

KNOWLEDGE AND UTILIZATION OF SOCIAL BOOKMARKING SITES AMONG SCIENCE TEACHERS IN SECONDARY SCHOOLS IN AGBANI EDUCATION ZONE

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Abstract

The study investigated the knowledge and utilization of social bookmarking sites among science teachers in secondary schools in Agbani Education Zone. Two research questions and two null hypotheses guided the study. The researcher adopted descriptive survey research design. The study was carried out in Agbani Education zone of Enugu State which is one of the six education zones in the state. The population for the study comprised all 333 science teachers in secondary schools in the zone. The sample size of the study consists of thirty-nine (39) science teachers selected using purposive sampling techniques. The instrument used for data collection is a 17-items structured questionnaire developed by the researcher, titled Knowledge and Utilization of Social Bookmarking Sites Questionnaire (KUSBS). The instrument was validated by three experts from Enugu state university of science and Technology. One of the validators is in measurement and evaluation option, one in Computer Education option and one in Mathematics Education option all from the Department of Mathematics and Computer Education, Faculty of Education ESUT. The reliability of the instrument was tested using cronbach alpha statistics and the reliability index of 0.845 was obtained for the instrument, this shows that instrument is reliable. For data analysis, descriptive statistics of percentage mean and standard deviation were employed to answer the research questions, while chi-square and t-test was employed in testing the null hypotheses at 0.05, level of significance at the appropriate degree of freedom. The findings revealed that science teachers in secondary schools in Agbani Education Zone of Enugu State had low level of knowledge of social bookmarking sites and male and female science teachers did not differ in their response. The extent of utilization of social bookmarking sites among science teachers in secondary schools in Agbani Education Zone of Enugu State is a low extent. The male and female science teachers did not differ in their opinion regarding extent of utilization of social bookmarking sites. It was recommended that teachers should be motivated to use these tools as some of them may provide ideas that could further improve their knowledge of their subject hence their productivity among others.

Keywords: knowledge, utilization, social bookmarking sites, science teachers

Introduction

The introduction of web 2.0 has birthed a platform on the internet space called social media. Social media is an online platform that enables dialogical and interactive communication/dissemination of information. Ford and Ravansar (2017) defined social media as an online tools which allows users to communicate with one another in some way by sharing information, opinions, knowledge and interest among themselves in the internet, thereby creating a virtual community. Sharma and Shukla (2016) defined social media as an online platform that enable the creation and exchange of information and ideas in virtual communities and also connect individuals who share common interest, dreams and goals.

The use of social media has so many advantages to the cooperate world and to the education enterprise. Social media as an online platform encourages socialization and networking through words, pictures and video (Nwazor & Godwin-Maduikwe, 2015). Adeyato (2021) noted that

social media enable the sharing of information and idea among individuals who has common interest irrespective of their location. Social media supports instant communication with family and friends. This aligns with the assertion of Abubakar (2011) that social media enable users to keep in touch with people around them both family and friends.

In education, social media offers boundless opportunities for acquiring, creating and sharing knowledge, information and ideas. According to Onuoha and Adetayo (2021), the critical role performed by teachers revolved around creation and dissemination of knowledge. The use of social media has resulted to rapid dissemination of research findings to larger audience when compared to traditional outlet like print media (Adetayo, 2015). Another important service of social media to researchers is that it ensures easy storage and sharing of academic literatures online which is aided by the use of social bookmarking sites.

Social bookmarking sites allow users to organize and store links to literatures which they will refer to in the future. Adegbilero-Iwari, Fase and Adegbilero-Iwari (2014) defined social bookmarking sites that offers centralized online services that enables users to add, annotate, edit and share bookmarks of web documents. Bookmarking or bookmark is a way of saving address of pages of book or literature resources for easy access either on internet or library. According to Britannica.com, an online dictionary, bookmark is something such as a piece of paper placed in a book to show the place or page the reader stopped or the page that contained important information that caught the reader's attention. It is also seen as something be it icon or menu that allows the computer users to quickly have direct access to resources on the internet or web they have seen before. Farewell and Waters (2010) stated that social bookmarking is an online catalog of hyperlinks that help users to have access to resources they found useful. Page and Ali (2009) noted that social bookmarking sites has been considered as one of the most powerful web 2.0 tools because it supports interaction among users by allowing them to vote on a link's usefulness or comment on the accuracy of the information its conveys.

Social bookmarking site has reduced the high cost of education, according to Farewell and Waters (2010) social bookmarking sites allows faculties as well as students to cut down cost of educational material while having access to the most up to date information. The advantage of social bookmarking over traditional bookmarking include that the users can have access to the bookmarked resources irrespective of the computer system used be it desktop, laptop or handset, while in traditional bookmarking the user have to locate the book. The advantage of social bookmarking sites is characterized by the fact that social bookmarking sites are platforms on the web that can be accessed once the user has access to his/her account. Also, these sites are online platforms and are not linked to a specific computer system like in the case of bookmarking in the web browser.

Social bookmarking sites also allow users to tag. By tagging users can label and organize information according to their vocabulary and use, not conforming to an established order of classification (Farewall et al). Farewell went further to note that social bookmarking sites allow users to see how many other people have found a particular bookmark useful. Adegbilero-Iwari et al (2014) state that by bookmarking and tagging of articles online academics generate and have more access to new information. Gormley and McDermott (2010) pointed out that social bookmarking sites allow teachers to bookmark online resources such as web pages, web sites, PDFs, podcasts and videos.

Social bookmarking sites help teachers to produce an online readily available library collection to read and share without fear that the resources will not be located again. Instead of having numerous books on bookshelves, teachers can have bookmarked materials stored in this online library. This library is organized by tags which are key concept words that allow for easy

retrieval. What makes the experience social is that users can share their bookmarks with others and can have view their friends bookmarks. Hence, social bookmarking sites enables sharing of resources with selected friends and groups and can as well become friend with others who have similar interest to see what they are bookmarking (Gormley and McDermott, 2010).

In spite of the importance and advantages of using social bookmarking sites one would think that the platforms would be popular among staff and students of higher institutions. However, social bookmarking sites are the least known social media sites among users (Farewell et al). The finding of Adegbilero-Iwari et al (2014) revealed that students in Ekiti state are not aware of social bookmarking sites and therefore rarely utilize its services. From observation, the researcher noticed there are few literatures in this area of social bookmarking, hence the need for the study.

Purpose of the study

The study investigated the knowledge and utilization of social bookmarking sites among science teachers in secondary schools in Agbani Education Zone of Enugu State. Specifically, the study:

- ascertained the level knowledge of social bookmarking sites among science teachers in secondary schools in Agbani Education Zone.
- determined extent of utilization of social bookmarking sites among science teachers in secondary schools in Agbani Education Zone.

Research Questions

The following research questions were formulated to guide the study:

- What is the level of knowledge of social bookmarking sites among science teachers in secondary schools in Agbani Education Zone of Enugu State?
- What is the extent of utilization of social bookmarking sites among science teachers in secondary schools in Agbani Education Zone of Enugu State?

Research Hypotheses

The following research hypotheses tested at 0.05 level of significance were formulated to guide the study:

- There is no significant difference between the mean response of male and female science teachers in secondary schools in Agbani Education Zone of Enugu State on the level of knowledge of social bookmarking sites.
- There is no significant difference between the mean response of male and female science teachers in secondary schools in Agbani Education Zone of Enugu State on the extent of utilization of social bookmarking sites.

Research methodology

The researcher adopted the descriptive survey research design for the study. The study was carried out in Agbani Education Zone of Enugu State. The population consists of three hundred and thirty-three (333) science teachers in secondary schools in Agbani Education Zone (PPSMB, 2022). The sample size of the study consists of thirty-nine (39) science teachers selected using purposive sampling techniques. The instrument used for data collection is a 17-items structured questionnaire developed by the researcher, titled Knowledge and Utilization of Social Bookmarking Sites Questionnaire (KUSBS). The questionnaire was arranged in two

sections identified with letters A and B. Section A is concerned with the bio-data of the respondents, sections B is concerned with the data required for arriving at the answers to the research questions and testing the hypotheses. Section B has 17 items. The initial draft of the questionnaire was validated by three experts from Enugu state university of science and Technology. One of the validators is in measurement and evaluation option, one in Computer Education option and one in Mathematics Education option all from the Department of Mathematics and Computer Education, Faculty of Education ESUT. The reliability of the instrument was tested using cronbach alpha statistics and the reliability index of 0.845 was obtained for the instrument, this shows that instrument is reliable. 39 copies of the questionnaire were administered personally by the researcher and two research assistants. These research assistants were duly trained on the administration and retrieval of the questionnaire. There was on-the-spot administration and collection of the instrument in each school visited. There was 100% return rate as the entire 39 copies of distributed questionnaires were returned.

For data analysis, descriptive statistics of percentage mean and standard deviation were employed to answer the research questions, while chi-square and t-test was employed in testing the null hypotheses at 0.05, level of significance at the appropriate degree of freedom. For decision to be reached, with regard to percentage, percentage score below 40% is regarded as low level of knowledge (LK), percentage score below 60% is regarded as moderate level of knowledge (MK), percentage score below 80% is regarded as high level of knowledge (HK) while percentage score 80% and above was regarded as very high level of knowledge (VHK). For mean response of 2.50 and above is regarded as high extent (HE) and mean response score less than 2.50 is regarded as low extent (LE). For hypotheses testing, it was interpreted based on significant value (sig) from SPSS output. The null hypotheses are rejected if the significant value is less than 0.05 but will not be rejected if it is greater than 0.05.

Results

Research Question One: What is the level of knowledge of social bookmarking sites among science teachers in secondary schools in Agbani Education Zone of Enugu State?

Table 1: Frequencies and percentages scores on the level of knowledge of social bookmarking sites among science teachers in secondary schools in Agbani Education Zone of Enugu State

SN	Social bookmarking sites;	YES	%YES	NO	%NO	Deci.
1	is a social media platform	15	38.46%	24	61.54%	LK
2	is where links to resources such as books, web sites, videos etc. are stored	12	30.77%	27	69.23%	LK
3	is an online library repository	11	28.21%	28	71.79%	LK
4	is an online library	14	35.90%	25	64.10%	LK
5	has tags that are involved in organizing online content	9	23.08%	30	76.92%	LK
6	tagging allows for easy retrieval of bookmarked resources	12	30.77%	27	69.23%	LK
7	allows users to add comments to a bookmarked content or resources	22	56.41%	17	43.59%	MK

8	Delicious, Pinterest, Flickr and Diigo are examples of social bookmarking sites	12	30.77 %	27	69.23%	LK
	Grand Average	13.3	34.29 %	25.6	65.71%	LK
		75	%	25		

The results presented on Table 1 answered research question one which investigated the level of knowledge of social bookmarking sites among science teachers in secondary schools in Agbani Education Zone of Enugu State. From the table, the respondents had low level of knowledge on all the items with percentage score less than 40%; except item 7 which had percentage score of 56.41% indicating moderate level of knowledge on the item. The average percentage score of 34.293% shows that the science teachers in secondary schools in Agbani Education Zone of Enugu State had low level of knowledge of social bookmarking sites.

Research Question Two: What is the extent of utilization of social bookmarking sites among science teachers in secondary schools in Agbani Education Zone of Enugu State?

Table 2: Mean and standard deviation responses scores on the extent of utilization of social bookmarking sites among science teachers in secondary schools in Agbani Education Zone of Enugu State

SN	I uses social bookmarking sites to;	VHE	HE	LE	VLE	MEAN	SD	Deci.
9	search materials for lesson notes	-	9	13	17	1.79	0.80	LE
10	make research	-	14	9	16	1.95	0.89	LE
11	gather information for my assignments	-	10	12	17	1.82	0.82	LE
12	share useful links to colleagues	-	9	8	22	1.67	0.84	LE
13	share useful links to my students	-	10	8	21	1.72	0.86	LE
14	pin useful links in my board	-	10	4	25	1.62	0.88	LE
15	interact with friends with similar interest	-	8	11	20	1.69	0.80	LE
16	view peoples' bookmarks	-	11	14	14	1.92	0.81	LE
17	I have social bookmarking sites account	-	12	13	14	1.95	0.83	LE
	Grand mean					1.79	0.84	LE

The result in Table 2 above answered research question two which investigated extent of utilization of social bookmarking sites among science teachers in secondary schools in Agbani Education Zone of Enugu State. From the table, it was shown that the respondents disagreed to all the items, with mean scores less than 2.50 cut off point set for the study. The grand mean score of 1.79 indicates that the extent of utilization of social bookmarking sites among science teachers in secondary schools in Agbani Education Zone of Enugu State is a low extent.

Hypotheses

The following research hypotheses tested at 0.05 level of significance were formulated to guide the study:

H₀₁: There is no significant difference between the mean response of male and female science teachers in secondary schools in Agbani Education Zone of Enugu State on the level of knowledge of social bookmarking sites.

Table 3: chi square analysis of the mean responses of male and female science teachers in secondary schools in Agbani Education Zone of Enugu State on the level of knowledge of social bookmarking sites

	Value	Df	Asymptotic Significance (2-sided)	Exact Sig. (2- sided)	Exact Sig. (1- sided)	Decision
Pearson Chi-Square	.002 ^a	1	0.962			NS
Continuity Correction ^b	0.000	1	1.000			
Likelihood Ratio	0.002	1	0.962			
Fisher's Exact Test				1.000	0.536	
Linear-by-Linear Association	0.002	1	0.962			
N of Valid Cases	312					
a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 30.18.						
b. Computed only for a 2x2 table						

Table 3 shows that the chi-square calculated value of 0.002, is significant at 0.962 level of significance, which is greater than 0.05 level of significance set for the study. Therefore, the null hypothesis is not rejected as stated. This means that there is no significant difference between the mean response of male and female science teachers in secondary schools in Agbani Education Zone of Enugu State on the level of knowledge of social bookmarking sites.

H₀₂: There is no significant difference between the mean response of male and female science teachers in secondary schools in Agbani Education Zone of Enugu State on the extent of utilization of social bookmarking sites.

Table 4: t-test analysis result of on the mean response of male and female science teachers in secondary schools in Agbani Education Zone of Enugu State on the extent of utilization of social bookmarking sites

Group	N	Mean	SD	t	df	Sig	Decision
Male	11	1.83	0.30	0.57	37	0.575	NS
Female	28	1.78	0.23				

Table 4 shows that the t-calculated value of 0.57, is not significant at 0.575 level of significance, which is greater than 0.05 level of significance set for the study. Therefore, the null hypothesis is not rejected as stated. This means that there is no significant difference between the mean response of male and female science teachers in secondary schools in Agbani Education Zone of Enugu State on the extent of utilization of social bookmarking sites.

Discussion of findings

The average percentage score of 34.293% shows that the science teachers in secondary schools in Agbani Education Zone of Enugu State had low level of knowledge of social bookmarking sites and male and female science teachers did not differ in their response. The finding shows that science in Agbani education zone did not know that social bookmarking sites is a social media platform where links to resources such as books, web sites, videos etc. are stored, it is an online library, it has tags that are involved in organizing online content and for easy retrieval

of bookmarked resources. More so they did not know that Delicious, Pinterest, Flickr and Diigo are examples of social bookmarking sites. This finding agree with the report of Farewell and Waters (2010) that social bookmarking sites are the least known social media sites among users. Also, the finding aligns with the finding of Adegbilero-Iwari et al (2014) who found out that students in Ekiti state are not aware of social bookmarking sites. This finding might because some teachers are not tech savvy and are not familiar with all the social media platforms apart from social networking sites.

The grand mean score of 1.79 indicates that the extent of utilization of social bookmarking sites among science teachers in secondary schools in Agbani Education Zone of Enugu State is a low extent. The male and female science teachers did not differ in their opinion regarding extent of utilization of social bookmarking sites. This finding strongly upheld the finding of Adegbilero-Iwari et al (2014) who found out that students in Ekiti state rarely utilize the services of social bookmarking sites because they are not aware of it. This finding is as result of low knowledge of social bookmarking sites among science teachers.

Conclusion

The findings of the study revealed that science teachers in Agbani Education zone of Enugu state possess low level of knowledge of social bookmarking sites and the extent of social bookmarking sites among them is to a low extent. This is an indication that social bookmarking sites are not popular among teachers in Agbani Education zone of Enugu state.

Recommendation

- Teachers should be motivated to use these tools as some of them may provide ideas that could further improve their knowledge of their subject hence their productivity.
- There should be workshops and seminars on the use of social media in education especially retrieving information from social bookmarking sites. This provides teachers with practical and functional knowledge of the workings of social media and associated technologies.

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