



ADOPTION OF WEB 2.0 TECHNOLOGY APPLICATIONS FOR TEACHERS IN CLASSROOMS

Md Shebaz Ahmed

Research Scholar, Sunrise University, Alwar, Rajasthan

Dr. Babita Choudhary

Research Supervisor, Sunrise University, Alwar, Rajasthan

ABSTRACT

Everything we do has been altered by technological advancements. As technology is now essential to everyday life, it is inevitable that it will also be included into the classroom. The main aim of the study is adoption of web 2.0 technology applications for teachers in classrooms. There was a combination of different research techniques used in this study. Quantitative (e.g., tests, surveys) and qualitative (e.g., focus groups, interviews) data collection, grouping, and assessment are all part of the analysis of mixed methods. The purpose of this survey was to collect feedback from faculty and students on the usefulness of Web 2.0 tools in academe.

Keywords: Application, Technology, Advancement, Qualitative, Faculty

1. INTRODUCTION

Everything we do has been altered by technological advancements. Technology's pervasive role in modern culture makes its incorporation into classrooms a must. In many ways, technology may be used to enhance classroom instruction. Teachers, students, and parents may all benefit from open access to cutting-edge educational resources online. The development of technology has altered human interaction, education, and thought. In addition to have a positive impact on society as a whole, it also has an impact on the way people interact with one another on a daily basis. Keeping up with the ever-increasing rate of change and improvement in the technological world is essential. Technology has become an integral part of our lives in this modern day. The days of schools just using age-old techniques to instruct students are long gone. The time has come for schools to start using a more hybrid approach to instruction. Technology-based learning is the wave of the future, and they should support it. Having a single device replace 10 textbooks is a huge money saver. Using digital learning technology in the classroom has the potential to increase student engagement, better instructors' lesson planning, and promote individualised learning for each student.

The World Wide Web is what really revolutionised the internet from a collection of computers into a useful resource for connecting and sharing knowledge with the world. The World Wide Web serves as a connector for online learning tools. The World Wide Web (or simply the Web) is a network of interconnected computers and servers that store and display webpages and other types of online content to users worldwide. These sites host a wide variety of material, including written text, digital images, audio files, video clips, and more. The information on these websites is available over the internet and may be accessed from any location in the globe using a variety of different devices.

Web 1.0

Web 1.0, the first iteration of the World Wide Web, existed from 1989 until 2005. The plan was laid up as a network for gathering data. Web inventor Tim Berners-Lee agrees with the original thinking that the Internet is primarily a reading medium. It had rudimentary support for user-to-user communication, allowing for the exchange of information but not allowing for any interaction with the website itself. At this stage, the Web mostly served as a passive medium. For those unfamiliar, Web 1.0 refers to the initial iteration of the World Wide Web, which was effectively described as follows: "It is an information space in which the things of interest considered as resources are recognised by global identifiers known as Universal Resources Identifiers" (URLs). The original, pre-WWW web existed purely for the purpose of delivering static pages and information. In contrast, we could use the early web to actively seek for and find the data we needed. Not much was available for the audience to do or contribute. HTML, HTTP, and URI are all foundational web protocols that are part of Web 1.0 technology.

Web 2.0

The term "Web 2.0" refers to the Internet's current iteration, its second generation. In 2004, Dale Dougherty recognised it as a platform that supports both reading and writing. In this context, "Web 2.0" may also refer to online user communities that are characterised by more communication compared to the Web's earlier iterations. Web2.0 is dominated by push/pull applications like Facebook, blogs, and other social media, whereas Web1.0 is dominated by "pull" technologies like Web pages, audio and video clips, and animations. The well-known meme-map may be used as a springboard for developing novel concepts for Web 2.0 tools. According to Miller (2005), Web 2.0 is all about the evolution of information services into discrete modules that may be combined to generate new applications by both programmers and end users.

2. LITERATURE REVIEW

Perumal, Bagdha& K, Vinothkumar (2022) This article explores the use of web 2.0 applications in the classroom. To take advantage of the potential and opportunity presented by Web 2.0 applications, educators must feel at ease bringing new technology into their classrooms. This presentation provides a concise introduction to the categories of web 2.0 and their applications in education and the classroom. Tools including Glogster, Kidblog, linoit, livebinders, Skype, Storybird, VoiceThread, and Wordle—along with their educational benefits—are shown. Although this article suggests these technologies have considerable promise, it also demonstrates the need of careful planning to match educational endeavours with their capabilities. Instructors need to design activities in which students' subject learning or personal lives are meaningfully connected to the communication afforded by Web 2.0 platforms (PDF) Implications of Web 2.0 Tools for the Classroom.

Singh, Madhu&Kumari, Aakansha (2022) Web2.0 is an ever-evolving suite of apps that promises vast improvements in communication, teamwork, and creativity. The phrase "Web2.0" was coined by Darcy Di Nucci in a January 1999 blog post titled "Fragmented Future," but it wasn't widely used until Tim O'Reilly's Web 2.0 conference in late 2004. To put it simply, Web 2.0 is the internet as it should have been built from the ground up all along. The goal of this article is to assess whether or not academics are familiar with Web2.0 and its uses. The report also shows the degree of acceptance and the most well-liked apps among professors. It also represents teachers' views on the advantages and disadvantages of adopting Web2.0 technologies in the classroom. Instructors at Patna, India's professional schools are the focus of this research.

Mamman, Joshua (2019) This report analysed how universities in Nigeria used web 2.0 tools to improve business education instruction and student outcomes. By interviews and surveys, the authors of this work aimed to find out how web 2.0 tools are being used in Nigerian higher education institutions to enhance business education for both faculty and students. Quantitative and qualitative methods were used in the investigation. Quantitative methods employed a descriptive survey, whereas qualitative research relied on content analysis. Thirty-eight professors and 113 students were utilised as respondents. All 151 questionnaires that were sent were collected and analysed for data. The qualitative information was collected through a semi-structured interview. Quantitative data was analysed using mean, standard deviation, and rankings. To determine whether or not the alternative hypothesis was true, a t-test for independent samples was performed at the 0.05 level of significance. We found two overarching themes in the qualitative data. The research showed that web 2.0 tools are not employed in business school classrooms. Some of the reasons why online technologies are rarely utilised in the classroom include teachers' and students' discomfort with openness, public speech, and interactions. The results led researchers to infer that business school graduates would not be equipped with the necessary skills and knowledge to succeed in the workplace of the twenty-first century. The research found that both professors and students in business education might benefit from receiving technological assistance in order to redirect their usage of web 2.0 technologies from purely recreational to pedagogical pursuits.

Rogers-Estable, Michelle (2014) To better understand which tools are being used in the classroom, this research investigated existing applications of new Web 2.0 technologies in higher education. Out of a total of 189 invited college professors from three western US colleges, only 54 responded to the poll. To provide an additional method of analysis, the poll also contained free-form questions. Respondents indicated a favourable outlook on Web 2.0 usage in the classroom, with 75% indicating that these technologies would assist students and 83% saying that they would enhance teacher-student relations, and claiming that intrinsic reasons such as a lack of time and training were the primary impediments to use. Just 44% of respondents, in comparison, reported using at least four of the thirteen Web 2.0 technologies with students. The findings would suggest that extrinsic issues (time, training, support) rather than internal ones (beliefs, motivation, confidence) are the key obstacles to faculty utilising more Web 2.0 in education, since the stated uses did not align with the claimed advantages. In order of popularity, the top five Web 2.0 applications are as follows: (a) video sharing through sites like YouTube; (b) instant messaging; (c) blogs; (d) social communities via sites like Facebook; and (e) podcasts/video casts.

Ward, Rod & Moule, Pam & Lockyer, Lesley (2008) Research on the impact of Web 2.0 tools on the training of UK healthcare workers is presented (UK). This is an integral aspect of a larger research project examining the breadth of e-learning's impact. The aims of the project were to: E Examine the use of e-learning in curriculum covering a variety of teaching approaches É Identify challenges to adoption and good practise É Evaluate the use of e-learning by early and late adopters In the first round, 25 universities' adoption and progress in this area were tracked by postal survey. Two early adopter and two late adopter case studies were found in the second phase, echoing the characteristics found in the first. Case studies included talking to students and faculty about the things that really mattered to them. The most important results indicated that there is a wide range of activity in the field of e-learning creation and application. Just a small percentage of students actively explore different forms of online interactive learning, with the vast majority instead focusing on more traditional instructivist ways to learning that are administered via a Virtual Learning Environment. In this article, we'll look at the research's results as they pertain to the scant adoption of Web 2.0 tools. The ethical, legal, and societal repercussions of the advances of the present and the future will be discussed.

3. METHODOLOGY

There was a combination of different research techniques used in this study. Quantitative (e.g., tests, surveys) and qualitative (e.g., focus groups, interviews) data collection, grouping, and assessment are all part of the analysis of mixed methods. The investigator may broaden and deepen their understanding and documentation by combining quantitative and qualitative methods. The approach used by the researcher is referred to as the research design. The analytical model describes the methodology used in such a study. In this study, we employed a mixed-method research strategy to get to the bottom of the issue. The goal of the interview phase

was to offer context for the data gathered in the survey phase. Several writers argue that research with a qualitative and quantitative component are best categorised as mixed methods studies. As a quantitative technique, a questionnaire was employed to inquire about several aspects of Web2.0 among professors. In order to delve into many facets of this study, the researchers used a qualitative approach using structured interviews. Method triangulation, as defined by Denzin (2010), makes use of a variety of qualitative and/or quantitative approaches to address a specific problem, whereas data triangulation draws on data from several sources or from multiple dimensions of the same source to investigate a single item.

3.1 Sample and Sampling Technique

In this study, researchers used a random sampling strategy. The first step was to employ a random sample method to choose the schools from the pool of Patna's professional universities. Five schools offering each professional programme were chosen at random using a lottery system and a random sample procedure. One hundred and fifty pupils and twenty-five instructors were chosen at random for each class.

4. RESULTS

4.1 Quantitative Analysis of Responses from Faculty Members

4.1.1 Familiar with the term Web 2.0

The teachers who took part in the survey provided their thoughts on how well the phrase "Web 2.0 application" is known. This is a study of instructors' replies depending on how well they know the phrase "Web 2.0:"

Table4.1 Faculty members' familiarity with the phrase "Web 2.0"

Response	No.of respondents	% ofrespondents
Yes	59	71.08
No	9	10.84
To some extent	15	18.08
Total	83	100

As can be seen in Table 4.1, 71.08 percent of the professors are very or somewhat acquainted with the phrase Web2.0 technology, 10.84 percent are not, and 18.08 percent are not at all knowledgeable. So, the vast majority of professors (71.108 percent) had heard of Web 2.0.

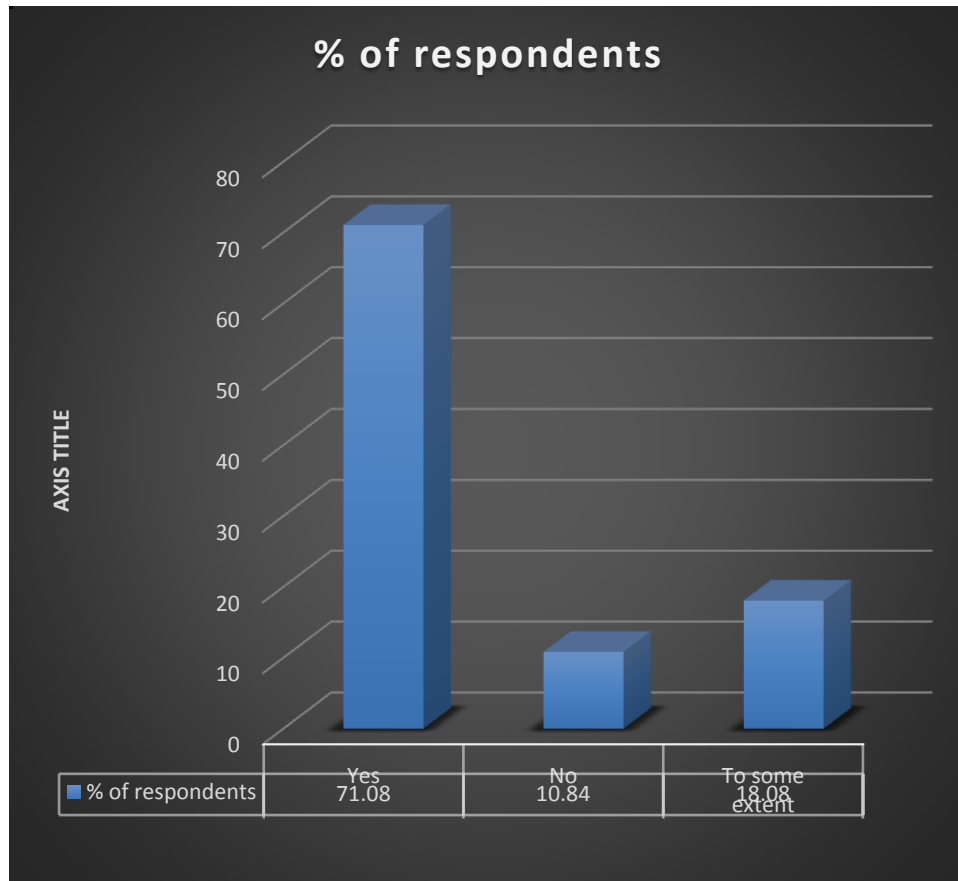


Fig.4.1: faculty members' level of Web2.0 literacy

Table 4.2 Differences in the most common answer of faculty members who say they are acquainted with the phrase "Web 2.0"

Item	Demographic Variable	Group	Response (N)	χ^2	Level of Significance (p-value)
Familiarity with Web2.0 Applications	Age	26-35	26	18.96	Significant at .01 level
		36-51	29		
		≥ 51	04		
	Gender	Male	36	2.86	Not significant
		Female	23		
	Course of study	Teacher education	11	2.89	Not significant
		Management	18		
Law		12			
Mass Communication		18			

Table 4.2 shows that the computed value of 2 (18.96) for dfX^2 at the .01 level is more than the tabulated value (9.21). For this reason, there is a considerable generation gap among the teaching staff. Teachers in the medium age range (36-51) are the most likely to have heard of Web 2.0 apps, as seen in the table. Table 4.2 reaches a similar conclusion, showing that the estimated value for $X^2 = 2.86$ is smaller than the tabulated value (3.84) for $df 1$ at the .05 level. Hence, there is no discernible gender gap among professors.

4.1.2 Awareness about Wikis

The responding educators discussed their level of familiarity with wikis. This is a breakdown of instructors' replies according to their level of wiki knowledge:

Table 4.3 Instructors' familiarity with Wikis

Response	No. of Respondents	% of Respondents
Yes	67	80.72
No	9	10.84
To some extent	7	8.44
Total	83	100

According to Table 4.3, 80.72 percent of professors are familiar with wikis, 10.84 percent are not, and 8.44 percent are familiar with them just to a limited level. Hence, the vast majority (80.72%) of professors are familiar with wikis.

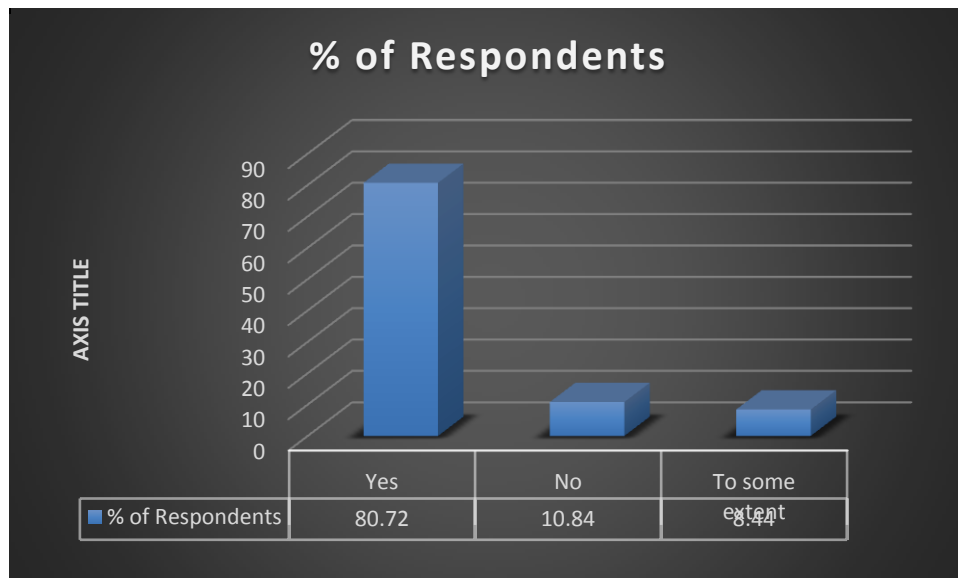


Fig.4.2: faculty members' familiarity with Wikis

Table 4.4 The most notable Wiki awareness gaps between students and teachers

Item	Demographic Variable	Group	Response (N)	χ^2	Level of Significance (p-value)
Awareness about Wikis	Age	26-35	30	25.47	Significant at .01 level
		36-50	34		
		≥51	3		
	Gender	Male	41	3.36	Not significant
		Female	26		
	Course of study	Teacher education	13	1.95	Not significant
		Management	19		
		Law	15		
Mass Communication		20			

Based on the data presented in Table 4.4, it can be concluded that the χ^2 value (25.47) for df 2 at the .01 level is higher than the tabulated value (9.21). For this reason, there is a considerable generation gap among the teaching staff. Educators in the medium age range (36-50) had the highest levels of familiarity with the phrase "Web 2.0 apps," as seen in the chart below.

Similar to the previous example, Table 4.4 suggests that the computed χ^2 value (3.36 at .05 level) is lower than the tabulated value (3.84 at .05 level) for df 1. Hence, there is no discernible gender gap among professors.

4.1.3 Awareness about Blog

The responding educators discussed their students' familiarity with blogs. Below is a breakdown of teachers' responses based on their level of blog familiarity:

Table 4.5 Professorial Blog-Awareness

Response	No. of respondents	% of respondents
Yes	56	67.48
No	9	10.84
To some extent	18	21.68
Total	83	100

Table 4.5 shows that 67.48% of professors are fully familiar with the concept of blogs, 10.84% are not, and 21.68% are familiar just to a limited level. As a result, the vast majority (67.48 percent) of professors had heard of blogs.

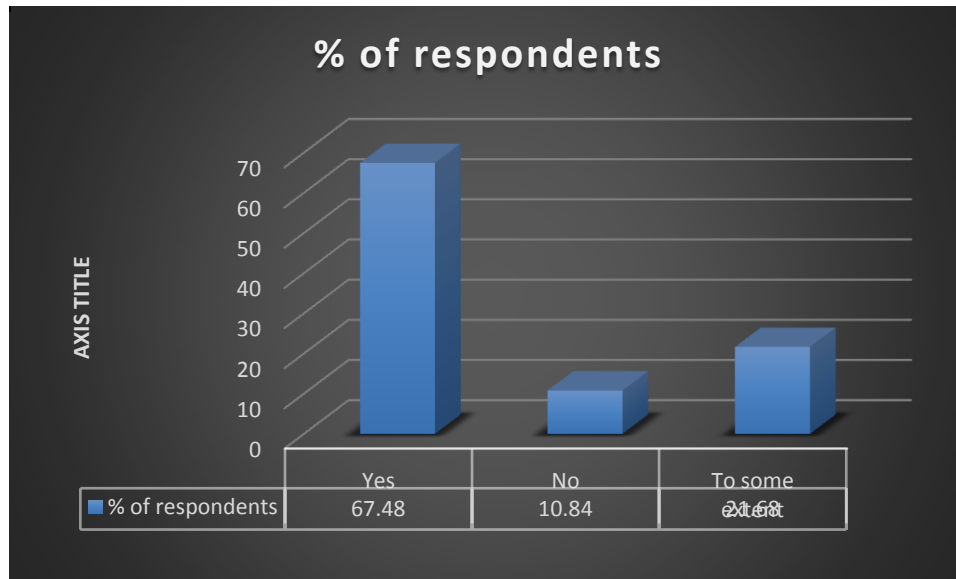


Fig.4.3: faculty members' familiarity with blogging platforms

Table 4.6 Distinct variations in professors' reported levels of Blog awareness

Item	Demographic Variable	Group	Response (N)	χ^2	Level of Significance (p-value)
Awareness about Blog	Age	26-35	26	22.44	Significant at .01 level
		36-50	28		
		≥ 51	2		
	Gender	Male	36	4.57	Significant at .05 level
		Female	20		
	Course of study	Teacher education	12	0.71	Not significant
		Management	15		
Law		13			
Mass Communication		16			

Table 4.6 shows that the computed value of χ^2 (22.44), when compared to the tabulated value of χ^2 at the .01 level, is greater than the value of (9.21). For this reason, there is a considerable generation gap among the teaching staff. Educators in the medium age range (36-50) had the highest levels of familiarity with the phrase "Web 2.0 apps," as seen in the chart below. Comparatively, the computed χ^2 value (4.57) for df 1 at the .05 level is higher than the tabular value (3.84). As this is the case, there is a clear disparity between the proportion of men and women in the academic staff.

5. CONCLUSION

The purpose of this survey was to collect feedback from faculty and students on the usefulness of Web 2.0 tools in academe. The city of Patna, Bihar's capital, served as the survey's primary location. Data was collected from a random sample of respondents. Eighty-three educators were randomly chosen to provide feedback on the use of Web 2.0 tools for enhancing student learning and faculty research. Out of a total of 83 teachers who participated, 17 were from local institutions of higher learning dedicated to teacher preparation, 24 were from local institutions of higher learning focused on management, 19 were from local institutions of higher learning focused on law, and 23 were from local institutions of higher learning focused on mass communication. The term "Scope of the study" refers to the limits of the research or the topics that have been examined. Using Patna as a case study, this research looked at how universities there are using Web 2.0 tools to improve student learning. The research focused on higher education establishments in Patna related to teacher education, business, law, and media. Some of these schools were public while others were independent (or component) institutions.

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