Pakistan Social Sciences Review
www.pssr.org.pk

RESEARCH PAPER

Use of Chunking Technique to Assist Pashto Speakers in Determining Grammatical Gender while Learning Urdu

[1] Wajiha Saleem*, [2] Ferva Aslam and [3] Aqdas Khanam

1. Lecturer, Department of English National University of Modern Languages, FSD Campus, Punjab, Pakistan
2. Lecturer, Department of English National University of Modern Languages, FSD Campus , Punjab, Pakistan
3. Lecturer, Department of English Government College Women University Faisalabad, Punjab, Pakistan

| ***Corresponding Author:** | wajihasaleem@numl.edu.pk |

ABSTRACT

The current study focuses on the challenges faced by Pushto speakers who desire to learn Urdu or seek a career in mastering a language. It suggests possible tactics for reducing the level of difficulty in learning grammatical gender through chunking technique by using experimentation method that helps the Pashto speakers in labelling grammatical gender to inanimate objects in Urdu language while focusing on adjective-noun pairs. The research quantitatively collects data from an experimental group of Pashto speakers living in Charsadda-Khyber Pakhtunkhwa through pre-tests and post-tests. The sample size of the study includes eight students of grade 8th of Indus Private School Charsadda, who were selected through purposive sampling. The participants were provided with teaching sessions of 60 minutes' duration for ten days. However, the teaching sessions were conducted online through Zoom Cloud Meeting application due to COVID19 epidemic situation in the country. The learners were taught by providing the list of masculine and feminine adjective-nouns and the use of prepositions, verbs and possessive pronouns in inanimate objects by exposing the gender. The findings clearly show improvement in the average score of student's pre-tests and post-tests. As a result, the chunking strategy is recommended for learners who use Urdu as their second language, particularly when the grammatical gender of their first language varies. The study recommends the practice of connecting adjectives with nouns by using the chunking technique as a pedagogical tactic to teach Urdu language to Pashto speakers.

| **KEYWORDS** | Bilingualism, Chunking Technique, Grammatical Gender, Object Categorization |

Introduction

Pushto is a language that found its origin in Iranian branch of the Indo-European language family that has more than twenty-five million native speakers in the world, out of which almost seventeen million Pushto speakers live in Pakistan. Most of them are bilinguals and use Urdu as their second language (Rahman, 2016). Due to Pushto language standing as a provincial language of Pakistan, the present study has been conducted on its viability. The study is targeting the aspect of grammatical gender in Pushto language and the problems faced by Pushto speakers while using it in speaking Urdu language as L2. Grammatical gender is defined as a noun class system that involves the binary opposition agreement i.e. male and female referents in object categorization (Hartmann and Stork, 1972). The noun class system includes some other classes as well

beside grammatical gender, which can be classified by any association with the consistent sex distinctions.

Human language has dynamic behavioral nature which exists in community through certain patterns that vary in variety and leads to the construction of definite grammar rules. But grammar rules are not the solitary source to explain human language behaviorism, social interaction also plays a crucial role in building the structure of a language that aids in explaining the meaning from semantic and pragmatic perspectives. For instance, a sentence which says, "the boy killed a rat" variant in meaning from a sentence that states, "a rat killed the boy". Similarly, the use of 'case markers' are also important in Urdu language as they tend to change the meaning of a sentence. For example, the meaning carried out by the sentence, '*Appi, mujhe ek chamach dein*' (Sister, give me a spoon) is different from the sentence which states '*Appi ko ek chamach dein*' (Give a spoon to sister). The accusative case marker *'ko'* is important here as an indirect object that specifies the recipient of the action. Nevertheless, incorrect use of grammatical gender can occasionally lead to a shift in the sentence's meaning without posing a serious threat to its construction.

This study is an attempt to analyze the difficulties faced by Pushto speakers in categorizing distinct inanimate things in Urdu language and an approach to finding out the probable strategies to overcome this challenge of Pushto speakers. When the participants were first asked about determining the gender of inanimate objects in Urdu language during their virtual class to get a firsthand knowledge about their experience with this notion, mixed responses were received by the researcher as most of the students were unclear about the term 'grammatical gender' and the notion of having difficulty in categorizing objects in Urdu language. The participants do not possess the knowledge about implicit use of grammatical gender that while speaking a language it came naturally. This study also discovers that free grammatical gender language speakers tend to build their concepts, when they learn a language that has its own grammatical gender for object categorization. However, the confusion about the binary opposition agreement of inanimate objects still exists in their cognition.

This research used the chunking technique to combine adjectives with nouns as a grammatical gender marker. Grammatical gender of an object is likely to be categorized by non-native Urdu speakers for example, the object 'pankha' (fan) mostly tends to fall in masculine nature because of its ending at 'aa' sound as compared to the object 'kursee' (chair) that sounds ends at 'ee' and are usually feminine. However, some exceptions can be noticed that might cause confusion in non-native speakers while using grammatical gender in Urdu language such as the word 'hathee' (elephant) falls in masculine nature despite its ending at sound 'ee'. Similarly, the word 'hawaa' (air) is considered as feminine despite its ending at 'aa' sound. Furthermore, there are several words present in Urdu language that do not comprise any grammatical gender marker. For instance, 'Kalam' (pen) is considered masculine in nature whereas, 'kameez' (shirt) is feminine in nature. Therefore, all these confusions make it hard for Pushto speakers to learn Urdu language as L2.

Literature Review

The leading issue concerning this research is the object categorization founded on the knowledge and experience of Pushto speakers about grammatical gender in Urdu language as their L2. This issue is mostly experienced by Pushto speakers of Pakistan because they use Urdu as their second language to which we called bilingualism. Bilingualism is defined as knowledge of two languages simultaneously (Valdez & Figueora, 1994). Due to the dissimilarity of grammatical gender between Urdu and

Pushto language this problem arises on surface. By forcing Pushto speakers to concentrate on adjective-noun pairings, the current study employed the chunking strategy from psycholinguistics to aid in their memory of the grammatical gender of varied inanimate objects. Whereas, the whole procedure took place in a virtual experimental setting on one experimental group of Pushto speakers by using pre-test and post-test that falls under the method.

The chunking technique itself is basically a process of taking individual chunks (pieces) of information and transforming them into a group of larger units. The term "chunk" itself refers to a code of information stored in short term memory of the brain in the shape of letter strings, words or a series of numbers (Arnon & Christiansen, 2004). Chunking technique aids significantly when people are required to remember information and retain it longer in their memories. According to the analysis conducted on chunking technique, it has been suggested that it is beneficial regarding language acquisition as its emphasis on various language domains such as morphology, phonology and semantics. According to Arnon & Christiansen, (2004), "children must discover the linguistic units of their language (sounds, morphemes, words) and the ways these units can be combined to create larger patterns (inflected words, sentences). Children's progression is often characterized as a move from smaller building blocks to larger combinations: from syllables to words to multi-word combinations" (p.88). Additionally, adults use multi-word chunking more efficiently because of their knowledge regarding the use of complex sentences and inflections in speech systems (Arnon & Christiansen, 2004).

Urdu language on the other hand has natural gender for animate objects and grammatical gender for inanimate objects, which is thought to be an insignificant connection between natural and grammatical gender (Ranjan, 2013). However, variation in grammatical gender for inanimate objects in Pushto language creates a hindrance for Pushto speakers in speaking Urdu language. It is assumed that they are not being taught Urdu language properly in educational institutions which then create problems for them to use Urdu language because of their lacking knowledge about the fundamentals of the language.

Grammatical gender in Urdu language is marked by the nouns but not in Pashto language. Further insights about the grammatical gender of Pashto and Urdu are provided by Cubelli, Paolieri, and Lotto's (2011) study on the impact of grammatical gender on object categorization, which they investigated through some experiments. In their research study, they asked the participants to judge whether 2 objects, whose names did or did not share grammatical gender, belonged to the same semantic category by pressing a key or not. Experiment 1 was designated for monolingual English speakers, Experiments 1 and 2 for Italian speakers, and Experiments 2 and 3 for Spanish speakers, who underwent language testing. When presented with identically gendered cues, participants in Italian and Spanish reacted more quickly than those in English. In Experiment 2, the researchers selected the images so that the names in Italian and Spanish had the opposite grammatical gender. Consequently, depending on the gender congruency of the names in the languages, distinct patterns were generated by the identical pair of stimuli. Spanish speakers did the identical task in Experiment 3 while in an articulatory suppression condition; they did not exhibit any grammatical gender impact. The place where significance and the level of the lexical representation that provides syntactic information is where gender interacts: When nouns of the same grammatical gender interact, they help each other digest information more quickly and can react to pairs that are semantically linked or unrelated more quickly.

Does language in any way control perception and object categorization? (Boutonnet, 2012). Its answer hides in the basic system of Urdu language that assign grammatical gender to various objects in our everyday lives. This is the reason that when participants of this research were asked that while speaking Urdu language, how they distinguish and categorize the objects? Their answers seemed unclear about this notion. For example, it mostly counts all the things that are in a higher position as masculine in nature such as chaat (terrace of a house), asmaan (sky) and consider those objects as well that are bigger in size such as rush (crowd of people), samundar (sea). Similarly, it refers to all the objects that are lower on earth level such as zemeen (earth), deewar (wall) or smaller in size such as neher (canal) as feminine in nature. However, there are also some exceptions in Urdu language that creates confusion for L2 learners when they encounter words such as hawa (air) which is on a higher level of ground but feminine in nature or the word anaj (grain) which is smaller in size but falls under masculine nature. These exclusions make them unclear about the selection of grammatical gender.

Several past researches have studied this relationship of grammatical gender from various perspectives, most commonly by assigning masculinity and femininity to different objects as described above. The relationship of thinking and grammatical gender under bilingualism perspective, widens the scope for researchers to investigate a variety of themes from this connection. The very first view which is considered concerning this relationship says that, learning more than one language is expected to reduce the effect of grammatical gender on the thinking process. Moreover, the second opinion says that its effect may differ according to the combination of language. While considering these views, researchers are also looking for other thinkable variables to influence grammatical gender on the thinking process by comprising proficiency and task decisions (Bassetti & Nicoladis, 2015).

Another question this research captures is how gender affects other linguistic aspects in a sentence beside grammar? The answer lies in the binary opposition agreement of Urdu language system to which we called masculine and feminine. As beside these two, no other gender prevails in Urdu language (Voeikova & Savickiene, 2001). Furthermore, Gygax, Elmiger, Zufferey, Garnham, Sczesny, Von Stockhausen, and Oakhill (2019), introduced the notion of language index in the effect of grammatical gender on the mental representations of men and women. The index is based on five main language groups (i.e., grammatical gender languages, languages with a combination of grammatical gender and natural gender, natural gender languages, genderless languages with few traces of grammatical gender and genderless languages) and three sets of specific features (morphology, masculine-male generics and asymmetries). According to Gygax et al. (2019), "this index goes beyond existing ones in that it provides specific dimensions relevant to those interested in psychological and sociological impacts of language on the way we perceive women and men" (para 1).

According to Bassetti & Nicoladis (2015), "speakers of grammatical gender languages tend to choose voices and names that are consistent with the grammatical gender of the entity's noun. Effects are also found in object human similarity judgment tasks, as participants tend to rate objects and/or animals as more like men or women in line with the entity's grammatical gender" (p.3). Besides noun, grammatical gender also marks the adjectives, verbs and other linguistic features of a sentence. For example; here unchi -ii in 'ye dewaar unchi hai' (This wall is high), exposes the femininity of the wall. Similarly, 'ye pankha sahi nahi chal raha' (This fan is not working well), here the verb chal raha -aa shows the masculinity of the object. Moreover, gender pointers such as verbs, pronouns, adjectives, possessive pronouns, and determiners etc., can be used as linguistic elements because languages differ while marking gender agreement due to

these elements (Alkohlani, 2016). Similar approach of chunking technique alongside adjective-noun combination has been used by the present study for Pushto speakers, who are the L2 learners of Urdu language.

To become a Master in the grammatical gender usage is hard to achieve especially for L2 learners (Grüter, Lew-Williams & Fernald, 2012). According to Bassetti & Nicoladis (2015), "there is then mostly no relationship between the grammatical gender of a noun and the properties of its referent. However, it is possible that gender categories affect speakers' categorisation of entities" (p.3). It was assumed that, Urdu language L2 learners who were involved in some interaction with native Urdu langauge speakers on regular basis are expected to make a reduced number of mistakes while categorizing the objects because they gained some impulsive knowledge and experience of grammatical gender unlike those L2 speakers who were not involved with Urdu speakers in any kind of communication.

Material and Methods

Design of Research

The research used the quantitative method of research. It usually emphasizes on quantification of data. As a research strategy it is deductive and objective by nature that incorporates natural sciences models which are mostly influenced by positivism (Bryman, 2012).

Research Methodology

This research uses an experimental research design, with a single experimental group making up the population. However, because to the COVID-19 pandemic throughout the nation, the classes were held virtually via the Zoom Cloud Meeting app. The group gathered through pre- and post-tests is the source of the data.

Sample

The data is collected from the sample of eight students of Indus private school Charsadda, who are the speakers of Pushto language as L1 and use Urdu language as L2.

Delimitation

The limitation of this research is the small sample size due to the COVID-19 epidemic condition in Pakistan as the researcher had to conduct classes online which did not grant access to many students because the application has its own restrictions. Moreover, not every student has access to the internet or technological gadgets. It is also assumed that learning which takes place in a physical setting impacts more on students as compared to virtual learning because the students are more focused, contented, and active in a physical classroom. Hence, the research uses purposive sampling techniques for picking up the relevant students in a short time and resources.

Data Collection

The data is taken from before and after every class by collecting pre-tests and post-tests, for which students were given fifteen minutes to complete the test.

Procedure

The Eight students of grade 8th from Indus private school Charsadda are selected through purposive sampling technique. Moreover, all eight students are native speaker

of Pushto language and use Urdu language as their L2. The sample is investigated as a one experimental group only. To teach the experimental group about adjective-noun pairing lesson plans have been developed. Because of the COVID-19 pandemic, chunking skills are being taught to students digitally through the Zoom Cloud Meeting application. Each session has a lesson that lasts roughly sixty minutes.

Students have a pretest before the lesson after which they are given the series of lectures to make them understand and practice the use of adjectives with nouns and to identify the grammatical gender of Urdu language. Students have practice sessions upon the lesson in which they can map the use of adjectives while considering the grammatical gender of L2.

Data Analysis

Data collected shows that Pushto speakers face difficulty in categorizing objects while encountering Urdu language. The experimental group of students were provided with the treatment for ten days, in which each class was of 60 minutes' duration. Lesson plans were precisely designed for the learners while keeping in mind about the virtual lectures and issues experienced by Pushto speakers. A variety of adjectives were exposed to the Pushto speakers through lectures as well as paired and group activity. The researcher also prepared a PowerPoint presentation named "What are adjectives and its use" to teach students and distributed pre-printed images. The group were asked to attempt pre-tests at the beginning of the class to observe their prior knowledge about the topic and they were given 15 minutes to complete it.

The list of adjectives comprises of masculine sounds such as *-aa* and feminine sounds such as *-ee*. Moreover, some adjectives without regular binary gender markers were included in advance exercises. However, in advance exercises there were These asymmetrical adjectives were added to distract the learners so then they will not build the same criteria such as __aa/__ee to mark every object in their memory. Also, some animate and inanimate nouns became a part of the list that were provided to the learners. However, the nouns of both categories were forced to function as memory load and were designed according the grammatical gender for varied inanimate adjectives-noun. However, the final test included those adjectives-noun which were not stated in the list.

Research Procedure

A list of masculine and feminine were provided to the learners comprised of adjective-nouns and were taught about the object categorization through several gender labelling. The learners were taught about the revelation of gender of various inanimate objects by using prepositions such as ka, ki, etc. They were also taught about how other language aspects such as verbs, adjectives and possessive pronouns can possibly expose the objects gender. For this very purpose, students were also provided with some homework to practice. Moreover, post-tests were conducted at the end of the class for evaluation. Students were provided with approximately 15 minutes to complete both the tests.

Results and Discussion

There were total 15 marks for test1 (pre-test), in which each question contains equal marks. Test2 (post-test) on the other hand, comprised of 4 questions in which all the questions were computed in 15 points. In accordance with the given responses, the points were further divided within each question. The scores attained by the participants as in test1 and test2 are as follow:

Table 1: Pretest vs. Posttest Analysis of Participant Performance

S.No.	Participants	Scores of Test1	Scores of Test2
1	Abdullah	7	10
2	Mohammad Jan	12	9
3	Mosa Hassan	9	11
4	Talha Shah	5	6
5	Ramzan	8	9
6	Mohammad Ali	10	13
7	Mohammad Adan	6	7
8	Muhammad Wali	8	11
	Average	**8.125**	**9.5**

The experimental group achieved 8.125 in test1 as the average score however after getting treatment through chunking technique the average score rate of the group increased gradually by 9.5. Hence, the students performed better after receiving online lessons.

According to the above-mentioned data, the experimental group has shown prodigious progress in recognizing the grammatical gender of various inanimate objects using different gender markers. Their average score was upgraded from 8.125 to 9.5. It can be seen from the results that chunking technique clearly helped Pushto speakers in recognizing and labeling the grammatical gender of objects.

Urdu language does not follow any morphological pattern to recognize adjective-noun pairs for animate and inanimate objects through any specific grammatical gender marker (Ranjan, 2013). Moreover, there are ample numbers of nouns that do not end at -aa and -ee sound, which are considered as regular grammatical gender markers. So, here other linguistic aspects such as adjectives, proposition and possessive pronouns plays an important role of noun associated grammatical gender markers.

Pushto speakers do not have adequate knowledge or experience about marking grammatical gender of objects and they are likely to get into contact with Urdu language by means of their programme or media only. Moreover, some of them are exposed to Urdu language while encountering Urdu speakers from different parts of Pakistan. However, the selected participants are the students of Indus Private School Charsadda associated with Khyber Pakhtunkhwa province of Pakistan, which is entirely dominated by Pakhun people and a very short number of people related to other provinces live there. Therefore, the limited contact with the Urdu speakers results in the absence of grammatical gender knowledge for Pushto speakers. For this reason, it is deduced by the researcher that chunking technique is the most suitable technique to be used for teaching Pushto speakers from scratch especially at school level.

Research findings that should be considered while teaching Urdu language to Pushto speakers are as follows:

1. Teachers and instructors who teach Urdu language at school or any other institute, have some confusions regarding the phenomena of categorizing grammatical gender in Urdu language.

2. Students of higher-level education program such as Masters and Ph.D. degree holders also experience issues in categorizing objects in Urdu language.

3. Those people who have at least limited access to the knowledge of object categorization, even for them it is hard to remember the concept.

4. Not being able to speak Urdu language in a fluent way is the foremost problem for Pushto speakers and they get easily caught because of it.

Conclusion

In conclusion, the findings of this study illuminate a promising path forward in the realm of language pedagogy, particularly for Pushto speakers learning Urdu as their second language. The incorporation of the chunking technique has proven to be a formidable ally in the journey of mastering adjective-noun pairs of irregular inanimate objects, empowering learners to wield the nuanced tool of grammatical gender with finesse. Through the lens of cognitive science, we witness the transformative power of chunking, as it enables learners to navigate the intricate landscape of language with greater efficiency and clarity. By breaking down complex linguistic structures into manageable chunks, learners can discern patterns and connections, thereby accelerating the learning process and alleviating the burden of grammatical complexities.

As we forge ahead in the quest to optimize language learning methodologies, let us heed the lessons gleaned from this study and continue to integrate innovative tactics from psychology and linguistics. By harnessing the power of chunking and other cognitive principles, we can unlock new frontiers in language education, empowering learners to master new languages with confidence and fluency.

Recommendations

This research focuses on finding solutions that overcome the difficulty level of object categorization for Pushto speakers and assist them in labelling the grammatical gender in Urdu language. Therefore, the researcher proposes the following recommendations after observing the findings and results.

1. From the start of the early classes, the notion of object categorization regarding grammatical gender should be taught in schools.

2. Teachers should take formal training sessions firstly from some native Urdu instructors to become competent Urdu language teachers.

3. Chunking technique is pedagogically appropriate and helpful approach to teach Pushto speakers, who use Urdu language as their L2.

4. Communicative use of a language in daily routine improves the fluency rate of learners and helps them in grasping the practical usage of a language in a short time with accuracy.

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