SKILLS AND COMPETENCIES REQUIRED TO INTEGRATE WEB 2.0 TECHNOLOGY INTO TEACHING LEARNING PROCESS IN INCLUSIVE CLASSROOM SETTINGS

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Abstract : Integrating web technology into classroom instruction is not just limited to teach basic computer skills and software programs to teachers. It means using the web 2.0 tools like Facebook, email, blogs, discussion form to teach students in normal classroom which can cater the needs of each and every student in classroom. Now, the question raises why we are paying emphasis on the integration of web technology into teaching- learning process. The answer of this question is that evidences depicted that student achievement and academic performance is positively affected by technology integration in classroom. Moreover, The Center for Applied Research in Educational Technology (CARET) found that, higher order thinking and problem-solving skills is promoted by web integration. Besides this, integration of web technology ensures the active participation of students, collaboration among students, frequent interaction and feedback, and interaction with real- world experts. Keeping into mind the benefits to integration of web technology, there is need that teacher should integrate web resources into their teaching learning process. For this, there is a need to identify those skills and competencies which are required for web integration. So, in this paper, I will discuss those skills and competencies.

Index Terms: Web 2.0 Technology, Inclusive Classroom Setting, Skills, Competencies

1.   Introduction

In this paper, firstly I will try to highlight the importance to use technology in the classroom. With the help of technology specifically web technology, the teachers use different technological tools like websites, app, learning games, e-books and virtual tutorials which help the students to learn at their data.

According to Dario de Judicibus "Web 2.0 is a knowledge-oriented environment where own pace. Students use web technological tools to find out the answer of their questions by assessing internet instantly. Moreover, students give the preferences to study with the help of computer, tablets, smartphone and internet because of students feel comfortable while using these tools which connect student with other students, their instructor and institution. Along with this, teacher also give importance to web technology because of it promote digital skills, workplace soft skills. Additionally, according to PBS Survey, 2013, Mostly, teacher used websites as a technological resource to teach students in classroom. It is cited that 56% of educators use websites. Some teachers create their own website. The development and maintenance cost of website is less as compared to print textbook and worksheets. Moreover, it is easy to update web site as compared to printed book.

2.   MEANING OF WEB 2.0 TECHNOLOGY

When the computer is communicated with others computers by using markup languages and multimedia packages is called deweb 2.0 technology. According to O'Reilly Web 2.0 technologies give rich and lightweight online tools that allow the users to create new

human interactions generate content that is published, managed and used through network applications in a service-oriented architecture" (as quoted in Deloitte consulting LLP. 2008).

Oxford Dictionary defines Web 2.0 as, "the second stage of development of the Internet, characterized especially by the change from static web pages to dynamic or user-generated content and the growth of social media."

3.   FEATURES OF WEB 2.0 TECHNOLOGY

 The main features of Web 2.0 are:

• Web 2.0 give the data almost free of cost. The teacher can discover the data according to their needs and manipulated in a variety of ways to achieve their purposes.

• Web 2.0 technology is used to build virtual applications.

• Web 2.0 technology encourages active participation among internet users. Web 2.0 technology made internet users as content producer whereas web 1.0 technology had made internet users as information consumer.

• Web 2.0 applications are used for users to locate and assemble the content according to needs of users.

• Web 2.0 encourage communication among different learning communities. (Khatoon, and Ravi, 2008)

4.   WHY WE NEED TECHNOLOGY INTEGRATION IN TEACHING LEARNING PROCESS

Technology, when integrated into the teaching learning process, it brings revolutionary change in the learning process. The study of Hawawini (2005) revealed that students learning outcomes are improved when technology integrate in teaching learning process. Due to advancement in technology, the teachers moved from behavioral approach to constructivist approach. Students get engaged in their learning by using these powerful tools and become the creators of knowledge instead of just consuming knowledge. Another reason for technology integration is to develop 21st century skills like critical, creativity and reasoning thinking skills, decision making skills, problem solving skills, to use technology and choosing the most appropriate tool for the task. These skills can be developed by using web 2.0 tools.

5.   INCLUSIVE CLASSROOM SETTING

Inclusive classroom practice means to make sure that students should be teach in such a way that the needs of every students can be catered. Inclusive classroom practice is about identifying educational needs of every students, and then making suitable changes in environment according to needs of students. Success of inclusive education depends upon planning, teaching and appropriate adjustment. For inclusive classroom settings, parents, teachers, school administrates work together. Being flexible is another feature of inclusive classroom setting. Being flexible means to find our creative way to teach, organize support.

Inclusive education setting means to educate normal students and students with special needs under the same roof. Students with the special needs receive indirect support in normal classroom by their regular teacher. To give assistant to SEN Students, the regular classroom teacher may consult from the experts from special education field. Special education consultants, educational psychologists provide external in class assistance in the form of specialized instructions.

6.   SKILLS REQUIRED TO INTEGRATE WEB 2.0 TECHNOLGY INTO TEACHING-LEARNING PROCESS

Gulbahar (2008), Poole (2012), Andrade (2012), Thompson (2014), Plano (2016), Fort (2017),   found that following skills for required to integrate web into teaching- learning process.

1.   **Internet Search and Research skills**: Teacher should have skills how to search material online by using relevant search terms and modifiers and also have knowledge about the reliable resources from where teacher can take the material for preparing his/her lesson. This skill is not only needed for teachers. It is the duty of teacher to teach proper internet search skills to their students. The teachers and students should have skills to find out scholarly and peer-reviewed materials to use.

2.   **Productivity Apps** : Productivity apps include presentation tools like presentation tube, and prezi, Word Processing such as Google Docs, Blogs, Wikis, Spreadsheets, Presentation Tools, Note taking and organization apps**.** The teacher should have the skills to create document, presentation and spreadsheets. Besides these skills, teacher should also have knowledge how to edit and modify the document if there is something wrong in it. They need to know how to use different productivity tools as an educator or teacher and how to show students how to use them. The teachers should also explore other features of these apps and tell about new features which he/she found while exploring it to students. Teachers should have knowledge how to operate digital calendars, to-do lists, note taking apps.

3.   **Digital Citizenship: Internet/Email/Social Media etiquette** – teacher should have knowledge to write professional emails, and how to attach files and how to download attached files. The educator should have skills how to send online assignment to students. The teacher should use the web and social media for interaction among the students by using discussion board, chat room and making facebook and whatsapp groups.

4.   **Security and Safety:** As we all know that antivirus, spam, sharing too much personal information, hacking of bank detail are all issues which are related to use internet. So, it is important that teacher should have knowledge about all these issues and have skills to solve the problem related to security and safety. Moreover, it is the responsibility of teacher to teach the student what type of the information should be given to anyone while using online services.

5.   **Hardware basics and troubleshooting/ Networking Skills** – the teacher should have knowledge about different parts of technology, name of different parts. The teacher should have the skills to identify technological problems if the system is not working well and also knowhow to fix minor problem, and how to do basic troubleshooting for Wi-Fi, networks.

6.   **Backup data** – As we know that teachers and educators create word document and excel sheets to store the data related to student progress and data related to school administration. So, it is important to back it up and have access to it at any time. In many cases, we have witnessed the teacher who have lost their flash drive and some teacher who never backed up their files somewhere else. But, now time is totally changed. In the web 2.0 technology era, the educator should have knowledge about to use storage devices like Google Derive, O-cloud, Dropbox. Today, the best option of storing data is to create google docs.

7.   **Skill of Finding apps and software** – As we know that different web 2.0 tools like blogs, email, wikis, discussion room, presentation tube, google docs are available to teach students. Due to this reason, it is important that teacher should have skill to find appropriate tools like if the teachers main objective to develop the skill how to ask question and how to give explanation. At that time, teacher will use discussion board and chat room. Along with this, teacher should have to skills how to evaluate the student's performance by using particular web 2.0 tools, and how to use apps for school. Also, the teacher should have ability to find out free alternatives of those software, apps and services which are paid.

8.   **Word processor:** As we know that with the time, the version of word processor has been changed**.** The teacher uses word document as a tool to create wikis, blogs and other online material**.** The educators should have the skills to operate latest version of word processor. This will enable the teacher to complete their written task in efficient manner. The teacher should have skills to create table, Graphs, Chats, Flowcharts and insert hyperlinks in the word document.

9.   **Spreadsheet Skills :** An excellent mastery of spreadsheets applications is also among the top ones in 21st century skills list for educators. Such an invaluable software will let you conduct some of the most pertinent aspects of your teaching duties in a convenient and highly methodological way. Some of the most notable of these duties are compiling grades for your students and even masterfully charting any critical data you might wish to pass to them.

10.   **Electronic Presentation Skill:** Electronic presentation applications give the visual representation of text. The teachers should have the skills to create effective presentation slides which involves audio, video, graphics and animation which attract the attention of students. Now, the question arises that why teacher should be capable to create effective presentation for integrate web technology in classroom. The answer of this question is that teacher use word processing and presentation software as a tool to create the material for their own website.

11.   **Internet Navigation Skills**: world wide web is known as a great storehouse from where we can find out all kind of information. For web-based education, the teacher firstly finds out the information related to particular topic which available at different websites.   That's why the teacher should have skills to navigate the internet efficiently to extract data, information or teaching resources. The teacher should have well versed with the knowledge of basics how to search information online and also have knowledge of new search engines.

12.   **Email Management Skills**: As an educator and teacher, we should have skills how to send and receiving email messages. Along with this, teacher should have skill of mass mailing, to insert link and even the utilization of email attachments in your communications with both your colleagues and students.

13.   **Skill of using Social Media as a tool:** Modern teaches are thinking about such type of tools which increase the interaction among the students and teacher. Today, the teacher does not want that his students do not remain limited to paper notes which are given by teacher to students, and the information provided through whiteboard. They use different web 2.0 tools like by creating his website and blogs to provide the maximum information to students except that which is provided by him in the classroom. For this purpose, the teacher should have skills to create web site and blogs and update it by uploading notes on assignment and images. Social media like tweet and post in Facebook Groups so that student can see the assignment and parents of students can become aware about the content by making content visible to parents. By using this strategy, there will be no excuse for not remembering the homework.

14.   **Cloud Storage and File Sharing skill**: Today, the era is of collaboration. The student uses google docs to complete the collaborative project without taking worry of saving document again and again. They share their document to their teachers to get feedback from teacher instead of giving print out of that document. Teachers can share notes with absent students, and send follow-up materials with students, and create a resource hub through file storage tools. So, there is need that teacher should have skills to use these storage devices.

15.   **Digital Research and Source Checking skill:** Now the scenario is totally changes, nowadays students and teacher use internet to write the paper, to complete the assignment and project. If teachers are going to use the internet to provide the study material to students. For this, teachers should have skills how to find reliable sources. The teacher should have skills to find out Google Books, relevant articles in Google Scholar, along with visiting blogs and website for reliability.

16.   **Search the Web Effectively:** Google and other search engines are helpful to find out useful apps, program, blogs and research material. If the teacher uses ambiguous terms to find the information, then it will take more time to find out relevant information. The teacher should have skills to search the relevant information about the particular topic by using relevant search terms.

17.   **Skill of Using Multimedia Content to Engage and Stimulate Students:** teachers use infographics, images, audio and visual material to develop curiosity among the students. The teachers can use educational channels and videos on YouTube to present engaging content to students. The teacher should have skills to select videos to enrich his/her lesson plan and skill to find videos and knowledge where to add these videos in a lesson.

18.   **Create a class webpage:** A class webpage is like online bulletin board where teacher can post announcements, material and assignment. The teacher should have skill to create their own website for teaching.

19.   **Use an online grading system:** Teacher use websites for online grading to track grades, record attendance and seating charts, and compile reports on student progress. Therefore teacher should have knowledge how to prepare e-portfolio, rubrics and WebQuest**.**

20.   **WebCT or Blackboard Teaching Skills:** Educators should have skills to use online teaching tools and also have skills to use these online tools to take the class.

21.   Video Conferencing skills: Educators should have skills to use a video conferencing as a tool to teach students and have knowledge about the basic requirement to teach students with the help of Video conferencing.

7.   COMPETENCIES

Competency word is used by different people in different context. Competency term is used into two context i.e teacher education and job performance. Competencies include the knowledge, skills and values of a teacher-trainee must demonstrate for successful completion of a teacher education programme (Houstan, 1987). Competencies are defined as "the set of knowledge, skills, and experience necessary for future, which manifests in activities" (Katane et.al., 2006).

8.   BASIC TECHNOLOGY COMPETENCIES

Fundamental skills are important to integrate technology into classroom. Fundamental skills mean how to manage electronic files, how to create spreadsheet and database, how to handle email messages, and creating documents with graphics. These skills are basis for learning more advanced skills. Advanced skills include knowledge and skills to access online material, creating desktop publishing documents, creating multimedia presentations, knowledge to select online software and instructional software to fulfil the needs of students,

skills to keep record electronically. The competencies are organized into five aspects: productivity, communication, research, media and presentation (Lawrence and Veena (2015)

1.   Productivity

* **Produce and manage learning documents***:* This includes skills to write parent newsletters and handouts for students. The teacher should have competencies to prepare class material and include that material in their classroom teaching effectively.

* **Analyse quantitative data***:* This includes the teacher have competencies to prepare spreadsheet of student result by putting student scores into spreadsheet and analysing them. So that teacher can provide feedback to online student. The teacher should have competencies for developing instructional material with the help of digital tables and graphs.

* **Organize information graphically***:* the teacher should have competencies to use specialized graphic organizers like word processors and presentation programs to create digital presentation of information which is going to give to students by teacher.

2.   Research

* **Use effective online search strategies***:* Teacher should have competencies to select and use appropriate research tools and database to produce useful and safe online resources for classroom assignment and for professional preparation. So that teacher should have knowledge and skills to select and use online search strategies effectively.

* **Evaluate and compare online information and sources***:* Once the teacher located the learning resources which are going to use by teacher for his/ her teaching. He/she should have knowledge to find out difference between reliable and untrustworthy sources. Teacher should have to teach these skills to students.

* **Save and cite online information and sources**: The teacher should have knowledge about different methods for bookmarking and saving appropriate and relevant online resources so that teacher can use saved information and employed in learning materials.

3.   Communication

* **Communicate using digital tools.** These include that teacher should have competencies how to organize and manage email, instant messaging, Discussion, chat group and video conferencing in the classroom.

* **Collaborate online for learning***:* The teacher should have competencies to use blogs, wikis, chats, audio and videoconferencing to use outside resources into the classroom and to encourage academic collaboration among students.

* **Publish learning resources online***:* From a simple teacher's web site to a complex curriculum wiki to the online posting of student projects, to podcasting, the teacher has mastered an array of tools and techniques for publishing learning materials online.

4.   Media

* **Differentiate instruction with digital media:** This includes a knowledge and skill to use assistive technologies for disabled students. The teacher should have skills to prepare and present academic ideas in variety of forms for better learning of all types of learners by using computer and other web 2.0 tools.

* **Capture and edit images, audio, and video***:* The teacher should have competency to use digital and video cameras to click photos and make audio and video and skills to edit images, audio and video and create learning material.

* **Produce digital multimedia educational experiences***:* teacher should have competency to make useful presentation of academic content by using media resources from wide array of sources and teacher should teach this skill to students.

5.   Presentation

* **Create effective digital presentations***:* the teacher should have competencies to create presentation by using slide shows, videos, and podcasts by following the principles of communication.

* **Deliver digital multimedia presentations***:* The teacher should have competencies to set up classroom setting by Using common devices such as computers, projectors, website, e-resources and screens.

- **Employ new media devices for learning:** The teacher should have skill to incorporates a variety of digital devices from large Smart Boards to tiny iPods to science probes into the instruction in the classroom. The teacher should have competencies to use these tools in classroom teaching.

These are skills that are requirement for every teacher needs. Beyond these are the more specific technical skills required of a high school math teacher or a teacher of visually-impaired students, competencies that would be embedded into specialized courses and programs.

CONCLUSION

In this article, we found out that integration of web technology in teaching learning process increase the achievement of students and improved their performance. With the help of web 2.0 tools, the students feel engaged in their learning which gives the satisfaction to them. To take advantages of web technology, it depends upon skills and competencies of teachers to integrate it. In this paper, I discussed that skills and competencies. So, there is need that teacher preparation programme should give importance and attention to develop these skills and competencies.

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