

Attitude towards Learning Computer Technology and the Usage of Web among the Higher Secondary School Students

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Abstract

Education plays the greatest part in democracy. It is the subsystem in the social system that plays a key role in molding, shaping, reforming and reconstructing society from time to time. Now India's commitment is to provide "free and compulsory education for all children until they complete the age of 14" and achieve Universalization of Elementary education (UEE) and the Millennium Developmental Goals (MDG) with substantial improvement in the quality. At this critical juncture the impact of computer technology has revolutionized the world in all aspects of life. Hence it is expected to improve the quality of learning as well as learners of rural area students by facilitating them with necessary technology usage, its knowledge and applications. Quantitative method is used in this study. There are four objectives. The first objective is to find out the significant difference in attitude towards web learning among higher secondary school students with respect to medium of instruction. The second objective is to find out the significant difference in attitude towards web learning among higher secondary school students with respect to father's educational qualification. Third objective is to find out the significant difference in attitude towards web learning among higher secondary school students with respect to mother's educational qualification. The fourth objective is to find out the significant difference in attitude towards web learning among higher secondary school students with respect to monthly income of family. The benefactors are students, teachers, administrators and the school principals.

Keywords:

1.Attitude, 2.Learning, 3.Computer 4.Technology, 5.Usage of web.

Introduction:

The innovations related to computers enables the learners to Collect notes/pictures/videos form web pages for deducted information and projects/assignments. Not only collecting it also enables to Save the documents as soft copy for future use. Learning through animations helps the learners to understand even the complex and abstract contents. E-books/online libraries / encyclopaedias help to guide in minutes and save precious time and resources. Creating videos using images, albums for better power point slides are yet other welcoming innovations for learning.

The word 'computer' has been derived from the Latin word 'compute' which means to count. In former time, computer was used to manipulate data like words and numbers. So, it was called as a

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'computing machine'. Presently a computer has become an electrically powered device through different evolutions of technology. According to the definition made by the Microsoft technologists "A computer is an electrically powered device or set of devices which works under the control of a stored program automatically accepting and processing data with minimum human intervention to produce results. Hence, a computer is automatic, reprogrammable and data processor to store information'.

Web Learning has so many advantages when comparing to the traditional classroom learning. It fosters meaning-making among the learners. It moves from knowledge transmission to learner-controlled systems. It provides for reciprocal teaching. Learner-centered is emphasized for the modern generation learners. Self-paced learning is possible in this method as it encourages active participation, knowledge construction based on higher level thinking skills – analysis, synthesis, and evaluation. It Promotes active learning and allows group collaboration and cooperative learning providing multiple levels of interaction. It focuses on real-world, problem solving computational thinking among the learners especially among the school students.

Web learning environments may be designed for distance as well as face to face learners. The following principles are intended to serve as guidelines for identifying and evaluating web based courses in distance education programs. The learning experience must have a clear purpose with tightly focussed outcomes and objectives. Web based learning designs must consider the nature of content, specific context, desired learning outcomes and characteristics of the learner. The learner is actively engaged. Active, hands-on, concrete experiences are highly effective. Learning by doing, analogy and assimilation are increasingly important pedagogical forms. Where possible learning outcomes should relate to real-life experience through simulation and application. The learning environment makes appropriate use of a variety of media. Various learning styles are best engaged by using a variety of media to achieve learning outcomes. Selection of media may also depend on nature of content, learning goals, access to technology, and the local learning environment.

Review Literature:

Review of related literature includes facts, concepts, theories and previous research findings and it is a part of research process. The researcher should undertake the survey of literature related to the problem because it is an eye opener for research work. Academic journals, conference proceedings, Government reports, Books published or unpublished thesis should be studied, depending on the nature of the study.

Best (1978) defines review of literature as a "Brief summary of previous research and the writings of recognized experts provides evidence that the researcher is familiar with what is already known and with what is still unknown and untested. Since effective research must be based upon past knowledge, this step helps to eliminate the duplication of what has been done and provides useful hypothesis and helpful suggestions for significant investigation.

An essential aspect of a research project is the review of that related literature. In the words of Good, "the key to the vast store house of published literature may open doors to sources of significant problems and explanatory hypotheses and provide helpful orientation for definition of the problem, background for interpretation of results. In order to be truly creative and original one must read extensively and critically as stimulus thinking.

Megan Oakleaf (2009) has examined goal conflicts, self-regulation and course completion: A comparison of web based learners to traditional classroom learners. A significantly greater percentage of web based participants than traditional students passed the courses included in the study. Web based participants reported a significantly greater amount of self-regulation than did traditional students. Contacting the instructor for help and analyzing assignments contributed significantly to passing courses included in the study. Distinctions between distance learners and traditional learners are becoming less clear since some traditional courses have begun to offer web completion as an option. Many students who live on or near campus and who are otherwise traditional students now included web based courses in their schedule. It is a felt need to find out what level of significant difference and relationship between web based education of secondary teacher trainees with respect to their personal variables.

David.c (2010), study indicates both a self-reported use component collected from student surveys as well as a monitored use component collected through activity monitoring “spyware” installed on student laptops. We categorize multitasking activities into “productive” (course-related) versus “distractive” (non-course-related) tasks. Quantifiable measures of software multitasking, the student “duration” of student multitasking, and the “extent” to which students engage in distractive versus productive tasks.

Jones (2010), the research explicit (1) identifies the distinction between the student’s current usages of social software; (2) reports on the student’s experience on opportunities and challenges of learning with social software; and (3) introduces principles as a guideline in using social software for learning. Quantitative research methods (web-based questionnaires) were incorporated to investigate the pattern of learner’s usage. Qualitative methods (student interviews) were adopted to clarify and further inform this relationship and their attitudes towards social software for learning.

Sheared and Reed (2010) Exploring cloud computing to solve IT challenges’ when the author was brought on as CIO of Westmont college in October 2008, the president, Board of Trustees and campus environment made it clear that technology needed a major overhaul to meet the college’s growing requirements. Also, these changes needed to happen without significantly increasing the IT budget or staff. Marketing charts projected that smartphones will surpass feature phones by the middle of 2011. An early indicator of a technology shift on campus was Westmont’s significant yearly increase in mobile Internet usage among students and faculty. An influx of new clients and devices arrive every fall with the incoming freshman, and new students expect to connect anytime, anywhere. The college’s students needed a technology service platform that would meet this expectation, but Westmont’s limited wireless and antiquated online resources and IT offerings came up short. The college had explosive IT assets with high-up front costs that were complex and time-consuming to manage. In this article, the author discusses how utilizing cloud computing technologies enabled Westmont College to not only solve those problems but also to free up resources for other forward-looking initiatives.

Baird & Monson (1992) As the technology of distance education becomes more diverse, increasingly sophisticated support organizations will be needed to manage distance education networks and help faculty design, produce, and deliver courses...As digital and analog technologies continue to merge, distance education applications, among others, will also require increasing interdependence between what may still be discrete campus units: broadcasting, teleconferencing, video productions, and computer technology.

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Hancock (1995) it is a difficult task to determine what factors inspired motivation and demotivation, whether the circumstances were internal or external, steady or changeable, controlled or uncontrolled. Trying to avoid computer demotivation the researcher suggests: 1) work with computer must be related with present or further pupil's demands. These demands can be fulfilled considering pupils aims, clearly stating the use, adjusting degree of difficulty, etc.2) work with Computer has stimulate self-confidence, confidence in success what promote efforts and further successful, motivated work 3) work with computer must give self-satisfaction and preserve constant motivation. Students, meeting their expectations, have to realize the received use as fair, neutral and permanent.

Bonk (2001) Concerns of faculty regarding participation in teaching online include a lack of standards for an online course, the threat of fewer jobs, and a decline in usage of full-time faculty which faculty believe results in a decline in quality of faculty (IHEP, 2000; NEA, 2000). In addition, faculty note lack of time, lack of institutional support, lack of scholarly respect in the areas of promotion and tenure, and a lack of training as other obstacles in participating in distance education. Specifically, the list of motivating and inhibiting factors for faculty participation in distance education is lengthy. Therefore, the author formatted a chart (see Appendix) to record the various factors found within the chosen thirteen studies. Once the factors were charted, they were grouped into categories which included personal, external, technical, pedagogical, and institutional. Upon further reflection, the technical and pedagogical categories seemed to fit best within the institutional category. Thus the final categories were intrinsic or personal, extrinsic, and institutional. Within the institutional category, the following two subcategories were recognized: 1) technology and teaching and 2) technical and administrative support. The factors within these categories are outlined in the next section of this review.

Susan Denden (2008) this literature review offers a commentary on programming applications specifically in the area of emerging online technologies for learning. Included is a brief history on the growth of these instructional technologies. We explore four literature reviews that discuss intelligent tutors (used on a one-to-one basis and in a collaborative environment), and virtual reality environments. These publications show students working online successfully in a range of learning situations, where students become more active learners and exercise various choices in the process. Intelligent tutors can be designed to adapt to individual learning styles, and to other learner characteristics. Virtual reality environments offer unique immersive learning experiences. Programmers and researchers are working diligently to develop custom intelligent solutions to online learning needs. Evaluations presented show positive results to date. Obstacles still remain to development in terms of costs and other factors. Implementation and research continue.

Escobar- Rodriguez (2012), the advent of information technologies for schools has improved the teaching-learning process. Students can increase their learning skills using information technology. Those using the Moodle platform regularly seem to get better grades than those who rarely or never use it. Understanding the factors influencing the intention to use Moodle will allow us to determine which actions might be carried out to boost its use by University students, to therefore, improve both their skills and grades. The theoretical grounding for this research is the Technology Acceptance Model (TAM).

Ramasamy, and Santhanakrishnan (2013) technology in education implies the use of implements, tools and machines in education for the development of agriculture and gardening and industry and in fact our everyday life to reap the fruit of scientific and technological developments. Technology in education

refers to the application of engineering principles and technology in the process of education. Basically it is called hardware technology. Various strategies can be employed for effective teaching through technology. Here the authors are going to discuss briefly three main strategies they are Computers Assisted Instruction, Teaching Machine and Tele-conference & video conference.

Methodology:

The investigator adopts the survey method of research. In the words of Adi Seshaiyah and Sekhar (1977), the survey method is necessary for the collection of facts and information relevant to the problem investigated. The survey approach to educational problems is one of the most commonly used approaches. It goes beyond mere gathering and tabulation of data, it involves interpretation, comparison, measurement, classification, evaluation and generalization, all directed towards a proper understanding and solution of significant educational suggests ways of meeting them.

Table 1 Research Design

Nature of the Study	Variables	Tools	Sample	Statistical Techniques Employed
Normative Survey Method	Attitude towards Web Learning	Attitude scale for Web Learning	Random Sample of 300 Higher Secondary School Students	Percentage Analysis, Differential Analysis, Relational Analysis
	Usage of Computer technology	Computer technology scale		

The various statistical techniques were implemented to analyze and systematize the data that were obtained through the tests in finding out the level of attitude towards web learning and the usage of computer technology among higher secondary school.

Findings

The first research objective hypothesis, there is no significant difference in Attitude towards Web-Learning among higher secondary school students based on medium of instruction.

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Table 2 Showing the Mean, S.D and C.R value for Attitude towards Web-Learning among Higher secondary school Students based on medium of instruction.

Variable	Medium of Instruction	Number of sample	Mean	S. D	'CR' Value	L.O.S
Attitude towards web-learning	Tamil	200	133.44	13.361	.851	N.S
	English	100	132.03	13.852		

From the table, it is clear that the obtained C.R value .851 is lower than the table value (1.96) at 0.05 level. Therefore, there is no significant difference between the mean scores of Attitude towards Web-Learning among higher secondary school students based on their medium of instruction.

So it is inferred that the level of attitude among the students of both Tamil and English mediums are equal irrespective of their medium of instruction. Hence the hypothesis (1) is accepted.

The second research objective hypothesis, there is no significant difference in Attitude towards Web-Learning among higher secondary school students based on Father's Educational Qualification.

Table 3 Showing ANOVA for Attitude towards Web-Learning of Higher Secondary School Students Based on Father's Educational Qualification.

Variables	Source of Variance	Sum of squares	DF	Mean Square	'F' Value	L.O.S
Attitude towards Web-learning	Between Groups	209.417	2	104.709	.571	NS
	Within Groups	54445.313	297	183.138		
	Total	54654.730	299			

From the table, it is clear that the obtained 'F' value 4.371 is lower than the table value (4.68) at 0.05 level. Therefore, there is no significant difference between the mean scores of Attitude towards Web-Learning among higher secondary school students based on their father's educational qualification.

So it is inferred that the change in father's educational qualification has left no impact on the attitude of the students towards Web-Learning. Hence, the hypothesis is (2) accepted.

The third research objective, there is no significant difference in Attitude towards Web-Learning among higher secondary school students based on mother’s educational qualification.

Table 4 Showing ANOVA for Attitude towards Web-Learning of Higher Secondary School Students Based on mother’s educational qualification.

Variables	Source of Variance	Sum of Squares	DF	Mean Square	‘F’ Value	L.O.S
Attitude towards Web-learning	Between Groups	237.219	2	118.610	.647	NS
	Within Groups	54417.511	297	183.824		
	Total	54654.730	299			

From the table, it is clear that the obtained ‘F’ value .647 is lower than the table value (3.04) at 0.05 level. There is no significant difference in Attitude towards Web-Learning among higher secondary school students based on mother’s educational qualification.

So it is inferred that the change in mother’s educational qualification has left no impact on the attitude of the students towards Web-Learning. Hence, the hypothesis (3) is accepted.

The fourth research objective, there is no significant difference in Attitude towards Web-Learning among higher secondary school students based on monthly income of family.

Table 5 Showing ANOVA for Attitude towards Web-Learning of Higher Secondary School Students Based on monthly income of family.

Variables	Source of Variance	Sum of squares	DF	Mean Square	‘F’ Value	L.O.S
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Attitude towards Web Learning	Between Groups	59.000	2	29.500	.160	NS
	Within Groups	54595.730	297	183.824		
	Total	54654.730	299			

From the table, it is clear that the obtained 'F' value .160 is lower than the table value (3.04) at 0.05 level. There is no significant difference in Attitude towards Web-Learning among higher secondary school students based on monthly income of family.

So it is inferred that the variations in the monthly income of the family has no impact on the Attitude of the students towards Web Learning. Hence, the hypothesis (4) is accepted

Recommendation & Conclusion:

There is no significant difference in Attitude towards Web-Learning among higher secondary school students based on medium of instruction. There is no significant difference in Attitude towards Web-Learning among higher secondary school students based on father's educational qualification. There is no significant difference in Attitude towards Web-Learning among higher secondary school students based on mother's educational qualification. There is no significant difference in Attitude towards Web-Learning among higher secondary school students based on annual income of family.

Computer and related technologies are now in almost every educational institution across the nation. State reform efforts include the integration of technology in curriculum standard and sometimes make technology skills a separate standard for students to achieve. As the focus on technology expands, policy makers and tax payers are asking researchers in educational practice to provide the data for thoughtful decision making on the use of technology for learning.

Computer technology can effectively support a wide range of activities for learners of all ages. The most successful learner may adopt a blended approach to their use of computer technologies provide for each student to have a personal interaction with the technology in an authentic and appropriate context to use. This does not mean that the use of web devices is a panacea. Significant technological and administrative challenges are encountered along with a more ill-defined challenge; how can the use of computer technologies help today's educators to embrace a truly learner-centered approach to learning? (Naismith, 2008). Web learning can provide various dimensions right from pre-admission counseling, admission, counseling, exam and results. The portability of computer technology shows the learning environment to be extended beyond the classroom. The easy accessing nature of computer devices makes them well suited for learning educations outside of formal education.

Student from computer rich classrooms show better behavior, lower absentee rates and lower drop-out rates, earn more college scholarships and stipends in greater numbers than do students from non-

computerized institutions. Although there is growing agreement with the surrounding the positive benefits resulting from the use of computer technology in education, the actual effective implementation is far from demanding than ever expected. Computers have not yet become the major medium for instruction, and yet computers in many academic areas still serve primarily for enrichment activities or for remediation. It is not sufficient to simply provide finances to purchase computer hardware and software. We must learn how to maximize the effects of computer technology on student learning, how to organize classrooms, how to train researchers and how to integrate computer technology in the curriculum.

In the course of this research a number of issues surrounding the application of Computer Technology in the classroom were identified. The factors discussed below are essential conditions or prerequisites which must be addressed in order for computers to have a significant impact on classroom education “a simulation is a powerful technique that teaches about some aspect of the world by initiating or replicating it. Students are not only motivated by simulations, but learn by interacting with them in a manner similar to the way they would react in real situations. In almost every instance, a simulation also simplifies reality by omitting or changing details. In this simplified world, the student solves problems, learns procedures, comes to understand the characteristics of phenomena and how to control them, or learns what actions can be made in different situations. Computer simulations reflect instructive and constructive pedagogies. Those simulations that include learners as an external player on the provided conditions are instructive in nature. Instructive simulations may include information simulations, reinforcing simulations, experimenting simulations, symbolic simulations, and operational simulations. On the other hand, constructive simulations provide learners with a contextual environment in which they take place and play roles that may include integrated simulations, experimental simulations and conceptual simulations may reflect constructive simulations. The research shows the connection between types simulations described in the literature and two main pedagogies, instructive and constructive.

Develop procedures and strategies for the management of equipment when it is provided for assigning equipment to students, restricting students’ off-task use (if desired), synchronizing hand-held to desktop, tracking, reviewing and collecting students’ work, devising and implementing parental agreements for managing loss and theft, hardware management and routine backup procedures. Provide training and (ongoing) technical support to the teachers to enable them to use computer technologies to enhance current and to enable new educational activities. Consider the use of computer technologies for student administration tasks. Web based devices can be used to maintain accurate lists of classes which can be used in conjunction with rich information sets about students to help to draw out individual students’ needs. Consider the use of computer technologies to support collaborative and group learning.

Each innovation is going to bring a number of challenges for us, but making the system user-friendly, keen monitoring and research in this regard are certainly going to help. In turn, there is no simple formula or one “right way” to go about usage of ICT for educational purpose. It is a long process of consultation and negotiations, made particularly difficult. On the other hand, by the unpredictability and rapid change in the elements (both technical and human), which make up the network of learning process. Distance learning uses a combination of hard and soft technologies. Hard technologies are bits and byte, electrons and pixels, satellites and search engines. Soft technologies are processes, approaches, sets of rules and models of organization. One must concentrate on getting the soft technologies first.

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