*Nasir Mahmood, PhD**
*Sidra Tahir***
*Sumbal Asghar****

Influence of SMS (Short Message Service) Language on Academic Writing of Post-Graduate Students

■ Introduction

"Hi! hw r u? I m f9 n a lil bit bzy 2day btstilwna meet u 4 datwrk @ 12".

I f you cannot understand the above sentences, then you most likely have not been exposed to the newly born language of the 21st century and it is not your fault because this new century has brought a remarkable technological revolution in the means of communication that has introduced the world with a new term "global village". The building of global village is standing on the pillar of technology that has connected its inhabitants through means of communication. Now, people can communicate with one another within a few seconds by using new and modern invention like mobile phone that has opened a new door of communication through means of writing, but, without using paper and pencil and this way of communication is called "texting". Texting is the most recent

*   Professor of Education, Allama Iqbal Open University, Islamabad, Pakistan
** Graduate, Institute of Education and Research (IER), University of the Punjab (PU), Lahore, Pakistan
*** Visiting Faculty, IER, PU, Lahore, Pakistan

form of current technology by which people can rapidly and easily send and receive messages. The change in form of electronic gadgets and the growing speed of internet had been catalytic in reshaping the length and form of electronic messages; as it got shortened from a lengthy electronic mail to instant message (IMs) on internet, then to, SMS (short message service) on cell phones.

It's the universal truth that all the living languages change in terms of words, phrases, etc through coining and borrowing, according to different cultures and geographical venues. Baron (2000) says that "Trying to standardize language once and for all is like trying to stop the tides". At the end of 21st century, the way electronic gadgets got smaller, language too became short in form and took the shape of abbreviated language that is known as "SMS language".

SMS language is a deviated form of standard language. It consists of incomplete sentences, informal structure and misspelled words. The obvious reason behind the usage of this sort of abbreviated language is to save time, money, space and effort. If a person wants to convey this message that "I am coming", he can abbreviate the complete sentence with a single word "cmng" which gives the same meaning. In this way the sender can save time, money and effort. The credit of invention of this new SMS language goes to the teenagers of 21st century who do not feel comfortable in sending complete and long sentences. They prefer communicating longer concepts in fewer words by means of SMS.

■ Theoretical Framework

Change is the only constant and language is not an exception, therefore, in this technology advanced world and era of globalization, the language form has experienced shifts mediated by technological advancements in mobile technologies and frequent interaction among speakers of different languages. The changes caused by SMS language has

negligible or no influence on the lexical, syntax, and morphology of English language but added use of abbreviated/short form by mixing symbols, numeric, emoticons and signs in the existing vocabulary and sentence structures. Traditional models of language change rarely address language change in this context. Thus Technology-conditioned approach to Language Changeand Use' (TeLCU) proposed by Bodomo and Lee (2002) seem relevant model for using as framework to explain this change.

Figure-1: Technology-conditioned approach to Language Change and Use (TeLCU)
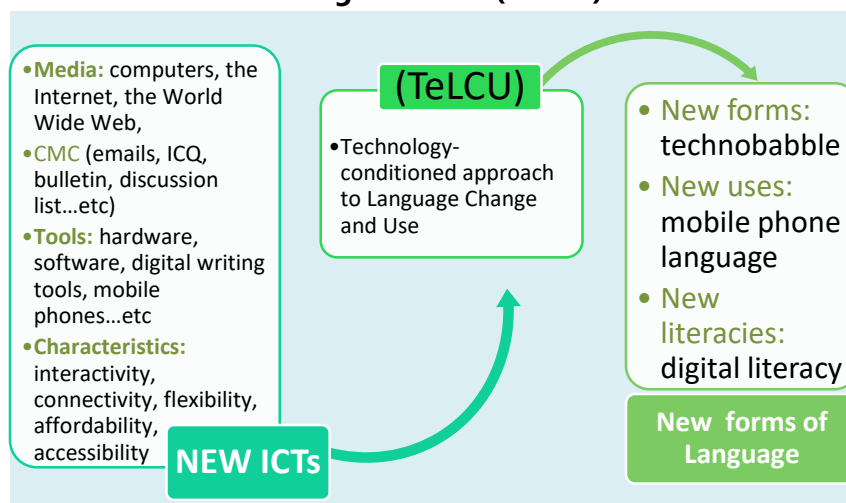
The model proposed a causal relationship between the emergence of new information communications technologies (ICTs) and new forms of language and literacy. TeLCU model explains new forms of language, for example, technobabble which includes e-terminologies, acronym and abbreviations used in cyber talk, and mobile phone language (Gilster, 1997). The model proposed media, CMC, ICT tools, and their characteristics as input (new ICTs) causing change in language its uses. The outcome of the process is new forms of language

different than existing expressions but understandable for users.

■ Language Change: Impact of SMS on Language in Context

Change is aninevitable phenomenon of life. It occurs in all living things and as language is a living entity it also adopts certain changes with the passage of time. Different new words, new expressions and new ways of description come into being with each generation of speakers. Languages keep on changing with the passage of time. The main agents of change in language are ***geographical***, ***linguistic*** and ***cultural***.

Within these broader agents of change there are more specific factors relevant to the kind the influences caused by SMS language in change. In case of SMS language the *admixture* is the most influential ***geographical factor***. Admixture means a process in which some elements of two languages or dialects get mixed up with passage of time by its users and it causes change in language. This happens when people of different geographical areas come into contact with each other and they try to accommodate their languages so that they can communicate with one another successfully and consequently it results in admixture.

Linguistic factors which contributed in SMS language are ***coinage, borrowing, compounding, blending and acronyms. Coinage*** is a common process that causes change in language by adding new terms (Yule, 1996). The main factor behind coinage is the new trade names for different products that are commonly used in the society. ***Borrowing*** is a process whereby bilingual speakers introduce

words from one language into another language, and these loan words eventually are accepted as an integral part of second language (Trudgill, 1992). ***Compounding*** is combining of two separate words to form a single word. ***Blending*** is a process in which two separate words/signs are combined together to make a new word in such a way that the beginning of one word is taken and joined with the end of other word. ***Acronym*** is the initial letters of compound words taken and pronounced like a single word such as the acronyms.

The ***cultural factors*** behind SMS language include *Globalization and Multilingualism.* Globalization is a process of interaction and integration of people with each other despite the cultural and geographical dissimilarities caused by international trade, business communication and information technology. It has deep effects on human life, environment, culture and the most prominent change that has occurred due to this globalization is change in language. Multilingualism is a process which promotes the use of multiple languages, either by individuals or by a community of speakers (Trudgill, 1992). In multilingual situation, many languages come into contact with one another and it causes a number of changes in these languages as certain elements of them intermingle due to the language mixing processes such as code-mixing and code-switching where speakers mix the languages according to their needs and choices. It happens due to the rapidity and diversity of such people who know and use more than one language.

SMS language has made use of the above mentioned agents of language change in a very loose manner which is in conformity with an ever growing opinion that variation in sentence structure, shortened spelling and use of incorrect grammar is acceptable form of language as long as the

intended communication occurs. This has interesting implications for the future shape of the language.

■ Is Language more than Communication?

The intent of this section is to clarify the difference between communication and language to debate the notion of "SMS language". An example from Mayor and Pugh (1987) can be helpful in highlighting the difference.

Let us suppose for a moment that we are in a grove of Acacia trees on the Savannahs of East Africa. In the trees above our heads, there is a group of common African green monkeys, sometimes called the vervet. Suddenly, a huge eagle swoops down on the vervet. The first vervet that sees the approaching eagle, gives an alarm bark and at the end of this vocalization all the vervet monkeys suddenly drop from the branches of the trees to the ground.

Consequently, we witnessed that the alarm bark served as a source of communication between the monkeys. We observed that there was an effective communication between the monkeys as the message was clearly sent and swiftly received as well by means of a source, but the question arises here is that can we call this sort of communication or source a "language"?

Linguists usually label it as a system of vocalization (Crystal, 2001) but not a language as it was confined to a sound only, and the basic elements of language were missing such as lexicology, morphology, syntax, etc (Crystal, 2001; Finch, 2003; Fouser, Inoue & Lee, 2000). Without the presence of such important elements of language, communication cannot be entitled as "language". Thus any communication without

lexicology, morphology, syntax etc, cannot be regarded as language.

Language is not only a bridge between individuals that makes them able to stay connected with their societies but also a package of phonology, morphology and syntax (Labov, 2000; Werry, 1997; Gee, 1996). Communication may occur with or without formal language. As we see that on personal level, in day-to-day communication use of standard language may not be apparently so important but as far as formal context is concerned use of standard language becomes inevitable. Educators lead this example in a way that while checking the language tests of students they can never accept any kind of informal abbreviations such as SMS language. It cannot be acceptable for writing any kind of legal document and/or any formal communication. Therefore, the debate about SMS language brining any language change at phonology, morphology and syntax level is less likely but has surely influenced informal oral communication. The slogans like 'SMS language' (Grinter & Eldridge, 2003) raised in recent literature reflects mere optimism by researchers overwhelmed by the excessive visibility of SMS language and bulk of debates appearing in literature. In sum, informal communication traditions can bring change day-to-day communication but can rarely be the alternative of "language". Similarly, SMS has also forced countable changes in the existing informal use of language.

■ Different Forms in which SMS Affected English Language

The texting interface presents the user with an asynchronous medium similar to email, allowing time for composition and

reflection (Mphahlete&Mashamaite, 2005) and the opportunity to manage the way users construct and present themselves in their messages (Chenault, 1998; Danet, 1995; Ling &Yttri, 2002). SMS language developed out of the need of rapid-fire communication, necessitated by the demands of communication via a cellular telephone (Crystal, 2001). SMS offers its users to experiment with the language. It appears as a very exciting and a creative form of communication by which they can show their own innovations. There are some features of this novice language synthesized from available literature:

i.   It has given phonetic awareness to the teenagers who use SMS language with phonetic creativity. For instance," U" replaces full form "You", "8" is used in place of the word "Ate", in the same way, "Wait" and "Late" become "W8" and "L8" respectively.

ii.   Another distinctive feature of SMS language is the use of "short and full words". For example, while using SMS language, words like "Sky", "Hold", cannot be shortened so they are written with complete spellings and example of short form is "are" which is turned into "r" in SMS language.

iii. In SMS language, vowels are usually omitted to make the words short such as "Pls" instead of writing full word "Please" ,"Cls" in place of "Class", "Clrly" for "Clearly", etc.

iv.   Use of symbols in place of proper words which match with the pronunciation of words is very common in SMS language such as the use of symbol " :) to express happiness, then use of symbol " @" instead of the word "at", use of symbol "&" in place of "and",etc.

v.   In SMS language, numbers are mostly used for different prepositions like "2", "4" in place of "to' and "for" respectively.

vi.   Another unique feature of SMS language is that in it extended "Initialism" is used. For instance," by the way" becomes "BTW", "have a nice day' becomes "HAND in it.

vii. Use of logograms is another unique characteristic of SMS language. For instance "CU2nite" for a complete phrase "see you tonight", etc.

viii. SMS language is "syntaxless" most of the time as it does not follow any grammatical rules. While using this language you can replace a whole phrase or sentence sometimes with a single word, for example;"Cmng" can be used instead of a phrase "I' am coming", 'Home' for "at home".

ix. It is free from the boundaries of "punctuation and capitalization".

x. Most of the times SMS users mix two or more languages to convey the message successfully and easily. For example, the use of Roman Urdu, "Mera wait mat karna", this kind of language is the mixture of two languages; Urdu and English and it is called "code-mixing".

After viewing a number of features of SMS language, we come to the conclusion that SMS language is a completely deviated form of Standard English in terms of its phonology, morphology, syntax and semantics. The promoters of SMS language are teenagers and youth of 21st century who consider it their style. Moreover, they find it easy to compose and read as well as time and money saving.

It cannot be said that it has affected English language or has added something new rather it is considered a new and separate language by linguists (Bodomo, 2007; Claridge, 2004) researchers and English language teachers who confine it to the mobile phone only and do not give any status to this language. Now the question arises here is whether the students (who use it more and more being the youth) confine it to their mobile phones only or they use it in their academic field as well? Through this research, it is tried to find the answer to this question by inquiring the forms and extent to which interfering has occurred. The foremost

purpose of this study is to explore the influence of SMS language on academic writing. Moreover, it will explore the creativity of students in abbreviating a standard language and finally this research will in assessing whether the use of abbreviations has any kind of effect on students' academic writing, if yes then to which extent. The problem will be dealt with by exploring the frequency of SMS usage by the postgraduate students, ascertaining the linguistic nature of SMS language used by postgraduates' while using SMS communication.

■ Methodology

This study was descriptive in nature, focused on exploring the rapidly growing influence of SMS language on the academic writing of students at post-graduate level. Therefore it was assumed that relevant information about the current situation can be obtained from postgraduate students through a questionnaire and evaluating their academic writings e.g. hand written lectures (notes) which were the main source of data collection and information about the present study.

☐ *Participants of the Study*
Considering the complexity of acquisition and analysis of data, researchers decided to take an intact class of master levelfrom a public sector university. There were 25 students in the course of English Language Teaching and Linguistics. All students consented to participate in the study.

☐ *Sources of Data*
The data for the study was collected using a questionnaire and class notes of sampled students. The questionnaire was used to collect data on five aspects influencing use of SMS language i.e. frequency of use of SMS, content of exchanged messages (nature of messages), extent of use of

formal/abbreviated language, and creativity in messages.

The data collected was analyzed for change induced in five aspects of use of English language i.e. lexicology, morphology, syntax, code-mixing and use of symbols. Table 1 describes the detail of the constructs, description of constructs and indicator used to measure each construct.

Table-1: Constructs, Descriptions and Indicators used as Framework for developing questionnaire

Construct	Description	Indicators
Frequency of use of SMS	Number of Messages sent or received per day by the service user.	1. Tele-communication provider 2. Type of Package 3. To whom the messages are sent the most 4. Number of average messages sent per day
Nature of Messages	What kind of content is included in the messages: • Self-written messages • Forward messages	1. Type of SMS 2. Content of SMS 3. Average Length of Content
Language of Messages	What type of language is used for messaging: Complete/Abbreviated The degree to which the language of forward and self-written SMS is deviated from formal language.	1. Language of sent and received SMS 2. For whom abbreviated language is used the most 3. From whom this language is being learnt
Tendency of using SMS Language	Youth is fond of using short writing impression as their style and its popularity is increasing day by day.	1. Personal interest in messaging and using abbreviations in SMS
Purpose of using abbreviated language	Attitude and motives of the SMS user towards the usage of abbreviated language	1. To save money, time and space 2. To communicate longer concepts in fewer words.

In addition to questionnaire, students' hand-written work was collected for analyzing extent of presence of SMS language in academic writing. During class lecture students are under pressure or in hurry to note important points of

the lecture in their own language in limited time, thus increasing the chance of using SMS language spontaneously in their write-up if it has become part of their English language. The data of class notes were used to assess the extent to which SMS language has induced change in their use of language in academic usage.

■ Results

□ *Comparative use of abbreviation in academic and SMS writing*

Students were given two messages in the questionnaire and asked to rewrite them using SMS language. Class notes of the students were also collected as a representative piece of academic writing. The data was analyzed to count the percentage of SMS abbreviations used in academic writing (class notes) and SMS messages by applying Spearman-Rho coefficient of correlation. There was a significant moderate relationship (N=25, r= 0.428, p= 0.033) between use of abbreviations by the students in both type of writings i.e. the student having greater tendency of using self-written SMS are more probable to use abbreviated language in their academic writing.
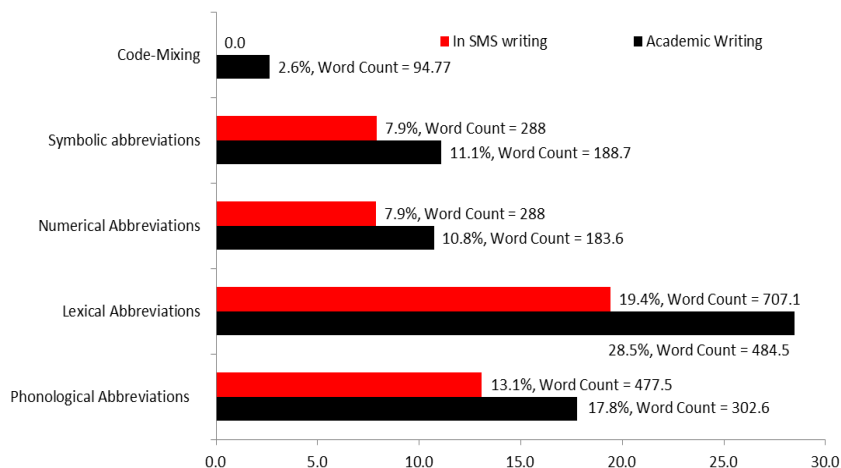
Figure-1: Comparison of use of abbreviations by student in academic language and SMS composed

The abbreviations are classified in various language forms as shown in figure 1. There was a correspondence between the percentages of use of SMS related abbreviations. Students used 49% (N=25, Total number of words=1700) and 54% (N=25, Total number of words=3645) abbreviations in the messages rewritten in SMS language and academic writing (class notes) respectively.

☐ *Variation in use of SMS language in different type of messages*

Table-2: Comparison of students mostly 'forwarding SMS' and sending 'self-written SMS' in their use of SMS language in academic writing

Aspects of English Language	SMS practice	N	Mean Rank	Sum of Ranks	Mann-Whitney U	Wilcoxon W	Z-value	Sig.
Lexical Abbreviations	Forward SMS	8	6.81	54.50	18.500	54.500	-2.898	**.004**
	Self-written SMS	17	15.91	270.50				
Phonological Abbreviations	Forward SMS	8	6.44	51.50	15.500	51.500	-3.076	**.002**
	Self-written SMS	17	16.09	273.50				

Aspects of English Language	SMS practice	N	Mean Rank	Sum of Ranks	Mann-Whitney U	Wilcoxon W	Z-value	Sig.
Numerical Abbreviations	Forward SMS	8	10.56	84.50	48.500	84.500	-1.258	.208
	Self-written SMS	17	14.15	240.50				
Symbolic Abbreviations	Forward SMS	8	13.25	106.00	66.000	219.000	-.131	.896
	Self-written SMS	17	12.88	219.00				
Code-Mixing	Forward SMS	8	13.00	104.00	68.000	221.000	.000	1.00
	Self-written SMS	17	13.00	221.00				

Table 2 shows that students who use self-written SMS are more likely to learn SMS language as compared to those who practice forwarding already composed messages. Mann-Whitney U test was conducted to compare the extent of use of SMS language by aspects of English Language. The students inclined to use self-written messages were statistically significantly making greater use of lexical and phonological abbreviation in their use of English language.

The analysis of class notes revealed that students make two types of modifications Lexical abbreviations i.e. shortening of words by eliminating vowels such as using "bcs" instead of because or "prty" for party etc. and using short forms of commonly used phrases such as "by the way" becomes "BTW", "have a nice day" becomes "HAND" etc. Another form of SMS language exhibited in modification of words based on sound or pronunciation (phonological abbreviations). The students tended to use "thanx" instead of "thanks", "nva" as replacement of 'never", "u" in place of "you" etc. Numerical Abbreviations are also very popular form of modification caused by SMS intervention in language use. The analysis of class notes demonstrated use of numerical abbreviations in place of prepositions and words such as "2" in place of "to", "4ward" instead of "forward" and etc. As far as symbolic abbreviations another form of modification induced by SMS language in the analyzed text. Students used certain symbols such as "&" in place of "and", between becomes "b/w" and etc. Code-Mixing was the last form of modification prompted by SMS

language in use of English by students. In this regards Code-Mixing consist modifiers in two types of mixing in language for self-convenience of the users.

☐ *Tendency to use SMS language in standalone vs. conversational message user*

The sampled students were categorized on the basis of sending standalone messages (sent message was not a response to a received message or was followed by subsequent messages related to earlier message) and conversational (messages which are part of a sequential exchange) messages. The sample students were labelled in any of two categories on the basis of frequency of reported use of standalone and conversational messages.

Table-3: Comparison of students engaged in 'standalone' or 'conversational' messages on their use of SMS language in academic writing

Type of use of SMS	N	Mean Rank	Sum of Ranks	Mann-Whitney U	Wilcoxon W	Z-value	Sig.
Standalone	11	7.32	80.50	14.500	80.500	-3.423	**.001**
Conversational	14	17.46	244.50				

Mann-Whitney U test was conducted to test the difference in the use of SMS language by two types (standalone and conversational) of SMS users. The results revealed statistically significant difference in favor of conversational SMS users in use of abbreviation language. Therefore, it can be concluded that frequent use of self-written conversational SMS engage students more intensely in using abbreviations in their SMS write-up which ultimately takes the form of second nature leading to spontaneous use of abbreviations in formal writings.

93

☐ *Effect of length of self-written SMS on use of SMS language in academic writing*

The students were asked to classify their written SMS by average length of messages they write. The categories of length were based on the cost incurred on sending an SMS i.e. upto 160 characters means a single message (in-terms of cost incurred), 305 characters is considered as two messages (in-terms of cost incurred).

Table-4: Effect of average length of SMS on the use of SMS language in academic writing

Mean length of self-written SMS (character count)	N	Mean Rank	Sum of Ranks	Mann-Whitney U	Wilcox on W	Z-value	Sig.
1-160 characters	16	11.84	189.50	53.500	189.500	-1.048	**.295**
161-305 characters	9	15.06	135.50				

The practice of writing SMS of varying length seems to not influence the use of SMS language in academic writing. There is no statistically significant impact of length of written messages on development of habit of using SMS language in academic writing but the difference in mean ranks in table 4 indicates that percentage of SMS language observed in the academic writing is more for students used to write relative lengthy SMS but it cannot be statistically attributed to tendency of writing lengthy messages.

☐ *Sources promoting the use of abbreviated language*

The analysis above makes it evident that academic writing is influenced by the use of SMS, particularly when students get engaged in self-written SMS in conversational format and tend to write lengthy messages. There are several sources

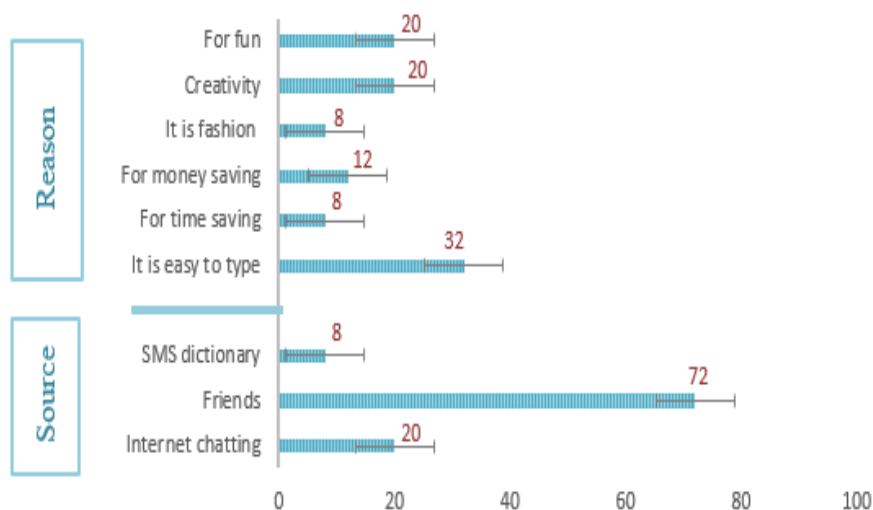available to students which act as catalyst in promotion of SMS language.

Figure-2: **Sources of learning and reason for using SMS language reported by Students**

With the increasing trend of using SMS language in written communication, commercial enterprises have developed SMS dictionaries but they still does not seems a popular source of promoting SMS language. Students predominantly learn SMS language through interaction with friends. The main reason of using SMS language is ease, fun, creativity and students' concern of saving money. Shortening of words cost less as mobile providers cost by characters used in a message.

◼ Conclusion and Discussion

It is important to dispel at the outset that the discussion in favor or against the changes forced by SMS language in the form of lexical, phonological, numerical, symbolic and code-mixing variations is beyond the scope of this research. The discussion is thus limited to manifests of SMS language on academic writing of students, its sources and reasons.

The findings are quite evident that greater use of abbreviated language in SMS is reflected in academic writing but the causes are not same as traditional transformation in languages. Therefore, it can be argued that SMS language may not readily be in state to be labelled as a 'language' but it potentially has shown influence on some important aspects of English language such as spelling, phonology and morphology.

The effects are not constrained to SMS use in social messaging through mobiles but has visibly influenced the academic writing of students. It does not follow the language transformation/ development theories (Labov, 2000; Barton, 2001; Clark & Brennan, 1991) instead the roots of SMS influence rests in advancement of communication technologies, convenience of use and cost effectiveness as reported in the findings of this research. Moreover, it is excessive practice of SMS language which becomes second nature of the user and spontaneously manifests in their academic writing. It is pertinent to contextually discuss the expected manifestation of SMS use bearing implication on linguistic, educational and technological adjustments needed to account for expected modification academic writing for the years to come.

■ Linguistic Aspects

SMS use as deteriorated the formalness of the language is held by a considerable number of researchers (Boyd, 2003; Humphrys, 2003; Bodomo, 2004; Crainer & Dearlove, 2004; Jupp, 2004). The use of abbreviations, numeric and code-mixing is taken as a threat of the existing language and assumed as deterioration instead of innovation or part of natural process of change. Anything align to standard language is regarded as deterioration as reported as a proof without in-depth investigation, have over-simplified the situation. The present study has shown that SMS users demonstrate a high degree of innovativeness and creativity (Bodomo, 2004) and text message users show how successfully they adapt and use the language in new situations and develop creative ways of using it. The challenge is not the innovation or creativity but how to channelize these to not interfere with academic writing and over simplify the phonological, lexical and semantic basis of the language.

■ Implications for Teachers

The educational setups have already started utilizing technological tools in formal teaching and learning scenarios. The challenge for English language teachers is to support the use of technological tools in classroom but restrain the students from using abbreviated language to the extent that it hiders their learning of phonetics, semantics and lexical structure of language (Murray, 2000; Greenfield, 2003). The struggle between 'SMS language' which has already been accepted in community as convenient, cost effective, understandable tool of communication (Bodomo & Lee, 2002; Crystal, 2001; Bodomo, 2002a) and 'standard

language' as competing phenomenon need to be thought about as supplementary developments to strengthen the efficacy of language as tool of communication. The immediate call for teachers is draw a line for extent of lexical, phonological, morphological and semantic limits such that SMS language does not force a compromise on underlying principles for any communication tool to be attributed as 'language'.

The teachers need to grasp the global view of forms in which language is practiced in society including the SMS influences. The state of denial to all other forms except standard language may complicate the situations and give rise of internal confusions in learners about utility of language principles. Instead of avoiding SMS forms of vocabulary, symbols, numeric expression and mixed forms, teachers should incorporate the accepted new forms in their teaching. At this junction of learning students need a support to integrate emerging form of language use in their standard language to resolve confusions faced by them. Instead of prohibiting the use of SMS language, educating students to judiciously use it in academic writing can be a helpful strategy in promoting language learning among students (Street, 1997; Bodomo, 2004).

■ Future Technology Tools

The use of SMS dictionary is not a popular phenomenon at the moment but it is very likely that users will turn towards consulting SMS dictionary as the SMS vocabulary grows and needs for standardization evolves in its natural course. The technology providers can be supported by the linguists at this stage to incorporate the acceptable modification only in

the SMS dictionaries to curtail the detrimental (as called by some linguists) modification forced by SMS users in the standard language. The contemporary approach of denial and isolation on the part of linguists may further worsen the situation from their point of view. It does not need an advocacy to create opening for joint platforms for discussing the SMS reality and developing consensus on dealing with this challenge.

The future mobile phones need to provide strong inbuilt support to the users to encourage use of standard language with additional convenience, cost and time consumption. Such efforts are already underway as inbuilt dictionaries are available mobile phone software to assist in identifying the right vocabulary with minimal input from users which will obviously become more specific, comprehensive and convenient with passage of time. This will mitigate the need for abbreviated language and compromise on lexical, phonological, morphological and semantic aspects of language use to being compatibility in SMS and standard language.

The above mentioned software related modifications can be supplemented by producing mobile technologies using touch screen inputting methods to avoid cumbersome typing practice. The lesser reliance on keyboard input devices will reduce the input burden on users and provide convenient options of using improved dictionary support etc. for selection of standard language. Moreover, devices within built capacity of speech recognition software at affordable prices can also facilitate the users in composing their SMS and automatically reduce the influence of abbreviated language which will ultimately contribute in keeping the use of standard language in business.

■ References

Baron, N. S. (2001). *Alphabet to Email: How Written Language Evolved and WhereIt's Heading.* London and New York: Routledge.

Barton, D. (2001). Directions for literacy research: analyzing language and socialpractices in a textually mediated world. *Language and Education,*15 (2&3), 92-104.

Bodomo A.B. (2007). Mobile phone texting in Hong Kong, In: David Taniar,*Encyclopedia of Mobile Computing and Commerce.*

Bodomo, A. (2002). *SMS Corpus.* Hong Kong: University of Hong Kong.

Bodomo, A. (2004). *Survey Report for the Project 'Communicating in the Age of Information Technology: New Forms of Language and their Educational Implications'.* Hong Kong: University of Hong Kong.

Bodomo, A. B. &Lee, C. K. M. (2002). Changing forms of language and literacy: techno babble and mobile phone communication. *Literacy and Numeracy Studies*: *An International Journal in the Education and Training ofAdults,*12(1), 23-44.

Boyd, B. (2003). Talk is a CWOT when you can txt; Is the text message language of 'globespeak' bringing about a permanent change in the way human beings interact, asks Brian Boyd. *Irish Times.* Dublin: Oct 11, 2003. 54.

Chenault, B. G. (1998). Developing personal and emotional relationships via computer-mediated communication. *Computer-Mediated Communication Magazine* [online], May, 1998. Retrieved from

http://www.december.com/cmc/mag/1998/may/ chenault.html

Claridge, A. (2004). English no problem for cell phone texters. *The Press*. Christchurch, New Zealand: Apr 28, 2004. A. 8.

Clark, H. H. & Brennan, S. E. (1991). Grounding in Communication. *Perspectiveson Socially Shared Cognition*. L. B. L. Resnick, John M & Teasley, Stephanie D. Washington, DC, American Psychological Association: 127-149.

Crainer, S. & Dearlove, D. (2004). Making yourself understood. *Across the Board*, 41(3), 23-27.

Crystal, D. (2001). *Language and the Internet*. Cambridge, UK: Cambridge University Press.

Danet, B. (1995). *Playful expressivity and artfulness in computer-mediated communication. Computer-Mediated Communication* (On-Line)

Finch, G. (2003). *Word of Mouth: A New Introduction to Language and Communication*. Basingstoke; New York: Palgrave Macmillan.

Fouser, R. N., Inoue, &Lee, C. (2000). The pragmatics of orality in English, Japanese and Korean computer-mediated communication. In *Words on the Web: Computer-mediated Communication*, edited by L. Pemberton and S. Shurville. USA: Intellect Books. 52-62.

Gee, J. P. (1996). *Social Linguistics and Literacies*. London: Taylor and Francis.

Gilster, P. (1997). *Digital literacy*. New York: John Wiley & Sons.

Greenfield, R. (2003). Collaborative E-mail exchange for teaching secondary ESL: Acase study in Hong Kong. *Language Learning & Technology*. 7 (1): 46-70.

Grinter, R. & Eldridge, M. (2003). Wan2tlk?: everyday text messaging. In. *Proceedings of the ACM CHI 2003 Human Factors in Computing Systems Conference*, edited by Cockton, Gilbert, Korhonen, Panu. Ft. Lauderdale, Florida, USA. 441-448.

Humphrys, J. (2003). Inside story: texting, lazy jargon, management-speak: never has the English language been so abused. But a new book called Between You and I is pointing out the worst errors – and demanding higher standards. In his introduction John Humphrys explains why bad English makes him cross: not I. It's me. *The Guardian*. Manchester, UK: Oct 20, 2003.

Jupp, A. (2004). Words of doubt at standard of our spelling. *Evening Chronicle*. Newcastle-upon-Tyne: Sep 3, 2004.

Labov, W. (2000). *Principles of Linguistic Change*. Oxford: Blackwell.

Ling, R. & Yttri, B. (2002). Hyper-co-ordination via mobile phones in Norway. In J.E.Katz & M. Aakhus (Eds.), *Perpetual contact: Mobile communication, private talk and public performance* (pp. 139-169). Cambridge: Cambridge University Press.

Mayor, M.&Pugh, A.K. (1987). *Language, communication and education*. U.K: Mackays of Chatham, Ltd.

Mphahlele, M. L., & Mashamaite, K. (2005). The Impact of Short Message Service (SMS) Language on Language Proficiency of Learners and the SMS Dictionaries: A Challenge for Educators and Lexicographers. In *IADIS International Conference Mobile Learning*, (pp. 161-168).

Murray, D. E. (2000). Protean Communication: The Language of Computer-mediated Communication. *TESOL Quarterly*. 34 (3), 397-421.

Street, B. V. (1997). The implications of the 'New Literacy Studies'

for literacy education. *English in Education*, 31 (3), 45-59.

Trudgill, P. (1992). *Introducing language and society.* London: Penguin.

Werry, C. C. (1997). Linguistic and interactional features of Internet Relay Chat. In *Computer-mediated Communication: Linguistic, Social and Cross-Cultural Perspectives*, edited by S. C. Herring. Amsterdam/Philadelphia: John Benjamins. 47-64.

Yule, G. (1996).*The study of language*. Cambridge: CUP.