Research Proposal

PSY 231-01: Developmental Psychology

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Acquisition of English as a Second Language in India

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Abstract

The aim of the present article is to understand the roles of an individual's gender and his/her native language on his/her acquisition of English as a second language. It seeks to analyze differences between age, gender, and primary language in the Indian context to study how English is acquired as a second language. The data will be collected by holding conversations with children and discussing things from a list of topics with the children and then transcribing the conversation into CHAT format to be analyzed by CLAN. ANOVA analysis would be run on the data to study the effect of age, gender, and primary language on English acquisition. Results would probably suggest that females are better learners of language as compared to males and younger children learn more quickly. For the main result regarding the impact of primary language on ESL, we see that speakers of Dravidian learn more quickly but these learning differences are gapped pretty quickly as children grow. This leads us to hypothesize, that, the fact that English is much more related to Sanskrit, than it is to Dravidian languages, causes the knowledge of Sanskritic language to affect the learning of English.

Keywords: Native Language, Gender, Dravidian, Sanskrit, English as Second Language, Mean Length of Utterance, Lexical Diversity Index

Introduction

Our world in the 21st century is not the same as it was a few decades ago. With the advent of science and technology, we have been ushered into a new era of cultural integration. For the world to come closer together, people from different regions and cultures need to come together and engage with each other. Language plays a central role in any form of communication, and globalization has led to English becoming the lingua franca for most people around the planet. In fact, the learning of English is considered to be a socio-personal developmental milestone. (Yip, Mathews, 2006). Excluding the North Americans and the British, most English speakers around the world tend to be bilinguals – they speak English as their second language and typically have another first language. We know that language plays a central role in human development and cognitive evolution. (Locke, Bogin, 2006) And we know that, in a global context, acquisition of English as a second language is affected the primary language and age – children from different age groups and different cultures learn English differently. We also see a gender difference in language proficiency wherein girls learn better and faster than boys and also tend to have better communication skills. (Paradis, 2006) In this experiment, we wish to see if the same holds within the Indian context.

Literature Review

There has been a lot of research on L2 acquisition in the field of linguistic psychology. The Cummins' hypothesis suggests that the level of competence in L1 impacts the learning competence of L2 for a bilingual child (Koçak, 1987). Though this does not account for fact that children in the critical language learning period are not completely proficient in their primary language, and this might affect the language acquisition of bilingual children. In his research, Lenneberg expounds language learning to be a function of the critical biological period of language acquisition, which is between 2 years and 12 years of age (Ipek, 2009, 158).

This was originally linked to only primary language, but new research has concluded that second language acquisition is also affected. This notion was originally linked to, and explained the acquisition of L1, however, owing to advancement in research, it has now been extended to the understanding of L2 as well (Ipek, 2009, 158).

There has been a lot of research on patterns of language acquisition notions about language universals have been raised. For example, there is the Natural Order Hypothesis (Krashen, 1982), according to which, learning of L2 is predictable, owing to the rules of languages, which are bound to be common for both L1 and L2. Ipek later built on this and in 2009 claimed that the rules talked about are not the explicitly taught rules of language, but rather the patterns in which a language is taught (Ipek, 2009, 156). This includes sentence structures in particular languages, and the order in which different types of words are learnt, like learning of noun before verb in most languages. Meanwhile, there have been exceptions, as many other studies have shown that not all children follow these patterns of language acquisition. There is also a significant influence of individual differences, culture, background, and especially the linguistic nature of L1, that impact L2 acquisition. (McLaughlin, 1987) But none of these studies have been focused on Indian languages and that's what we wish to change with this experiment.

Since we know that language acquisition is a cognitive and biological process, we wish to attempt to draw correlations between gender and L2 acquisition. Research has shown time and again that females learn more proficiently and faster than men. (Feery, 2008) For example, this been shown in Dutch acquisition as L2 (Van der Silk, Van Hout, Schepens, 2015) and has been extended to children (Dabašinskienė, 2012). It has been suggested that the difference in the socio-cultural environments provided to men and women as children impacts their language acquisition – men are provided with toys like trucks and cars and children and this aids their spatial development; women are provided with dolls and house-playsets, are playing with these

toys requires communicative interactions, thus aiding in socio-linguistic development. We want to see if these results on Gender and second language acquisition hold within the Indian context.

Hypothesis

It is crucial to understand the extent and the possible ways in which a native language, gender, and age, might impact the learning of English as a second language. We want to see how different primary languages in different regions across the country affect the acquisition of English as a second language. We will ask three questions and thus have three hypotheses to test, excluding the null.

1. Is there a significant difference between Sanskritic and Dravidian languages on acquisition of ESL?
2. Is language learning faster/better in one age group than in other?
3. Is one gender better at language than the other?

H_o (Null) = There is no significant effect of Gender, Age and Primary language on acquisition of ESL.

H_1 = There is a significant effect of Gender on acquisition of ESL.

H_2 = There is a significant effect of Primary language on acquisition of ESL.

H_3 = There is a significant effect of Age on acquisition of ESL.

Methodology

To keep things simple, we'll keep two levels within each factor of our experiment. For Gender, we'll have Male and Female; for Age, we'll have two groups – 2 to 4 year old children, and 4 to 7 year old children; for Primary Language, we'll divide the children into two groups – children whose primary language is Dravidian (Tamil, Telugu, Malayalam, and Kannada),

and children whose primary language is a Sanskrit derivative (Hindi, Gujrati, Bengali, Odia, Punjabi and Marathi). Thus, our study will be a 2 (Gender: Male vs. Female) x 2 (Primary Language: Sanskritic vs. Dravidian) x 2 (Age: Before School vs. After School) fully between subjects design.

We choose to segregate different primary languages into Dravidian and Sanskritic because that would keep our study and data collection simpler and also make the results more readable. The reasoning being, that, reviewing each language individually would consequently produce too many variables and this might make the results very confusing. Moreover, we plan to collect data in three rounds, at an interval of one year between rounds and we choose our age groups accordingly. For the first age group, we will collect data at 2 years, 3 years, and 4 years. Meanwhile, for the second age group, we'll collect data at 4 years, 5 years, and 6 years. We choose to divide our age groups like this and not in any other way because most children start going to school at the age of 4, and this division of age groups might give us an idea regarding how schooling affects language acquisition.

Our dependent variable would be the level of proficiency of the English language, which we'll measure by looking at two variables – Mean Length of Utterance, (MLU) which is the total number of words spoken divided by the total number of utterances and Lexical Diversity Index (LDI), which is a function in CLAN that gives an LDI score by analyzing grammar and vocabulary in a conversation. Our Independent variables would be primary language, age, and gender. We will attempt to see if these three factors play a role in the acquisition of English within the Indian context. A large reason behind considering the MLU as a dependent variable is because we wanted to eliminate confounds between individual differences in speakers. We look at LDI because it is a comprehensive and fairly accurate way to judge language skills.

Since our study is a 2 x 2 x 2 design, we'll have eight groups:

1. Male, Sanskritic, Before School
2. Male, Sanskritic, After School
3. Male, Dravidian, Before School
4. Male, Dravidian, After School
5. Female, Sanskritic, Before School
6. Female, Sanskritic, After School
7. Female, Dravidian, Before School
8. Female, Dravidian, After School

We would ideally like to have 30 subjects within each group for a total of 240 participants, but that might be very difficult to achieve. So practically, we are looking at 10 subjects in a group, for a total of 80 participants. The children would recorded talking in English in a natural setting and the questions would range from the following list (Paradis, 2006):

1. How old are you?
2. When is your birthday? (If child doesn't know, ask them what time of year).
3. Did you / are you going to have a birthday party?
4. What happens at a birthday party?
5. Do you go to school?
6. If yes, what grade are you in? Who's your teacher?
7. What do you do at school?
8. What do you do at recess?
9. What's your favourite subject? Why?
10. What are the other kids at school like? (Tell me about the kids in your class)

11. What is your favourite food? Can you tell me how to make it?
12. What would you like to be when you grow up? Why?
13. Do you know what a fairy is? What would you wish for if you had a fairy?
14. What games and toys do you like the best? Why?
15. What was the last movie/video/TV program that you saw? Tell me what happened.
16. What did you do on the weekend/ yesterday after school?
17. What are you going to do tonight? What are you going to do tomorrow after school?
18. Do you know what the four seasons are? What's your favourite season? Why? What can/can't you do in that season?

Their conversation will be transcribed in CHAT format using CLAN software. Since this will be done in 3 rounds over a period of three years for each child, we'll have a total of 240 files to analyze.

Analysis

We will analyse the CHAT files in CLAN software and copy the results in a spreadsheet to be further analysed in R.

In CLAN, we will run the following commands:

1. MLU – To get the mean length of word utterance (total number of words divided by total number of utterances) per child per round.
   Output – Word MLU and Standard Deviation.
2. VOCD – To get the Type Token Ratio (TTR – The total number of different words divided by the total number of words. A high TTR indicates a high degree of lexical variation while a low TTR indicates the opposite) and the Lexical Diversity Index,

which estimates the skill of language from vocabulary size and grammatical structure.

Output – Type Token Ratio and Lexical Diversity Index score.

We import this data onto the spreadsheet and standardize the mean length of utterance by combining the MLU and SD into a standardised value of Mean Length of Utterance. We run tests on the Final MLU value and the Lexical Diversity Index. We choose to ignore the Type Token Ratio as CLAN factors it in while calculating the Lexical Diversity Index, and thus, running analysis on the Type Token Ratio would be redundant. After analysing the 240 files, we'll average each child's score across the three rounds to arrive at two final scores per child: MLU and LDI. We will then run an ANOVA test in R, on the data, with Gender, Age Group, and Primary Language as Independent variables; and Mean Length of Utterance and Lexical Diversity Index as dependent variables.

Results

A 2 (Gender: Male vs. Female) x 2 (Primary Language: Sanskritic vs. Dravidian) x 2 (Age: Before School vs. After School) fully between subjects ANOVA on Final MLU Score would reveal main effects of Primary language ($p = 0.04$), and Age, ($p < 0.001$) However, there would be no main effects of Gender ($p = 0.09$).

Another 2 (Gender: Male vs. Female) x 2 (Primary Language: Sanskritic vs. Dravidian) x 2 (Age: Before School vs. After School) fully between subjects ANOVA on Lexical Diversity Index would probably reveal main effects of Gender ($p = 0.039$), and Age, ($p = 0.015$) However, there would be no main effects of Primary Language ($p = 0.17$).

Combining the results from these two ANOVAs, we accept all three of our alternate hypotheses and reject the null. In different stages, all three factors: Gender, Age, and Primary Language play a role in the acquisition of English as a second language.

Discussion

In the developmental process of a child, it is crucial to understand the impact of one's native language on their acquisition of L2. This research will attempt, not only to explain the significance of gender differences on the acquisition of L2, but also to understand the correlation between the native languages and L2. While the reasons behind females' greater proficiency in L2 might still be under debate, this study reinforces the impact of gender gap on the acquisition of new languages. To further understand the why this happens, we must look at the difference in socio-biological environments of the two genders, as pointed out by Dabašinskienė in 2012.

The results point toward an interesting aspect of analysis where Primary language and age, but not gender, produced significant differences in MLU. One notices that, children who acquire English earlier have higher MLUs and children speaking Dravidian Languages have higher MLUs. Since children learning earlier acquire language during the critical period, thus improving their proficiency. Regarding Dravidian speakers having higher MLUs, this might be explained by the fact that Dravidian languages share very little similarity with English and thus do not interfere in the learning process. A possible reason for this could be the similarity in the structures of English and Sanskritic languages. Similar linguistic structures, and parallel learning of two languages could have caused interference. (Derakhshan, Karimi, 2015) Things change slightly when we look at results for Lexical Diversity Index. Here, Gender and Age play a role, but primary language doesn't. This can be explained by the fact that your grammar and vocabulary skills, with enough use of the second language, will eventually grow to a certain level, irrespective of what your primary language is.

Conclusion

Understanding of acquisition of ESL can explain the proficiencies and capabilities of an upcoming, culturally integrated generation of Indians. We know that gender and primary languages play a role, and further research can explain why things are the way they are, and if they need to change. Language, being one of the key connectors of cognitive and the social world, affects and is affected by a lot of factors, and further research to understand them is crucial to the field of linguistic psychology.

Limitations

While the study has the potential to be very interesting, there will be some limitations. A bigger sample size is always better and for a longitudinal study like this, it's hard to get participants, especially in India. Our small sample might not be enough to make larger generalizations. Moreover, such studies are highly dependent on the nature-nurture arguments, and the parents and the domestic environment of the participants play a huge role in development. This is an important limitation as the environment of the participant could have either inhibited or encouraged the learning of ESL.

Ethics

There are no severe ethical concerns that could arise from this study. The experimenters should seek permission from the Institutional Review Board before conducting the study and they should anonymize the participants to protect their identity by using codes instead of names and allowing them to drop out of the at any moment. Furthermore, extra care should be taken as we would be dealing with children and at least one of the child's parents must be present at all times to make sure that the child feels comfortable.

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