Exploring the Benefit of Blogs Dependency for Assessing Students' Intellectual Achievement

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Authors' contributions

This work was carried out in collaboration among all authors. Author IAA did the initial design, wrote the first draft and discussed the findings. Author IOM collected the data, collated it and did the analysis. All authors read and approved the final manuscript.

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ABSTRACT

Blogs stand out among many social media that allows teacher and students to maintain a running dialogue in various aspect of the teaching and learning process. It comes in form of thoughts, ideas, tests, short-works/homework and assignment to enhance interactivity between the teacher's knowledge base and students' comments and reflections. This paper promotes the use of blogs in assessing students' intellectuals while comparing the use of blogging for assessment as well as the use of traditional assessment. The study stresses scoring on paper versus scoring on blogs, students that we're able to complete their visitation of the blogs were noted to enjoy and benefit greatly compare to those that could not finish theirs and whether the performance of male bloggers may be different from that of female bloggers. 45 students involved in this study from among degree students of Achievers University. The research study was done within a semester. The achievement test was the major instrument used to collect data from the same students that were exposed to two different tests (Paper Test/Traditional Test and Blogging Test) after proper classroom teaching. The results got were analyzed using mean, SD and T-test statistics. From the findings, it was succinctly shown that the scores of students engaged in blogs far better than when they initially tested traditionally. In the same trend, those students that completed their test on blogs

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demonstrated high performance than their counterparts that could not. Further, the results also made it crystal clear that students were distributed equally on blogging regardless of their gender differences. The findings from the interview conducted established the fact that the use of a blog for assessment saves student time, the distance for learning and having quick result as feedback. The student has a high interest in the use of a blog for academic purposes rather than only the social affairs of the student. The paper contributes to the existing knowledge by turning blogs as social media into academic media that can foster the academic achievement of students and can also be used to assess students better than traditional assessment.

1. INTRODUCTION AND BACKGROUND

It is not new that technology has greatly turned the entire world into a "Global Village". It has helped the majority to be better informed, enlightened, and keeping abreast of social, political, and educational developments. Technology has made people better in logical thinking and doing things. Developments in technology and its applications have made it possible to access and transport information instantly while on the move [1]. Furthermore, new technologies such as "blogs, wikis, online games, social networking, such as *Twitter* and *Facebook*, and video and music dissemination such as *YouTube*" [2] give room for global communication with much stress. The integration of such technologies into everyday life has seen to be the introduction of "new social systems that view technology as the medium for establishing and maintaining relationships and exchanging information" influencing what it means to be an active member of society in the 21st century [3].

At this time of technology advancement, institutions should be saddled with responsibilities to make students have a great interest in the use of new technologies for educational purposes [4-7]. Furthermore, students' ability to effectively communicate with individuals "from all walks of life" identifies that the connection between technology and literacy is an area that requires exploration [6,1] .Studies have revealed that technology usage is still suffering in the hands of students as well as teachers. This problem will certainly be resolved by the time both teachers and students become familiar with current technology gadgets that are easy and simple to use and can eventually improve their educational pursuits. Although it has not yet been confirmed what impact these advances in technology have on learning, it has been recognized that each new wave of technology "changes the forms and functions of

earlier learning since they carry within them new potentials for learning" [2]. Concerning this, a researcher like [2,8,9,6] agreed that the development of appropriate learning skills in the 21st century will require these skills to be developed to suit specific sites and contexts[10] added that using technology will entail the use of various skills and strategies, for example, "language, image, sound and movement" to gain a true understanding of the entire text. An assertion supported the current push by educational researchers for a literacy education model that is truly inclusive of multimodal literacy, a term that has been defined as "meaning-making that occurs through the reading, viewing, understanding, responding to, producing and interacting with multimedia and digital communication" [1]. Several studies have reported on the advantages of integrating digital technologies, namely blogs, in the classroom to develop learning, foster a sense of collaboration and community, develop a sense of voice and foster critical and analytical skills [4,11,12,7]. Therefore, for teachers, blogging would appear to be a potentially useful tool for creating a space to foster a diverse range of learning that the traditional classroom may not be able to develop. This research presents the impact of blogs as social media for enhancing students' standard and intellectual upliftment. To test how a blog can be applied in the classroom to ease assessment, students from the Mathematical Science Department Achievers University formed the target population. In realizing this, a blog was applied to accessing student's performance in a course "System Analysis and Design". This is a course that must be offered by students (at 400 Levels). This course prepared students to understand the process of collecting and interpreting ideas and identify problems in a system to modify the system or replace it with a new one. It makes students become system analysts. To get a better assessment from this course, the blog was tested paired with classroom assessment to see which assessment

would bring the desired results. Hence, this study tries to answer the following research questions:

1) Is there any significant difference in the student score on the paper test and blog test?
2) Is there any significant difference between the performance of students that engaged in blogging for the whole period and those who do not meet up the time specified?
3) Is there any significant difference in the performance of male and female students who engaged in blogging?

2. RELATED LITERATURE

Social media through the use of mobile and internet-based technology has encouraged individuals and community share, co-create, discuss, and modify user generated content [13]. Social media is seen differently by different people, some see it as a website that does not just give information but makes interaction easier by exchanging information. There is a clear demarcation between social media and social news. [14] Listed out some media websites which include: Social book Marking, Social News, Social Networking, Social Photo and Video Sharing and Wikis and Blogs. Likewise [15], classified social media into six different classes as Collaborative Project, Blogs and Microblogs (Twitter), Content Communities (YouTube), Social Networking Site (Facebook, 2go, BB chat), Virtual Game World (World of warcraft) and Virtual Second World (Second Life).

At present, technology includes blogs, picture sharing, music sharing, crowdsourcing, e-mail, instant messaging and voice over. All these services could be integrated via social network aggregation platforms. In looking at the meaning of social media, [16] think that social media is a group of internet-based application that builds on the ideological foundation and allows the creation and exchange of users- generated content. Social media which 2go, BB chat, blogger and wikis have become one of the major channels of chatting. It is revolutionizing the way people connect and share information. All these media have changed the way people relate to one another. Though, from studies, the introduction of social media has changed the lifestyles of some youths which as a result has made schools go against its use on the school premises. Still, there are numerous benefits that individuals and organizations can derive from it if it is correctly

and properly used. But, if it is not handled with care, it can no doubt cause personal abuse. Up to date, no standard guidelines have been put in place to assist educational managers in managing social media. New technologies emerge quickly, and there is little legal precedent or research to steer appropriate action on how to use it without affecting peoples' well being. Social media and their educational uses are of interest to many researchers. [17] observed that 'social media, like much else on the internet representing a moving target for researchers and policymakers'. A study conducted by Len-Hart, Purcell, Smith and Zickuhr [18] reported that 47% of adults use the social network. Also, National survey in2009 found that 37% of online teenagers use social networking sites which increased to 55% three years later. To [19] the virtues of social media and mobile devices include "allowing multiple entry points and learning pathways, supporting multi-modality, enabling student improvisation, and supporting the sharing and creation of student artifacts on the move". With the help of social media, students can share resources or materials easily and quickly especially in the area of exploring the material for projects or these sometimes sites may be developed around a particular subject or course of study where involving students can share a thought, make or modify their peers' contributions. [20] Also supported this view when he made it clear that there are sites devoted to group projects where students from different schools or even different countries can come together over the internet and work on common projects. They can transmit research materials and disseminate papers and analyze papers for those working on that activity. This allows them to overcome geographic distance and to learn in connected ways. Cable News Network [21] reported that research on school's social media collaborations reveals that they do a good job of connecting students for instructional purposes. One study of blogs used for classroom discussion found "broader student participation through the blog". Unlike class discussions, often dominated by a handful of speakers, the use of the social media platform encourages many more students to offer comments.

At this point, it is imperative to call upon whoever is involved in the educational development to put in their quota that will encourage students and lecturers (teachers) to be able to use social media to create an avenue that will pave way for conducive and constructive learning principles. It is also important and essential for teachers to

use electronic tools and social media in such a way that will bring a desirable result. The cost implication of these gadgets may pose a problem for its realization. It is upon the government to make it bearable. Eventually, Mandich (2007) pointed out that social networks such as blogs, wikis, Twitter are good for sourcing materials and often help to develop students' Intelligence Quotient (IQ). The technological and social affordance of blogs makes them an appealing technology for a broad range of educational purposes. [22] Suggests that blog's use has been credited with improving student communication and interaction with their peers and the wider community, raises awareness and development and also encourage the use of different language pattern. Many educational research and theories have proved the importance of blogs in teaching and learning. Blogs can be used to bring out hidden skills in students, so it can be adopted into any kind of classroom activity for a better understanding of the students. As it is used in this study, the blog can also serve as a knowledge-based management tool where teachers and students communicate with one another through the course of the semester. Therefore, blogs represent the potential to promote interactivity, provide opportunities for active learning, increase student and teacher relationships, increase higher-order thinking skills, and improve flexibility in teaching and learning [23].

In education, a teacher can post the assignment on the blog for his students to take which can be corrected after many attempts of trying to solve the problem. This increases higher-order logical thinking of students to parents concerning the status of their wards in school. As such, through blogs students will not be limited to resources within the school setting only, they have opportunities to get more relevant materials and this will eventually improve their academic performance. A blog plays a major role in assessment (teaching and learning) according to the view [24] the information provided by the analysis of the weblog development may be used by the academic institutions to carry out a SWOT (Strengths, weaknesses, opportunities and threats) analysis of the teaching-learning process. Faculty members of the universities use weblogs to post class announcements, syllabus, assignments, and more in addition to offering students a forum for discussing class topics [25]. Blogs open windows from the closed formal environment to the outside world, allowing learners to pursue new ways of accessing

information and gaining knowledge, and to link the subject content back to real-life experiences.

Schler et al. [26] Worked extensively on the effects of gender on blogging. In their studies, they found out that female bloggers use more pronouns and assent/negation words while male bloggers use more articles and propositions. Also, female bloggers use blog words far more than do male bloggers while male bloggers use more hyperlinks than do female bloggers. Their findings centralized on different features like style-based and content-based features. No literature has ever compared males and females on their academic performance as this study has focused. Their study only looked at the effects of age and gender on blogging generally on politics, technology, money, personal lives, etc.

3. RESEARCH METHODOLOGY

The study employs both quantitative and qualitative analysis approach (explanatory sequential mixed design). With this, the research focuses firstly on experimental design. To realize the objective of the study, respondents were selected from computer science students (200 level: Degree). The total number of students was 65, the classroom assessment also involved all of them but only 45 students were able to start the blog assessment. As a result of this, only those used blogs together with classroom assessments were eventually used. Hence, Forty-Five students are involved in this study. 15 students could not complete the test on the blog (15 students later dropped). The sample comprised both male and female students. The research study covered only thirteen weeks (A semester), Proper classroom teaching took place for ten weeks, then classroom assessment followed at the eleventh week. The blog assessment was covered within two weeks. The lecturer in charge has a blog account for this purpose which details have been given to the students before the actual assessment was commenced. The eight questions (Achievement Test) were administered to the students in pairs for three days interval, within three days, students are required to attempt the questions via the blog, which after the stipulated time the lecturer visited the site for proper grading. All the questions are purely theoretical for the student to be able to express him/herself. The instrument used to collect data from the students was tagged "Achievement Test in Pascal Language: ATPL" which contained eight questions that covered the course contents. In realizing the

validity and reliability of the instrument, the instrument was given to some targeted students to see whether they could understand the construction of the language to ensure face validity, the same instrument also reviewed to see that the content therein is within the scope of the study. The achievement test was subjected to a split-half reliability index, the result showed that the instrument was reliable with r =.89. The data generated were analyzed using mean, standard deviation and t-test statistics via IBM SPSS statistics 19. At the same time, an interview was conducted to see how students participated enjoyed the use of the blog, how to blog use to increase their interest in learning. To do this, only five participants (two males and three females) were involved that were selected from the 45 students sampled. The interview structured questions were face validated before finally used for the participant. The analysis of the interview followed and buttressed the experimental design used.

4. RESULTS AND ANALYSIS

4.1 Experimental Design and Analysis

The formulated research questions were analyzed using mean, standard deviation as well as t-test. The first research question that says "Is there any significant difference in students' score on the paper test (classroom-based test) and blog test (internet-based test using blog)?" was analyzed.

The second research question that says "Is there any significant difference between the performance of students that engaged in blogging for the whole period and those who do not meet up the time specified?" was analyzed.

The third research question that says "Is there any significant difference in the performance of male and female students who engaged in blogging?" was analyzed.

Table 1. Paired Samples Statistics: Mean, N and SD

		Mean	N	SD
Pair 1	Achievement Scores on paper	11.5778	45	4.31429
	Achievement Scores on Blog	21.2444	45	8.24113

Table1 shows 45 students who participated in both paper and blog tests respectively, The mean and standard deviation values for scores on paper are (M=11.58, SD=4.31) which less than the scores on the blog test(M=21.24, SD=8.24)

Table 2. Paired Samples T-Test

	T-test	df	Sig.
Achievement Scores on Paper Vs. Achievement Scores on Blog	-7.421	44	0.0001

Table 2 reflects a paired sample t-test that was conducted to compare the achievement scores of the same set of students on paper and blog. The result shows that there is a significant difference in students' scores on paper tests (M=11.58, SD=4.31) and students' scores on blog test (M=21.24, SD=8.24), t (44) = -7.42, p=0.000

Table 3. Group statistics for Mean, N and SD

		Group	Mean	N	SD
Pair 1	Achievement Scores: Time of visiting Blog	Students that completed their visiting	25.8000	30	5.68968
		Students that did not visit Blog frequently	12.1333	15	3.60291

Table3 shows that 30 students completed their visiting the blog to answer the test posted with (Mean=25.80,SD=5.69) while those who did not complete their visiting were only 15 with (Mean=12.13, SD=3.60) respectively

Table 4. Independent samples T-Test

	T-test	df	Sig.
Achievement Scores : Time of visiting Blog	8.366	43	0.0001

An independent sample t-test was conducted to compare the scores of students that completed their visiting blog and those students who did not complete their visiting. There is a significant difference in scores of students that completed their visiting the blog (M=25.8, SD=5.69) and students that did not complete their visiting (M=12.13, SD=3.60). t (43) =8.47, p=.000

Table 5. Group statistics for Mean, N and SD

	Group	Mean	N	SD
Pair 1 Achievement Scores : Gender Based	Male	10.9032	31	4.70712
	Female	13.0714	14	2.89467

Table 5 shows that 31 students participated in blogging were male with (Mean=10.90, SD=4.71) while female engaged in blogging were 14 with (Mean= 13.07, SD=2.89) respectively

Table 6. Independent samples T-Test

	T-test	df	Sig.
Achievement Scores : Gender Based	-1.587 43	43	0.120

An independent sample t-test was conducted to compare the scores of male and female students that engaged in blogging. There is no significant difference in the scores of male students (M=10.9, SD=4.71) and female students (M=13.07, SD=2.89), t (43) = -1.59, p=0.120

4.2 Interview Result and Analysis

The interview involved five participants (part A,B,C,D and E). The first question was raised as "What do you see to the assessment on blog and classroom?"

Part A,C and D collectively responded that they enjoyed using a blog because it could be done anywhere, at one's convenient time and very fast to receive the feedback while B and E claimed that they like blog assessment concerning tiny and convenience but a bit costly as a result of data connectivity.

The second question that says "How do you see the use of blog for the assessment?". All participant (A,B,C,D and E) answers were similar to one another, like part A said "Blog assessment interests me most" , part B said "I too much like blog assessment", part C claimed that "The convenience about blog assessment makes me happy", part D also said "I don't know that blog assessment is easy like that" while part E responded that blog assessment is amazing".

The result gotten from the interviews shows that blog assessment help student to retain what they have learned, to do their work at a convenient time and as well arouse their interest towards learning better than ordinary classroom instruction and assessment.

5. FINDINGS AND DISCUSSION

This research work examines the impact of blogs as social media for assessing students' intellectual improvement. This was done through the formulation of three research questions and it was revealed that the blog has a positive impact on assessing students' intellectual improvement.

From this study, it was deduced that the blog helped students to express their opinion and feelings to the utmost level of their understanding. The result from findings has demonstrated that students' performance can be fostered through the meaningful use of social networks, namely blogs, wikis, etc. This could be a result of free of expression, a convenient time for the students to go to the blog coupled with enthusiasm most students derived from using the internet or blog. These findings are reflective of results from similar studies conducted by Jones, Kelly and Safford and Walsh [27,28,1], whose research also concurred that blogs, do develop the "skills and strategies that are involved in learning. Also, [29] but tressed the point by saying that "It is generally felt that the future of learning lies in a carefully planned and integrated network designed to give autonomy to learners, whilst involving tutors in a facilitating role, stressing the importance of guidance rather than management in forming the "communities of practice "In the same vein, the result revealed that those completed their blogging had better performance than their counterparts. This implies that there are some confrontational factors hindered the full participation of some respondents and this eventually affected their completion of the test. Also, it was revealed that blog assessment provided equal value to both gender classes (Male and Female). In the use of a blog to assess both male and female, the findings showed that both parties benefited from this. This happened because both had the opportunity to express themselves while using the blog, though the study goes in contrary to the study conducted by Schler [26] on the Effects of Age and Gender on blogging. The differences were traced to be as a result of the research focus. Their study focused on significant differences in writing, style and content between

males and females while this study mainly tests students' intellectual improvement when blogs are being used. In the interview conducted was two questions were raised made it crystal clear that the use of a blog for assessment assists the student in terms of times of assessment, place of assessment and quick feedback gotten from the assessment. Hence, the use of blogs to assess student intellectual improvement and achievement will surely increase their interest in learning.

6. CONCLUSION AND RECOMMEND-ATIONS

Blogs are a social tool ideal for brainstorming where brainstorming ideas are posted as a comment. This research work has helped to ascertain the importance of knowing about the blog, how a blog can be integrated into education to foster learning activities. Lack of full participation of some students has been traced to be connectivity problems, power instability and the high cost of getting connected. It can be deduced from this research that the proper integration of blog education will help to improve students' academic performance without gender discrimination. However, it can be concluded that adequate knowledge and proper integration of blogs into teaching and learning can help to improve students' intellectual upliftment, because they can express their opinions and make judicious use of their time, thus it has been ascertained that blog helps to improve students' intelligence.

The following recommendations are made for this study:

- ✓ The teachers should educate the learners more on the importance and benefits of blogs to their academic achievement. In this way, discussions and other learning activities will be best achieved via social networks.
- ✓ Appropriate integration of social networks such as wiki, blogs, etc. into education, will assist effectively in a beneficial way, mutually for learning.
- ✓ The government should organize seminars for the teachers on the importance of using blogs because it serves as internet-based teaching aid/ instructional material.
- ✓ The usefulness of blogs should be incorporated into the learning curriculum. Because in using blogs, Students will not only be able to cover the course content in

a classroom but also interact massively via the e-Learning platform.

COMPETING INTERESTS

Authors have declared that no competing interests exist.

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