Department of English Language & Linguistics,

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Balochistan Journal of Linguistics is a journal published annually by the Department of English Language and Linguistics, Lasbela University, Uthal, Balochistan. It accepts papers for consideration on any aspect of theoretical and applied linguistics. The authors are requested to send their papers according to the following guidelines.

I. All manuscripts in English should follow the following format:

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1.

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Use Letter size paper with Times New Roman writing style font size 12 for the main text with line spacing 1.5 and 10 for the abstract with 1.15 line spacing. Left margin should be 3.5 but all other margins should be 2.5 mm. Tables and figures should not be split on two pages.

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References

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Note on Authors

Dr. Shumaila Shafket Ali is an Assistant Professor at the Department of English, University of Karachi. She holds a Ph.D. degree in English (Linguistics), M. Phil in English (Linguistics), M.A in English (Linguistics), and M. A. in English Literature. She has conducted several workshops on Professional Development and English Language Teaching and has more than 20 research publications in HEC recognized journals to her credit. She has also presented her papers in both national and international conferences. Her fields of interest include Sociolinguistics, Discourse Analysis, ELT, and Language Assessment.

Dr. Munir Khan is working as Assistant Professor in Faculty of Languages and Literature, Lasbela University of Agriculture, Water and Marine Sciences, Pakistan. He has completed both Master and PhD from University Putra Malaysia. His research publications are in both national and international journals. He has also presented research papers in International Conferences. He is a reviewer of 03 National and International Journals.

Ms. Asra Khan has been working as a lecturer at Bahauddin Zakariya University for the past six years. She is also a PhD student with her major in English Language Teaching in academically diverse university classrooms. She has an Mphil with a particular interest in South Asian Literature which shows her variety of interests in the field. She has been a part of various national and international conferences. She began her career as an English teacher to Olevel students in Beaconhouse School system, Multan.

Ms. Shafaq Khalid, parallel to her Academic career, is currently working with British Council as Venue Staff. She is an M.Phil student with her dissertation related to literary discourse study of South Asian Literature. She has been a part of research projects and Workshops. She has worked as an Educator in Government Emerson College Multan and Government Postgraduate College for Women Shujabad as CTI (College Teaching Internee).

Ms. Amber Nasreen Anjum is working as Manager Research Operations in Shaheed Zulfikar Ali Bhutto Institute of Science and Technology, Karachi. She has published 02 research papers in national journals.

Ms. Farheen Shaikh is an English Language Teacher in Sindh Education and Literacy Department. She completed her M.A English in Literature and secured her M.Phil (Applied Linguistics) from the University of Sindh. She is currently pursuing her PhD (Applied Linguistic) at the University of Sindh. Her research areas of interest include EAP (English for Academic Purposes); ESP (English for Specific Purposes); issues in testing and evaluation; English language teaching through

technology; Critical Discourse Analysis; culture, language and identity; and English language teaching through bilingual approach.

Ms. Farah Naz Abbasi is Lecturer of English at Shaheed Benazir Bhutto University, Shaheed Benazirabad. She completed her B.S English from the Shah Abdul Latif University Khairpur Sindh and her M.Phil (Applied Linguistics) from the University of Sindh, Jamshoro. She is currently enrolled in PhD (Applied Linguistics) at the University of Sindh, Jamshoro. Her research areas of interest include (Second language Acquisition) SLA, Sociolinguistics, (classroom-based research) investigating language in classrooms, (corpus linguistics) different kinds of written and spoken texts, (learner autonomy) how learners approach language learning, testing and assessment of language learning, and vocabulary (including multiword expressions), ELT (English Language Teaching).

Ms. Shehla Anwer is an English lecturer ((Literature and Linguistics)) at NUML University Karachi Campus. She completed her MA in English Literature from University of Balochistan, Quetta. She is holding degrees of B.Ed. and M.Ed. She got her degree of M.Phil in (Applied Linguistics) from Sardar Bahadur Khan Women's University Quetta. She is currently pursuing her PhD in (Applied Linguistics) at University of Sindh. Her research areas of interest are Factors Causing English Writing anxiety, English Language teaching in Pakistan, Language Culture and identity, Curriculum Implementation in Pakistan, ESL grammatical errors, Language teaching through Technology, Language teaching through Literature.

Mr. Amir Saeed Khan has completed his MS linguistics from, Azad & Jamu Kashmir University Muzafarabad, AJK. He is doing PhD from University of Sindh, Jamshoro. He has published many research papers in national journals.

Dr. Arshad Saleem is currently teaching in Shaheed Zulfikar Ali Bhutto Institute of Science and Technology, Karachi. He has published numerous research papers in National and International Journals.

Miss Sana Zahra has completed her M.Phil from the Department of Applied Linguistics Kinnaird College Lahore as a distinguished research scholar.

Dr. Urooj Fatima Alvi is working as an Assistant Professor of English Department of English at University of Education Lahore.

Qurrat-ul-Ain is Lecturer, in the Department of English, Virtual University of Pakistan

Maida Ashraf National University of Computer and Emerging Sciences Lahore, Pakistan.

Zahida Mansoor National University of Computer and Emerging Sciences Lahore, Pakistan.

Contents

Investigation of Acquisition of Urdu Plural Morphology among Children of 4 to 6 years

Sana Zahra, Dr. Urooj Fatima Alvi, & Qurrat-ul-Ain

ABSTRACT: Number possesses distinct importance in the inflectional morphology of any language. Acquisition and learning of plural morphology have been investigated in languages like English, Arabic, German, Hebrew, Dutch, French, and Marathi, etc. Such research has not been done for the Urdu language so far. The present research is based on the classic study done by Jean Berko Gleason in 1958. She explored the acquisition of inflectional morphology, including plurality, possessives, progressive and past tense on the children between the ages of 4 and 7 years. By following the same framework, this research investigates the acquisition and learning of Urdu plural morphology in children between the ages of 4 to 6 years. It also explores the impact of age and socio-economic status of the children on the acquisition and learning of Urdu plural morphology. A pictorial questionnaire method consisting of 20 questions, was adopted for the research. The questionnaire was handed out to 40 students belonging to three schools in Lahore. The randomly selected sample was kept balanced in terms of age and socioeconomic status. Qualitative and quantitative analysis of the survey outcomes followed by statistical significance testing using student's *t*-test was used to understand the results. It was found that children acquire the rules of plurality and generalize them at a very early age. Such generalization becomes more robust as they grow older. It was found that age and socio-economic status (SES) both had a significant impact on the learning of Urdu plural morphology.

Keywords: *Inflectional Morphology, Acquisition of Urdu Plural, Socio-economic Status*

1. Introduction

Languages of the world differ with each other in various aspects such as grammatical, phonological, and lexical distinctions. Also, the grammars of the languages differ in gender, tense, and aspect markings on the verb. Some languages like Polish mark both aspects and tense on the verb, and some languages like Hebrew mark only one (tense or aspect). Some languages mark two gender systems (i.e., masculine, feminine) on nouns like French and Urdu languages. Some languages like Russian and German mark a three-gender system on nouns, i.e., masculine, feminine and neuter (Clark & Nikitina, 2009).Inflectional morphology in a language denotes relations such as a person, number, case, gender, possession, tense, aspect, and mood. It works as the crucial grammatical glue which holds all relationships together. The system of plurality also comes under the umbrella term of 'inflectional morphology'. English speaking children acquire the concept of a number between the age of 2 and 4. This process takes place gradually. First, they learn the concept of one after two years they are called one-knowers, then the concept of two, they are called two-knowers. The concept of three is attained (three-knowers). English

speaking, children acquire the mechanism and concept of counting by the age of 4 (Wynn, 1990, 1992).

There are several models and theories presented by the researchers about how plurality and other inflectional systems are acquired such as "Words and rules theory" and "Connectionist model" are very famous in this regard. The present study is based on the classic study done by Jean Berko Gleason in 1958. She explored the acquisition of inflectional morphology, including plurality, possessives, progressive and past tense on the children between the ages of 4 and 7 years. She presented children with known novel nouns, which they never had heard before and asked them to make their plurals. For example, the experimenter showed children a picture of a bird on a page and asked the children '*this is a wug, this is another one,* (by showing them pictures of two same birds on the next page) then the experimenter said, *now there are two of them, now they are two.'* Children were supposed to fill in the blank with the plural form. She found that children do generalize the rules of plural formation. She argued that if a child knows the plural of which is witches, it merely means that he already memorized the form but if he can make a plural of Gutch/ Gutches (new noun which the children had never heard before). It means that he unconsciously knows how to form a plural, that's why he can generalize the rules of plural formation. She also measured the progression of learning these inflections and also measured the effect of age and sex on this learning. She found that the ability to generalize rules to novel forms increases steadily in between four and seven years of age. Although seven-year-olds also made errors in plural morphology, they have internalized English regular plural morphology and can generalize it to different words. She also found that generalizations are early and similar across real and novel nouns.

1.1 Limitations

The first limitation was to get permission from the schools. It was seen that most of the schools, especially private schools, are reluctant to give permission in their schools for research purposes. Two of the mainstream modern private schools simply refused that consumed lots of time. The second limitation was that there could not found enough students from LSESS (Lower Scio-Economic Status School). So, the students from two schools were taken to complete the number of students required

for the research. The research was conducted in the hot and noisy playground area because they did not have any extra room or place where it could be managed. Some of the students in LSESS were unable to answer the questions. Some of them had speaking issues like stammering etc. and some had a lack of confidence to answer the questions. So the interview was conducted to more students to achieve the required number of completed surveys to be done. A lot of time had been spent in both schools belong to LSESS.

1.2 Delimitations

The population sample was delimited to only from private schools of Lahore, Pakistan. Government schools were not included in the research. The research was carried out only in one city of Pakistan, i.e. Lahore. Children from other cities of Pakistan were not included in the present investigation.It was conducted in only eight months. Forty children of two age groups were chosen for the study i.e., 4 to 4.9 years and 5 to 6 years because of a shortage of time.There was an adapted pictorial questionnaire survey method for the research as children of these ages were more interested in pictures. The multi-media technology had not been used because of a lack of facilities, especially in low SES (Socio-economic status) schools.

2. Literature Review

Language learning typically takes the form of a mapping where the learner learns to form a link between word forms and their senses (Quine & Van, 1960; Smith & Yu, 2007). MacNamara (1982) described that children show partial knowledge during this process as meanings are not completely attained. This causes over-generalization and under-generalization. The second category was discussed in the study by Chapman & Mervis (1989) & Gasser (1997). They elaborated that sometimes meanings are attained by the child, but the word forms are not properly developed. This is called a lexical gap, which means that meanings are acquired by the child, but he does not know a word for it. (Momen & Merriman, 2002; Clark, 1987).

Children start to produce plurals at a very young age around 1.6. (Cazden, 1968; Zapf & Smith, 2003). Although they are not able to produce all plural forms required in different contexts. They gradually attained this mastery until around seven years. (Gleason, 1958; Graves & Koziol, 1971; Anisfeld & Tucker, 1967). There are two classes of theories presented in the previous studies about how a child learns English

morphology. First is called a symbolic or rule-based theory, which explains that children learn rules of changing singular into plural forms (Marcus et al., 1992). The difficulty that arises with this theory is different allomorphs and their dependence on the phonological structure. Secondly, numerous plurals are not formed by the rules (like man-men & child- children, etc.). The second class of theories is called similarity-based or instance-based, which suggests that children first learn the singular plural pair instances and then generalize these learned pairs to novel forms. (Plunkett & Marchman, 1993). These classes are also called dual process (rule-based theory) and a single process (similarity or instance-based theory) (Berent et al., 2002). Zapf & Smith (2009) experimented on two years old children and argued that very young children know the language they speak has plural forms and how they are related long before they start to actually produce them in all required contexts. They also elaborated the elements that may limit their performance of plural formation. It includes knowledge of numerous allomorphs and phonological rules which correlate with them. It may also include the child's ability to produce specific sound combinations. (Graves & Koziol, 1971; Storkel, 2001). Some studies suggest that three-year-olds grasp the English plural morpheme 's' on different words to show plurality. (Kouider, Halberda, Wood & Careyet, 2006).Children use numerals as plural markers initially, as argued by Clark and Nikitina (2009). They presented that children use *two* as a plurality marker in the beginning. They start using it before the understanding of conventional plural markings. It explains that if a child is not able to use correct plural marking, then he uses *numerals* as a plurality marker. According to Carey (2004, 2009), *two* gets the meaning of plurality by syntactic bootstrapping (because it is frequently used as a plural marker). Barner et al. (2011) also found some evidence that *two* acts as a plural marker in early language development. The reason could be children mostly hear the numeral *two* in caregiver speech. Some studies suggest a stage like the progression in the acquisition of plural morphology. Rote-stage, generalization-stage and mature-stage. In rote-stage, children only produce forms which they have memorized in both regular and irregular forms. In the second stage, children generalize rules to novel forms. This is also called over regularization because children regularize the irregular forms too. The second stage is the most critical. In the third stage, children know regular and irregular forms correctly in all required contexts, called the mature stage (Zapf & Smith, 2007). In the early interpretation of children plural development, they understand that the

plural nounis made by adding morpheme 's' (Marcus et al., 1992). Children' voluntary and correct production of regular plurals rises fast between 18 and 49 months of age. (Anisfeld, 1984; Cazden, 1968; Mervis & Johnson, 1991)

Research on the acquisition of plural morphology has been done in English, German, Arabic, French, & Spanish languages, which will be discussed in detail in the literature review chapter. German has a complex plural inflection system. Kauschke et al., (2011) investigated the acquisition of plural morphology of the German language in early childhood. They found that full mastery of German plural morphology is not achieved by the age of 6. They found some words to be more difficult for all of the participants, such as the word 'pureumlaut' that requires a vowel change within the word butno overt suffix. They found several error types, including omitting plural markers and using a singular form instead, over regularization, which is considered as a 'developmental hallmark' of the generalization stage.

2.1 Urdu Morphology

Urdu is an Indo-Aryan language of South Asia, which is spoken all over the world because of the big South Asian Diaspora. Urdu is extensively expressed in Pakistan, India, Jammu & Kashmir, and Bangladesh. Urdu is a national and official language of Pakistan and one of the 23 official languages of India (Humayoun et. al, 2018). It is the first language of at least 60.5 million speakers and 40 million more who speak it as a second language. (David et al., 2009). Urdu is a morphologically rich and complex language as compared to English. It is a challenging language because of its Persio- Arabic script and its morphological system. It has primary grammatical forms and words of Arabic, Persian and other languages of South Asia. Urdu has a quite similar morphological policy to other Indo- European languages. These languages have a concatenative inflective morphological system. (Humayoun et al., 2018). David et al. (2009) stated in their book *Urdu Morphology* that Urdu shows extreme register variation from the highly Persianized language of Urdu ghazals (poetry) to the highly Anglicized language spoken by upper class mainly.

Urdu is the national language of Pakistan, but many speakers do not speak it as the first language as their first languages are Sindhi, Balochi, Punjabi, Saraiki, Gujarati, etc. It results in dialectal variations of phonology and grammar. Moreover, English is

profoundly affecting the Urdu language primarily because of the upper-class people who speak English. The main reason for the register gap is the generation gap. Older people talk to Persianized Urdu while the younger generation mix English words with Urdu freely, and they even use English phrases mid-way. Humayoun et al., (2018) described that nouns in Urdu are inflected for gender (masculine, feminine, neuter), number (singular, plural), and case (Nominative, Oblique, and Vocative). We will discuss their details in the literature review section.

2.2 Statement of the Problem

The present study aims to explore the acquisition and learning of the Urdu plural morphology system among the children between the ages 4 to 6 years. The study is replicated to the classical research done by Jean Berko Gleason (1958). The problem has been addressed in various languages of the world, but none of the research has been done for the Urdu language so far in this regard. The study will contribute to the Urdu language acquisition and language learning. It will also benefit from advancing pedagogical methods of learning Urdu for educational purposes or as a second language.

2.3 Objectives of the Research

Following are the main objectives of the study:

i. To find out the acquisition and learning of the Urdu plural morphology system among the children between the ages of 4 to 6 years.
ii. To evaluate the impact of age and socio-economic status of children in the learning of Urdu plural morphology system.

2.4 Research Questions

1. When do children master the Urdu plural system? (Considering ages between 4 to 6 years)
2. Which Urdu plural formations are more accessible and which are difficult for the children between 4 to 6 years of age?
3. Does the socioeconomic status of children affect the learning of Urdu morphology?
4. Does the age of children affect the learning of Urdu plural morphology?

5. What are the types of errors mostly found in incorrect responses given by the children in terms of addition, substitution, no marking, and partial marking?

6. What are some of the generalization patterns found in children's responses, which suffix are predominantly used in over regularizations?

7. To what extent can this knowledge help in advancing and enhancing pedagogical techniques of learning the Urdu language?

2.5 Significance of the Research

This work has already been done for several languages in the world, including English, Arabic, German, Spanish, French, and Marathi. But the acquisition of plural morphology for Urdu has not been scientifically investigated this far. This novel research will impact pedagogical mechanisms for Urdu as a first and second language. Our traditional model of teaching Urdu in schools assigns a flat significance to all topics. As a result, an equal amount of effort and time is spent on each topic. This research shows that such a model is neither the most effective nor most efficient for teaching Urdu. This work points out the components of Urdu plural morphology that students find harder to grasp. Such difficulty assignment can be used as a factor for a weighted allocation of time, effort, and significance to various topics. The above-proposed restructuring of Urdu pedagogy will also impact the teaching of Urdu as a second language. As we have discussed above, teaching inflectional morphology is an essential element for vocabulary building and better reading skills. As we see that ties between Pakistan and China are growing more reliable due to CPEC (China Pakistan Economic Corridor), and hundreds of Chinese nationals are coming to Pakistan. This will undoubtedly necessitate large-scale efforts to teach Urdu as a second language. This research will aid the development of such teaching curriculums.

Finally, this research also furthers the domain of linguistic knowledge by testing methods of investigation of the acquisition of language morphology for Urdu. These methods have been shown to work for other languages. The current research not only indicates that the wugs test works for Urdu plural morphology but also suggests alterations to the standard wugs test. Test participants are inquired about their current knowledge of the pluralization of known words. Their information is either reinforced or corrected, before asking them about unknown words. This allows us to

measure their existing knowledge of plurals before we claim anything based on their understanding of unfamiliar words.

3. Methodology

A questionnaire survey method has been adapted to explore the Urdu plural inflectional morphology of Urdu language among young children of Pakistan. Forty children between the ages of 4 to 6 were selected from three schools of Lahore, Pakistan. Children were then divided into two groups according to their age i.e., 4 to 4.9 and 5 to 6 years (20 children from each group). The schools were chosen to cover various socio-economic strata of society. One school was presumably selected as high SES and the other two schools as low SES based on their monthly fee structure. A convenience sampling strategy was used to select the participants. The questions were designed to cater to five important plural inflections of Urdu language, which will be discussed later in this chapter. A mixed methodology of qualitative and quantitative analysis has been used for the study. Hypothesis testing (*t*-test) has been used to show the significance of the results.

To answer the research questions, a pictorial questionnaire consisted of 20 questions was designed based on the singular and plural morphology of the Urdu language. The questions consisted of known and unknown words to the children. Unfamiliar words were non-sense, which the children never had heard before. All these words rhymed to the previously known word asked by the children. For example, words 'balla (bat) and falla'. Balla is a known word for the children whereas 'falla' is a non-sense and unknown word for the children. All the questions were asked by showing pictures to the children. Colorful pictures were drawn or collected for both known and unknown words on 20 separate pages. Imaginary creatures were drawn or taken from the internet for unknown or nonsense words. All 20 pictorial questions were given in the appendices. Each page has two pictures of the same image. First, it was showed the children one image and told them, for example, 'ye aik bacha hai' and then showed them the second image of the same thing and asked, 'ye aikaur bacha hai, ab ye do kia ho gaye?' Children were supposed to fill in the blank.

3.1 Population Sample & Sampling Strategy

The questions were asked from forty children of three schools:

1. F.J. High School.
2. Awan Foundation School.
3. KCM (Kinder Campus Montessori).

All schools are situated in Lahore, Pakistan. F.J. High School and Awan Foundation School are located in Iqbal Park, Defence Road, Lahore Cantt. KCM is located in Garden Town, Lahore. The first two schools were expected to belong to lower socioeconomic status, and KCM belongs to higher socioeconomic status. This assumption was made by the monthly fee charged by these schools and the background of the children coming in these schools. The first two schools fee was around 1000 Rs. per month. Only some of the children gave the full fee while most of the children were taking concessions or utterly free education. Many of the parents of the children of these two schools were drivers or maids. KCM fee was around 14,000, which was considered as high fee among Pakistani schools and people who belong to lower socioeconomic status cannot afford it. 20 students were taken from each of the two socioeconomic status classes. The reason for taking two schools from the lowersocioeconomic status class was that enough students required for our research from one school were not found at first. Apparently, the reason was that most of the parents belong to lower socioeconomic class,and they did not send their children at this young age.

3.1.1 Convenience sampling

A convenience sampling strategy was adopted for the survey. First, these schools were selected according to their fees. Then the students of two age groups (i.e., 4 to 4.11 and 5 to 6) were chosen randomly. The targeted age group was children in pre-nursery, nursery, and K.G classes.

Two age groups of the children were targeted. The first age group was 4 to 4.11 years, and the second age group was 5 to 6 years. 10 children were aged between 4 to 4.11 years, and 10 were aged between 5 to 6 years of two targeted socioeconomic status schools. Total 40 students participated in the current research.

The survey instrument was a pictorial questionnaire consisted of 20 pictures. 20 questions were asked by each child. The questions were asked from the children by

showing them pictures of 10 known and 10 unknown (imaginary) items. Unidentified items were the imaginary creatures that were hand-drawn or taken from the internet. Unknown item name rhymed to the known item name. For example, Firstly, it was asked the plural of noun 'balla' (bat), then the plural of the word 'falla' which rhymes with balla and was a non-word in the Urdu language. The idea was to identify if the children were able to generalize the rule of making the plural of a known word to making the plural of unknown/ non-word. If a child had correctly made the plural of balla then the plural of falla was asked from the child. But if he failed to correctly answer plural of balla then he was told the due, correct plural form and he was made to repeat three times, then he was supposed to tell the plural of unknown word falla.

3.2 Hypothesis Testing; Student's *t*-test

For quantitative analysis, a two-tailed independent sample *t*-testwas implemented,and a two-tailed paired t-test was also conducted to show whether the results were significantly different or not.

'The *t*-test is any statistical hypothesis test in which the test statistic follows a Students' *t*-distribution under the null hypothesis' . (Wikipedia)

Everyday use of a *t*-test is when the test statistic hasa normal distribution, and the value of a scaling term is known. The *t*-test is commonly used to find if the two sets of data are significantly different from each other.

4. Results and data analysis

In the following section, the results are presented, and the analysis of the direction of data can be seen:

1. Aggregate analysis; in which overall result are presented which were received from all three schools and both age groups of children (i.e. 4 to 4.9 and 5 to 6 years).
2. Analysis according to socio-economic status (denoted by SES); in which the data is presented into two categories defined; LSESS (Lower Scio-Economic Status School) and HSESS (Higher Socio-Economic Status School).
3. Analysis according to age; in which the effect of age is measured on learning of plural morphology.

4. Pair-analysis, in which all the known and unknown rhyming words will be seen pairwise. By this analysis, it can be identified whether the children were able to generalize the rules of making plurals in the Urdu language or not. It can also be looked deeper into the words which were more straightforward and challenging for the children to make their plurals.

4.1 Aggregate Analysis

4.1.1 Distribution of Correct & Incorrect Responses by Age

Table 1: Distribution of correct & incorrect responses by age

Age	Known Words	Known Words	Unknown Words	Unknown Words	Grand Total
	Correct	Incorrect	Correct	Incorrect	
4 to 4.9 years	94	106	93	107	400
5 to 6 years	122	78	120	80	400
Grand Total	216	184	213	187	800

Table 1 shows the age-wise distribution of correct and incorrect responses of making the plural of known and unknown words. Children were taken from two age groups, i.e., 4 to 4.9, and 5 to 6 years. A total of 400 questions were asked from all forty children (200 questions for known and 200 for unknown words). The overall result of correct answers by all forty children is 54 %. Children aged between 4 to 4.9years gave 47 % correct answers for known words and 46.5 % for unknown words. Children between 5 to 6 years gave 61% correct responses for known and 60% for unfamiliar words. It shows that as the children grow, they make fewer mistakes in making plurals. The difference between the results of correct responses of two age groups is found to be 14%.

4.1.2 *t*-Test Result:

The result of the *t*-test is ($P < 0.01$), which shows a statistically significant difference between the two groups.

Table 2: Distribution of correct & incorrect responses by SES

School	Known Words			Unknown Words			Grand Total
	Correct	Incorrect	Total	Correct	Incorrect	Total	
Awan Foundation School	44	56	100	44	56	100	200
F.J. High School	53	47	100	53	47	100	200
Sum Of Above 2 Schools	97	103	200	97	103	200	400
KCM	119	81	200	116	84	200	400
Grand Total	216	184	400	213	187	400	800

Table 2 represents the distribution of correct and incorrect responses according to Socio-economic status of schools. The research was done in three schools: F.J. High School, Awan Foundation School, and KCM. F.J. High School and Awan Foundation School were chosen to represent lower socio-economic strata of the society. This is primarily because of the less facilities and the amount of fee being charged from the students in these schools which is around 1000 Rs. KCM (Kinder Campus Montessori) was chosen to represent higher socioeconomic strata of the society because of the above-mentioned reasons. The fee charged in this school is 14,000 Rs. The sum of the first two schools is also shown in table 2.

Firstly, the results will be noticed taken from the two schools representing lower socioeconomic strata of the society. Out of 200 questions asked, 48.5% have given

the correct answers for known words, and the same results have gotten for unknown words (i.e., 48.5%). Children belong to HSESS have delivered 59.5% correct answers of known words and 58% for obscure words. The total no. of correct and incorrect responses of known and unknown words is approximately the same within one school. Still, a difference of 10 – 11 % is found between the results of these representative schools. The T-test shows a significant difference between the two groups of schools with a ($P < 0.05$).

5. Conclusion

The aim of the research presented here was to investigate the acquisition of plural morphology in the Urdu language among children between 4 to 6 years of age. In addition to, it was also interesting and breaking through to find out if age of the children and their socioeconomicbackground affect their morphological learning of a language. 40 children were randomly selected, belonging to two age groups: 4 to 4.9 years and 5 to 6 years. These students belonged to three schools. 10 students between 4 to 4.9 years and 10 students between 5 to 6 years from each Low and High Socio-Economic Status Schools (LSESS & HSESS) participated in the study. It was found that age and socio-economic status both affect the children learning of Urdu inflectional morphology. Older children of 5 to 6 years performed 14 % better as compared to 4 to 4.9 yearsold. The children between 5 to 6 years belong to HSESS performed 18% better than the children belong to LSESS.

When statistical tests performed to establish the significance of the results, it showed that children learn to make plurals and generalize the rules at very early in their lives. It was found that not only age but the socioeconomicbackground of the children also matters in the learning of plural inflectional morphology. The significant differences were found in the performance of the two age groups and two groups of children categorized based on socio-economic status. It was observed that older children generalized more as compared to younger children. The easiest Urdu plural suffixes are found to be 'ے', ' یں' for the children. A considerable number of students used English words and English suffixes. Regarding English use, no significant differences were found in the children belongs to LSESS and HSESS that shows the deep penetration of the English language in our society.

5.1 Future Work

The research could be expanded through many directions and applications. For example, other morphological systems like tense, gender, aspect, case, and mood, etc. of Urdu should also be investigated both on acquisition (L1) and learning (L2) level on Urdu speaking children. It should be done on Urdu speaking children of various ages, including young children who are a few months old, up to older ones. Additionally, the rate and order of acquisition of Urdu should also be investigated. The outcomes of the present research should be incorporated into the pedagogical mechanisms of teaching Urdu to young children. The effectiveness of the new methodologies, in comparison with the traditional ones, could be established using field testing and randomized control trials (RCT's). The control arm of such experiments could be comprised of a random sample of participants who are exposed to traditional teaching methodology. In contrast, the intervention arm could be included of participants sampled from the same population who are exposed to the new teaching methodology. The outcomes of the RCT could be quantified using baseline and end line exams.

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