (30 cases) and synecdoche (3 cases) are respectively the most and the least frequent types of changing.

Table 9: Examples of synecdoche

No.	Original/loan word	Meaning in French	Meaning in Persian
15	blond /belond/	person of light complexion; fair, light color	fair haired; fair, light color
16	moteur /motor/	engine; motor; motorcycle	engine; motor

Emotive Change

Apart from the figurative loads of words, there is yet another load associated with words, the emotional part. This highlights the mental perception in connection with the lexemes. The corresponding emotional changes could accompany yet another state of change being either optionally narrowed or widened. Emotive change includes: 1. pejoration, 2. amelioration, and 3. litotes.

1. Pejoration

"Pejoration" describes an added negative value to the already stated sense of a word. Campbell and Mexico (2007) termed it as a kind of "Semantic change in which the sense of a word takes on a less positive evaluation in the minds of the language users i.e. an increased negative value judgment" (p. 40). This meaning change does not wind up into a new meaning; rather an affective association is made between the word and its meaning in the target language (being Persian in this particular study). In French, *toilette* means "washroom, WC" and "dressing". In Persian, the loanword /towɑlet/ refers to "washroom, WC" and "dressing" but as for the first sense, the meaning is regressed in a negative manner therefore pejorized or changed for the worse. The corresponding changes in pejorated sense could accompany yet another state of change that is solely narrowing.

Table 10: Examples of pejoration

No.	Original/loan word	Meaning in French	Meaning in Persian
17	chauffeur /ʃufer/	driver	driver; fireman; stocker; brigand
18	alcool /ʔalekol/	alcohol	alcohol

2. Amelioration

"Amelioration" describes an added positive value to the already stated sense of a word. Campbell and Mexico's (2007) definition was that amelioration is a "Semantic change in which the meaning of a word shifts towards a more positive value in the mind of the language's users: an increased positive value judgment. In French, *gigolo* means "a man supported by a woman usually in return for his attentions" and "a professional dancing partner or male escort". However, in Persian the loanword /dʒigulu/ refers to "a man who tries to attract attentions through his appearance". As it is far obvious, the sense in Persian item (the only item which was found) is specialized and the meaning is elevated in a positive manner therefore ameliorated or changed for the better.

3. Litotes

"Litotes" describes a state in which the already stated sense of a word stands out quite more vividly in the target language than was appropriate for the original meaning so that the meaning becomes stronger and reinforced (Bloomfield, 1933). In French, *phrase* means "a sentence or a phrase" and "a professional dancing partner or male escort". In Persian the loanword /feraz/ refers to "a sentence or a phrase" in a more prominent way so that this word is only utilized in special contexts of dignity and honor for example *phrases from Nahjolbalaghe*. The Persian item (the only litotic item of connotational semantic change) is specialized in meaning.

Comparing the mentioned types of emotive semantic changes, pejoration (3 cases) is more frequent type than the other two types.

Moreover, regarding the connotational semantic types, figurative changes are more frequent than the emotive ones, as the following table shows:

Table 11: Percentage table of figurative and emotive changes

Semantic change	Number	Percentage
Figurative	46	92%
Emotive	4	8%
Total	50	100%

4.2.3 Denoconnotational Semantic Changes

This kind of change entails the properties of both denotational and connotational changes in a single lexical item, that is, the loanword changes both in referential and nonreferential metaphoric senses of meaning. In French, "côtelette" means "chop" and "a small piece of meat with a bone". In Persian, the loanword /kotlet/ is specialized so that it only refers to "a food made of ground meat and some other ingredients" which has itself narrowed down from the second sense in French based on metaphor. In the

following table, items of both denotational and connotational semantic changes in a single item are offered:

Table 12: Examples of denoconnotational semantic changes

No.	Original/loan word	Meaning in French	Meaning in Persian	Type of change
19	tableau /tɑblo/	picture painting; notice board; black board; table; scutcheon	picture painting; notice board; evident (figurative)	specialization narrowing metaphor
20	blouse /boluz/	pinaford, apron; pocket; work suit	shirt	specialization narrowing metaphor
21	gest /ʒest/	gesture; deed, act; story	gesture, figure	specialization narrowing litotes
22	sévère /sever/	rigid; stern; harsh	stern; quick	specialization wideninging litotes
23	châssis /ʃɑsi/	frame; slide; sash; chase	frame; tall woman (fig)	

The study of the data shows that items in this category may change denotationally in the form of specialization. Also, connotational semantic changes of metaphor, pejoration, amelioration and litotes were observed but no cases for metonymy and synechdoche were not found.

4.3 The New Proposed Model

By careful observation of the data, the researchers were able to propose their own semantic change model which is presented hereupon in Figure 1. In this scheme, meaning shifts are treated quite differently, i.e., words are studied according to their denotational and connotational semantic loads unlike previous typologies which treated senses of the words accumulatively.

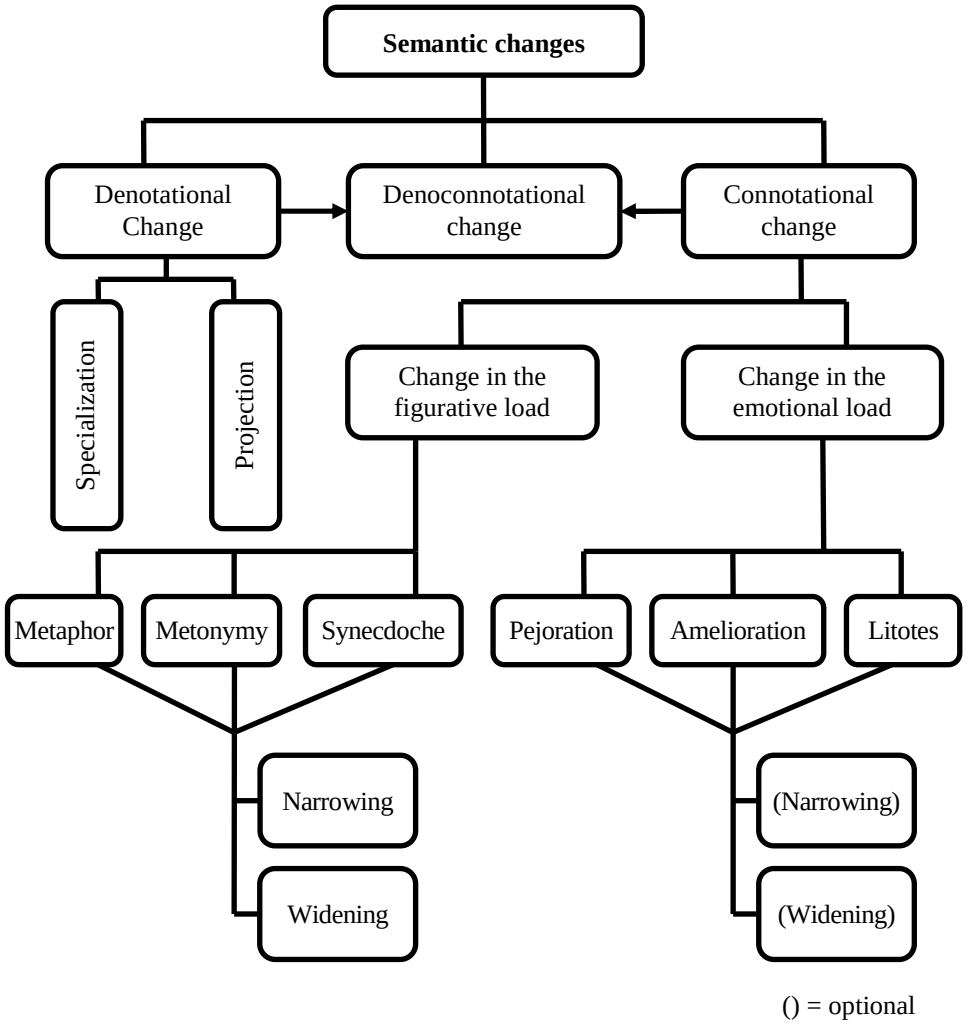

Figure 1: The new proposed semantic change model

5. Conclusion

This study sought to examine and study semantic change properties of French loanwords in Persian. In so doing, a total number of 1878 loanwords were extracted from Zomorrodian's (1373/1994) book and then were analyzed regarding their meanings; out of this number 330 items were found to have changed semantically. The analysis regarding these semantically changed items revealed some facts about the

systematic behavior of French loanwords leading to a model for all the observed changes.

Since the previously proposed models were not adequate enough to cover the whole data, a new model was proposed in which all the changes could be classified into categories, and all categories could be filled up with words.

Based on the data analysis, different types of changes were distinguished and then organized into the designed model, which is summarized from top to bottom as follows:

- French loan words showed to change either in denotational (explicit) meaning or in connotational (implicit) meaning or in both (namely deconnotational meaning).
- Denotational changes, as the most frequent semantic changes (254, i.e., 77% of the total of 330) are subdivided into "specialization" and "projection", in which the former (97% out of 254) is more frequent than the latter (3%).
- Connotational aspect of semantic changes is subdivided into "figurative load" and "emotional load", the former being more frequent (92%).
- The categories of "metaphor", "metonymy" and "synecdoche" are subgroups of "figurative changes" among which "metaphor" is the most frequent (62% of all figurative load changes).
- The categories of "pejoration", "amelioration" and "litotes" are subgroups of "emotional changes", "pejoration" being the most frequent change (62% of all emotional load changes).
- Deconnotational semantic changes are the least frequent type including different subdivisions of both denotational and connotational changes, among which the semantic changes of "specialization" and "metaphor" are most frequent.

The proposed model in this study has the property of being synchronic. Also, it is the first nonlinear model which seems to have a better ability to analyze and categorize different types of semantic changes.

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