Are Predictive Typing Features in Keypad Applications Improving our Language

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ABSTRACT
In this paper, we aim particularly to deal with cases where if it's possible for people to be able to learn a particular language and improve their grammatical mistakes through the predictive typing features like auto-correct and auto-complete in Smartphone Keypad Applications. Also, if they are aware of any such application and just more comfortable making mistakes while typing without such features. We have laid a survey from a number of random working and studying crowd and tried to understand if these applications helped build their language or not.

Keywords
Predictive typing, auto-correct, auto-complete, Smartphone Keypad applications, language learning, human linguistic behavior.

1. INTRODUCTION
Technology often mediates, and thus influences, patterns of human communication. Spelling errors that happen to result in a real word in the lexicon cannot be detected by a conventional spelling checker.

With the passing days technology is touching every aspect of our life. Technology has effected in almost every single respect one can think of, be it communication, social efforts, education, industry, business, entertainment, comfort, luxury, efficiency, etc. to name a few in good ways one thinks.

Mobile phones have recently improved, the auto-correct and auto-complete features in Smartphone keypad applications. There are different Android Keypad apps which you can install that change layout, languages, and add special features that the default Keypad such as the Google Keypad doesn't have. Some of them such as the Swift Key Flow app, the Swipe app, the Xperia Keypad all provide predictive typing and multinational support. These features help us type efficiently and effectively without any error.

2. PREDICTIVE TYPING
Predictive typing in Keypad applications improves our response rate with the correct language. The features included are as follows:

2.1 Auto-Correct
Automatic correction or Auto-Correct is a kind of spell checker that corrects our common typos. It also formats our text message by recognizing our character usage with the inbuilt algorithm, and thus saving us from having to use more tedious functions.

2.2 Auto-Complete
Automatic complete or Auto-Complete speeds up the human computer interactions by correctly predicting the rest of the word that we are typing.

3. PROBLEMS
It becomes almost impossible to find out our errors in the first place. Even if we find out, we forget to learn from our mistakes. A day without these features is like paralyzing the human brain. But why do we rely so much on keypad applications? Many problems may arise due to the same if not prevented on time.

3.1 Language Learning
How far are these features helping us understand the correct use of language? They are just covering up our lack in language understandability and implementation. Some of the traits of the problem can be found in our day to day life. People find it difficult to even type an easy, grammatically correct sentence.

The reason is lack of proper knowledge in language, and thus, we take external help of keypad applications to accomplish the purpose by typing smoothly and communicating effectively and efficiently. We try to protect ourselves from the embarrassment of not knowing a particular language in front of others through the app. We do not try to learn from our mistakes as that's a tedious work rather such apps serve our purpose.

With the growing technology, the people find ways and means to use time productively. Such applications save our time and work, so we make use of them.

3.2 Effects on Human Behavior
These applications make us prone to impulsive and thoughtless behavior in our everyday life. Mistyping and grammatical mistakes are easily avoided during an emotional turmoil with the use of predictive typing. Such technologies are training people to be fast but inaccurate.

Having said that, some people are too sloppy to even make use of the keypad applications, rather just type in haze and send the text without realizing if the recipient understands it or not.

4. SURVEY METHOD
4.1 Procedure and Design:
An online survey was done for which we sent a link of the form created on Google drive, on Facebook and WhatsApp. Open ended questions were designed. Few questions were extended by text field for input from participant side. After submitting the form the data was saved in a spreadsheet

template in Google drive. Our basic objective was to find out the liability and the severity of the problems. There was a positive reply from the respondents.

Let participate think their view, both in objective and subjective way because we were interested in getting participants' reactions to the level where they being real user give their current input as per the experience they had till now and future scope with more betterment in the application with the latest features.

4.2 Measures:

Both objective and subjective measures were used. One objective measure was, for the basic set of questions, whether participants gave their yes/no input as per the function of the keypad application feedback. For the productive set of questions, we measured levels of usage and advantages participate achieved from predictive typing features in their Keypad application.

The primary subjective variables in the questionnaire were the responses to the individual items in the question and the answers to the questions posed by us.

5. RESULTS

A. Questionnaires along with Pie Charts and Tables:

5.1 Occupation

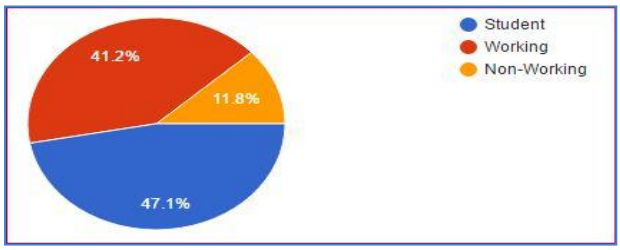

Fig1.Respondent Demographics.

TABLE I Respondent Demographics

Working	*7*	41.2%
Non-Working	*2*	11.8%
Student	*8*	47.1%

5.2 Do you have a smart phone?:

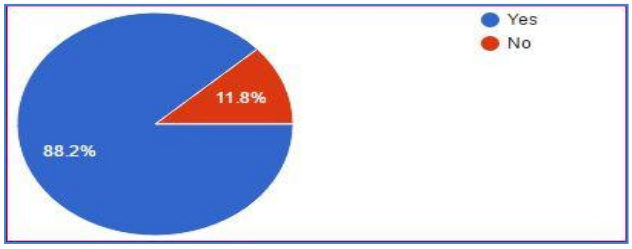

Fig. 2. Respondents having a Smartphone.

TABLE II NO. OF RESPONDENTS HAVING A SMARTPHONE

Yes	***15***	88.2%
No	***2***	11.8%

5.3 Do you use any Keypad Application ?

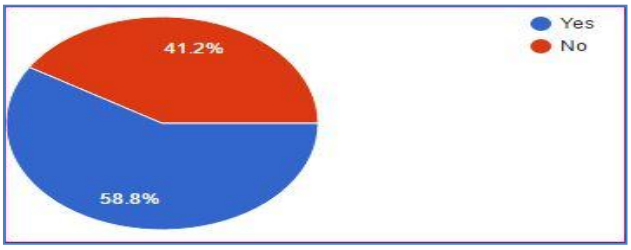

Fig. 3. Respondents using a Keypad Application.

TABLE IIINO. OF RESPONDENTS USING A KEYPAD APPLICATION

Yes	***26***	**72.2%**
No	***10***	**27.8%**

5.4 Which keypad app do you use most often?:

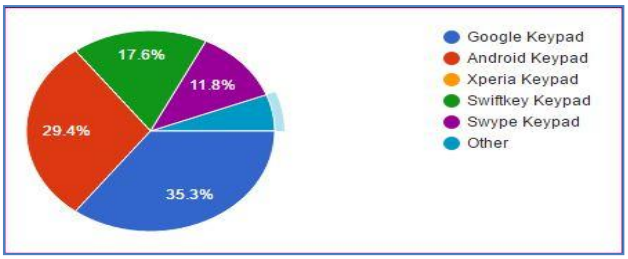

Fig. 4. Respondents using various keypad apps.

TABLE IV NO. OF RESPONDENTS USING DIFFERENT KEYPAD APPS

Android Keypad(Default Keypad)	**5**	**29.4%**
Google Keypad	**6**	**35.3%**
Xperia Keypad	**0**	**0%**
Swiftkey Keypad	**3**	**17.6%**
Swype Keypad	**2**	**11.8%**
Other	**1**	**85.9%**

5.5 Which is your default keypad app currently?:

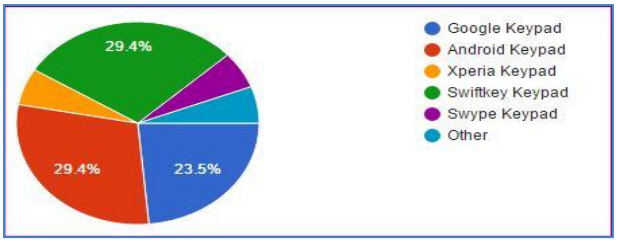

Fig. 5. Default Keypad App of the Respondents.

TABLE V DEFAULT KEYPAD APP OF THE RESPONDENTS

Android Keypad(Default Keypad)	***19***	**52.8%**
Google Keypad	***6***	**16.7%**
Xperia Keypad	***4***	**11.1%**
Swiftkey Keypad	***3***	**8.3%**
Swype Keypad	***1***	**2.8%**
Other	***3***	**8.3%**

5.6 How do you enter text using keypad?:

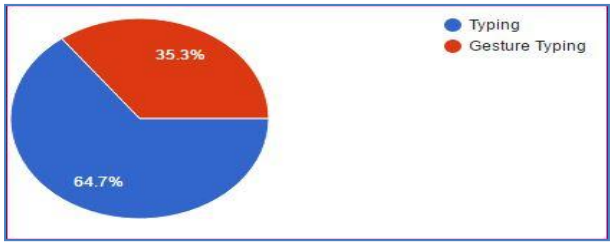

Fig. 6. Respondents' mode of entering text.

TABLE VIRESPONDENTS' MODE OF ENTERING TEXT

Typing	***11***	**64.7%**
Gesture	***6***	**35.3%**

5.7 A feature in which an application predicts the rest of the word a user is typing is known as _____?:

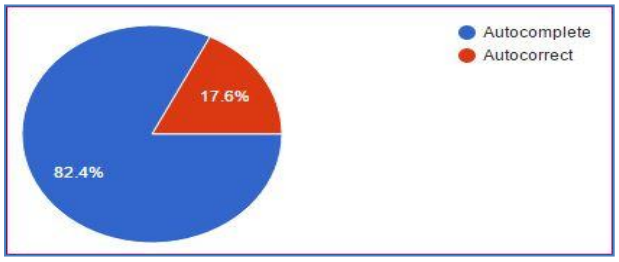

Fig. 7. Feature predicting rest of the word.

TABLE VII FEATURE PREDICTING REST OF THE WORD

Autocorrect	***3***	**17.6%**
Autocomplete	***14***	**82.4%**

5.8 A feature to correct common spelling or typing errors, saving time for the user is known as _____?:

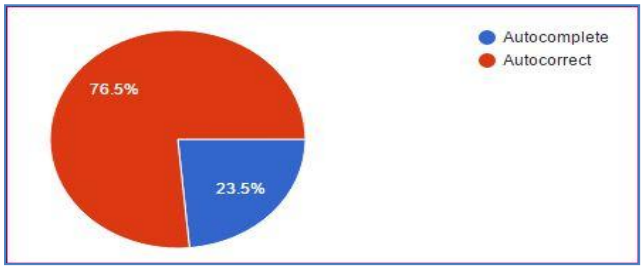

Fig. 8. Feature correcting common typos.

TABLE VIII FEATURE CORRECTING COMMON TYPOS

Autocorrect	***13***	**76.5%**
Autocomplete	***4***	**23.5%**

5.9 How many times does it happen that you want to type something, but something else is typed?:

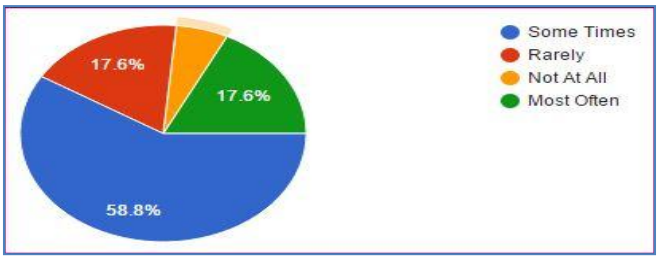

Fig. 9. Occurrence of Mistyping

TABLE IX OCCURRENCE OF MISTYPING

Most often	**3**	**17.6%**
Sometimes	**10**	**58.8%**
Rarely	**3**	**17.6%**
Not at all	**1**	**5.9%**

5.10 How do you feel when you witness the above scenario?:

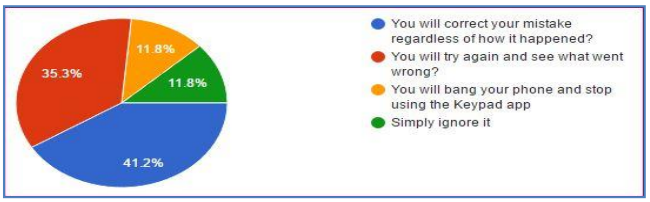

Fig. 10. Respondents' behavior after Mistyping.

TABLE X RESPONDENTS'BEHAVIOR AFTER MISTYPING

You will try again and see what went wrong?	***6***	**35.3%**
You will correct your mistake regardless of how it happened?	***7***	**41.2%**
You will bang your phone and stop using the Keypad app	***2***	**11.8%**
Simply ignore it	***2***	**11.8%**

5.11 Find the correct word and write its meaning in 'Other' tab:

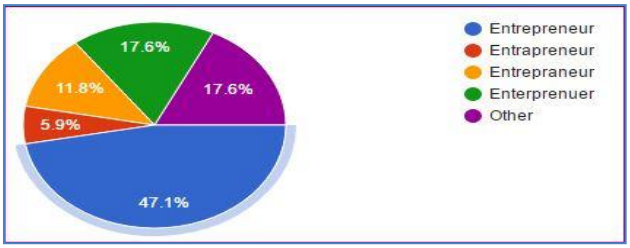

Fig 11 Writing the meaning of the correct word.

TABLE XIWriting the meaning of the correct word

Entrepreneur	***8***	**47.1%**
Entrapreneur	***3***	**5.9%**
Entrepraneur	***3***	**11.8%**
Enterprenuer	***2***	**17.6%**
Other	***1***	**17.6%**

The correct word was *Entrepreneur* and it was seen that 38.8% respondents could crack it.

5.12"You need not come unless you want to":

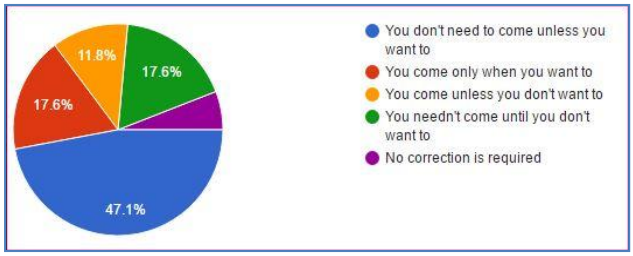

Fig. 12. Choosing the nearest sentence to the given idiom.

TABLE XII CHOOSING THE NEAREST SENTENCE TO THE GIVEN IDIOM

You don't need to come unless you want to	***8***	**47.1%**
You come only when you want to	***3***	**17.6%**
You come unless you don't want to	***2***	**11.8%**
You needn't come until you don't want to	***3***	**17.6%**
No correction is required	***1***	**5.9%**

The nearest meaning was *You don't need to come unless you want to* and it was seen that 44.4% respondents could crack it.

5.13 1) I 2) help 3) not 4) you 5) did:

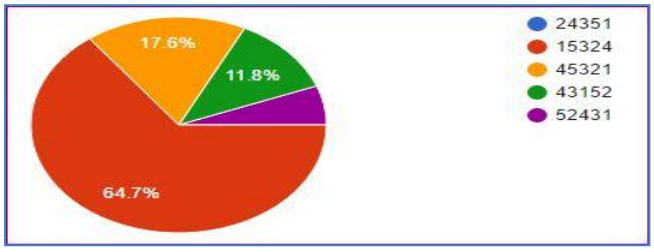

Fig 13 Choosing the correct order of words.

TABLE XIII CHOOSING THE CORRECT ORDER OF WORDS

24351	***0***	0%
15324	***11***	64.7%
45321	***3***	17.6%
43152	***2***	11.8%
52431	***1***	5.9%

The correct arrangement was *15324* and it was seen that 91.7% respondents could crack it.

5.14 Do you think Keypad apps help in improving your Writing skills?:

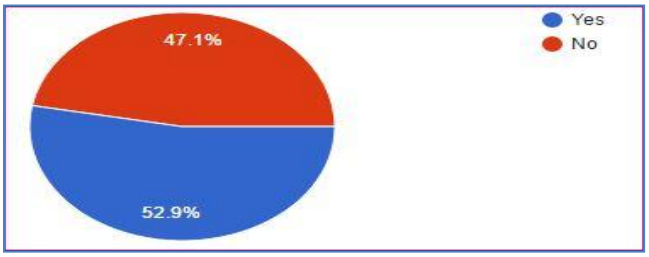

Fig 14.. No. of Respondents thinking Keypad apps improve Writing Skills.

TABLE XIV NO. OF RESPONDENTS THINKING KEYPAD APPS IMPROVE WRITING SKILLS

Yes	***8***	47.1%
No	***9***	52.9%

5.15 WHAT IS THE IMPACT OF KEYPAD APPS ON YOUR VERBAL COMMUNICATION?:

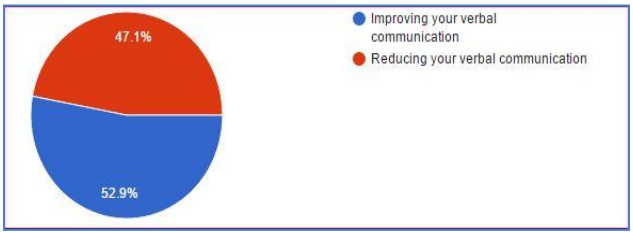

Fig 15 Impact of Keypad Apps on Respondents' Verbal Communication.

TABLE XV IMPACT OF KEYPAD APPS ON RESPONDENTS' VERBAL COMMUNICATION

Improving your verbal communication	***9***	47.1%
Reducing your verbal communication	***8***	52.9%

The above analysis showed that the anticipated problems exist in the real world. And thus, their solutions were found as follows.

6. SOLUTION

The problems could be solved in many ways, either we could tackle it or we could simply avoid it altogether. Some of the solutions we could track down were as follows:

6.1 Education

It is found out that the people didn't have much knowledge of language, so they are needed to be educated, but that was not much feasible.

6.2 Multilingual Feature

Adding a multilingual feature in the keypad application, so if one doesn't know about the required language can still communicate smoothly, this solution was comparatively feasible for the first but yet not applicable in learning a Language in its entirety

6.3 E-learning feature

With this feature on, would pinpoint the user on making mistakes by alerting the user with a sound or highlighting the text and correcting it before sending to the recipients. Here, the response rate is given lesser priority over language learning.

6.4 Use of text-to-speech

Using this technology in keypad application would certainly avoid the problems altogether.

These were the temporary solutions which would be effective until we find out the real nature of the problem. On in all we also found out that there were still many people who were either unaware of these latest apps or even after knowing were not using them. There were few who were even fine in sending misspelled texts over to the recipients, as they felt that now everyone is used to such communication.

With limitation in research, it is found that mixed reaction from the respondents; some said Keypad Applications helped them increase their knowledge of oral and written communication, while some said the other way around.

Life has got great effects of technology and it all depends on how the technology is being used. If the use of technology in the negative way, then it is the most harmful way of human life. And if it is used for the welfare of the people, then it can prove to Bea boon to mankind. According to us technology is an endless field of creations and inventions.

Technology has helped in increasing the speed of communication and decreasing its cost. However, at the same time it has even caused people to become more impersonal with each other.

The over dependency has developed on the technology and is the cause for an alarm. It is driven by technology as opposed to the other way around and by unplugging technology means unplugging the human-being.

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