Diffusing ICT to Enhance Students' Academic writing Skills: An experimental Study at a Business Institute in Karachi, Pakistan

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Abstract: The study was aimed to test the effectiveness of Information & Communication Technology (ICT) to improve students' Academics writing skills. Academics writings are an integral part of syllabus of English in Pakistan where English is taught as a foreign/second language. The idea to use ICT to improve students' essay writing skills came from the increasing use of technology in Pakistan. The Educational system in Pakistan has many limitations which include obsolete teaching methodologies, limitations of syllabus and discouraging environment for the teachers which do not help many of the students to get good skills in writing. It has been observed, all over the world, the ICT has become an important part of education. Teachers use modern means of communication technologies in their teaching practices which help the students to understand the lessons better and their individual skills are enhanced by the help of these tools. However, in Pakistan, only at higher level of education ICT is being encouraged, though, it is not being practiced with full effects. The students after passing their intermediate join universities and degree awarding institutes where they are expected to have good language skills. Unfortunately, their twelve years of education had have not helped them improving language skills and especially their writing skills. The study was conducted in a degree awarding HEC recognized institute, Newports Institute of Communications & Economics, Malir Campus Karachi, Pakistan, where 34 students of BBA & BSCS programmes were selected for the study. The students were given an assignment to complete in eight academic weeks by the help of ICT. They were asked to write an essay of 3000 words on the topic of their own choices. They were guided and taught to use internet resources effectively and they were instructed to avoid plagiarism which was allowed up to 20 %. The students showed a positive response and most of the students were able to write as per instructions. Majority of the students could not keep the plagiarism they were asked but most of the students were able to keep the plagiarism less than 40 % which was quite encouraging as their first attempt in a limited time. The research demonstrated a welcoming sign of interest among the students and, the students were excited using ICT,

helping to improve their academic writing skills. The Basic writing skills of the students improved significantly and the mean of the students score also rose significantly which was compared by the help of T-Test. It also suggested including ICT as a permanent tool in educational system and especially its growing effects to improve students' academics writing skills.

Keywords: *Information and Communication Technology (ICT), Academics writing*

Introduction

Academic writing includes a variety of features but the most common and difficult form of writing is essay writing. The essay writing demands effective use of language to share the ideas, in which a writer is required to have sufficient items of vocabulary, adequate knowledge, good grammatical skills such as; understanding of complex sentence structures, subject-verb agreements and other essential requirements of correct writing along with the appropriate essay writing format. In Pakistan, the essay writing has been the part of English curriculum in different forms from secondary level. The Students are given different topics of current and general affairs in the annual exams and their skills of writing are judged on the basis of their performance in the exams. These essays usually address the routine topics and most of them are repeated every year. The students are able to guess the topics, and in most of the cases they are instructed by their teachers to memorize some important topics, from different resources in the form of preparatory papers which are provided by the academies working all over the Pakistan. This helps the students to memorize and get good marks in the exams. However, their abilities in creative or essay writing never develops and at the end of the exams they are unable to write few lines by their own. This practice hampers students' abilities to express their thoughts effectively in writing. It also damages students' confidence when they are unable to write what they already have learnt or the knowledge they possess. It is important for the teachers to adopt those strategies which help the students to improve their writing skills to express their ideas in the way they think.

The essay writing skills become very important for the students when they go through the higher education. In many of the cases in the realm of social sciences and humanities, students are given the long questions to elaborate, discuss and argue and having good written skills help the students to perform better. It has been noticed at masters' level of education that students are able to understand but when it is required to transform their knowledge in the paper they are unable to fully express what they want to say. The teachers at that level expect a lot from the students and they assign them different tasks on the basis of assumption that after completion of their intermediate studies they must have got good skills in writing. Unfortunately, many of the students show their averageskill in writing which not only harms their studies but it also disallows the teachers to follow their strategy and plan in the class room. This situation frustrates the students and it has also been noticed that this inability to write properly develops inferiority

complex among the students and they always feel hesitant to perform different academics tasks. CSS, the highest level competitive exam in Pakistan, includes a compulsory paper of essay writing to analyze the written abilities of the candidates which shows the importance of essay writing. Many of the students who are professionals and have very good academics records in their professions are failed to pass the compulsory essay paper. This also shows students' weak academics writing skill, which is the outcome of less exposure and experience in writing at their own.

The research is intended to encourage and make the students more confident in their written communication skills. It is aimed to explore the hidden talent of the students when they are let free to express devoid of any anxiety, fear and nervousness they usually face in the exams. In addition, it will help the students to get rid of memorization or at least minimizing it and understand different written structuresto establish their own style of writing. This will also help them to increase the intensive reading abilities among the students and their understanding of different texts will also increase when they will spend more time in reading, which is an essential requirement to increase the written communication skills. This study will also help the students to use the increased means of Information & Communication Technology positively and they will learn how to find helpful academics material in other areas of education as well. It will also enable them to find out the reliable material from the internet and they will be able to use this technique in their future researches.

ICT in Education

Since the technology has rooted into the field of education, the approach and methodology in teaching have changed rapidly. It has become easier for the teachers to prepare their lectures using different tools of ICT and enabling the learning more effective for the students. The last decade has seen the great impact of ICT in education and particularly in language teaching. It has almost become an integral part of the classroom teaching when it comes to EFL teaching. ICT is a broader term which stands for Information and Communication Technology and it includes different means of technology being used to help the education and other fields, simultaneously. The use of Computer technology, the projectors, internet and different tools of Multimedia are essential parts of classroom teaching at higher level of education. UNESCO (2002) has described the designing and implementation of ICT enabled teacher programmes as "the key to fundamental, wide-ranging educational reforms".ICT researches have shown that the use of ICT has raised the interest of the teachers towards their teaching and they have brought some interesting and innovative techniques in their teachings by the help of ICT. Miller, et.all. (2005) have quoted that ICT has enabled the teachers to discover different and electrifying classroom applications for the better use of technology.

With the emergence of new technologies world has become a global village where we can get connected to anyone across the globe within seconds. This advancement helps us to take advantage of the researches being conducted for the betterment of imparting quality education to the students. Learners have two important places where they get the skills developed by using the latest technology. According to Kent and Facer (2004) the first environment where student uses the technology in a wide range is the school whereas at home, learner's engagement with the computer activities gets narrower. ICT is now being applied broadly in educational field and it helps the Instructor to deliver the lectures more effectively and interactively as use of ICT has been proved to be a powerful tool for educational reform. The research of Lowther, et al. (2008), Weert and Tatnall (2005) on ICT also proved that use of ICT raises the standard of education and develops a relation between the theory and its practical implementation thus creating real life situations for understanding various phenomenon that becomes quite hard for the learner to understand without ICT.

As learners get actively involved in ICT classrooms, the learning process gets quicker and it becomes easy for the teacher to develop students' decision making and reasoning skills (Lu, Hou and Huang 2010).Castro Sánchez and Alemán (2011) indicated that ICT has transformed the teaching centered environment to student centered one. It provides more educational possibilities and affordances for both the teacher and the student.Brush, Glazewski and Hew (2008) declared ICT as an important tool for learners to explore new learning topics, discover new ideas, solve issues and find solutions to resolve the same in the learning process. ICT assists self-directed and student-centered learning. Castro Sánchez and Alemán (2011) found that with the use of ICT, students get engage in meaningful use of technology through accessing the required information, short listing the material and then organizing it as per the assignment needs. The use of ICT is helpful in making learners creative and critical assessors of the learning material, Chai, Koh and Tsai (2010).Koc (2005) highlighted the effect of ICT on the communication skills because it allows the learners to share their ideas and work collaboratively anytime, anywhere. It gives them the opportunity to analyze their problems and clarify their concepts which ultimately develops their critical thinking skills. Levin and Wadmany (2006) also emphasized on the constructive learning approach and declared that ICT develops higher level concepts. The statistics of the research conducted by McMahon's (2009) also proved a significant positive correlation between the use of ICT and acquiring critical thinking skills. Serhan (2009) states that ICT fosters autonomy to the teachers by providing a broader platform to design their course contents and allowing educators to develop their material which is not possible in a traditional classroom setting. Reid (2002) indicated that ICT allows students to spend more time to explore their world beyond the boundaries of course content to better understand the concepts. Watts-Taffe et al. (2003) declared teachers as catalysts for integration of technology through use of ICT. Talking about the games CDs, television and internet, Gee (2007 &2011) states that creativity can be optimized by ICT integration in classroom.

ICT in education is being considered as one of the strongest and productive area of research in future to utilize its effectiveness in different ways in education all over the world and this has been implied by an emerging body of ICT literature to consider and use ICT with the best effects.It is indicated through the results attained from different researches that there has been a positive attachment when ICT based pedagogies are used for the students. Lee (2000) has given some reasons for the support of the idea who notes that appropriately implemented use of computer-based technology can support experiential learning, enable pair and group work, promote global understanding, provide access to authentic materials, and encourage greater interaction. The British Educational Communications and Technology Agency (Becta) is a leading force in ICT pedagogical research, and its ImpaCT2 (2002) project found that, even while the degree of ICT use was relatively low in language classes, there was a notable difference in the results attained by students who were exposed to ICT-based instruction in this setting. Becta's 2004 report highlights key areas for further research, including the potential to embed ICT use in MFL teaching, and the impact of ICT on MFL pedagogical practice. Research to date indicates that the diffusion of ICT procedures into a teacher's pedagogy follows a definable pattern. Miller et al. (2005) describe a sample of 10 mathematics teachers' and 13 MFL teachers' use of interactive whiteboards. The study found that teachers go through a series of stages when using ICT technology, which start at*supported didactic,* where the technology is in use but not integral, to *enhanced interactive,* where teachers are using the technology as an integral resource and they are making creative and effective pedagogical innovations. It has been noted in many of the studies (Becta 2002; Miller et al. 2005; UNESCO 2002) that instructors feel they are on a learning curve and that they have not yet realized the full potential for use of the technology. Further long-term studies using both quantitative and qualitative research are therefore in order. This is especially so in the emerging area of m-learning.

Methodology

The research was conducted at Newports Institute of Communication &Economics Malir Campus, where 34 students of BBA & BSCS programmes in the morning were selected for this purpose. In the Second Semester of their studies the students had the course of Approaches in Academics Reading & Writing. In the start of the second semester the students were given an essay topic and the scores were recorded to compare with the scores at the end of the semester when the students were given another essay topic to attempt. In the first session students were briefed for the course scheme and they were assigned the task to write an essay of 3000 words within 10 academic weeks on the topic of their own choice. They were to submit the soft and hard copy of the assignment in the ninth academic week. They were guided to use internet resources to compile the essays and the stress was made to write in their own words. They were also briefed about plagiarism and they were asked that less than 25 % plagiarism will be accepted in the use of quotations and references only. It was considered with great care that the students were going in the right direction. They

were repeatedly counseled and their performance was monitored regularly. During the whole process they were asked twice to submit their works and their essays were evaluated through plagiarism software and the results were discussed in the class to help them improving the quality of assignment. They were also briefed on and off to use correct language structures and the whole and individuals were guided when they brought their problems. At the end of the ninth session 54 students were able to submit their assignments. The remaining six students were given a week time to submit the assignment and at the end of the tenth session all the students were able to submit the work. Their works were checked by the help of Turnitin Originality Report and the results were shown to the students. Most of the students were able to perform the task as instructed. Moreover, an essay which included in their end term exams of the second semester and a remarkable difference was observed in their writing skills as compared to their performance in the essay they attempted in the beginning of the semester. A questionnaire was also given to the students to attain the feedback and effectiveness of the research for the future studies and the students gave a highly positive response and appreciated the methodology and felt an improvement in them.

Data Analysis and Findings

This study was conducted from September to November, 2014 with 34 students from BBA and BSCS programme studying at Newports Institute of Communications & Economics. The Students went through a pre-test in essay writing. The Essay was comprised of 15 marks. 29 students appeared in the test and the mean score of the test was 8.31 with the range from 03-13. (Table 1 & 2)

Table 1

One-Sample Statistics

	N	Mean	Std. Deviation	Std. Error Mean
Scores	29	8.3103	2.40689	.44695

Table 2

One-Sample Test

	Test Value = 0					
					95% Confidence Interval of the Difference	
	t	df	Sig. (2-tailed)	Mean Difference	Lower	Upper

One-Sample Test

	Test Value = 0					
					95% Confidence Interval of the Difference	
	t	df	Sig. (2-tailed)	Mean Difference	Lower	Upper
Scores	18.594	28	.000	8.31034	7.3948	9.2259

In the start of the session the students were given the topics of their own choice to write an essay of minimum 3000 words in 8 Academic weeks. During these weeks students were guided to use internet to extract their desired information. In the second week of the studies students came with different questions which showed their interest towards the assignment and these questions were shared to the class and the solutions were explained during the lecture to enable other students tounderstand the same issues they may face during their assignment. In the third week of the session more students came with the problems they were asking. A demonstration was arranged in the class to show the students how to collect information from the internet and the same to write in their own words. They were explained to use Google effectively and different scholarly websites, research journals and HEC repository were shown to the students. They were stopped to use Wikipedia as it is not the authentic resource to collecting information, though they were allowed to use it to collect basic information.

In the fourth week of the studies, the students were asked to e mail their work or to bring the soft copy to test the plagiarism. Table 3 shows the results of the students they submitted in the fourth week.

Table 3

Total Students	Submitted	Plagiarism (60-70%)	Plagiarism (50-60%)	Plagiarism (40-50%)	Plagiarism (30-40%)	Plagiarism (20-30%)	Plagiarism (15-20 %)
34	23	45 %	33 %	20 %	2 %	-	-

The result showed at the end of the fourth week that the most of the students were using the copy-paste method and they were unaware of the effectiveness of Turnitin Originality Report which evaluated their works and all the plagiarized sentences and paragraphs were evident in the report. The reports were provided to the students with highlighted coloursand the ratio of plagiarism whichTurnitin Originality Report reflects through the colours was explained to the students. The students who could not submit their assignments were encouraged and motivated to submit their work in the seventh week of the session to understand their mistakes. The students were also told with the common grammatical mistakes they made in their assignment and they

were reminded of following proper structure and standard essay format by the help of outline. The report helped the students with great deal and they became cautious of writing in their own words as it was difficult to deceive the Turnitin Originality Report. It also helped them to understand how to avoid plagiarism which ultimately helped them to work with greater will and concentration while writing the assignment.

In the seventh week students were asked to submit their work in the same manners to see an improvement in their assignment. Table 4 reflects the results of their performance in the seventh week.

Table 4

Total Students	Submitted	Plagiarism (60-70%)	Plagiarism (50-60%)	Plagiarism (40-50%)	Plagiarism (30-40%)	Plagiarism (20-30%)	Plagiarism (15-20%)
34	25	8 %	16%	41 %	28 %	7 %	-

The results attained throughTurnitin Originality Report were encouraging in the seventh week. The ratio of plagiarism of the fourth session was reduced from 45 % to 8 % in the column of 60-70 % plagiarism. Similarly in the column of 50-60 % plagiarism was reduced from 33 % to 16 %. The column of 40-50 % plagiarism was increased from 20 % to 41 % which showed the improvement in the performance of the students. Moreover, the column of 30-40 % was raised to 28 % from 2 % only and the column of 20-30 % which was showing 0 % in the fourth session was raised to 7 %. These results indicated the understanding and the efforts of the students in academic writings which was the result of their interest in the writing by the help of ICT.

In the submission of their final assignment in the ninth session the performance of the students was reported highly encouraging. Table 5 shows the performance of the students who were able to submit their assignments. 32 out of the 34 students submitted their assignment on the given day while remaining 6 students submitted their works before the tenth session. Table 6 shows the final results of all the students at the end of the tenth session.

Table 5

Total Students	Submitted	Plagiarism (60-70%)	Plagiarism (50-60%)	Plagiarism (40-50%)	Plagiarism (30-40%)	Plagiarism (20-30%)	Plagiarism (15-20%)
34	32	-	-	9 %	61 %	23 %	7 %

Table 6

Total	Submitte	Plagiaris	Plagiaris	Plagiaris	Plagiaris	Plagiaris	Plagiaris

Student s	d	m (60-70%)	m (50-60%)	m (40-50%)	m (30-40%)	m (20-30%)	m (15-20%)
34	33	-	1 %	9 %	63 %	21 %	6 %

The results of the assignment at the end of the tenth session were evident of the effectiveness of using ICT in improving students' personal skills in Academics writings. None of the students was in the column of 60-70 % plagiarism, whereas in the fourth session the ratio was 45 %. The most encouraging feature of the results was; 90 % of the students got less than 40 % plagiarism. The study was attempted to motivate the students to improve their writing skills and the use of their own sentence structures instead of memorization and copy-paste in assignments, and the results showed that the purpose was achieved successfully.

The assignments were also taken on the hard copies and the grammatical and structural mistakes were highlighted to the students. It was again positive while evaluating the assignments that ratio of grammatical and structural mistakes was very less as compared to that, usually, had been noticed while they were writing essays in the exams. It also showed good deal of information included in the assignments and students were happy to explore the topics of their own interest. It also helped the students to further use and extractthe knowledge on various topics of their interest and educational need by the help of ICT. Finally, an essay was given to the students in the final exams and the average scores in essay writing were increased significantly from their previous results. The mean of the students score rose to 11.18.

Table 7

One-Sample Statistics

	N	Mean	Std. Deviation	Std. Error Mean
Scores1	33	11.1818	1.44600	.25172

Table 8

One-Sample Test

	Test Value = 0					
					95% Confidence Interval of the Difference	
	T	df	Sig. (2-tailed)	Mean Difference	Lower	Upper
Scores1	44.422	32	.000	11.18182	10.6691	11.6945

Table 9

Student ID	Pre-Test Marks Obtained	Post-Test Marks Obtained	Total Marks
1.	12	13	15
2.	09	11	15
3.	07	12	15
4.	07	13	15
5.	06	13	15
6.	06	12	15
7.	07	11	15
8.	08	12	15
9.	09	11	15
10.	07	12	15
11.	10	11	15
12.	13	10	15
13.	11	09	15
14.	09	13	15
15.	08	12	15
16.	07	08	15
17.	04	12	15
18.	07	09	15
19.	09	12	15
20.	13	11	15
21.	10	12	15
22.	10	11	15
23.	09	12	15
24.	06	13	15
25.	08	10	15
26.	09	11	15
27.	06	10	15
28.	11	13	15
29.	03	08	15
30.	-	12	15
31.	-	09	15
32.	-	10	15
33.	-	11	15
34.	-	-	15

Table 10

Paired Samples Statistics

		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	Scores	8.1481	27	2.38107	.45824
	Scores1	11.3333	27	1.33012	.25598

Table 11

Paired Samples Correlations

		N	Correlation	Sig.
Pair 1	Scores & Scores1	27	-.101	.615

Table 12

Paired Samples Test

		Paired Differences							
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference		T	df	Sig. (2-tailed)
					Lower	Upper			
Pair 1	Scores - Scores1	-3.18519	2.84249	.54704	-4.30964	-2.06073	-5.823	26	.000

References

Brush, T., Glazewski, K. D. & Hew, K. F., 2008. Development of an instrument to measure preservice teachers' technology skills, technology beliefs, and technology barriers.Computers in the Schools, vol. 25, pp.112-125.

Chai, C. S., Koh, J. H. L. & Tsai, C.-C., 2010.Facilitating preservice teachers' development of technological, pedagogical, and content knowledge (TPACK).Educational Technology and Society, vol. 13, pp.63-73.

Castro Sánchez, J. J. &Alemán, E. C., 2011.Teachers' opinion survey on the use of ICT tools to support attendance-based teaching.Journal Computers and Education, vol. 56, pp.911-915.

Gee,J.P.2007.What video games have to teach us about learning and literacy. New York: Palgrave Macmillan.

Gee,J.P.2011.Language and learning in the digital age. New York: Routledge.

Kent, N. Facer, K. 2004., Different worlds? A comparison of young people's home and school ICT use.Journal of Computer Assisted Learning, vol. 20, pp.440-455.

Koc, M. 2005., Implications of learning theories for effective technology integration and pre-service teacher training: A critical literature review, Journal of Turkish Science Education, vol. 2, pp.2-18.

Lee, Kuan. The Internet TESL Journal, Vol. VI, No. 12: December. 2000. http://iteslj.org/

Levin, T. &Wadmany, R., 2006. Teachers' beliefs and practices in technology-based classrooms: A developmental view, Journal of Research on Technology in Education, vol. 39, pp.417-441.

Lowther, D. L., Inan, F. A., Strahl, J. D. & Ross, S. M., 2008. Does technology integration work when key barriers are removed?. Educational Media International, vol. 45, pp.195-213.

Lu, Z., Hou, L & Huang, X., 2010. A research on a student-centered teaching model in an ICT based English audio-video speaking class. International Journal of Education andDevelopment using Information and Communication Technology, vol. 6, pp.101-123.

Mcmahon, G., 2009. Critical thinking and ICT integration in a Western Australian secondary school.Educational Technology and Society, vol. 12, pp.269–281.

Miller, D., et al. How Can the Use of an Interactive Whiteboard Enhance the Nature of Teaching and Learning in Secondary Mathematics and Modern Foreign Languages. 2005.

Serhan, D., 2009. Preparing preservice teachers for computer technology integration. International Journal of Instructional Media, vol. 36, pp.439-447.

Reid, S., 2002.The integration of ICT into classroom teaching. Alberta Journal of Educational Research, vol. 48, pp.30-46.

Watts-Taffe, S., Gwinn, C. B. & Horn, M. L., 2003.Preparing preservice teachers to integrate technology with the elementary literacy program.The Reading Teacher, vol. 57, pp.130-138.

Weert, T. V. &Tatnall, A., 2005. Information and Communication Technologies and Real-Life Learning: New Education for the New Knowledge Society, Springer, New York.