AWARENESS ON WEB 2.0 TOOLS IN TEACHING-LEARNING PROCESS AMONG PROSPECTIVE TEACHERS AT SECONDARY LEVEL

HASEENA K.V

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DECLARATION

I, **HASEENA K. V.,** do hereby declare that this dissertation "**AWARENESS ON WEB 2.0 TOOLS IN TEACHING- LEARNING PROCESS AMONG PROSPECTIVE TEACHERS AT SECONDARY LEVEL**" has not been submitted by me for the award of a Degree, Diploma, Title or Recognition before.

Farook Training College **HASEENA K.V**

Date:

CERTIFICATE

I, **Niranjana K.P**, do hereby declare that this dissertation "**AWARENESS ON WEB 2.0 TOOLS IN TEACHING- LEARNING PROCESS AMONG PROSPECTIVE TEACHERS AT SECONDARY LEVEL**" is a record of bonafide study and research carried out by **HASEENA K.V,** under my guidance and supervision. The report has not been submitted by her for the award of a Degree, Diploma, Title or Recognition before.

Farook Training College
Date:

NIRANJANA K. P
Supervising teacher
Assistant Professor in Education
Farook Training College

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Education is one of the most powerful systems of our society for the growth and development of a nation. The Education system of a society reflects its image and development. Education is the process of facilitating learning, or the acquisition of knowledge, skills, values, beliefs, and habits. Educational methods include storytelling, discussion, teaching, training and directed research. The current education scenario in India is passing through an information age where there is knowledge explosion and skills essential for living has become increasingly complex and interdependent. Technology in this regard, is one of the most essential component of education and training at all levels of education. Information and communication technology can be an extremely powerful tool to bring positive and sustainable development to countries around the globe. Today, information must flow faster than ever before. Being able to use Information and Communication Technology (ICT) tools effectively is vital for life in today`s world. All the fields, like education field, are ready to accept the power and speed of Information and Communication Technologies for the improvement of their performance through information exchange and fast communication facilities used in Information Technology (IT).

Today, IT plays an important role in each aspect of our life. In order to cope up with the technological development everyone needs a basic knowledge about ICT. For most European countries and Asian countries, the use of ICT in education and training has become a priority during the last decade. Now a days the role of ICT, especially internet in the education sector plays an important role in the process

of empowering the technology into the educational activities. Information and Communication Technology has opened the world of education by providing new tools for teachers and students to facilitate learning.

In the present scenario, a drastic change in media technologies and ease of their use has occurring in teaching- learning process as well as educational system. The use of technologies in educational settings has gained popularity and among the technologies, Web 2.0 tools are used in teaching-learning process to enhance its effectiveness. Web 2.0 technologies are used to help students to solve and perform problems in this digital atmosphere, to occupy cognitive skills. Web 2.0 is the term refers to a second generation of World Wide Web making which is available for people to collaborate and share information online easier. Web 2.0 describes World Wide Web sites that emphasize user generated content. Teachers and students can master many of these tools in minutes. Web 2.0 is the term, which is used very often in the last years to describe the interactivity on web. Web 2.0 applications offer all main factors of adoption of new innovations, such as relative, advantage and compatibility.

Web 2.0 tools promote a social collaborative sharing approach to learning. Integrations of various internet tools effectively is necessary for effective education. Educational systems around the world are increasing pressure to use the new information and communication technologies(ICTs) to teach students the knowledge and skills they need in the 21st century. It should be accepted that teachers are vital players in any initiative aimed at improving teaching and learning processes. This is why they have popular all over the world. “In order to allow students to perform

intuitively in digital environments and to easily and effectively access the wide range of knowledge embedded in these domains, the teacher must have some conceptual understanding of the possibilities of their use". (Duffy and Bruns, 2006). "The user is able to concentrate more on the learning task by seeing through the technological environment they are immersed within". (Boulos and Moramba, 2006). "Web 2.0 is a marketing slogan. It is a contrivance, meant to imply a unified movement or wave toward a better web; a coordinated, standards- based, like-minded rebirth, reconstruction, renaissance, resurrection, whatever you want you call it. Many of these changes are incremental, and only related to each other in the broadest, most general sense". (Shaw,2005). "Web 2.0 is the network as platform spanning all connected devices; web 2.0 applications are those that make the most of the intrinsic advantages of that platform: delivering software as a continually updated service that gets better the more people use it, consuming and remixing data from multiple sources, including individual users, while providing their own data and services in a form that allows remixing by others, creating network effects through an architecture of participation and going beyond the page metaphor of web 1.0 to deliver rich user experiences"(O`Reilly, 2005).

Web 2.0 was first coined by O'Reilly Media in 2003. It was then popularized by the first Web 2.0 conference in 2004. According to O'Reilly (2005), "Web 2.0 is the business revolution in the computer industry caused by the move to the internet as platform, and an attempt to understand the rules for success on that new platform." Web 2.0 is a term often applied to a perceived ongoing transition of the World Wide Web from a collection of websites to a full-fledged computing platform

serving web applications to end users. Ultimately Web 2.0 services are expected to replace desktop computing applications for many purposes**.** Web 2.0 is the changing trends in the use of World Wide Web technology and Web design that aim to enhance creativity, secure information sharing, increase collaboration, and improve the functionality of the Web as we know it (Web 1.0). These have led to the development and evolution of Web-based communities and hosted services, such as social-networking sites (i.e. Facebook, Myspace), video sharing sites (i.e. YouTube), wikis, blogs, etc. Although the term suggests a new version of the World Wide Web, it does not refer to any actual change in technical specifications, but rather to changes in the ways software developers and end-users utilize the Web. Web 2.0 is a catch-all term used to describe a variety of developments on the Web and a perceived shift in the way it is used. This shift can be characterized as the evolution of Web use from passive consumption of content to more active participation, creation and sharing.

Web 2.0 Websites allow users to do more than just retrieve information. Now users can build on the interactive facilities of Web 1.0 to provide "network as platform" computing, allowing users to run software-applications entirely through a browser. Users are able to co-author the data on a Web 2.0 site and exercise control over it. These sites have an "architecture of participation" that encourages users to add value to the application as they use it. This stands in contrast to traditional Websites, which limit visitors to passive viewing and whose content only the site owners can modify. “These second-generation internet technologies have opened new doors for sharing information, ideas and even data to understanding of specific

topics. The use of open access web sites, blogs, podcasts and virtual realities can offer new opportunities to further research collaboration in Career and Technical Education (CTE) more than at any other time in our history". (Rhoades, Friedel and Morgan,2009).

In addition, these Web 2.0 tools are supported by social movements that open up copyright and proprietary policies and they can influence student`s performance and learning during the teaching- learning process. Web 2.0 tools are the most popular pedagogical choices with technology affordances in face to face and distance education. Now a days, growing awareness among newer generation about Web 2.0 tools namely blogs, wikis and podcasts as proved many articles and journals on it, and gave many examples of using these tools. In this dynamic world, Web 2.0 tools carry many web based education and offer many unique and powerful information sharing features. During the last years, many Web 2.0 technologies are adopted in various aspects of education. The educational use of World Wide Web supported the integration of collaborative learning by integrating Information and Communication Technologies(ICT).

Need and Significance of the Study

Information and Communication Technology (ICT`s) in education is becoming more and more important and this importance will continue to grow in the teaching- learning process. Today, everyone needs a basic understanding of ICT and it also plays a major role in teaching – learning process. The teachers and learners must gain access to technology for improving learning outcomes. Traditional teaching–learning method has completely changed to contemporary education.

Indian education is becoming more advanced in technology than before, and gives more importance to technological education method. ICT`s education becoming basically a part of our society`s effort to teach in technological integration. National Curriculum Framework of Teacher Education, (2009), speaks on ICT in schools and e-learning as "with the onset and proliferation of ICT there is a growing demand that it should be included in school education, teacher education needs to orient and sensitize the teacher to distinguish between developmentally appropriate and detrimental uses of ICT, it needs to equip teachers with competence to use ICT for there on professional development". ICT has great potential for improving the teaching- learning process, such as, in self instructional programmes, motivational programmes through TV and other media, speedy and accurate evaluation, meeting the problem of mass education, equalised educational opportunities.

Traditional educational contexts are reset by strengthened Web 2.0 tools. Applications of Web 2.0 tools technologies provide more memorable learning experiences. Web 2.0 is not really a thing, but an approach, or shift, in how we use the Web we already have. The key is a change to a more active user who actually creates content rather than just passively receiving it. This change in how we experience the Web mimics a parallel shift occurring in education. Instead of a top-down, "sage on the stage" approach to teaching, we are moving towards a more constructivist, "guide on the side" pedagogy which empowers students and encourages them to take responsibility for, and co-create, their learning experience. Young people seem to be particularly attracted to Web 2.0 developments, often for the social aspects of easy communication, coordination, and online self-expression.

Web 2.0 innovations harmonize well with current thinking about educational practice. In particular, Web 2.0 offers students new opportunities to take more control of their learning and create customized information, resources, tools, and services. Web 2.0 also encourages a wider range of expressive capability, facilitates more collaborative ways of working, enables community creation, dialogue and knowledge sharing, and creates a setting for learners to attract authentic audiences.

Teachers have duty to reach out to our students as best we can. Whether or not we choose to embrace Web 2.0 technologies remains to be seen, but at the very least we should understand the concept and its main components. Web 2.0 provides numerous opportunities for social interactions and collaboration among students, teachers, subject matter experts, professionals in different fields, as well as a host of others with related interests. The pedagogical benefits of Web 2.0 have been well documented in the literature. However, most of the existing studies on the use of Web 2.0 technologies in teaching and learning environments have been anecdotal in nature or in the form of case studies. The potential impact of the design of Web 2.0 environments on cognitive load. While collectively useful in providing a broader view of issues surrounding instructional uses of Web 2.0 technologies, they are limited in scope, as they address such issues within the context of one or two courses.

Today's students are digital natives and make increasing use of Web 2.0 technologies in their daily lives. The vast majority of educators, on the other hand, still have little or no experience with these new tools. Teachers and instructors need to understand what opportunities Web 2.0 tools provide for teaching and learning,

what kinds of barriers they may encounter when using them, and how to effectively implement the new tools in their teaching. Moreover, educators need to be conversant of the fact that the social nature of Web 2.0 tools which makes them attractive as potential learning tools is also one of its drawbacks. The very key to the success of a blog assignment structure, then, is fundamentally counterintuitive. In order to take advantage of the virtual social space that is spontaneously created in the natural blogosphere, course work must dictate the precise level of engagement of the participants, must make the class blogosphere entirely *unnatural* not spontaneously social.

Now a days, Web 2.0 tools are enormously using in teaching- learning process. In educational contexts, Web 2.0 tools are widely using for teaching-learning process. Some of the Web 2.0 tools used in the field of education are Animoto, Pixton, Sketchup, Prezi, Slideshare, Dropbox, Audacity, Edublog, Hotpotatoes, Commoncraft, Educaplay, Gnowledge, Voxopop, Vialogues, Blendspace, Schoopy, Edmodo, Alice, Delicious, Class Tell, Survey Monkey. Podcasts, WiKis etc. To use these emerging technologies, teachers should be aware of digital technologies on the processes and practices of pedagogy in educational settings. New generation are using Web 2.0 tools in their daily life. So, the teachers and instructors need to understand the opportunities of Web 2.0 tools in education. Under this background it is relevant to assess the level of awareness of Web 2.0 tools in teaching-learning process. Thus, the present study aims to analyse the awareness of Web 2.0 tools in teaching- learning process among prospective teachers at secondary level. In order to cater the needs of digital native students the

educators and teachers need to understand the opportunities of Web 2.0 tools that facilitate teaching and learning process.

Statement of the Problem

The present study is entitled as;

"AWARENESS ON WEB 2.0 TOOLS IN TEACHING- LEARNING PROCESS AMONG PROSPECTIVE TEACHERS AT SECONDARY LEVEL"

Operational Definition of Key Terms

Awareness

Good (1959) defined awareness as "the state of being aware, conscious of a situation or object, without direct attention to it or definite knowledge of its nature"

In the present study, Awareness on Web 2.0 tools in teaching-learning process means the knowledge regarding various Web 2.0 tools used in teaching-learning process

Web 2.0 Tools

Web 2.0 tools refers to a second generation of World Wide Web, making it available for people to collaborate and share information online easier. Web 2.0 tools may be defined as those technological tools which are used to create, organize and share information among the users.

In the present study, Web 2.0 tools means those tools which provide new ways of creating, collaborating, editing and sharing content among the teachers and the students.

Teaching- Learning Process

Teaching-learning process may be operationally defined as those classroom interactions which lead to learning.

Prospective Teachers at Secondary Level

Prospective teachers at secondary level means those teacher trainees who are undergoing training at B.Ed colleges.

For the present study, the prospective teachers at secondary level mean those teachers who are undergoing B.Ed courses in teacher education institutions under University of Calicut.

Variable of the Study

Awareness on Web 2.0 tools in Teaching -Learning Process

Objectives of the Study

The major objectives of the study are;

- To assess the level of awareness on Web 2.0 tools in teaching- learning process among prospective teachers at secondary level.
- To compare the level of awareness on Web 2.0 tools in teaching- learning process among prospective teachers at secondary level with respect to gender.

- To compare the level of awareness on Web 2.0 tools in teaching- learning process among prospective teachers at secondary level with respect to their subject of specialisation.
- To compare the level of awareness on Web 2.0 tools in teaching – learning process among prospective teachers at secondary level on the basis of locale of colleges.

Hypotheses of the Study

- There is no significant difference in the level of awareness on Web 2.0 tools in teaching –learning process among prospective teachers at secondary level on the basis of gender.
- There is no significant difference in the level of awareness on Web 2.0 tools in teaching- learning process among prospective teachers at secondary level with respect to their subject of specialisation.
- There is no significant difference in the level of awareness on Web 2.0 tools in teaching-learning process among prospective teachers at secondary level with respect to the locale of the colleges.

. Methodology

Methodology is the description of the procedure of techniques adopted in research study or investigation. The decision about the method selected for the study depends upon the nature of the problems selected and kind of data required for its solution.

Method

The proposed study adopted normative survey method in order to understand the knowledge of prospective teachers at secondary level on Web 2.0 tools in teaching- learning process.

Sample

The population for the study comprises of prospective teachers at secondary level. The sample for the study consisted of 600 prospective teachers studying in various B. Ed colleges of Kozhikode, Malappuram and Thrissur districts of Kerala state. Stratified random sampling technique was used for the selection of sample by giving due weightage to gender, subject of specialisation and locale of colleges.

Tool used for the study

To measure the variable, "Awareness Test on Web 2.0 Tools in Teaching-Learning Process" developed by the investigator in collaboration with the supervising teacher was used. (Haseena and Niranjana, 2016). The test included multiple choice questions related to Web 2.0 tools in in teaching- learning process.

Statistical Techniques

The following statistical techniques were used for the analysis of data;

1. Descriptive statistics
2. Percentage analysis
3. Test of significance of difference between means of large independent sample (t-test).

Scope and limitations of the study

The study was intended to understand the awareness on Web 2.0 tools in Teaching -Learning Process among prospective teachers at secondary level in Kerala. The study was conducted on a sample of 600 students of various B Ed colleges of Kozhikode, Malappuram and Thrissur districts of Kerala state. Due representation was given to factors like gender, subject of specialisation and locale of colleges while selecting the sample.

B.Ed. course is considered as the beginning of pre-service education. The teacher should be aware of ICT. There exists a scope to check the awareness of Web 2.0 tools in teaching -learning process among prospective teachers. The features of Web 2.0 tools in teaching -learning process present infinite opportunities and possibilities of further research. The Web 2.0 tools in educational environment is a new approach and their benefits and drawbacks are not yet fully recognised

Even though precautions were taken to make the study as successful as possible, certain limitations have crept to the study, the following are some limitations which the investigator could not consider due to the limitations of time and other practical difficulties.

- Sample selected for the study considered only the prospective teachers in various B Ed colleges of Kozhikode, Malappuram and Thrissur districts assuming that they are representatives of B Ed colleges in Kerala. It failed to give state-wide representation.

- The sample for the study was limited to 600 prospective teachers due to time constraints.
- The study was limited to BE.d students only and failed to consider students undergoing M Ed programme.
- The awareness test was prepared by considering the web 2.0 tools in teaching -learning process only.

Organisation of the report

The report is presented in five chapters.

Chapter I

The chapter one presents a brief introduction to the problem, its need and significance, statement of the problem, operational definitions of key terms, objectives of the study, methodology, tool employed, statistical techniques used and scope and limitations of the study.

Chapter II

The chapter two gives a conceptual overview of web 2.0 tools in teaching -learning process and review of related studies.

Chapter III

The chapter three describes the methodology of the study in detail with description of variables, objectives, tools employed for data collection, sample selected for the study, data collection procedure and statistical techniques used for the analysis.

Chapter IV

The fourth chapter deals with the statistical analysis of the data collected for the study.

Chapter V

The fifth chapter presents a summary of the study, major findings and conclusion, educational implications of the study and suggestions for further research in the area.

Chapter 2

REVIEW OF RELATED LITERATURE

- *Theoretical overview of Web 2.0 Tools*
- *Studies related to Web 2.0 Tool s*
- *Conclusion*

REVIEW OF RELATED LITERATURE

Review of literature is a written summary of journal articles , books and other documents that describes the past and present state of an information on the topic of the study (Creswell, 2011). It helps to decide whether the findings already available can solve the present problems without further studies. This helps the researcher to delimit and define the problem. Every investigator must know what sources are available and which of them is likely to be put in use and how to find them.

According to Best and Khan (1991) "Effective research is based upon past knowledge , review of literature helps to delimit the duplication of what has been done and provide useful hypotheses and helpful suggestions for significant investigation. It is valuable guide for determining the problem recognizing its significance, suggestions and premising data gathering device, appropriate study of design and source of data. This also helps to sharpen and define understanding of existing knowledge in the problem area and provide a background for the research project". The investigator has reviewed the available literature regarding the study and they are presented below in two parts namely,

- Theoretical overview of Web 2.0 tools .
- Studies related to Web 2.0 tools

Theoretical overview of Web 2.0 Tools

Web 2.0 can be described as the second generation of the web. Web 2.0 tools are different from web 1.0 tools. World Wide Web is mainly for displays of information. Web 2.0 is about exchanges and shares of information. Web 1.0 is read only web. Web 2.0 is read and write web. Web 1.0 tool is very little user generated content whereas, Web 2.0 tool is mainly user generated content like You Tube , Facebook. Web 2.0 tools are social media and uncontrolled chains where users decide what is good and bad, like and dislike. Web 2.0 is effortless social ability for capitalizing 'wisdom of crowd' like Wikipedia.

O` Reilly (2005) explored the use of collaborative web and the collaborative version of the internet, has altered the manner in which information is published, consumed and utilized on the internet resulting in a paradigm shift in the way interactions take place within the organizational work space as well as between the organization and the external customers. Web 2.0 is a collection of open source, interactive and user controlled online applications expanding the experiences, knowledge and market power of the users as participants in business and social processes. Personal websites have been replaced by blogs, content management systems by Wikis, Directories by Tagging, Encyclopaedias by Wikipedia and participation is the new keyword connecting organizations, employers, customers and any other intermediaries. Different ways of combining data, content, services through collaborations and increased access to information by consumers has opened new dimensions for organizations to interact with the various players involved in the business and education.

The influence of the internet is having on our everyday lives is reaching almost unimaginable levels. Web 2.0 is the next step of this information evolution and hopefully give us a better insight into the potential they bring to our personal and professional lives, besides their impact on the whole humanity. Web 2.0 tools can be used for designing a learning content and environment where the learners can learn at a pace, where they can use their cognitive resources. Using Web 2.0 tools in teaching-learning gives the learner the opportunity to be the drives of their learning, journey by exploring, planning, designing, communicating, sharing and evaluating. It helps the students to develop their skills such as collaboration, communication, creativity, critical thinking, and application of these skills.

The most useful web 2.0 tools in teaching – learning process are Sketch up , pixton, Zimmertwins ,scribbler, wikispaces ,open office , jclic ,delicious, diigo, linkedln, Pinterest, animoto, Charles Kelly quiz generator, crocodox, engrade , forvo, grammerly , my project pages ,online stop watch, schoopy ,slide share ,survey builder , teacher planet , base camp, edmodo , first class ,live text ,note mesh ,schoology , skype, twiddla , edu blog ,blend space, vialogues, voxopop, prezi , gnowledge , educaplay, dopbox , commoncraft ,hot potatoes, audacity, babbi.us , curryki, planboard , zamzar ,manga high ,open study , yugma , zondle. The description of some web 2.0 tools are given below:-

Sketch up

A desktop application from google that allows teachers or students to create and share stunning 3D models from coffee pots to skyscrapers.

Pixton

An online drop and drag comic creator with a paid education section for teachers and students to work in a secure environment.

Zimmer twins

A website devoted to children and creative storytelling. Children can create and share their own animated stories.

Scribbler

Scribbler is designed for creative real time collaboration, where users can collaborate on the creation and editing of images, drawings of even mathematical equations.

Wikispaces

Educators are given a free 2GB to develop wikis for their classes. Members can create, edit or contribute to pages making it a great collaborative tool.

Open office

Open office is the leading open source office software for word processing, spreadsheets, presentations, graphics and databases.

Jclic

Jclic is a desktop application that creates interactive exercises and multimedia educational activities using java.

Delicious

Delicious is a popular social bookmarker and an is easy tool to use if you have a handle on how to use tags.

Diigo

Diigo works like a bookmark manager with a highlighter or with sticky notes. It is an ideal way to research for a paper or to create a new project for class.

Linkedln

Linkedln provides a way for individuals to communicate with peers and is also useful for bookmarking.

Pinterest

With Pinterest , teachers can organize and share anything from lesson plans, ideas and crafts using a virtual bulletin board. Teachers can also use this tool to network with other educators.

Animoto

Animoto is a web tool completely simplifies the creation and sharing of videos. Teachers can create lesson plans or presentation for students.

Charles Kelly quiz generator

Charles Kelly quiz generator helps to create multiple choice or bilingual tests. The quizzes generated can be used on website and can put on their own website.

Crocodox

Crocodox is a web tool that allows teachers to convert Microsoft office and PDF documents to HTML 5, making them easily viewable.

Engrade

Engrade is a free online gradebook that allows teachers to manage their classes online as well as post grades, assignments, attendance and upcoming homework online for students and parents to see.

Forvo

Forvo is an online pronunciation dictionary which comes in handy for any language.

Grammarly

Grammarly is a grammar checker that students can use as a method to improve the process of peer editing because it checks for more than 250 points of grammar.

My project pages

My project pages is a tool built by teachers for teachers. By using My project pages teachers can create structured online inquiry based learning activities for the courses they teach that enable the students to engage in meaningful learning experiances while online.

Online stop watch

Online stop watch is a web based stop watch that teachers can use for timed exams and other assignments.

Schoopy

The homework can be posted in more than one location on schoopy . The teacher can post important dates and notices and to contact students regarding the assignments and quizzes.

Slide share

Slide share takes the power point file that works with open office and PDF files. The teachers can share it with the students and can add music, Videos as well as comments in a total free manner.

Survey builder

Survey builder allows teachers and students to easily create and manage online surveys suitable for internet based oral history projects course evaluations, and other endeavors involve collecting feedback. Teachers and students should know how to build a web page that has forms, set up a database to stere entries or do any of the other technical tasks that are normally required to produce interactivity on the internet.

Teacher planet

Teacher planet is a one map spot for teacher resources. Teachers can download any number of lesson plan templates, work sheets, and other tools by using this tool .

Base camp

Projects do not fail from a lack of charts, graphs, reports, or fail from lack of learner communication. Base camp solves this problem by providing tools tailored to improve the communication between people working together on a project.

Edmodo

Edmodo is extremely similar to Twittter, except specifically designed for educators. Edmodo facilitates collaboration and content sharing among students, teachers and school districts.

First class

Using a personalized web page as a communication hub; teachers can send messages to the principal, pick up student assignments, change homework tasks for that evening, or have students build their own web pages, First class will run on a single server with one administrator for any number of users. This tool is not an open source software. .

Livetext

Live text is a delivered subscription service for teachers teaturing collaborative lesson building activities. Simple and easy to use, Live text uses lesson planning as a focus for engaging the educational community. This is not an open source software.

Note mesh

Note mesh helps to add some social media to your note taking with collaborative wiki style class note taker. Users can post their lecture notes or contribute to existing lecture notes. Note mesh wants to get classmates to collaborate and to create a single definitive source for lecture notes.

Schoology

Teachers can use this tool to share their instructional resources and connect with other educators.

Skype

Teachers can collaborate on classroom projects visit a classroom in another part of the world using the interactive Skype in the classroom. Skype is a part of Microsoft, and it is free to use.

Twiddla

Twiddla is a great way to connect with students or other educators. Though it is web conferencing capabilities , teachers can brainstorm and share ideas.

Edu blog

Edu blog is powered by word press, and are free blogs for teachers, researchers, librarians and other education professionals which can help teachers to communicate to students and to their peers.

Blend space

Blend space is a free and easy tool that provides any possibilities for creating lessons and projects including multimedia elements in a few minutes .Blend space makes it easy to plan, build and deliver a lesson by integrating content in animations. It facilitates quick search our most engaging digital lessons in minutes.

Vialogues

Vialogues is asynchronous video discussion tool which can be used for leveraging digital videos. Vialogues supports meaningful discussions around video.

Voxopop

Voxopop is a web based audio tool that allows users to record their speaking on a given topic. It is easy to use and help students to develop their speaking skills. Voxopop is a web application program that can be used by teachers and trainers as an online learning tool to create, to record online and listen to other people records **.** Voxopop talk groups let to discuss interests and passions with people.

Prezi

Teachers can use this presentation to organize and share ideas with other educators.

Gnowledge

Gnowledge is free for everyone to use, including students , educators and parents to use as an education platform where every one can create , publish ,share and take tests.. It is a site for creating collaborative online quizzes, share resources, view others quizzes, and tutorials. The teachers collaboratively construct semantic knowledge networks with a special focus on education.

Educaplay

Educaplay helps teachers to make and share learning resources and practice with other user activities on free manner. It is an excellent way to create interactive multimedia educational activities. Educaplay is a platform of educational activities.

Dropbox

Dropbox simplifies the way to create, share and collaborate. It is the easiest way to store, sync, and share files online. Dropbox is a free service that allows teachers and students to upload photos, documents, and videos anywhere and share them easily.

Common Craft

Common Craft produces ready-made videos and visuals that help educators to explain complex ideas quickly. It is a small instructional video company which

includes a simple three – minute videos to help educators to introduce complex subjects.

Hot potatoes

Hot potatoes is a programme that enables to create different types of exercises on the internet. Hot potatoes is a six applications that allows to create interactive multiple – choice , short answer, jumbled – sentence, crossword, matching/ ordering and gap -fill exercises for the world wide web.

Audacity

Audacity is an audio software to record or install sounds to computer and edit them afterwards. Audacity provides you with a full set of tools that the users can use to edit audio files . Audacity is a free open source digital audio editor and recording computer software application.

Babbi.us

Teachers can use Babbi.us as a tool for brainstorming and classroom discussions.

Curryki

Curryki is a free resource with which teachers can create and share their best curriculum and teaching practices , and mix and match the lesson plans, videos, animations, and photos to create and custom teaching tools.

Planboard

Planboard helps teachers to simplify their lives by streamlining lesson plans and centralizing everything onto a computer.

Zamzar

Zamzar is a free online video converter, audio converter, image converter and eBook converter. Zamzar is free online file conversion tool that help teachers to organize their videos, images and documents. It allows user to convert files without downloading a software tool, and supports over 1,000 different conversion types. Zamzar helps teachers to transform songs , videos , images and documents into different formats.

Manga high

Manga high is an innovative HTML technology means. Manga high works seamlessly on all devices from Chromebooks to iPads. Manga high is a web -based platform that boasts dozens of math games and hundreds of tutorials and quizzes. Teachers can use this game – based tool to teach math concepts to their students.

Open study

Open study is a social site that encourages students to work with other students who are studying the same material in order to make the world one large study group.

Yugma

Yugma is the leader in affordable instant web conferencing solutions. Yugma allows the registered user to easily meet, present information and demonstrate products online. Teachers use their free web conferencing feature with this tool and share their entire desktop in real time with one student and this can extremely helpful in one -on - one advising with student.

Zondle

Zondle enables teachers and students to create games to support their learning.

Studies related to Web 2.0 tools

Goodison (2002) investigated the primary school children's awareness of the linkage between information and communication technology and the way they learn with in the context of a school that has been particularly successful in integrating ICT in to the curriculum. The author conducted interviews with the pupils by their teacher and extracts from the dialogue and identified examples of good practices. The results of the study indicated that ICT can make contributions to the promotion of independent learning.

Maness (2006) conducted a study on library theory which analysed the implications of Web 2.0 tools for libraries. The result of the study substantiated the implications for libraries and recognize that while these implications keep very close to the history and mission of libraries ,might create changes in how libraries provide

access to their collections and provide access to their collections and provide user support to their clients.

Brown, (2008) explored the use of the internet and Web 2.0 technologies by mathematics and other general education curricula students at the New Mexico state university. The author found that the internet and web 2.0 technologies (blogs, wikis, social networking sites, voice threads etc.) allows today` students to access mathematics and other general education curricula like never before. Since they already have the expertise in using the internet, digital technologies, and other media compared to previous generations. The study suggested that it is imperative that teachers and students access these technologies to increase students' understanding of and connections with the general education mathematics content. It also discussed the mathematics performance of secondary students with disabilities, technologies available for use in secondary mathematics classrooms and web 2.0 tools that secondary students with disabilities can access and use in their mathematics classrooms and of at home .

Mahmud and Hassanuzzaman (2009) conducted a study to understand the role of Web 2.0 tools in collaborative learning. The interviews were conducted with the users of Web 2.0 tools and number of documents has been taken as empirical data to analysis which Web 2.0 tools are preferred to use in collaborative learning and to understand the advantages of using Web 2.0 tools. The results revealed that in education field, blog, wiki, podcast; social bookmarking and Google Docs are mostly used for learning.

Al- Daihani (2010) explored the use of social software by master of library and information science students at Kuwait university as compared to those at the university of Wisconsin-Milwaukee in the USA. The sample of the study were USA and Kuwait students. The result showed that the majority of students from the two schools were aware of social software applications and their use.

An, Aworuwa, Ballard & Williams (2010) conducted a study on teaching with Web 2.0 technologies: benefits, barriers and best practices A Web-based survey was used to collect data for this study, under 14 university instructors who had considerable experience in teaching with Web 2.0 technologies. The results of the study indicated that the major benefits of using Web 2.0 technologies in teaching include (1) interaction, communication and collaboration, (2) knowledge creation, (3) ease of use and flexibility, and (4) writing and technology skills. The major barriers the university instructors encounter in teaching with Web 2.0 technologies include (1) uneasiness with openness, (2) technical problems, and (3) time.

Dickson and Holley (2010) conducted to examine the use of the major social networking tools in academic libraries in the USA. The sample consisted of students and faculty with in the library. The result revealed that social networking can be an effective method of student outreach in academic libraries and libraries should take care to respect students privacy and to provide equal coverage for all subject areas .

Kanagavel and Velayudam (2010) studied the impact of social networking on college students in India and Netherlands. The sample of the study was Indian and Dutch students. The results indicated that Indian students spend more time in

these sites than Dutch students but they were mostly passive. Dutch students , on the other hand, participate more actively than Indian students by posting to these sites.

Park (2010) studied the differences among university students and faculties in their perception and use of social networking. The sample of the study was students and faculties. The result indicated that most undergraduate students regard social networking sites as an entertainments future, and most faculty members were not active users of this technology. The author suggested the making social networking site based services tailored to them and the benefits emphasized to them in order to attract them to get involved in these activities.

Stevenson and Liu (2010) conducted a study on learning a language with Web 2.0 by exploring the use of social networking features of foreign language learning websites. The main aim of the study is to gain an understanding of how potential users would interact with three foreign language learning websites and explore the pedagogical and technical usability of these sites. The study showed that the online survey and a usability test performed on three foreign language learning websites that use Web 2.0 technology, help the learner to use these tools in pedagogical practices.

Wylie and Marri (2010) conducted tele deliberative democratic discourse,a case study of high school students use of Web 2.0.tools. The sample of the study consisted of 111 high school students. The results of the study revealed that the high school students use of web 2.0 tools in New York, USA. The results indicated that against their fellow classmates, students actively improve in demagogue, the

proselyte, and the egalitarian and serve as a spectrum of sophistication along which democratic discourse .

Exter , Rowe, Boyd and Lloyd (2012) explored the use of Web 2.0 technologies for collaborative learning in a higher education context. Two Australian case studies were described, with an *ex-poste* evaluation of the use of Web 2.0 tools. The result of this study indicated that the potential for the use of Web 2.0 tools for collaborative e-learning in higher education.

Garoufallou and Charitopoulou (2012) conducted a study on Web 2.0 tools social bookmarks, RSS and wikis in Greece. . The results of the study indicated that the Web 2.0 tools that students use least are social bookmarks (73.8 per cent), with RSS feeds (57.5 per cent) and wikis (47.6 per cent). While , the most popular Web 2.0 application was web games used by 78.5 per cent , digital maps 63.3 per cent blogs 60.7 per cent and social media 59.6 per cent of students.

Kumar (2012), conducted the perception and use of social networking sites among Sikkim University students. The study conducted through a survey of users of social network The study showed that a good number of university students use social networking sites for academic purposes in addition to entertainment. Face book was the most used social networking site followed by Orkut and Twitter.

Sawant (2012) investigated LIS teacher's familiarity with web 2.0 concepts, tools and services and applications related to LIS education. The study used survey method .The data collection tool used was a web questionnaire, which was created with the help of software provided by surveymonkey.com. The result of the study

indicated that LIS teachers have a low level of familiarity regarding the use of web 2.0. Most of the teachers use Web 2.0 for video sharing via YouTube. Nearly half of teachers never used Wikis. The main problem in use of Web 2.0 tools in teaching was the lack of training programmes organized by universities and other institutions for teachers to use/teach web 2.0 tools.

.Hamade (2013) conducted a study to identify the social network accounts of the students. The study conducted through a survey of users of social network .The result revealed that the twitter as the most popular site among students with 89 per cent, Face book was second with 62 per cent and flicker was third with only 7 per cent users. The survey showed that the majority of students had more than one social network account , 156 students (5 per cent) had both twitter and Face book accounts .

Roy and Paul (2013) published an article on gendered digital divide in library and information system. This article focus on gender division in LIS profession in the perspective of ICT environment. The study showed that relationships like profession and technology, profession and gender and technology and gender were no difference in LIS profession in the current day`s perspectives.

Aucoin (2014) explored the views of adult learners in online university programs with respect to their relationships with interactive, web-based technologies in their learning, personal and work environments. A mixed method approach was used with stage one employing an online questionnaire consisting of 30 questions and stage two consisting of a 30-minute follow-up interview. The results of the study revealed that the adult learners studied are not demanding the use of Web 2.0

in their learning environments. Moreover, they show a distinct preference for the use of Web 2.0 in only one aspect of their lives. In other words, if learners use Web 2.0 in their personal lives they will then not be as likely to embrace it in their working or learning lives.

Bhatt and Kumar (2014) conducted a case study of student opinion on the use of social networking tool by libraries. The study revealed that the majority of students (94.1 per cent) expect that chatting or messaging with the librarian is the most useful service that can be provided to them through social networking sites . other activities desired by students include being informed about new arrivals, collection , information and new events at the library

Gupta and Singh (2014) conducted a study to understand the usage of e-learning tools as well as a gap in existing teacher education curricula in India. The sample consisted of 30 teacher educators from 12 B Ed colleges. The result of the indicated that study that the trainees are average skilled with the E-learning Tools like, video conferencing, wikis, blogging, e-mail, chat rooms, discussion forums.

Kumar (2014) analysed the use of ICT in the teaching - learning process in secondary and senior secondary schools. The sample consisted of secondary and senior secondary students. The result of the study indicated that all schools have the basic infrastructure facility required for the use of ICT which affect teaching-learning process.

Majid (2014) conducted a study to integrate Web 2.0 tools with learning strategy in order to enhance the motivation of the students to use the Web 2.0 tools.

The integration of the tools in learning a programming course was based on PQR strategy, which includes three components: Preview, Questions and Reflect. The study sample consisted of 39 undergraduate students for identifying their preference towards the use of Web 2.0 tools which include Blog, YouTube, Google Form and Padlet. The results showed that the perception of students towards the use web 2.0 tools was positive. Hence, it was possible to integrate a learning strategy with specific Web 2.0 tools, and, thus, facilitate blended learning.

Mehra and Far (2014) conducted a study on university teachers attitude towards information and communication technology. The sample consisted of the study was 200 university teachers of different faculties to compare their attitude towards ICT use. The result of study indicated that there was major difference with regard to attitude towards ICT use of university teachers of different faculties viz arts/ education and science/engineering and technology.

Bower (2015) used a typological analysis of Web 2.0 Learning technologies. A comprehensive review incorporating over two thousand links led to identification of 212 Web 2.0 Technologies that were suitable for learning and teaching purposes. The Typological analysis resulted in 37 Types of Web 2.0 technologies that were arranged into14 clusters. The types of Web 2.0 Learning technologies, their descriptions, pedagogical uses and example tools for each category are described, arranged according to the clusters. Results of this study implied that the educators typically have a narrow conception of Web 2.0 technologies and that there is a array of Web 2.0 Tools as yet to be fully harnessed by learning designers and educational researchers.

Garofalakis, Lagiou & Plessas (2015) conducted a study on use of Web 2.0 tools for teaching physics in secondary education. The study aimed to understand the integration of Web 2.0 tools in education and attempt to evaluate their contribution in the educational process. The study used a pilot case study for secondary education for the assessment of Web 2.0 tools in education. The results of the study showed that, under appropriate planning, Web 2.0 tools can be used with great success to support real educational activities and provide a very flexible and efficient form of collaborative learning in secondary education.

Khan (2015) explored the importance of web 2.0 tools in teaching- learning of languages in an inclusive environment. The study revealed that Web 2.0 tools in teaching – learning like, wikis, blogs, vodcasts, podcasts, webinars, e-mail groups, social book marking, web forums, instant – messaging, virtual learning environment- portfolio, web based shared calendar, were use in languages learning, and their use can be made indispensible for wider dissemination of knowledge . Major constraint of language learning is the lack of trained teachers, especially in remote areas of our country, the right way of pronunciation of English of foreign language words is a big difficulty. The Web 2.0 technology tools can play a positive role in this order, content creation , sharing and wider dissemination can be easily done through them, and important role in assisting the differently abled children.

Sofia (2015) conducted experimental study on training engineering students in technical writing skills with the help of Google Drive and Blog. A Single group experimental study was carried out with thirty four students from B.S.Abdur Rahman University. The sample for the study consisted of 125 students selected

initially from two engineering colleges. Two questionnaires were administered to find out the students' familiarity with technical writing tasks and to elicit their level of computer literacy. A pre-test, three continuous assessment tests and a post-test was conducted to monitor the progress of the participants. A task-based module was designed with the prescribed textbook of EN101 Technical English syllabus to train the participants in technical writing skills. The students shared their assignments with the researcher for her to monitor their performance and offer feedback. The training provided exposure to peer responding, editing, revising and publishing documents. The data was collected from the students' written assignments, questionnaires, results of pre-test, continuous assessment tests and post-test. The students' appropriate usage of vocabulary, grammar items and way of presenting the paragraphs in an organized manner were taken into consideration while analysing the data. Error analysis was done after the pre-test, three continuous assessment tests and the post-test to calculate the frequency of each error, the most frequent error and the least frequent error made by the students. It was observed that the errors committed by the sample in the pre-test reduced considerably in the post test. Descriptive statistics and test of significance was employed to interpret the pre-test and the post-test scores. It was observed that there was a difference in the Mean obtained between Pre-test(45.18) and post-test (52.65). The results of the study showed that the tasks designed for training, helped students show considerable improvement in technical writing. It was evident that Google Drive and Blog created numerous opportunities for students to work on the process of writing. Students were also interviewed to review and share their experiences using Google Drive and

Blog. Most of them felt that learning to write using technology was an innovative experience which resulted in improving their technical writing skills.

Eze (2016) investigated the level of awareness and use of Web 2.0 tools by Library and Information Science (LIS) students at the University of Nigeria, Nsukka. The study adopted a descriptive survey method and questionnaire was used to collect data from 220 respondents. The results showed that the LIS students of UNN are quite familiar with some Web 2.0 tools such as Social networking sites, Instant Messaging, blogs and Wikis, while, they are not familiar with tools such as RSS feeds, Podcasts, and social bookmarks. The study revealed that the most frequently used Web 2.0 tools are Facebook, followed by YouTube and Wikis.

Parthasarathi and Ananthasayanam (2016) conducted a study for the development and validation of web -based question bank and evaluation of its utility among students and teachers. The sample consisted of 85 students in non-autonomous colleges. The result of the study showed that students and teachers had shown difference in using web based question bank. All college teachers were involved in teaching and conducting internal examinations. Also research degree and non- research degree holders who serve in the affiliated colleges of Bharathiar University were considered equal in question paper setting and evaluation for external examinations.

Conclusion

Several research has been conducted around the Web. These second generation internet technologies have opened new doors for sharing information, ideas and even data to understanding of specific topics. The new term Web 2.0 facilitates different thoughts among people which have not been official yet. These second generation internet technologies have opened new doors for sharing information, ideas and even data to understanding of specific topics.

The review of related studies enabled the investigator to gather extensive information on the present study. From the literature review presented above, it is evident that studies on Web 2 .0 tools leave scope for further research. There are very few studies that has been done to find out the level of awareness on Web 2.0 tools in teaching- learning process. Hence, the investigator feels that it is worthwhile to undertake the study. The present study is an attempt to analyze the extent of awareness on Web 2.0 tools in teaching- learning process among prospective teachers at secondary level.

Chapter 3

METHODOLOGY

- *Variable of the study*
- *Objectives of the study*
- *Hypotheses of the study*
- *Sample selected for the study*
- *Tools used for data collection*
- *Data collection procedure*
- *Scoring and consolidation of data*
- *Statistical techniques used for analysis*

METHODOLOGY

Research in education is a search for knowledge in the field of education. That is a search that provides knowledge of the solution of problems in the field of education. A knowledge about methodology is essential for all those who take an active role in the conducting research (Koul, 2009)

Research methodology is a way to systematically solve the research problem. A suitable method helps the researcher to carry out the work in a scientific manner. Methodology occupies a very prominent part in any type of research. It refers to the general strategy followed in collecting and analyzing data necessary for solving the problem. The method needed for a study is decided by the nature of the problem and the type of data required for answering the questions relating to the problem. Methodology includes all the techniques, methods and procedures used by the investigator to conduct an investigation.

"Methodology is the procedure used by the investigator in conducting an investigation. The accuracy of result of any research work depends upon the method by which the conclusions are arrived at."(Travers,1978)

According to Best and Khan (2002) the survey method gathers data from a relatively large number of cases at a particular time. It is not concerned with generalized statistics that result when data are abstracted from a number of individual cases.

The present study adopted survey method. The study aimed to find out the level of “Awareness on Web 2.0 Tools in Teaching -Learning Process Among Prospective Teachers"

The methodology adopted for the study is described under the following major headings.

Variable

Objectives

Hypotheses

Tool used for data collection

Sample used for the study

Data collection procedure,

Scoring and consolidation of data

Statistical techniques used for analysis

Variable

The intention of the present study was to find out the awareness on Web 2.0 tools in teaching- learning process among prospective teachers at secondary level. Hence, the only variable that is measured and analyzed is “Awareness on Web 2.0 Tools in Teaching- Learning Process”.

Objectives

The following are the objectives set for the present study;

- To assess the level of awareness on Web 2.0 tools in teaching- learning process among prospective teachers at secondary level
- To compare the level of awareness on Web 2.0 tools in teaching- learning process among prospective teachers at secondary level with respect to gender
- To compare the level of awareness on Web 2.0 tools in teaching- learning process among prospective teachers at secondary level with respect to subject of specialisation
- To compare the level of awareness on Web 2.0 tools in teaching- learning process among prospective teachers at secondary level on the basis of locale of colleges

Hypotheses

The following are the hypotheses formulated for the study;

- There is no significant difference in the level of awareness on Web 2.0 tools in teaching- learning process among prospective teachers at secondary level on the basis of gender
- There is no significant difference in the level of awareness on Web 2.0 tools in teaching - learning process among prospective teachers at secondary level with respect to subject of specialisation

- There is no significant difference in the level of awareness on Web 2.0 tools in teaching- learning process among prospective teachers at secondary level with respect to the locale of the colleges

Sample Used for the Study

Selection of the sample is an important aspect of any research work. A sample is a small portion of a population selected for observation and analysis, by observing the characteristics of the sample one can make certain influences about the population from which it is drawn (Best and Khan,1983).

The population for the study comprised of prospective teachers at secondary level in Kerala state. The sample for the study constituted 600 prospective teachers at secondary level who were selected from different teacher training colleges of Calicut, Thrissur and Malappuram districts of Kerala state. The sample were selected by using stratified sampling technique giving due representation to the factors like gender, subject of specialisation and locale of the colleges.

The Table1 shows the break-up of the final sample.

Table 1

Break up of the final sample

Sample	Categories	Number of students
Gender	Male	77
	Female	523
Subject of Specialization	Arts	356
	Science	244
Locale	Rural	314
	Urban	286

The factors or strata taken into consideration while selecting the sample are the following.

Gender

While selecting prospective teachers the investigator gave due representation to male and female prospective teachers at secondary level in various training colleges. Majority of the studies revealed that there exist gender difference in the measuring of variables.

Subject of Specialization

Due representation was given to the subject of specialization of the prospective teachers while selecting the sample. The prospective teachers at secondary level of arts and science subjects are considered for selecting the ample.

Locale of the Sample

In order to get accurate representation of the population , the investigator decided to include those prospective teachers at secondary level on the basis of locale. On the basis of locale, the prospective teachers undergoing training in rural and urban colleges were included in the sample.

Tools Used for Data Collection

The present investigation is an attempt to found out the level of awareness on Web 2.0 tools in teaching- learning process among prospective teachers at secondary level. As there is no tool available to measure the variable, 'Awareness on Web 2.0 Tools in Teaching -Learning Process', the investigator developed an

"Awareness Test on Web 2.0 Tools in Teaching- Learning Process''(Niranjana & Haseena,2016) with the help of the supervising teacher.

Awareness Test on Web 2.0 Tools in Teaching Learning Process'

The data required for the present study was collected by using the tool "Awareness Test on Web 2.0 Tools in Teaching Learning Process"(Niranjana & Haseena, 2016). For the preparation of the awareness test the investigator made an extensive review about the various Web 2.0 tools used in teaching learning process. The investigator by discussing with the experts in the field of education decided to include the items related to the important Web 2.0 tools that are used in teaching-learning process in the tool "Awareness Test on Web 2.0 Tools in Teaching - Learning Process".

Planning of the test

The investigator decided to include 50 items related to the Web 2.0 tools in teaching -learning process to develop "Awareness Test on Web 2.0 Tools in Teaching- Learning Process". The investigator tried to include maximum items representing Web 2.0 tools in teaching- learning process. It was decided to include multiple choice questions related to Web 2.0 tools in teaching learning process with four options.

Preparation of the tool

The draft tool consisting of 55 multiple choice test items related to the Web 2.0 tools in teaching- learning process was prepared by the investigator. Four alternative responses were given to the multiple choice test items. After discussing with the experts in the field of education some items were omitted. Thus, the final test consist of 50 items related to the Web 2.0 tools in teaching -learning process was prepared. The examples of items included in the Awareness Test on Web 2.0 tools in teaching -learning process are given below.

Zimmer twins

eg: A website devoted to children and creative story telling

(a) Comic master (b) Zimmer twins (c) Cartoonster (d) Strip generator

LinkedIn

eg: A tool that enable for teachers to communicate with students and peers.

(a) Titan pad (b)LinkedIn (c) Type with.me(d) Wall wisher

Charles Kelly quiz generator

eg: The most widely used website to generate and share quizzes is

(a) Charles Kelly quiz generator (b)Quizlet (c) Delicious (d) Titan pad

Forvo

eg: The online pronunciation dictionary comes in handy for any language

(a) Domo (b) Voki (c) Forvo (d) Pixton

Online stop watch

eg: The web based watch for teachers for timed exams and other assignments

(a) Edublogs (b)Online stop watch (c) Blogger (d) Titanpad

First class

eg: The tool which provide personalised web page as a communication hub

(a) Edmodo (b) Slideshare (c) Survey builder (d) First class

Live text

eg: A delivered subscription service tool for teachers collaborative lesson building activities.

(a) Teacher planet (b) Live text(c) Animoto (d) Crocodox

Edu blog

eg: The free blogs helping teachers to communicate to students by word press

(a) Skype (b) Note mesh (c) Twiddla (d) Edu blog

Blend space

eg: A tool for creating lessons including multimedia elements in a few minutes

(a) Animoto (b) Blend space (c) Class tell (d) Vialogues

Vialogues

eg: A tool for creating a video- based discussion

(a) Kerpoof (b) Voxopop (c) Fotobabble (d) Vialogues

Voxopop

eg: A web based audio tool that allows users to record their speaking on a given topic

(a)Kerpoof (b) Voxopop (c)Fotobabble (d) Prezi

Prezi

eg: An excellent site for creating zooming slideshows and presentation

(a) Slideshare (b) 280 slides (c) Fotobabble (d) Prezi

Educaplay

eg: An excellent way to create interactive multimedia educational activities

(a)Class tell (b)Educaplay (c) Animoto (d) Blender

Drop box

eg: The easiest way to store , sync, and share files online

(a) Drop box (b) Gnowledge (c) Alice (d) Blender

Commoncraft

eg: Simple three - minute videos to help educators to introduce complex subjects

(a)Pixton (b) Jing (c) Xtranormal (d) Commoncraft

Audacity

eg: An audio software to record or install sounds to your computer and edit them afterwards

(a)Audio pt (b) Jamendo (c) Delicious (d) Audacity

Babbl.us

eg: Teachers use this tool for brain storming and class discussions

(a) Babbl.us (b) Prezi (c) Jclic (d) Audacity

Manga high

eg: Teachers can use this game - based tool to teach match concepts to their students

(a) Sketch up (b) Voki (c) Pixton (d) Mang high

Zondle

eg: A tool that enables teachers and students to create games to support their learning

(a) Edmodo (b) Zondle (c) Voki (d) Plan board

A copy of final test of "Awareness Test on Web 2.0 Tools in Teaching Learning Process'' is given in Appendix I

Reliability and Validity of the Tool

A test is said to be reliable when the test scores is stable and trustworthy. To ensure the reliability of the present test, "Awareness Test on Web 2.0 Tools in Teaching -Learning Process" Cronbach Alpha is used to determine the internal consistency. The value of Cronbach Alpha for the items are .697. Hence, the tool is highly reliable

The validity of the present test was ensured by using face validity. A test is said to have face validity when it appears to measure whatever the author had in mind namely what he thought he was measuring (Garret 1993). To ensure face validity the investigator consulted experts during the development of the test and the test was given to the experts for the approval of items and the experts approved the test as an appropriate tool for measuring awareness on Web 2.0 tools in teaching - learning process among prospective teachers at secondary level. Thus ensured the face validity of the test

Data Collection Procedure

The final tool "Awareness Test on Web 2.0 Tools in Teaching- Learning Process" was administered to the sample selected for the study. In order to collect required data for the present study , the investigator sought permission from the heads of institution in advance to administer the tool. Participants were briefed about the purpose of the study and the instructions regarding the manner of the responding was given. After administrating the test,the response sheets were collected back by the investigator.

Scoring and Consolidation of Data

Before scoring , incomplete response sheets were rejected. Scoring was done as per the scoring procedure. For every correct answer a score of 'one' is given and for a wrong answer 'zero' is given. The scores obtained from the 600 prospective teachers were tabulated separately for further analysis. The scoring key is given in the Appendix II.

Statistical Techniques Used

The collected data were processed, analysed and inferred properly with the help of appropriate statistical techniques. The statistical techniques used for the analysis of data are explained below.

Descriptive Statistics

Mean

The mean is the most commonly used method of describing central tendency. The mean is found out using the formula.

$$\text{Mean}=A+\frac{\sum fx}{N}\times C$$

Where,

A = Assumed mean

C = Length of the class interval

F = Frequency of the class interval

X = Deviation of the score from the assumed divided by class interval

N = Total number of scores

Median

The median is the score at the middle of the set of values that has many values with a larger value as have a smaller value. The median was calculated using the formula given below

$$\text{Median} = L + \frac{\frac{N}{2} - cf}{F} \times C$$

Where,

L = Exact lower limit of the class interval upon which the median lies

C = Width of class interval

f = Frequency with in the class interval upon which the median class

F = Sum of all the frequency below L

N/2 = One half of the total number of scores

Mode

The mode is the most frequently occurring value in the set. The mode is the value with the greatest frequency. The mode was calculated using the formula

$$\text{Mode} = 3\ \text{median} - 2\ \text{mean}$$

Standard Deviation

The standard deviation the most stable index of variability is customarily employed in experimental and research studies. Standard deviation is calculated by the following formula

$$\sigma = \sqrt{\frac{1}{N}\sum_{i=1}^{N}(x_i - \mu)^2}$$

Where,

X = Each value in the population

μ = Mean value of the population

∑ = Summation

N = Number values in the population

Skewness

A distribution is said to be skewed, if the value of mean, median and mode are different and there is symmetry between the right and the left half of the curve. Such type of curve is inclined more towards the left or right of the centre of the curve.

Skewness was calculated by using the formula

$$SK = \frac{3(\text{mean} - \text{median})}{SD}$$

Where,

SK = Skewness

SD = Standard Deviation

Kurtosis

The term Kurtosis refers to the flatness or peakedness of a frequency distribution as compared with the normal. The formula for measuring Kurtosis is

$$Ku=\frac{P75-P25}{2(P90-P10)}$$

. Where,

P75 = 75thpercentile

P25 = 25thpercentile

P90 = 90thpercentile

P10 = 10thpercentile

Percentage Analysis

Percentage Analysis is applied to create a contingency table from the frequency distribution and represent the collected data for better understanding.

Test of Significance of Difference between Means of Large Independent Sample (T-Test).

Comparison of difference between means for the scores of sub samples on the basis of gender, subject of specialisation and locale of the colleges was done by using the formula.

$$t = \frac{\bar{x}_1 - \bar{x}_2}{\sqrt{\frac{\sigma_1}{N_1^2} + \frac{\sigma_2}{N_2^2}}}$$

Where,

$\bar{x}_1$ = The high group of the Mean response score given for the statements.

$\bar{x}_2$ = The low group of the Mean response score given.

σ_1 = The high group of the variance of the distribution of the response Scores on a given statement.

σ_2 = The low group of the variance of the distribution.

N_1 = Number of high group.

N_2- Number of low group.

If the obtained critical ratio is greater than the required table value 1. 96 at 0.05 or 2.58 at 0.01 levels of significance, the mean difference is considered to be significant.

Chapter 4

ANALYSIS AND INTERPRETATION

- *Objectives of the study*
- *Hypotheses of the study*
- *Variables of the study*
- *Preliminary analysis*
- *Major analysis*

ANALYSIS AND INTERPRETATION OF DATA

This chapter deals with the analysis and interpretation of data collected. The present study was intended to find out the level of awareness on Web 2.0 tools in teaching -learning process among prospective teachers at secondary level. It also aimed to find out the level of awareness on Web 2.0 tools in teaching -learning process on the basis of gender, subject of specialization and locale of the colleges.

Data analysis is the process of systematically applying statistical or logical techniques to describe and illustrate, condense and recap, and evaluate data. An essential component of ensuring data integrity is the accurate and appropriate analysis of research findings. Analysis is a systematic process of selecting, categorizing and interpreting to provide explanation of the single phenomenon of interest (McMillan & Schumacher, 1989).

The essential descriptive statistics which help to describe a data distribution is measures of central tendency and measures of dispeersion. The investigator used descriptive data analysis that is, mean, median, mode and standard deviation to understand the nature of the distribution of scores on awareness on Web 2.0 tools in teaching- learning process among prospective teachers at secondary level.

The present study aimed to assess the level of awareness on Web 2.0 tools in teaching-learning process among prospective teachers at secondary level in Kerala state. This chapter deals with the analysis and interpretation of the data as per the objectives stated.

Objectives of the study

The following are the objectives set for the present study

- To assess the level of awareness on Web 2.0 tools in teaching -learning process among prospective teachers at secondary level
- To compare the level of awareness on Web 2.0 tools in teaching- learning process among prospective teachers at secondary level with respect to gender
- To compare the level of awareness on Web 2.0 tools in teaching -learning process among prospective teachers at secondary level with respect to subject of specialisation
- To compare the level of awareness on Web 2.0 tools in teaching- learning process among prospective teachers at secondary level on the basis of locale of colleges.

Hypotheses of the study

The following are the hypotheses formulated for the study

- There is no significant difference in the level of awareness on Web 2.0 tools in teaching -learning process among prospective teachers at secondary level on the basis of gender
- There is no significant difference in the level of awareness on Web 2.0 tools in teaching -learning process among prospective teachers at secondary level with respect to subject of specialisation

There is no significant difference in the level of awareness on Web 2.0 tools in teaching- learning process among prospective teachers at secondary level with respect to the locale of the colleges.

Variable of the study

The variable selected for the present study was "Awareness on Web 2.0 Tools in Teaching-Learning Process".

Preliminary Analysis

Data were collected from 600 prospective teachers at secondary level. As a first step of analysis the investigator has done a preliminary analysis. For this the statistical constants such as mean, median, mode, standard deviation, skewness, and kurtosis were computed for the awareness score of Web 2.0 tools of prospective teachers at secondary level. Descriptive statistics of the variable, awareness on Web 2.0 tools in teaching- learning process among prospective teachers at secondary level are presented in Table 2.

Table 2

Descriptive statistics of the variable awareness on Web 2.0 tools in teaching learning process among prospective teachers at secondary level

Mean	Median	Mode	N	SD	Skewness	Kurtosis
16.53	15	14	600	5.69	.536	.192

The Table 2 reveals that the arithmetic mean obtained for the awareness score of Web 2.0 tools in teaching- learning process among prospective teachers at secondary level is 16.53. The median value of awareness score of Web 2.0 tools in

teaching- learning process among prospective teachers at secondary level is 15, which mean that 50 percent of the prospective teachers scored above 15 and 50 percent of the prospective teachers scored below 15 in awareness score of Web 2.0 tools in teaching- learning process among prospective teachers at secondary level. The standard deviation of awareness score of Web 2.0 tools in teaching- learning process among prospective teachers at secondary level is 5.69. As the mean, median and mode is approximately equal, it can be concluded that the distribution of scores of awareness on Web 2.0 tools in teaching- learning process among prospective teachers at secondary level is almost normal.

The skewness score of awareness on Web 2.0 tools in teaching- learning process among prospective teachers at secondary level is .536. This shows that the distribution is positively skewed. The measure of kurtosis is -1.92, which shows that the curve is approximately mesokurtic. The distribution of scores of awareness on Web 2.0 tools in teaching-learning process among prospective teachers at secondary level has graphically plotted in Figure 1

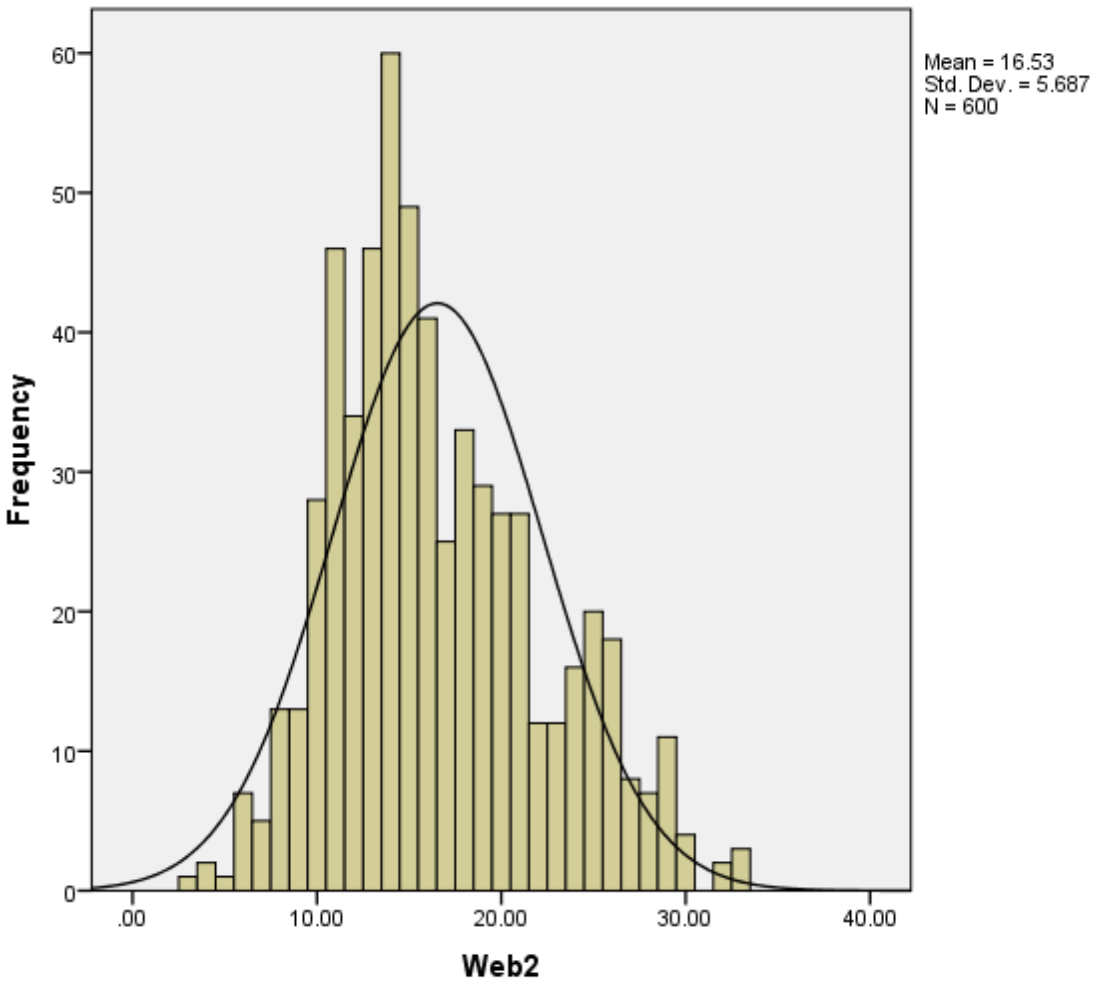

Figure 1: Graphical representation of frequency distribution of the scores of awareness on Web 2.0 tools in teaching learning process among prospective teachers at secondary level

The Figure 1 shows that the graphical distribution of the scores of awareness on Web 2.0 tools in teaching- learning process among prospective teachers at secondary level. It can be concluded that the awareness on Web 2.0 tools in teaching- learning process among prospective teachers at secondary level follow approximately a normal distribution.

Major analysis

The consolidated and tabulated data has been analyzed and computed using the statistical technique, mean difference analysis and percentage analysis. Test of significance of difference between means of large independent sample is used to compare the level of awareness on Web 2.0 tools in teaching- learning process of the sub samples on the basis of gender, subject of specialization and locale of the colleges.

Level of Awareness on Web 2.0 Tools in Teaching – Learning Process among Prospective Teachers at Secondary Level

The different levels of awareness on Web 2.0 tools in teaching-learning process among prospective teachers was determined by classifying the whole sample into three groups-high, average and low in the conventional procedure of finding σ distance from mean (μ) .The standard deviation σ and mean (μ) of the scores are found to be 5.69, an 16.53 respectively. Prospective teachers who obtained scores on awareness on Web 2.0 tools in teaching-learning process equal to or above the value of μ+1σ were considered as the high group and who obtained scores below or equal to the value of μ-1σwere considered as the low group. The prospective teachers whose score lie between the value of $\mu -1\sigma$ and $\mu +_1\sigma$were considered as the average group. The percentage of the total sample falling into the three groups (high, average and low) is given in Table 3.

Table 3

Number and percentage of prospective teachers awareness on Web 2.0 tools in teaching learning process falling into three groups (high, average and low)

Variable	Group	Score	n	%
Awareness on Web 2.0 tools	High	≥22.22	107	17.84
	Average	22.22-10.84	428	71.34
	Low	≥10.84	65	10..84

Table 3 shows the level of awareness on Web 2.0 tools for the total sample. From Table 3 it is evident that 17.84 per cent of the total sample has high awareness on Web 2.0 tools, in teaching learning process. 71.34 percent has average awareness on Web 2.0 tools in teaching learning process and 10.84 percent has low awareness on Web 2.0 tools in teaching -learning process among the prospective teachers at secondary level.. The graphical representation of the distribution of the total sample in different levels of awareness on Web 2.0 tools is given in Figure 2.

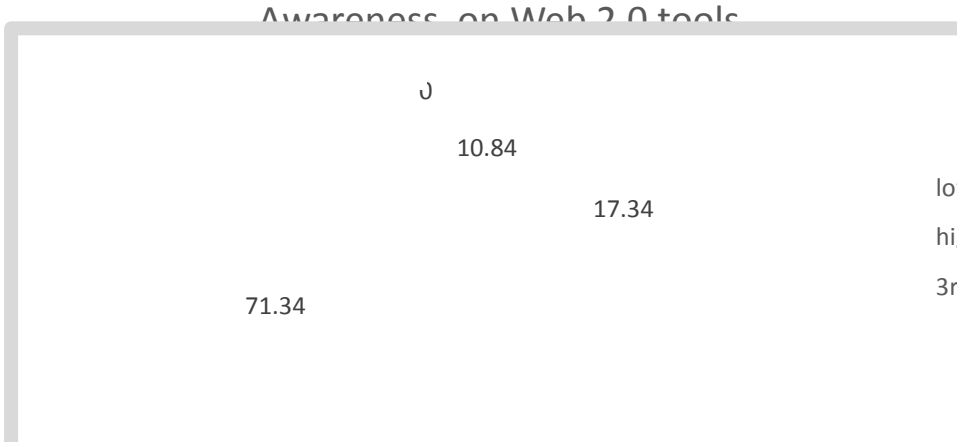

Figure 2. Graphical representation of the different levels of Awareness on Web 2.0 tools in teaching- learning process among prospective teachers.

Discussion : The percentage analysis reveals that prospective teachers differ in their level of awareness on Web 2.0 tools in teaching -learning process. Three different levels (high, average and low) of awareness on Web 2.0 tools were identified by the investigator. It also depicts that majority of prospective teachers have an average level of awareness on Web 2.0 tools in teaching -learning process (71.34%).

Level of awareness on Web 2.0 tools in teaching learning process among samples (gender, subject of specialisation and locale)

The level of awareness on Web 2.0 tools in teaching -learning process among prospective teachers at secondary level based on gender, subject of specialisation and locale is calculated with the help of the mean and standard deviation of the sub samples. The details of mean, standard deviation and sample size are given in Table 4.

Table 4.

The level of awareness on Web 2.0 tools in teaching- learning process among prospective teachers at secondary level among sub samples (gender, subject of specialisation and locale)

Sub sample		Means	Number	Standard Deviation
Gender	Male	22.78	77	5.310
	Female	15.61	523	5.139
Subject of Specialisation	Arts	16.49	356	5.457
	Science	16.60	244	6.017
Locale	Rural	15.75	314	5.567
	Urban	17.39	286	5.704
Total		16.53	600	5.687

The Table 4 shows the mean scores obtained by the prospective teachers based on sub samples. It reveals that the mean scores of awareness on Web 2.0 tools in teaching learning process among prospective male teachers are higher than the female teachers. And the mean scores of awareness on Web 2.0 tools in teaching learning process among prospective science teachers are higher than the arts teachers and the mean scores of awareness on Web 2.0 tools in teaching learning process among prospective urban teachers are higher than the rural teachers

Difference in the proportion of male and female prospective teachers in each of the awareness on web 2.0 tools

The differential effect of gender on the three groups of awareness on Web 2.0 tools was studied. For this , proportion of secondary prospective teachers in male and female in each of the awareness level on Web 2.0 tools in teaching-learning process was obtained by dividing the total sample into two male and female and then to three level of awareness on Web 2.0 tools in teaching learning process groups (high, average and low).

The number of male and female prospective teachers falling into each level of the awareness on Web 2.0 tools in teaching -learning process is given in Table 5

Table 5

Number of male and female prospective teachers falling into each level of the awareness on Web 2.0 tools in teaching learning process (high, average and low)

Group	Male	Female
High	52	46
Average	0	413
Low	25	64
Total	77	523

Table 5 reveals that out of 77 prospective teachers, 52 prospective teachers belong to the *high* group, no one belongs to the *average* groups and 25 teachers belongs to the *low* group, while considering the male prospective teachers at secondary level.

Among 523 female prospective teachers at secondary level, 46 prospective teachers belong to the *high* group, 413 belongs to the *average* group and 64 teachers belongs to the *low* group.

The total number of male and female prospective teachers falling under each group is graphically represented in figure 3.

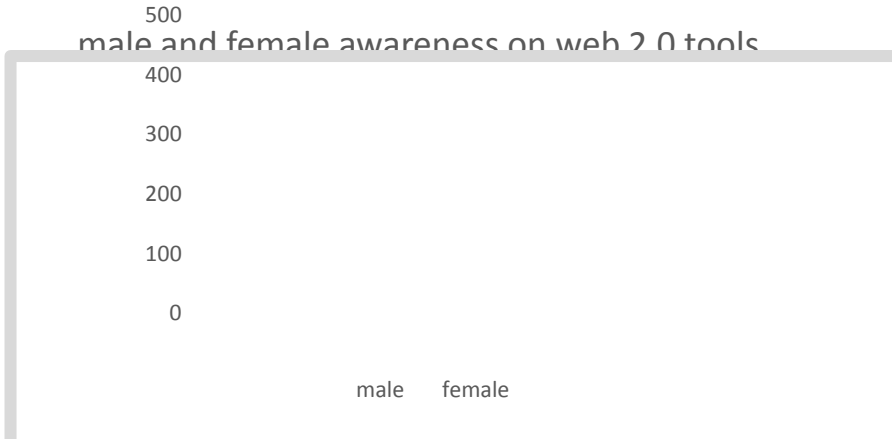

Figure 3. Graphical Representation of Number of Male and Female Prospective Teachers in each level of the Awareness on Web 2.0 Tools in teaching learning process.

Difference in the proportion arts and science prospective teachers in each level of the awareness on web 2.0 tools

The differential effect of subject of study on the three groups of awareness on Web 2.0 tools in teaching- learning process was studied. For this, proportion of prospective teachers studying arts and science subjects at secondary level in each of the awareness level on Web 2.0 tools in teaching learning process was obtained by dividing the total sample into two arts and science and then to three levels of awareness on Web 2.0 tools in teaching learning process (high, average and low).

The number of arts and science prospective teachers falling into each level of the awareness on Web 2.0 tools in teaching- learning process is given in Table 6

Table 6

Number of arts and science prospective teachers falling into each level of the awareness on Web 2.0 tools in teaching learning process (high, average and low)

Group	Arts	Science
High	47	57
Average	274	153
Low	35	34
Total	356	244

Table 6 reveals that out of 356 prospective teachers at secondary level, 47 prospective teachers belong to the *high* group, 274 teachers belongs to the *average* groups and 35 teachers belongs to the *low* group while considering the prospective teachers at secondary level who are studying arts subjects..

Among 244 science prospective teachers at secondary level, 57 prospective teachers belong to the *high* group, 153 belongs to the *average* group and 34 teachers belong to the *low* group.

The total number of arts and science prospective teachers falling under each group is graphically represented in Figure 4.

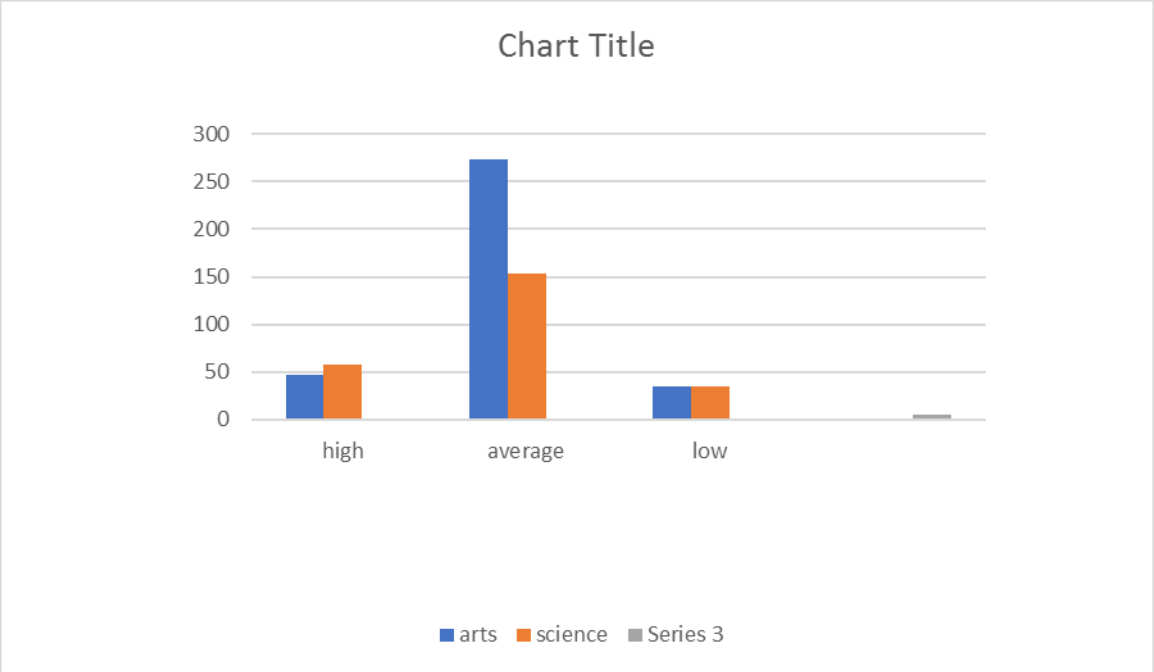

Figure 4. Graphical Representation of Number of Arts and Science Prospective Teachers in each level of the Awareness on Web 2.0 Tools in in teaching learning process.

Difference in the proportion rural and urban prospective teachers in each level of the awareness on web 2.0 tools

The differential effect of locality on the three groups of awareness on Web 2.0 tools was studied. For this, proportion of prospective teachers at secondary level

in rural and urban colleges in each of the awareness level on Web 2.0 tools in teaching – learning process group was obtained by dividing the total sample into two rural and urban and then to three awareness on Web 2.0 tools in teaching- learning process (high, average and low).

The number of prospective teachers at secondary level in rural and urban colleges falling into each level of the awareness on Web 2.0 tools is given in Table 7

Table 7

Number of rural and urban prospective teachers falling into each level of the awareness on Web 2.0 tools in teaching learning process (high, average and low)

Group	Rural	Urban
High	42	69
Average	198	221
Low	46	24
Total	286	314

Table 7 reveals that out of 286 rural prospective teachers at secondary level, 42 teachers belong to the *high* group, 198 teachers belongs to the *average* group and 46 teachers belongs to the *low* group.

Among 314 urban prospective teachers at secondary level 69 teachers belong to the *high* group, 221 belongs to the *average* groups and 24 teachers belongs to the *low* group.

The total number of rural and urban prospective teachers falling under each group is graphically represented in Figure 5.

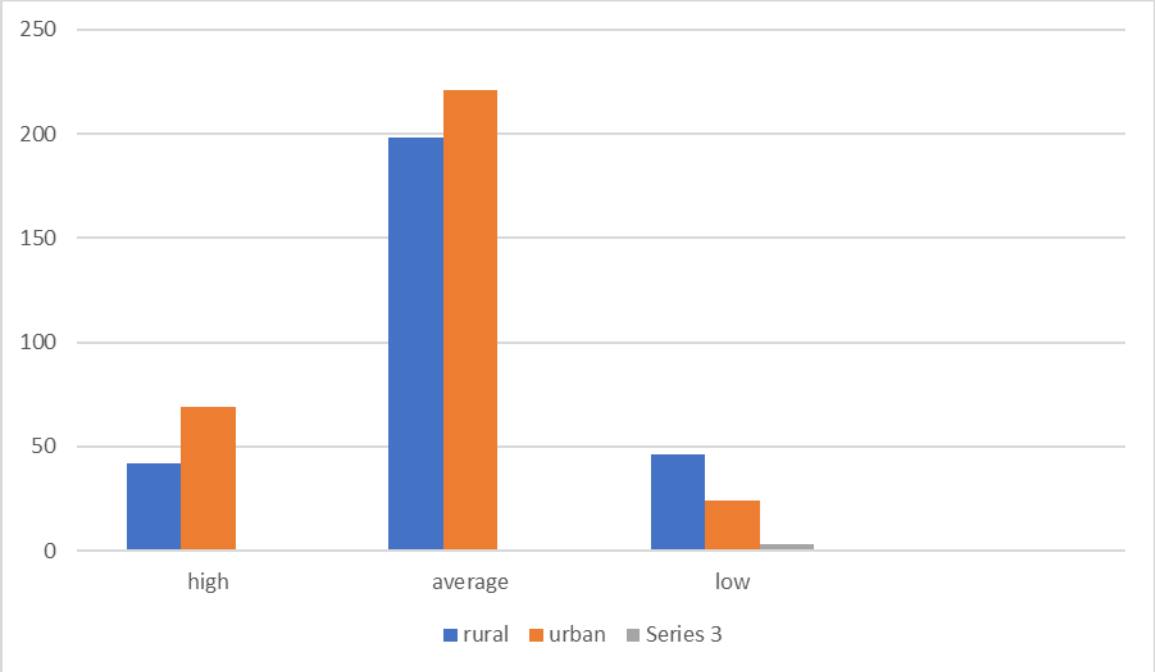

Figure 5. Graphical Representation of Number of Rural and Urban Prospective Teachers in each level of the Awareness on Web 2.0 Tools in teaching learning process.

Mean Difference Analysis

The difference in the mean scores on awareness on Web 2.0 tools in teaching- -learning process on the basis of gender, subject of specialization and locale of the college was analysed by using Test of significance of difference between means of large independent sample (t-test)..

Comparison of mean scores of awareness on web 2.0 tools in teaching learning process between male and female prospective teachers at secondary level

The mean and standard deviation of the sub sample based on gender is calculated. The comparison of the mean scores of awareness on Web 2.0 tools in teaching -learning process among prospective teachers at secondary level were done by calculating the t value . The results of Test of significance of difference between mean scores of awareness on Web 2.0 tools in teaching -learning process for male and female prospective teachers at secondary level given in Table 8

Table 8

Data and results of the test of significance of difference between mean scores of awareness on Web 2.0 tools in *teaching -learning process for male and female prospective teachers at secondary level*

Gender	Number (n)	Mean	Standard deviation	t-value	Level of Significance
Male	77	22.78	5.310	.763	NS
Female	523	15.61	5.139		

N.S- Not Significant

From Table 8 it is evident that the mean scores of awareness on Web 2.0 tools in teaching -learning process obtained by the male and female prospective teachers at secondary level are 22.78 and 15.61 respectively. The critical ratio obtained is .763, which is less than the table value of t (1.96) required for significance at 0.05 level. It indicates that the mean scores of awareness on Web 2.0 tools in teaching -learning process among prospective teachers at secondary level with respect to gender of the sample is not significant.

Discussion

The mean scores of Web 2.0 tools in teaching -learning process of male and female prospective teachers at secondary level were analyzed. It was found that there is no significant difference in the level of awareness on Web 2.0 tools in teaching -learning process of male and female prospective teachers at secondary level. Thus, it can be concluded that male and female prospective teachers at secondary level do not differ in their level of awareness on Web 2.0.tools in teaching- learning process.

Comparison of mean scores of awareness on Web 2.0 tools in teaching learning process on the basis of subject of specialisation prospective teachers at secondary level

The mean and standard deviation of the sub sample based on subject of specialisation is calculated. The comparison of the mean scores between arts and science prospective teachers at secondary level were done by calculating the t value. The result of the test of significance of difference between mean scores of arts and science prospective teacher for awareness on Web 2.0 tools in teaching learning process at secondary level is given in Table 9.

Table 9

Data and results of the test of significance of difference between mean scores of arts and science prospective teacher for awareness on Web 2.0 tools in teaching learning process at secondary level.

Subject of Specialisation	Number (n)	Mean	Standard deviation	t-value	Level of Significance
Arts	356	16.49	5.457	.056	NS
Science	244	16.60	6.017		

N.S- Not Significant

From the Table 9 it is evident that the mean scores of awareness on Web 2.0 tools in teaching -learning process obtained by the arts and science prospective teachers at secondary level are 16.49 and 16.60 respectively. The critical ratio obtained is .056, which is less than the table value of t (1.96) required for significance at 0.05 level. It indicates that the mean scores of awareness on Web 2.0 tools in teaching learning process among prospective teachers at secondary level based on the subject of specialisation of the sample is not significant.

Discussion

The mean scores of Web 2.0 tools in teaching -learning process of arts and science prospective teachers at secondary level were analysed. It was found that there is no significant difference in the level of awareness on Web 2.0 tools in teaching learning process of arts and science prospective teachers at secondary level. Thus, it can be concluded that arts and science prospective teachers at secondary level do not differ significantly in their awareness on Web 2.0 tools in teaching- learning process.

Comparison of mean scores of awareness on web 2.0 tools in teaching learning process between rural and urban prospective teachers at secondary level.

The mean and standard deviation of the sub sample based on locale is calculated. The comparison of the mean scores of awareness on Web 2.0 tools in teaching -learning process between rural and urban prospective teachers at secondary level were done by calculating the t value. The results of test of significance of difference between mean scores of awareness on Web 2.0 tools in teaching -learning process among rural and urban prospective teachers at secondary level is given in table 10.

Table 10

Data and result of the test of significance of difference between mean scores of awareness on Web 2.0 tools in *teaching -learning process among rural and urban prospective teachers at secondary level.*

Locale	Number (n)	Mean	Standard deviation	t-value	Level of Significance
Rural	314	15.75	5.567	.129	NS
Urban	286	17.39	5.704		

From Table 10 it is evident that the mean scores for awareness on Web 2.0 tools in teaching -learning process obtained by the prospective teachers in rural and urban colleges are 15.75 and 17.39 respectively. The critical ratio obtained is .129, which is less than the table value of t (1.96) required for significance at 0.05 level. It indicates that the mean scores of awareness on Web 2.0 tools in teaching learning process among prospective teachers at secondary level based on locale of the sample is not significant.

Discussion

The mean scores of Web 2.0 tools of rural and urban secondary prospective teachers were analysed. It was found that there is no significant difference in the level of awareness on Web 2.0 tools in teaching- learning process prospective teachers in rural and urban colleges at secondary level. It can be concluded that rural and urban college prospective teachers at secondary level do not differ significantly in their awareness on Web 2.0 tools in teaching-learning process.

Conclusion

Based on the analysis the investigator reached the following conclusions. The analysis of data shows that the prospective teachers have average awareness on Web 2.0 tools in teaching -learning process. Majority of the prospective teachers at secondary level falls in the category of average group of awareness on Web 2 .0 tools in teaching -learning process. The analysis of mean scores of sub sample with respect to gender, subject of specialisation and locale of colleges were done. The results of analysis shows that there exist no significant difference in the level of awareness on Web 2 .0 tools in teaching -learning process among male and female prospective teachers at secondary level. It also reveals that there exist no significant difference in the level of awareness on Web 2 .0 tools in teaching -learning process among prospective teachers at secondary level who are studying arts and science subjects as well as prospective teachers in rural and urban colleges.

Chapter 5

SUMMARY, FINDINGS AND SUGGESTION

- *Study in Retrospect*
- *Variables of the study*
- *Objectives of the study*
- *Hypotheses of the study*
- *Methodology of the study*
- *Major Findings*
- *Conclusions*
- *Tenability of Hypotheses*
- *Educational Implication*
- *Suggestions for Further Research*

SUMMARY, FINDINGS AND SUGGESTIONS

This chapter provides an overview of the significant aspects of the various stages of the study such as the study in retrospect, major findings emerged from the study, conclusions arrived, educational implications of the findings and suggestions for further research.

Study in Retrospect

This section tries to make a retrospective study of the statement of the problem, variable, objectives, hypotheses, tools and statistical techniques used for the study.

Restatement of the Problem

The present study is entitled as;

"AWARENESS ON WEB 2.0 TOOLS IN TEACHING- LEARNING PROCESS AMONG PROSPECTIVE TEACHERS AT SECONDARY LEVEL"

Variable of the Study

The variable selected for the study is

"Awarecness on Web 2.0 tools in Teaching Learning Process"

Objectives of the Study

The major objectives of the study are;

- To assess the level of awareness on Web 2.0 tools in teaching- learning process among prospective teachers at secondary level.
- To compare the level of awareness on Web 2.0 tools in teaching- learning process among the prospective teachers at secondary level with respect to gender.
- To compare the level of awareness on Web 2.0 tools in teaching- learning process among the prospective teachers at secondary level with respect to their subject of specialisation.
- To compare the level of awareness on Web 2.0 tools in teaching – learning process among the prospective teachers at secondary level on the basis of locale of colleges.

Hypotheses of the Study

- There is no significant difference in the level of awareness on Web 2.0 tools in teaching –learning process among prospective teachers at secondary level on the basis of gender.
- There is no significant difference in the level of awareness on Web 2.0 tools in teaching- learning process among prospective teachers at secondary level with respect to their subject of specialisation.

- There is no significant difference in the level of awareness on web 2.0 tools in teaching-learning process among prospective teachers at secondary level with respect to the locale of the colleges.

Methodology

It is the description of the procedure of techniques adopted in research study or investigation. The decision about the method selected for the study depen**ds** upon the nature of the problems selected and kind of data required for its solution.

Method

The study adopted normative survey method in order to understand the awareness of prospective teachers at secondary level on Web 2.0 tools in teaching-learning process.

Sample

The population for the study comprised of prospective teachers at secondary level. The sample selected for the study consisted of 600 prospective teachers studying in various B. Ed colleges of Kozhikode, Malappuram and Thrissur districts of Kerala state. Stratified random sampling technique was used for the selection of sample by giving due weightage to gender, subject of specialisation and locale of colleges.

Tool used for the Study

To measure the variable, "Awareness Test on Web 2.0 Tools in Teaching-Learning Process". (Haseena and Niranjana, 2016) developed by the investigator in

collaboration with the supervising teacher was used. The test included 50 multiple choice questions related to Web 2.0 tools in in teaching- learning process.

Statistical Techniques

The following statistical techniques were used for the analysis of data;

1. Descriptive statistics
2. Percentage analysis
3. Test of significance of difference between means of large independent sample (t-test).

Major Findings

The important findings of the study are presented below;

- Percentage of the different levels of awareness on Web 2.0 tools in teaching-learning process among prospective teachers at secondary level falling into high, average and low awareness group is 17.84,71.34 and 10.84 respectively.
- The mean score obtained for the awareness on Web 2.0 tools in teaching-learning process among prospective teachers at secondary level for the total sample is 16.53.
- The mean score obtained for the awareness on Web 2.0 tools in teaching - learning process among prospective teachers for the male and female prospective teachers at secondary level are 22.78 and 15.61 respectively.

- The mean score obtained for the awareness on Web 2.0 tools in teaching - learning process among prospective teachers at secondary level for the sub sample subject of specialisation that is arts and science are 16.49 and 16.60 respectively.
- The mean score obtained for the awareness on Web 2.0 tools in teaching - learning process among prospective teachers at secondary level in rural and urban colleges are 15.75 and 17.39 respectively.
- Majority of the prospective teachers at secondary level are having average awareness on Web 2.0 tools in teaching -learning process (71.34%).
- Number of male prospective teachers at secondary level falling into each level of the awareness on Web 2.0 tools in teaching -learning process (high, average and low)is 52, 0 and 25 respectively
- Number of female prospective teachers at secondary level falling into each level of the awareness on Web 2.0 tools in teaching learning process (high, average and low) is 46, 413 and 64 respectively
- Number of prospective teachers at secondary level who are studying arts subjects falling into each level of the awareness on Web 2.0 tools in teaching learning process (high, average and low) is 47, 274 and 35 respectively
- Number of prospective teachers at secondary level who are studying science subjects falling into each level of the awareness on Web 2.0 tools in teaching learning process (high, average and low) is 57, 153 and 34 respectively

- Number of prospective teachers at secondary level in rural colleges falling into each level of the awareness on Web 2.0 tools in teaching learning process (high, average and low) is 42, 198 and 46 respectively
- Number of prospective teachers at secondary level in urban colleges falling into each level of the awareness on Web 2.0 tools in teaching learning process (high, average and low) is 69, 221 and 24 respectively.
- There is no significant difference in the level of awareness on Web 2.0 tools in teaching learning process between male and female secondary prospective teachers at secondary level (t=.763).
- There is no significant difference in the level of awareness on web 2.0 tools in teaching learning process between arts and Science secondary prospective teachers at secondary level (t=.056).
- There is no significant difference in the level of awareness on web 2.0 tools in teaching learning process between rural and urban prospective teachers at secondary level(t=.129)

Conclusion

Based on the analysis the investigator reached the following conclusions Majority of the prospective teachers at secondary level falls in the category of average group of awareness on Web 2 .0 tools in teaching -learning process. The analysis on the basis of gender revealed that the awareness on Web 2.0 tools in teaching - learning process among prospective teachers have no difference for male prospective teachers and female prospective teachers at secondary level.

The analysis on the basis of subject of specialisation revealed that the awareness on web 2.0 tools in teaching learning process do not differ significantly for science prospective teachers and arts prospective teachers at secondary level .

Tenability of Hypotheses

The tenability of hypothesis is examined in the light of the above findings

The first hypothesis of the study states that "There is no significant difference in the level of awareness on Web 2.0 tools in teaching –learning process among prospective teachers at secondary level on the basis of gender". The results revealed that there is no significant difference in mean scores of awareness on Web 2.0 tools in teaching - learning process among male and female prospective teachers at secondary level. Hence, the first hypothesis is accepted.

The second hypothesis states that " There is no significant difference in the level of awareness on Web 2.0 tools in teaching- learning process among prospective teachers at secondary level with respect to their subject of specialisation". The analysis of the results revealed that there is no significant difference in mean scores of awareness on Web 2.0 tools in teaching - learning process among prospective teachers at secondary level. So, the hypothesis is accepted.

The third hypothesis states that "There is no significant difference in the level of awareness on Web 2.0 tools in teaching-learning process among prospective teachers at secondary level with respect to the locale of the colleges". It was found that there is no is significant difference in mean scores of awareness on web 2.0

tools in teaching - learning process among rural and urban prospective teachers at secondary level. Thus, the hypothesis is accepted.

Regarding the locale of colleges , scores of awareness on Web 2.0 tools in teaching - learning process among prospective teachers do not differ significantly for urban prospective teachers and rural prospective teachers at secondary level .

Educational Implications

The present study gave the investigator a vivid picture of the awareness on Web 2.0 tools in teaching-learning process among prospective teachers at secondary level. The value of any piece of research in education lies in the implications of the study. Based on the major findings of the present study, some practical suggestions are given by the investigator to improve educational practices.

The various items in the awareness on Web 2.0 tools in teaching-learning process will give an idea to the prospective teachers at secondary level about Web 2.0 tools and enable them to improve awareness on Web 2.0 tools in teaching-learning process.

The result of the analysis shows that the awareness on Web 2.0 tools in teaching - learning process among prospective teachers is only satisfactory to certain extent. Hence, the importance should be given to introduce the concept of Web 2.0 tools through the curriculum for upgrading the awareness level of prospective teachers.

The present study shows that the prospective teachers have only moderate awareness on web 2.0 tools in teaching learning process. The various Web 2.0 tools

in the awareness test will give an idea to the prospective teachers about the level of awareness on Web 2.0 tools in teaching - learning process and enable to them to improve the awareness on Web 2.0 tools in teaching - learning process.

It is obvious from the study that there is not significant difference between prospective teachers on the basis of gender, subject of specialization and locale of the colleges.

Some steps can be taken in the educational institution in order to impart awareness on Web 2.0 tools in teaching learning process among prospective teachers.

- Both the teachers and students can use Web 2.0 tools in and out of the classroom to teach and learn curriculum content, store data, create /edit videos, edit photos, collaborate etc.
- Teacher can make teaching process innovative and informative by using different technological devices.
- The use of Web 2.0 tools in teaching-learning process helps to create interest among the learners and to increase their engagement in learning process.
- The knowledge of Web 2.0 tools in teaching-learning process can assist the teacher to create a more communicative and collaborative teaching and learning environment.
- Adequate opportunities should be given in the teacher education curriculum to understand the opportunities of Web 2.0 tools in teaching-learning process and how to effectively implement the Web 2.0 tools in their teaching.

- Instead of creating students passively receive information from the instructors, the use of Web 2.0 tools has the potential to provide more interactive and customized learning environments.
- Use of Web 2.0 tools in teaching-learning ,will help the teachers to decide the strategies and pedagogy they need to adopt for their teaching.
- The learning environments enriched with Web 2.0 tools helps the students to interact and collaborate with global professional communities.
- The integration of blog and other Web 2.0 tools as a means of exchanging ideas and support for collaboration and communication between students results in expansion of school time and space.
- Pedagogical perspective can support a collaborative space for students to act as reviewers for course related materials, images and reflection related to teacher ideas and development of student e-portfolio work.
- Web 2.0 tools such as wikis can be used by the students to develop their research projects by suggesting prescribed readings and to build a collaborative bibliography. It also help teachers to share reflections and thoughts regarding the teaching-learning process
- Provision for including the subject covering Web 2.0 tools in the teacher education curriculum can be done.

Teachers have a great impact on society as they interact with young and growing minds that are easily influenced by their teachers views. So it is very essential that the prospective teachers should be aware of Web 2.0 tools in teaching - learning process. The avenues of communication is updating day by day, in order to cope up with the demands of digital native students the teacher should be well

equipped with the advanced technologies in their teaching-learning process. Web 2.0 tools can be used as a part of well-designed lessons which can create a positive impact upon children`s learning. Using Web 2.0 tools as a part of well-designed lessons can have positive impact upon children`s learning by making the prospective teachers familiar.

Suggestions for Further Research

The finding of the study and limitations encountered in the present study helped the investigator to suggest the following for further research

- A survey on courses that use Web 2.0 technologies can be undertaken.
- Experimental study to understand the effectiveness of Web 2.0 technologies in various domain areas can be conducted.
- Use of Web 2.0 tools in teaching various subjects in higher education and secondary education can be undertaken.
- The extend of use of Web 2.0 tools in teaching-learning process at various stages of education that is, primary, secondary and higher education can be done.
- The same study can be replicated for prospective teachers educators.
- A comparative study of use of web 2.0 tools in Kerala with other states can be conducted.
- The same study can be conducted among those teachers who are practicing in primary, secondary and higher secondary schools.

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APPENDICES

APPENDIX I

FAROOK TRAINING COLLEGE

TEST OF AWARENESS ON WEB 2.0 TOOLS IN TEACHING- LEARNING PROCESS AMONG PROSPECTIVE TEACHERS AT SECONDARY LEVEL

Niranjana K. P
Assistant Professor

Haseena K. V
M. Ed Student

Name of the teacher trainee	:	
Name of the College	:	
Gender	:	Male/Female
Subject of Specialisation	:	Arts/Science
Locality of College	:	Urban/Rural

Instructions

The following questions are related to Web 2.0 tools used in teaching – learning process. Each item is followed with four options like a, b, c, d. Give a (✓) tick mark to the appropriate answers.

1. The 3-D projects desktop application from Google that allows teachers or students to create and share stunning 3-D models from coffee pots to skyscrapers.

   a. Alice b. Blender c. Photosynth d. Sketch Up

2. An online drop and drag comic creator with a paid education section for teachers and students to work in a secure environment.

   a. DoInk b. Voki c. Pixton d. Toondoo

3. A website devoted to children and creative story telling.

   a. Comic master b. Zimmer twins c. Cartoonster d. Stripgenerator

4. The tool designed for creative, real time collaboration, users can collaborate on the creation and editing of images, drawings of even mathematical equations.

   a. Scribbler b. Stixy c. Titan pad d. wallwisher

5. A tool provide free 2GB to develope wikis in classes to create, edit orcontribute to page making.

   a. Vocaroo b. Wikispaces c. Wordpress d. Edublogs.

6. The leading source office software suite for word processing, spreadsheets, presentations, graphics and databases.

   a. PDFcreator b. Open office c. Zoho d. Scribus

7. A desktop application that creates interaction exercises and multimedia educational activities using Java.

   a. Jclic b. Convore c. Wordpress d. Wallwisher

8. A popular social bookmarker , access your bookmarker from any computer and share them with colleagues, students or friends.

   a. Delicious b. Convore c. Dropmocks d. Padlet

9. A bookmark manager tool, which works to collect, organise and share with Diigowih a highlyghter text, images and sticky notes to webpages.

   a. Piratebad b. Diigo c. Dropmocks d. Primarypad

10. A tool that provides a way for teachers when get away from the students to communicate with peers instead, it is also for bookmarking.

    a. Titanpad b. Linkedln c. Type with . me d. Wallwisher

11. A tool that provides to teachers both to organise and share anything from lesson plans, ideas and crafts using a virtual bulletin board and to network with other

    a. Linkedln b. Diigo c. Jclic d. Pinterest

12. This web tool creates a quality slideshow and simplifies the creation and sharing of videos, lesson plans or presentation for students.

    a. Diigo b. Linkedln c. Animoto d. Lingro

13. The most widely use website, which generated by quizzes and serve to others.

    a. Charles Kelly Quiz Generator b. Jclic c. Delicious d. Titan Pad

14. This web tool allows teachers to convert Microsoft office and PDF documents to HTML 5, and making easily viewable students documents in their browsers.

    a. Animoto b. Piterest c. Crocodox d. Titan Pad

15. The free online gradebook that allows teachers to manage their classes and

    a. Engrade b. Open Office c. Linkedln d. Jclic

16. The online pronunciation dictionary comes in handy for any language.

    a. Domo b. Voki c. Forvo d. Pixton

17. The tool as a grammer checker in which students can use this as a method to improve the process of peer editing.

    a. Audacity b. Grammarly c. Sketch Up d. Ujam

18. The tool serve for teachers to create structured online inquiry based learning activities when teach students

    a. Pixton b. Zimmer twins c. My Project Pages d. Wikispaces

19. The web based watch tool which use teachers for timed exams and other assignments

    a. Edublogs b. Online Stopwatch c. Blogger d. Titan Pad

20. A tool which helps to post home work, dates notices etc. in more than one location depending on teachers like to contact students

    a. Schoopy b. Scribbler c. Pixton d. Titan Pad

21. When teachers are still in powerpoint, the tool serve them to presentation up at this tool and share to students while PPt works with open office and PDF file.

    a. Lingro b. Babble c. Slideshare d. Sketch Up

22. The tool allows to create easily and manage online surveys suitable for internet- based oral history projects course evaluation

    a. Slideshare b. Schoopy c. My Project pages d. Survey Builder

23. The tool provide to download any number of lesson plans, templates and worksheets for teachers.

    a. Slideshare b. Engrade c. Survey Builder d. Teacher Planet

24. A collaborative application providing tools tailored to improve the communication between people working together on a project.

    a. Base camp b. Yugma c. Animoto d. Schoopy

25. Like twitter, this tool facilitates collaboration and content sharing among students, teachers and school districts.

    a. Edmodo b. Base camp c. Survey Builder d. Teacher planet

26. The tool , which provide personalised web page as a communication hub

    a. Edmodo b. Slideshare c. Survey Builder d. First class

27. A delivered subscription service tools for teachers teaturing collaborative lesson building activities

    a. Teacher Planet b. Live Text c. Animoto d. Crocodox

28. The note taking tool with collaborative wiki style class note taker to provide post their lecture notes

    a. Delicious b. Live Text c. Diigo d. Note Mesh

29. Teachers use this tool to share their instructional resources and connect with other educators

    a. Live Text b. Note Mesh c. Pinterest d. Schoology

30. An interactive tool, which provide service to teachers for collaborate class room projects to appear among students.

    a. Schoology b. Skype c. Note Mesh d. Live Text

31. The tool provide teachers a great way to connect , brain storm and share ideas with students

    a. Skype b. Schoology c. Twiddla d. Edmodo

32. The free blogs of teachers, researchers, librarians and other education professionals helping to communicate to students by word press

    a. Skype b. Note Mesh c. Twiddla d. Edu Blog

33. A tool for creating lessons including multimedia elements in a few minutes.

    a. Animoto b. Blendspacec. Class tell D. Vialogues

34. A tool for creating a video-based discussion

    a. Kerpoof b. Voxopopc. Fotobabbled .Vialogues

35. A web based audio tool that allows users to record their speaking on a given topic.

    a. Kerpoof b. Voxopopc. Fotobabbled . Prezi

36. A excellent site for creating zooming slideshows and presentations

    a. Slideshare B. 280 slides c. Fotobabbled . Prezi

37. A site to create collaborative online quizzes, share resources, view others quizzes, and tutorials.

    a. Hotpotatoes b. Gnowledge c. Jclic d. Kerpoof

38. An excellent way to create interactive multimedia educational activities.

    a.Class tell b. Educaplay c. Animoto d. edmodo

39. The easiest way to store, sync, and, share files online

    a. Dropbox b. Gnowledge c. Alice d.Blender

40. Simple three-minute videos to help educators to introduce complex subjects

    a.Pixton b. Jing c. Xtranormal d.Commoncraft

41. Six applications that allows you to create interactive multiple-choice, short-answer, jumbled-sentence, crossword, matching/ordering and gap-fill exercises for the World Wide Web

    a. Hotpotatoes b. Gnowledge c. Jclic d. Kerpoof

42. An audio software to record or install sounds to your computer (microphone needed) and edit them afterwards.

    a. Audiopt b. Jamendoc .Delicious d. Audacity

43. Teachers use tool for brain storming and class discussions

    a. Babbl.us b. Prezi c. Jclic d. Audacity

44. A free resource tool, teachers use to create and share their best curriculum teaching practices, mix and match lesson plans, videosetc.

    a. Open Study b. Curryki c. Titan pad d. Wallwisher

45. The tool, which helps teachers simplify their lives by streamlining lesson plans and centralizing everything onto a computer.

    a. Planboard b. Diigo c. Linkedln d. Pinterest

46. This free online file conversion tool will help teachers organize their videos, images and documents.

    a. Zamzar b. Open office c. Wikispaces d. Delicious

47. Teachers can use this game-based tool to teach math concepts to their students.

    a. Sketch Up b.voki c. pixton d. Mang high

48. In its mission to make the world one large study group, this social site encourages students to work with other students who are studying the same material as them.

    a.Yugma b. Schoology c. Skype d. Open Syudy

49. Teachers use their free web conferencing feature with this tool and also share their entire desktop in real time with one student this can extremely helpful in one- on- one advising with student

    a. Yugma b. Audacity c. Diigo d. Live Text

50. A tool that enables teachers and students to create games to support their learning

    a. Edmodo b. Zondle c. Voki d. Planboard

.FAROOK TRAINING COLLEGE

Awareness Test on Web 2.0 Tools in Teaching-Learning Process

Scoring Key

Sl. No	Scoring Key
1	D
2	C
3	B
4	A
5	B
6	B
7	A
8	A
9	B
10	B
11	D
12	C
13	A
14	C
15	A
16	C
17	B
18	C
19	B
20	A
21	C
22	D
23	D
24	A
25	A

Sl.No	Scoring Key
26	D
27	B
28	D
29	D
30	B
31	C
32	D
33	B
34	D
35	B
36	D
37	B
38	B
39	A
40	D
41	A
42	D
43	A
44	B
45	A
46	A
47	D
48	D
49	A
50	B