CHAPTER -2

REVIEW OF LITERATURE

Web-based learning provides great opportunities for teachers to improve their teaching and learning, including their multimedia, multimode communication and presentation, easy access to growing information and increasing presentation capacity. Its proper application allows a holistic approach for skills and knowledge that is not limited to a specific course, technology or infrastructure. Other than that, the advancement of computers and communication technologies has opened unprecedented opportunities to address many educational needs and provide a variety of educational applications for a wide range of potential users. The most important change in the world has witnessed in recent years is the rapid development and expansion of information technology in education, economy, health, agriculture, social life and in all fields. The development of Web-based learning has provided students with a variety of teaching / learning options that go beyond the traditional classroom. In addition to face-to-face education, students are now learning through telecommunications, Web-based instruction, e-learning and other current advances in telecommunications technology. "Web-based learning strategies" refers to the decentralized approach where material is provided through the Internet. Instead of attending classes in a centralized facility or location, students try to sit, observe, listen, and interact with the content of the course designed for that purpose. Various elements are combined with classroom elements to mimic and enhance the classroom experience.

A review of related literature helps the researcher better understand the research problem. One can better understand the problem of research only when he/she examine the field of related literature from different angles. Furthermore, it also allows the investigator to select the appropriate techniques, tools and methods used in similar studies. Reviewing related literature allows any researcher to become familiar with current information in the field during which he/she interested in research. It provides the theoretical and empirical framework from that research difficulties arise. This research is based on Usage, Opinions and problems of Web-based learning by Students. Hence, the investigator referred

numerous review of related to Usage, Opinions and Problems related with Web-based learning. The reviews were collected from various source like Universities and public libraries, e-libraries, e-source like Jstore, Research gate, Academia, and Elsevier.

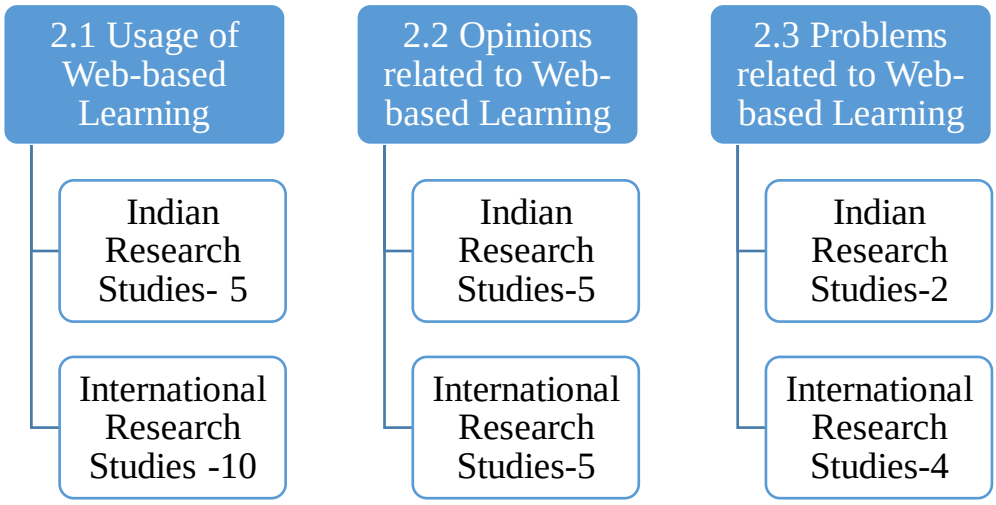

Figure1 Review of Literature for Web-based learning

The present chapter is divided into 3 sections. They are as follows:

2.1 Usage of Web-based Learning, **2.2** Opinions related to Web-based Learning,

2.3 Problems related to Web-based Learning

2.1 Usage of Web-based Learning

2.1.1 Indian Research Studies

Paluri R and Mehra S (2015) carried out a research titled "Exploring the acceptance for e-learning using technology acceptance model among university students in India" in Pune. This study examined the students' acceptance and behavior about e-learning using Technology Adoption Model (TAM). This research contradicts the lack of coherent and complete research on the factors affecting the acceptance of online learning by students in India. The result proposed TAM as a robust theoretical model, whose validity can be

extended in the context of e-learning. Since the study was exploratory in nature, convenience and test samples were used. A self-assessed and structured questionnaire was used to collect the data for this study. The tools used for the study were tested in a group of 15 students from Pune University in Nasik. Along with that, significant correlations were found between ease of use, perceived utility, attitude, behavioral intention to use, and actual use. The perceived utility controls the ease of use and the attitude to use, while the behavior influences the perceived utility, ease of use, and behavioral intention of using e-learning.

Sood M and Singh V (2014) studied on to find the genders' interest in online -learning in higher education. Study conducted Northern part of India. Questionnaire tool used to collected information on student participation and their opinions on the utilization of online -learning. The survey conducted in Chandigarh with 392 sample were collected. The heterogeneous and consisted of Undergraduate and postgraduate students from IT fields at College & University level. Analysis of results indicated that e-learning models were not gender sensitive in terms of Web –based learning. It was found that there was no important of gender sensitivity in the word of interest. But when it comes to "knowledge of typical patterns seen in software projects," the various parameters are significantly gender sensitive.

Ahmad F (2011) "Internet use by the college students across disciplines: A study" to identify use of Internet by students of university in different disciplines; and they faced problems while using the Internet. General Science students 191, Social Sciences and Humanities 288, Economics and Commerce 170 and 90 of Computer Science, students of urban and rural universities of the Kashmir Valley were selected based on the student population. A questionnaire survey method was used. Stratified random sampling was used for the in situ selection of students. Finding reveals that General Sciences, Social Sciences, Humanities and Philosophy, Business and Economics, had lack of ease .These challenges need to be solved to promote the use of the Internet, had establish navigation centers in colleges with Wi-Fi facility. Majority computer science students makes internet usage facility. Internet usage is for all field of students, Need to improve infrastructure to solve network related problems. This indifferent attitude must stop immediately, as the Internet is the most essential educational tool for students of all faculties. Students, regardless of their tastes in the subject, face various technical problems when using the Internet, such as

low Internet speed, network problems (connection failure) and the high cost of surfing charges. Governments must take steps to develop infrastructure structures and communication technologies to overcome network-related problems.

Sharma K and Hardia A (2010) conducted study on "Measure using of online learning among Higher Education students ". Objective of is to find issues of e-learning use by higher education students and their impact on demographics profile of students Data was collected through questionnaire from the higher education students from Indore and surrounding areas. It was considered appropriate to analyze a total of 341 questionnaires. The first objective analysis for the study was performed. A factor analysis of the survey data was conducted using SPSS for the use of structural levels of e-learning among higher education students. The components that have proven to be significant are (a) Level of comfort with technology, (b) Group Learning, (c) Disciplined Explorer. Along with that, based on the aforementioned findings regarding gender, skills, and level of e-learning for higher education students, they may not be significant. However, Age was played very important during e-learning in higher education even group learning. But experience was not important for learning.

Nachimuthu K (2010) a study "Identifying the usability of e-learning resources in teacher education of India". To find out e-resources and their usability among teachers. The convenient sampling methodology was used to collect data from 17 faculties and 115 B.Ed. students was respondents from Salem district of Tamilnadu. The designed research used was Survey. The tool used for data collection was the Questionnaire. The major findings reveals that the ICT la infrastructure with air-conditioned facility. The student already involved to use computer & internet in classrooms but they were unwilling to sacrifice their convenience for the use of e-books (45% in total), they have strong reasons for this. Students at the Faculty of Education used physical book management (86.2) instead of e-books and it was also shown that they did not have enough time to use e-books or to enter the computer labs.

2.1.2 International Research studies

Lavanya L et.al (2018), carried out a study on "Usage of Online Resources by the Undergraduates Attached to the Faculty of Agriculture, Eastern University, Sri Lanka." To

find out the frequency, purpose, and types of online resources used by the students for educational purpose, and analyze the students' perception towards the online resources. A cross-sectional survey design was used in this study. The target population was the students from the Faculty of Agriculture, Eastern University, Sri Lanka. The sample size was 158. The study revealed that most of the students access the Internet through smartphones for different educational purposes. Among them, purposes such as preparation for lectures and doing literature review are associated with the academic year. Even though significant positive perception towards online resources is observed, students are mostly unaware of both open access and university subscribed online resources, while they rely primarily on Google search. Results of the analysis regarding the accessibility of online resources revealed that most of the students access the internet through smartphones. A few percentages of students rely on the Internet cafe and friends to access online resources. It is an alarm for the library sector to create a user-friendly environment within the library so that users can access the Internet and other online resources. The result revealed that the use of the physical library is much less than they had in the past. The majority of them have the Email account and Face book account and slight gender difference (but not statistically significant) was also noted in maintaining the accounts in Email and Face book. The percentage of males having accounts on Email and other social media exceeds the female. The social network sites such as Face book and YouTube have been heavily used by the young generation, which led to keeping those sites at the top of most-used online sources (OCLC, 2011). The results also showed that only very few students have an account on a social network for researchers, such as Research Gate and Academia Edu. This may be due to a lack of awareness about these sites among the students.

This survey also revealed that the majority of the students spent two hours or less per day, on the Internet. Meanwhile, respondents spent more than four hours on the Internet. Even though the respondents access the Internet daily. Most of them access online educational resources many times a day. However, this is a fairly good sign of using online educational resources by undergraduates. Most of the respondents use online resources for preparing presentations and assignments. Students use e-resources mostly to prepare their assignments. Around half of the students use online resources for doing a literature review for their research. The majority of the users preferred self-learning and they believed that it

was the most effective mode of learning. This study identified that slow Internet connectivity is the major barrier to access online resources. This may be a common barrier in developing countries. Few studies from other developing countries also pointed out that unreliable or slow Internet connectivity is a challenge for accessing e-resources.

It is essential to maintain Internet connectivity with good bandwidth, through the LAN and Wi-Fi facilities. Other major barriers were unavailability of time, lack of awareness, and viruses. Nowadays the online resources have emerged as the most powerful medium for information retrieval. Online resources are essential tools for empowering students, academician, and researchers. This study revealed that the students attached to the Faculty of Agriculture Science, Eastern University, Sri Lanka are using the internet regularly for educational and entertainment purposes. However, the majority of the respondents are unaware of the online databases provided by the UGC and university subscribed online resources. Moreover, open-access resources such as e-books and e-journals are very helpful for academic learning and scholarly research. Instead, they highly depend on Google search, and few of them use and aware of online databases. The study also revealed that awareness program conducted for students by the library is limited and most students learned about online resources through self-study. The use of online resources for preparing notes and literature review is highly associated with final year students compared to other academic years. Hence, it is recommended that the university has to take initiatives to organize user awareness sessions and training programs for the students regularly to improve information literacy skills.

Ali M et.al (2018) Effectiveness of E-learning for university students: evidence from Bangladesh. The aim of the current study is to analyze the effectiveness of e-learning for the students at university level. In the study, the data were collected from students of different backgrounds. The questionnaire was sent to 700 students, received from 667 and the response rate is almost 95%. The study covers 6 public universities and 34 private universities in Bangladesh to collect data from the students. Though the researchers collected data from the students of different universities in Bangladesh, most of the universities are located in Dhaka City. Among the respondents, most of the students are from a business background. A structured questionnaire is used as the data collection instrument. Most of the statements of the questionnaire have been taken from the study of

Song (2010) In the first part of the questionnaire contains 5 -point Likert scale and fixed alternative questions and the second part includes the questions regarding the demographic state of the respondents. Eight variables are used to measure the effectiveness of e-learning including contents structure, usability, faster learning, quick responsiveness, learning quality, time and cost-friendly, usability outside of the class, and appropriate for working independently. Cronbach's Alpha test is used to test the reliability of the data. Frequency distribution and the percentage have been shown to analyze the demographic state of the respondents. Factor analysis has been performed to measure the factors loading. To prove the hypotheses developed in the study, one sample t-test has been performed. SPSS 20.0 has been used to analyze all the data. The study found that among the 667 students 94.9% is using different e-learning tools, techniques, or platforms for academic learning or any other learning purposes. Students were asked weekly how many days you like to use e-learning as a learning mechanism. The outcome of this statement reveals that most of the students use e-learning at least one day in a week and 37.2% percent of students are using e-learning every day in a week. The study reveals that e-learning is effective for university students without regard to their background. But learning effectiveness may vary from students to students. The study highlights some variables to consider the effectiveness of e-learning. The existence of some variables virtually appears that e-learning is beneficial to some students and only for those variables e-learning may not be equally beneficial to others. The study considers some limited number of variables. Further research may be continued by covering a wide range of variables. The outcome of the study shows that students support e-learning is less time consuming, easy to use, and cost-friendly. It didn't show the extent to which e-learning is time and cost-friendly. Another important issue is that the self-efficacy of students is also very important to get privileges from e-learning. The students having good knowledge about technology can capture the benefits than those who don't have technology knowledge more research can be conducted to analyze the impact of student's ability and their perception of the effective use of e-learning.

Nwana S.E et.al (2017), conducted a study titled "The study focused on awareness and usage of e-learning materials among students in the distance education program of the National Open University of Nigeria (NOUN)" The study is a descriptive survey which was guided by two research questions. The study adopted a descriptive survey research design.

According to Nworgu (2015), a survey research design is one in which a group of people or items are being studied by collecting and analyzing data from only a few people or items considered to be representative of the entire population. The study was carried out in south-east Nigeria in four NOUN study centers namely: Awka (Abagana), Enugu in Enugu State, Owerri (Nekede) in Imo State, and Umudike in Abia State. The population for the study comprised the 1,512 years three students out of which 400 were sampled and used for the study. The instrument for data collection was a checklist titled "Distance Education Students Awareness and Usage of E-learning Materials" (DESAUELM). It has sections A and B with a total of 30 items that sought information on the two research questions. There were both face and content validations of the instrument by experts. The Cronbach Alpha was used to determine the reliability of the instrument. A reliability coefficient of 0.81 was obtained, an indication that the instrument was reliable for data collection. In distributing the copies of the questionnaire, the researcher with three trained research assistants adopted the technique of on-the-spot distribution and collection. This ensured a 100% return rate. In analyzing the data, frequency distribution and percentages were used. The acceptable level of percentage was 50% and above for items indicating positively that is, Aware (A) and for items indicating in Use (IU). On the other hand, any item which scored below 50% was regarded as negative that is, Not Aware (NA) and Not in Use (NIU). The table indicated that they are aware of the majority of the items which included computers, internet and e-mail, videophone systems, and teleconferencing devices among others. These items scored above 50% which is the acceptable level for awareness. The cluster percentage for awareness is 79.9%. They are computer, internet, and e-mail, videophone systems, teleconferencing devices, Direct Broadcast Satellite (DBS), Digital Satellite Systems (DSS) courseware, e-readers and e-books, e-graphics board, multimedia projector, digital library, digital laboratory, Bluetooth devices, and educational robots. These items scored above 50% which is the acceptable level for awareness. The cluster percentage for awareness is 79.9%. This indicates that the respondents are aware of the majority of the items. It revealed that the respondents do not use the majority of the items in learning. Out of the 15 items stated for usage, only five are being used. The majority of the materials indicate scored below 50% which is the acceptable level for usage. The cluster percentage for usage is 34.5%. The National Open University of Nigeria (NOUN) runs a distance education

program at undergraduate and postgraduate degree levels. The program involves students who are in various geographical locations that are separated in time and space from the teacher. Many of the students are shift workers and some who dropped at a level of education and want to re-enter school for completion of their program. Owing to the nature of their program, they need a variety of media technologies for their learning. In this age of ICT, the media technologies go by the name e-learning materials. Some of them are computers (laptop, palmtop, notebook, tablet and pocket computers), internet and e-mail, e-readers, and e-books among others. The result of the findings revealed that the students are aware of the majority of the e-learning materials for learning; and in terms of usage, that the students do not use the majority of the e-learning materials. This means that usage is where the problem lies as students were not using it or educational purpose as much they should have been using.

Omeluzor S, et.al (2016), researched on – "Students' Perception, Usage and Challenges of Electronic Information Resources in Federal University of Petroleum Resources Effurun Library in Nigeria", The study adopted a descriptive survey design. A census sampling technique was used. The study population comprises all registered 500 level students of the 2015-2016 academic session in the College of Technology with a total of 249. The choice of this group of students is because, at the time of this study, they are fully engaged in research, presentations, classwork, and other academic activities that will usher them into writing their final year project. From the findings, it can reveal that e-journal, e-database, Web OPAC and repositories are utilized daily, weekly, and occasionally than other e-resources. It shows that some of the respondents (52.3%) used e-book while the e-dictionary was used all the time. The result further showed a low usage of Web OPAC and CD-ROM. perceive the e-resources in the library to be insufficient in their study areas. A study found out that students prefer and consistently use Google to save themselves the trouble of going to the library. Students' perception of library resources can significantly affect its usage. The study indicated that e-resources are available all the time (24/7), however, for the sustainability of the user community, libraries must ensure a 24/7 (round-the-clock) access to all subscribed e-resources. Lack of awareness of available e-resources can make library users especially students to use alternative resources. This study showed users' perception and the level of electronic information resources usage as well as challenges faced in

academic libraries. It is evident in this study that the use of e-resources has increased compared to its usage in the recent past, which means that users' perception of the resources has drastically changed. The result of the study indicated that a user's perception influences the level of electronic information resource usage in academic libraries. The use of e-resources is highly dependent on the availability of Internet connection; therefore, academic libraries must try to create hotspots and Wi-Fi in addition to the networked computers to enable users to have access to e-resources. Usage of e-resources in academic libraries is affected by some challenges which are not insurmountable, this include lack of awareness, lack of training, unreliable Internet connection, and insufficient e-resources in some field of study. Therefore, librarians must endeavor to create awareness of available e-resources, training of all levels of users, improve Internet access, and ensure subsequent subscription to relevant e-resources and databases in different fields of study. That will change the perception that users have about the library and they will be encouraged in using e-resources.

Basam M (2015), carried out the study with "Identifying the status of e-learning usage at Jadar University as perceived by students" The study used a descriptive-analytical method which is suitable for this study, and a questionnaire was distributed to the study sample and then collected and used appropriate statistical analyzes to get the results. The target population of this study included all undergraduate fourth-year students at Jadara University students in the academic year (2012-2013), with a total number of 1000 male and female students. There was a convergence of views of students to use e-mail to communicate with members of the faculty teaching, and sending duties on the e-mail, and broadcast lectures with live video and audio from anywhere, to enable the student to follow-up from any location) was done largely in a very small fraction, most students are proficient in dealing with the computer, and be able to manage electronic files: (open, delete, receive, send, save), also agreed that the members of the sample that the most positives of e-learning were (allow students of self-learning, increases the experience and skills of the students in computer, as for the cons of e-learning has assured students (causing prolonged sitting in front of a computer a lot of diseases, reduces the presence of electronic illiteracy among parents to follow their children electronically), but the most important obstacles to e-learning from the viewpoint of students (classrooms is dedicated to the application of e-

learning). The study confirmed the existence of a difference statistically significant between the average scores of students on the axis (the extent of the use of e-learning, and disadvantages) depending on the variable specialization in favor of scientific specialization, and the lack of a difference statistically significant between the average scores of students on the axis (the advantages of e-learning, and its constraints) depending on the variable Specialization.

Tariq H et.al (2014), Conducted a study on "Use of electronic information resources by the students of Faculty of Science, University of Karachi." Objectives of the study were to determine the frequency of utilization, major problems users face while using EIR, to study the purpose of use, to determine the advantages and disadvantages, and to find out the format which users usually prefer. data collected the total number of our sample is 230 students related to the different disciplines of Faculty of Science, University of Karachi. The targeted population for this study is the students of the Faculty of Science, University of Karachi. A questionnaire was prepared to consist of open-ended and closed-ended questions, for getting data from respondents. The random sampling technique within the departments of the Faculty of Science has been chosen for the collection of data. The data is analyzed based on a simple statistical method. It is found that the students of the University of Karachi frequently use electronic information resources. Students point out slow connection and electricity breakdown as big problems, it also identified that most of the students prefer to use EIR at their homes. Hence it is found that the internet service at the home of students is slow and most of the time they face load shading problems.

Students also feel insecure because they think using EIR will affect their computers with viruses. Some students had bad experiences with unnecessary advertisements and licensing and subscription issues because some electronic information is not available for free. Some of the students think that using EIR is a total wastage of time and there is nothing on it but scattered data and it will never replace traditional resources. Unexpectedly students did not feel a problem while reading from the screen but very few of the students feel difficulty reading from the screen. Class assignment is stated as a major purpose for which students use EIR daily. Some of them are also involved in research and they also need to update themselves regarding their field so they use EIR and very few students use EIR for professional development. According to user perception, some advantages of using

electronic information resources are easy accessibility and the time-saving quality of electronic resources is the biggest advantage.

There are many formats of electronic text and other resources, but PDF format is the most preferred format among students. HTML-Full text is also a preferred format for some of the students. Several students need to get EIR on their mobile phones. It is found that the actual need of students is full-text material regardless of the format. Study concluded that the trend in using EIR among the students is found common. Students are well aware of their educational needs. They fulfill their needs through the use of EIR daily. Students use web resources, e-books, and e-prints but the use of e-journals, e-theses, and databases is found comparatively low. Erratic power supply and slow connection are found as the major barriers in getting access to the EIR for students. Furthermore, the results of this study confirmed that the majority of students didn't get any training related to EIR but they are not willing to get trained. Some of them are eager to get trained for some specific content like to enhance their searching skills and for using EIR in a better way.

Luaran J et.al (2013), A study on the student's perspective on the effectiveness of using e-learning, the purpose of this study was to investigate the effectiveness of using e-learning among secondary school students. This quantitative study involved 5 Copies of a questionnaire consisting of four sections were used as instruments to collect data. Section 1 contains the demographic factors of the students. Section 2 was to identify the student's exposure to E-learning. Section 3 was to investigate the effectiveness of using E-learning among the secondary school students. In this part, the students were asked to rate ten statements according to the following scales: 1-Strongly disagree, 2- Disagree, 3-Unsure, 4-Agree, and 5-Strongly agree. The last section of the questionnaire was to determine the advantages and disadvantages of e-learning from the perspectives of the students. Electronic learning or 'e-learning' has been an influential mode of learning today. Based on this study, it can be exposed to e-learning in a great deal. This study has also proven that e-learning could provide greater flexibilities on instructor-led or self-study courses among the students. The main advantage of e-learning is it enables learning at any place and time while its disadvantages are the students may be required to buy computers or go to cyber cafes to use computers, thus, reducing the opportunities for face to face

contact among friends. In short, e-learning is an integration of technologies in teaching and learning. It enables students to learn effectively but eventually, it is the educators who still need to play their roles and perform their tasks for the learning process to happen.

Donnell E et.al (2012) conducted a study on "Students' Views of E-Learning: The Impact of Technologies on Learning in Higher Education in Ireland" This study was initially conducted in the Faculty of Business, Dublin Institute of Technology (Dublin Institute of Technology), and subsequently in the School of Computer Science & Statistics, Faculty of Engineering, Mathematics, and Science, Trinity College Dublin. A survey was compiled to ascertain students' perspectives on the concept that the use of technologies in higher education can transform learning. The survey was designed with Three Sections: 1. 27 statements was and five-point Likert scale through evaluate. 2. Very basic personal information was sought such as level of study. 3. Students had the opportunity to share perspectives on statements such as "can the use of technologies transform learning" and "what use of technology has the most beneficial impact on student learning". One hundred and sixty full-time business students in the Faculty of Business, Dublin Institute of Technology, more than 90% of the students involved in this study agreed that the use of technologies in higher education makes a positive difference to studying. More than 80% of students agreed that the use of technology effectively enhances the learning experience and increases satisfaction with their course of study. Over 75% agreed that technology improved student engagement with course material.

Hernandez B et al. (2011) conducted a study on "The role of social motivations in e-learning: How do they affect usage and success of ICT interactive tools?" in Spain. The primary goal of this study was to try to understand the role of social motivations in attitude formation and the present and future use of ICT interactive technologies in e-learning we conducted an online survey among registered students in e-learning courses in pursuit of a Business Administration bachelor's degree at a large European university. We developed a questionnaire featuring items related to the constructs of interest. After several rounds of adjustments to ensure the questionnaire was readable, understandable, and easy to complete, we produced a final Web-based questionnaire that took approximately 10 min to complete. A link to the online survey was sent by e-mail to all the students registered in at least one online course during the semester in which we conducted our research. Over 2 months (May

and June 2009), students could participate in the study by simply clicking on or entering the provided URL and responding to the questionnaire. Before they answered any questions, respondents received information about the nature and purpose of the study, as well as its importance for future improvements in the e-learning system. Follow-up e-mails were sent as reminders to those who did not respond within 3 weeks after the launch of the study. The online survey was provided to 450 e-learning students, and we obtained a total of 181 responses for a 40% response rate. Incomplete and repeated responses were eliminated; to identify repeated responses, we used the IP addresses and e-mail addresses that respondents provided to participate in a drawing. This resulted in a total of 160 usable responses. All variables are measured using 7-point Likert scales, ranging from ‘‘strongly disagree’’ to ‘‘strongly agree.’’ f social motivations are important for understanding a learner’s attitude and use of ICT interactive tools. With regard to reciprocal relationships, we find that social influence and altruism represent strong social forces that improve learners’ attitudes and motivate them to use the tools. However, sense of community does not seem to have a significant effect. This result suggests that, compared with members of other online communities, e-learning users may tend to be more self-centered, as they weigh less heavily the sense of belonging to a group and more heavily other social factors that can be more inherently related to the learning experience. Members of an e-learning community appear not to share as many values and characteristics as do users of other networks, such as virtual communities and blogs (Lin, 2008). Without the resulting sense of belonging to the group, the independent individual members simply pursue their own, different objectives through e-learning. However, our findings reveal that these students are strongly influenced by other members’ behavior and their desire to altruistically help others, which determine their attitude toward and usage of ICT interactive tools.

Lam, Lee, Chan & McNaught (2010) conducted study on “Students’ use of e-learning strategies and usefulness of eLearning perception.. To check the perceptions and find experience of undergraduates on the utilization of technology for teaching and learning and also to find students' experience in the use of technology, through e-learning strategies. A survey method was used to collect data from 1,438 students of Chinese University of Hong Kong. Findings reveals that majority of students was positive regarding e-learning. It was proof that eLearning has provided learning benefits to students

2.2 Opinions regarding of Web-based learning

2.2.1 Indian Studies

Mahajan M et.al (2018) conducted a study on "A study of students' perception about e-learning" study examines students' perceptions about e-learning which would help in newer teaching-learning experiences on the campus. A quantitative approach with a structured questionnaire (18 close and 5 open-ended) was used for data collection and it was presented to 150 respondents (2nd-year M.B.B.S) from Sri Muthukumaran Medical College, Hospital & Research Institute, Chennai, Tamilnadu. An age group 19-21yrs of different socioeconomic and demographic backgrounds. They were briefed about the study and informed consent was taken. A semi-structured validated feedback questionnaire (18 closed-ended and 6 open-ended sub-questions) focusing on the student's perception about e-learning which was tested for internal validity, was given to them. The questionnaire was designed in three parts. 1) provides data about the student's perception relating to the use of internets and their knowledge about e-learning, 2) gives data about the benefits, and 3) gives data about the challenges of e-learning from student's perception. The responses were collected from the students along with their suggestions. The data derived were tabulated and statistically analyzed using descriptive statistics. The Major findings were 90% of students used the internet daily. 78% Male (M) and 92% Female (F) respondents have an idea about e-learning, while 92.5% of them indicated their interest to further guidance. 88 %(M) and 79 (F) students claim to not have any e-learning facilities on campus. 58% (M) and 49 %(F) use various forms like emails, chat, blogs, video conferencing, WhatsApp to communicate with their faculties. 98% agree to find e-learning useful and 86% (M) and 94% (F) are motivated to use it. 81% (M) and 88% (F) find e-learning to be of interactive mode and 74% (M) with 83% (F) agree about it's cost-effectively. Implementing e-learning would improve performance in 99% of students with 74% (M) and 53% (F) indicating a better understanding of the course. 75% believe that they will have ready access to e-learning courses while others don't due to a lack of constant supply of the internet. 38% agree e-learning is a disadvantage as it will replace faculties as they are comfortable with the traditional teaching style, while 26% disagree. 58% (M) and 64% (F) think students will

skip traditional classes while 39% (M) and 35% (F) would be distracted. 86%(M) and 92% (F) disagree with adapting difficulties on implementing newer e-learning modules and tools while others agree due to lack of training. Students gave suggestions to start blogs, online discussions, online submission of homework, and video-assisted training for clinical work. The study depicts that e-learning has its benefits from a student's perspective and it will have a positive influence on their performance with a better understanding of their courses. Thus for at least the following few years, the university needs to come out with e-learning tools and modules for a better teaching-learning experience to make a positive impact on the students' career.

Nihat S et.al (2015) Conducted a study on " A Comparison of Student Views on Web-Based and Face-To-Face Higher Education," The study aimed to describe and compare the perceptions of web-based distance education students and campus-based face-to-face students. A baseline descriptive survey design and a complementary casual-comparative or ex post facto design were used in this study. These designs are generally used to determine specific characteristics of the relevant population and to determine the possible causes for differences. A total of 536 students participated in the study, with 373 studying at Inonu University, Malatya, and 163 studying at Cumhuriyet University, Sivas. These students were selected as per the convenience sampling method where the group of individuals was conveniently available (Fraenkel et al., 2012) at the universities that researchers work. Among them, 325 studied in face-to-face programs, while 211 attend the web-based distance education programs provided by Distance Learning Centers in both universities. A total of 351 students studied at Theology undergraduate/undergraduate completion programs, 10 studied in Surgical Nursery non-thesis master program, 83 studied in Business Management program, 56 studied in Public Administration program and 36 studied in Computer Programming program. The 5-point Likert type (Strongly agree-Strongly disagree) was used. This study aimed to analyze the evaluative perceptions of distance (web-based) and campus-based (face-to-face) higher education students about their programs from such aspects as cooperation and socialization, accessing and sharing resources, learning teaching procedures, and lifelong learning opportunities. Web-based students were most positive about lifelong learning opportunities provided in their distance programs, followed by learning-teaching procedures, abilities to access and share resources,

and lastly the cooperation and socialization opportunities. Campus-based face-to-face students were almost neutral in all aspects and, compared to web-based students, they were significantly less positive about lifelong learning opportunities (large effect size), learning-teaching procedures (medium effect size), and abilities to access and share resources (small effect size) provided in their programs. Face-to-face and web-based learners were similarly and moderately positive about the cooperation and socialization opportunities provided in their programs. This finding suggesting that web-based learners also feel socialized as much as face-to-face students seem paradoxical considering the general notion that distance education brings lack of socialization or learners' feeling lonely. On the other hand, one may infer that face-to-face students may not also find opportunities to socialize enough. Lastly, such variables as gender, marital status, and employment were found to cause no differences in a practical sense of perceptions of web-based and face-to-face students. However, both programs, web-based and face-to-face, were found to meet the students' learning needs the least. On the other hand, meeting the learner's needs depends more on the instructor's performance. No matter if it is Web-based or face-to-face, it fails if the instruction cannot make an impact on learners. Thus, if the faculty tends to replicate out-of-date methods of one-way lecturing they use in face-to-face settings, web-based instruction cannot be promising. Gosper et al. (2010) found that three fourth of faculty admitted they had not changed the structure of their course as a result of using web-based lecture technologies. This may imply just a shift in tool preserving the ineffective methodologies of face-to-face applications such as pure expository teaching. But Web-based curriculum needs a complete change from the in-class curriculum.

Jaiswal V (2013) conducted the study to find out the current status and perception of teacher and students of e-Learning in Indian Higher Education of U.P. If an educational institution is committed to giving high-quality education, it should be built on values and ethics, and be innovative in offering its teaching programs. E-learning is not a single strand but is multifaceted, covering a wide range of approaches and methods. Therefore, for the study of this objective, 2919 professors (839 professors of professional courses and 2080 professors of non-professional courses) and 7717 students (4512 students of professional courses and 3205 of non-professional courses of UG and PG level) were selected. The eleven state universities of the UP for study. It was found that below than average

professional course teachers in higher education used the e-learning modality, while only a few non-professional course teachers used the e-learning modality. The only electronic improvement mode is that used by teachers of professional and non-professional higher education courses in India (online mode and hybrid /Mixed mode not much used.).

Mahat S et.al. (2012) carried out a study on "A study of student's opinion about learning with ICT on 'Sakshat'". To examines the impact of multimedia supplements as well as Information Communication Technology on student engagement at college and institute in management studies. Subjects participating in this study were 60 MBA students and 60 BBA students of a management institute in Sangli city, Maharashtra. The questionnaire is a widely used and useful instrument for collecting survey information, providing structured data being able to administrate by a researcher, and being comparatively straightforward to analyze. A structured questionnaire was used to collect primary data. It conations data about students' opinions about the use of ICT in the learning process. Twelve questions of 5 points scale were used. The analysis is done by using Mean, Weighted Average, Rank. Pearson Correlation Coefficient is used to analyze the relationship between variables. To test out hypotheses, the Rank Correlation Coefficient was used to determine the correlations between learning features with and without ICT. Data is processed and analyzed using MS-Excel software. The result of this study suggests that learning with ICT is an important issue. Students lacking positive attitudes toward ICT must be taken dangerously. The new methods must be developed to increase the attitudes of students toward ICT in management related courses. These would also assist in ensuring that these students feel as appropriate and correct for their career achievement. ICT creates more learners centric education system, helping understand students attitude and beliefs about ICT which is essential in designing effective management courses.

Jain N et.al (2012) Conducted a study on the "Internet as learning Tool: Indian Engineering student's perception", to analyze the North Indian engineering student's perception of the internet as a learning tool and effects of the internet on them in perspective. The research instrument in this study was a questionnaire. There were a total of 20 questions in this questionnaire each with five choices of response from "Strongly Agree" to Strongly Disagree". Questions were divided into four categories. In the first category, questions were framed to measure student's attitudes toward the use of the internet for their course purpose.

The sample question for this category is “With the help of the internet I can collect more study material “. The second category was to ask students about their preference for internet over books. The sample question for this statement is “For study purpose, I prefer spending time on internet surfing rather sitting in a library “. The third category measures the student’s attitude for the internet as a tool of a confidence builder. The sample question is “Internet has boosted my confidence as I can present my reports, seminars, etc. in a better way“. In the last category, miscellaneous questions were asked to get student opinions about group learning through the internet using blogs and discussion forums, their time spent on the internet, etc. As all students were engineering students, questions were not asked to measure their basic knowledge and skills of the internet. Population under investigation included 100 students of Computer Science & Engineering of a Wifi enabled engineering institute campus, Mandsaur (M.P.) India. All students use Laptops and the Internet daily. The result of the survey of the use of the internet as a learning tool by engineering students has been presented. Engineering students are using computers and the internet daily. Maximum students find the internet a very useful tool for their studies. Students prefer online books and study material. They find the internet help to boost their confidence in presentations and reports. Engineering institutes should promote the use of the internet as a learning tool and should provide infrastructure to facilitate the students. Students also feel that excessive use of the internet may sometime cause some socialization problems.

2.2.2 International Studies

Zhu C (2014) conducted a study on “Organizational Culture and Instructional Innovations in higher education: perceptions and reactions of teachers and students”. To check perception of teacher in teaching –learning through student-centered, A survey method was to collect data from 1,051 students and teachers from six Chinese universities. The results showed that characteristics of organizational culture influence the perceived need for innovation by students and teachers, their views on innovative approaches to education, the ability to respond to educational innovations and the perceived level of implementation of educational innovations.

Dosari H; (2011) Conducted study on Faculty Members and Students Perceptions of E-learning in the English Department: A Project Evaluation, The focus of the present study

was to recognize the perceptions of faculty and students as to the E-learning endeavor at King Khalid University by probing the opinion of a sample of undergraduate students and their teachers enrolled in the English Department, College of Language and Translation, Abha, Saudi Arabia. Two courses (Drama and Novel) were studied in both the traditional delivery method of classroom attendance for one semester and the E-learning online delivery method in the second semester in the academic year (2008-2009). The survey instruments consisted of the Instructor Reflection Survey (originally developed by (Filimban (2008)) and Arabicised and standardized by the researcher) and the Student Reflection Survey (originally developed by Newsome, 2008, adapted, Arabicised and standardized for purposes of the present study by the researcher). Both survey forms included close-ended Likert scale statements (quantitative data) and open-ended questions (qualitative data). These instruments were used to measure the factors that contributed to the effectiveness of online courses from instructor and student perspectives. The Instructor Reflection Survey was given to twenty teachers in the Faculty of Languages and Translation, English Department, who were involved in blended teaching to English Department students at the time of research or before they joined the department. All sampled teachers responded to the questionnaire. The questionnaire sought both quantitative and qualitative data. The student reflection survey was given to 212 full time students. It gathered descriptive data from students both to provide background information on the respondents' online courses they were currently enrolled in and their levels and aspects of satisfaction with the online courses in terms of professionalism, the program content and material, supplementary modules, their recommendations for improving the content of this course and recommendations for improving the appearance of the online program. The first two questions on this survey were Likert-scale type and the remaining two sought for qualitative responses. The students' reflection survey depict Descriptive data indicated that 40% of student informants were enrolled in Drama courses (ENG 332) and the remaining 60% were enrolled in Novel (ENG 431). Responses on professionalism show that 84% agreed that instructors in synchronous online course delivery were available on time according to the schedule. Astonishingly, 31.1% responded that instructors of online courses were helpful and courteous, while 58.9% disagreed that they could be as such. This could be attributed to the anonymous nature of online teaching. However, as professionally

expected, 63.8% replied that online teachers responded to email communications efficiently; this could be attributed to the nature of online teaching and the Blackboard E-learning suite used which requires posting of notes and emailing in appropriate protocols. What is also interesting, though, was that 66.7% informed that the online instructors' explanations of the content were interesting. This could be due to the fact that multi-modal presentations of lessons were provided, given that multimedia presentations, chatting and online note posting. Were used and available via Blackboard. Overall, disagreement to the statements of tapping into the professionalism of faculty teaching the designated courses online overrides their agreement. As for their responses to the online courses, the summarizes these findings. Of all responses, 60% agreed that the online program ran smoothly, while 20.6% were neutral and 19.5% disagreed to this point. Further, a few of the informants also noted that they had plenty of experience with computers before taking this class (28.4%) while a greater percentage (54.5%) noted that they didn't have this plenteous experience. Further, 57.2% agreed that the online program was more convenient than meeting as a class on a monthly basis, while 19.5% did not concur to this point. Additionally, 48.9% agreed that the appearance of the online program was attractive and easy to read, while 29.4% disagreed and a greater percentage (23.3%) was neutral as to this point. Interestingly, 53.4% agreed that they could mater the online course material and they were able to proceed with online learning in the future**.** Open-ended questions inquired into the informants' recommendations for improving the content and appearance of online courses. Sorrowfully, students were careless enough to provide comparable data. However, a few responded to the questions indicating that to improve content, they should be investigated as to their learning needs before the syllabus of the course would be designed. They also requested a variety of teaching styles and techniques in online teaching, including online video-based material, PowerPoint presentations and other media material together with text and graphics. Other students indicated that the course material should be developed in the format of an e-book downloadable as pdf to be referred to when necessary.

David A (2011) carried out study on" a qualitative study used to collect data. To describe undergraduate students' experiences and perceptions of online courses based on interviews, observations, and online focus groups.Describe (a) motivational and learner characteristics within online classes, (b) the positive and negative aspects of online courses as experienced

by students, (c) what instructors can do to improve the teaching of online courses, and (d) how undergraduate students' perceptions of the online learning environment and the tools used affects the selection of their approach to learning. Qualitative data-collection techniques were used to obtain and describe undergraduate student views on online instruction, online learning tools, and instructional processes. Three stages of data collection were used in this study these were (a) one-on-one open-ended interviews, (b) think-aloud observation, and (c) online focus groups. The main data collection was student interviews. Data from think-aloud observations and online focus groups were used to confirm findings from the interviews. Data were collected between the Summer and Fall academic sessions of 2008 at two sites. Additional data were collected in the Summer of 2010. This study will continue and be updated with data collection resuming in the summer of 2011.The sample consisted of 16 undergraduate students who had completed or were enrolled currently in an online course at one of the two universities. Students were recruited to participate in one or more of the data-collection methods; these were 11 in the interview process, 8 in the think-aloud observations, and 8 in the online focus groups: 5 in one group and 3 in the other group. Student participants were mostly in their mid–20s; 10 were female, and 6 were male. Three students participated in all three data-collection methods, five students participated in two of the data-collection methods, and eight students participated in only one data-collection method. The undergraduate population has a male to female ratio of 45% to 55%, and about 35% of undergraduate students identify themselves as persons of color. Almost 60% of undergraduates are from California, with the others coming from throughout the United States and more than a dozen foreign countries. Between 65% and 70% of undergraduate students receive some form of financial aid: scholarships, grants, or loans. University 2 (S2) has an undergraduate population of approximately 5,500 and a graduate population of approximately 3,300. The ethnic breakdown for S2 is as follows: European American 39%, Asian American 20%, Latino or Hispanic American 15%, International 7%, African American 4%, Native Hawaiian or Pacific Islander 2%, and Native American 1%, with 11% unidentified. The role of communication in online learning took many forms and was dominate in every data-collection method. Although students took online courses because they wanted independence and self-regulation, they also stated a desire for concise directions on everything from assignments and assessments to when

and how to access course information. The expectations for communication went beyond just a need for direction. All of the participants expressed a view that faculty was “missing” from the educational conversation. How instructors communicate online was perceived to a limitation of online learning. When communication was perceived lacking, participants lower their approach learning electing for more strategic or surface learning. Participants did not perceive the negative attributes of technology to be inherent in the technology so much as to its use and implementation. What participants expected was that communication technologies would be used in ways familiar to them and in providing a timely response to participants’ educational needs. Indeed, poor technology implementation was mentioned in association with the lack of organizational structure found in some online instruction. In interviews, think-aloud observations, and online focus groups, participants expressed the perception that faculty lacking in technology skills were likely to use or implement technology in a way that confused. In summary, tools used for communicating or conducting research were not as important as the communication itself. Perceptions of value for any tools used depended not on the tool but on the speed and consistency of communications. Participants did not perceive the negative or positive attributes of tools or technology to be inherent to the technology itself, but to its use and implementations. When faculty were perceived to be unresponsive, it was not the tool that was perceived to be of little educational use but the level of communication. When faculty were perceived missing from the educational conversation the academic quality was perceived diminished compared with face-to-face instruction. When the academic quality was perceived low, participants exhibited a strategic or surface approach to the learning.

El Gamal & and EL Aziz (2011) “The Perception of Students Regarding E-Learning Implementation in Egyptian Universities” To find students' perceptions of e-learning implementation in Egypt, survey and questionnaire methods of 77 higher education students from the University of Alexandria and Cairo were used. Higher education students in Egypt knew the educational mode of e-learning. E-learning is most important for Egypt because they were frequently use of internet. There was striking finding was no difference of learning methods of on-campus or off-campus with the recruiting opportunities. Majority student prefer university education because it solves problems of higher Education.

Poon, Yong and Teng low (2004), A study of Web-based learning (WBL) environment in Malaysia, To the assessment of Web-based learning program, 500 students selected from the 8 universities of Malaysia (Tun Abdul Razak (UNITAR), Universiti Tenaga Nasional (UNITEN), Universiti Putra Malaysia(UPM), Universiti Kebangsaan Malaysia (UKM), Universiti Malaya (UM), Universiti Sains Malaysia (USM), University Malaysia Sarawak (UNIMAS), and Multimedia University Malaysia (MMU) who are currently enrolled in at least one of the Internet-based courses, Survey, and questionnaire techniques was used for data collection. The major findings of the study was a total of 41.5 percent were male respondents. A majority of the students (42 percent) were in the range of 25-29 years of age, while 58 percent were single, 38.7 percent were married, and 4.4 percent did not have children. The survey showed that 67 percent of the respondents were employed full-time,24 percent were employed part-time, 5.2 percent were self-employed, and 3.8 percent were unemployed. A majority (95.5 percent) of the learners were able to access the Internet at home or in the workplace. Eighty-seven percent of them using a modem as an access tool. More than 95 percent of the respondents were computer literate and had previous experience in surfing the Internet. They also tended to interact more with peers than with instructors. eighty-five percent of them preferred a higher level of cognitive engagement in the course and they were able to build up a higher level of self-confidence. Sixty percent of the respondents strongly agreed that students with technology self- efficacy believed that they were more capable of interacting using given technology and performed better. On the usage of the virtual library facilities, 55 percent of the students felt that they should have easy access to the online database information. Furthermore, almost 70 percent of the respondents showed concern in getting the relevant materials, incorporating and digitizing all the printed library resources and other information databases in a well designed WBL template to enhance the learning and teaching process in the most convenient virtual environment. The findings demonstrated that 38 percent of the respondents generally preferred WBL to classroom face-to-face sessions in their learning process, while 61 percent showed a greater preference for face-to-face delivery. Meanwhile, 68 percent of the respondents preferred a combination of online learning and traditional classroom mode of delivery to increase learning effectiveness although it may incur higher costs. 56 percent of them strongly agreed that the face-to-face learning process was complementary for WBL.

Learners were satisfied with the flexibility of the system as an effective way to deliver education that fitted their tight and demanding corporate work schedules.

2.3 Problems of Web-based learning

2.3.1 Indian Studies

Thanji M & Vasantha S (2018) conducted a Research "A Study of Benefits and Limitations of e-learning-A Learner's Perspective". To study the major limitations and benefits of online learning. To study the impact of perceived benefits and limitations on the effectiveness of online learning, using a structured questionnaire circulated in the form of an electronic survey. A five-point scale was used to increase the sensitivity of the measure. The participating respondents are obtained from the various departments and colleges enrolled in higher education in the private and government Universities of Chennai, Tamilnadu, India. Data collected from 150 learners which include 114 full-time learners and 36 Part-time learners were analyzed using the Statistical Package for Social Sciences (SPSS). Statistical techniques like reliability analysis were used to evaluate the quality of the questionnaire. The results showed: 1) the positive relationship between benefits and e-learning effectiveness and 2) the positive relationship between limitations and e-learning effectiveness. Based on the findings of the study there is a mixture of factors that influence the effectiveness of online learning programs which include the intrinsic goal orientation, benefits, and limitations as perceived by the learners. Each of these variables has either a positive effect on the effectiveness of online learning. An effective e-learning course design should be developed considering the learner characteristics to yield better learning results.

Raval M and Gohel K (2014) conducted a study on "Construction and Effectiveness of E-Content for Educational Psychology." To test the E-Content program for Educational Psychology and to measure the effectiveness of E-Content with reference to gender. The e-content program for educational psychology and to check effectiveness of gender. The data was collected from 18 girls and 20 boys from B.ed colleges (Gujarati Medium) of Surendranagar Gujarat. Random sampling method was used. The pre-test and post-test was used with IQ test and Performance test as tools for data collection. The results of the study revealed that the e-content program was effective compared to the traditional teaching

method. It means that students have achieved better results taught through electronic content. The electronic content program had the same effect on Gander.

2.3.2 International Studies

Aljaraideh Y and Al Bataineh K (2019) in their study "Jordanian Students' Barriers of Utilizing Online Learning" to explore the barriers of Jordanian Students for using the eLearning in their learning environment. The key objective of this study was to identify the main barriers preventing Jordanian students from using e-learning from their perspective. To achieve this goal, the structured questionnaires were developed as well as the validity and reliability of the questionnaire were reviewed. Moreover, the simple random sample was used to create a sample of 400 students. The finding of the study showed that the e-learning infrastructure at Jerash University is a huge barrier to the use of e-learning. Along with that, there are statistically major differences in the barriers which faced all the students when they are using web-based learning relied upon gender and studying year variables all for females and first-year students correspondingly. Furthermore, the findings of the study showed an interaction among teaching year and gender variables. In conclusion, in light of the findings, the survey recommends that policymakers and teachers consider additional efforts to improve the e-learning process.

Shahmoradi L et.al (2018) Conducted research on "The challenges of E-learning system: Higher educational institutions perspective, Tehran, Iran" To identify the challenges of e-learning by Students, The statistical populations were all of the students that have an E-learning course in Tehran University of Medical Sciences 300 were selected to participate in the study, Survey and questionnaire techniques were used. About half of the participants (40%) had problems accessing the technology, and only 26.4% of the participants had good preparation for the use of the E-learning system. Furthermore, a significant difference was found between the challenges of skill and culture of the participants. To overcome this challenge, establishing IT infrastructure and standards, using experiences of the leading countries in the field of E-learning, creating proper culture, and familiarizing learners and teachers to the development and use of E-learning materials are necessary anniversary.

Kiambati F (2013) conducted a study on " challenges in accessing electronic information resources by students with Visual impairments in Kenyatta university Postmodern

library.,Nairobi, Kenya" The Main aim is to establish the factors that affect information-seeking behavior by students with visual impairment, and to identify the challenges that students with visual impairment face in accessing e-resources. The study was conducted at Kenyatta University. There being other Universities both public and private in Kenya, Kenyatta University was purposively selected since it had the largest population of students with visual impairment. There were 80 students with visual impairment and 5 staff members who offered information or served students with visual impairment at Kenyatta university's post modern library. Students with visual impairment were targeted because they were the ones who experienced the challenges in accessing different electronic information resources in the post-modern library. Staff members were targeted because they were the ones who assisted the library. Staff members were targeted because they were the ones who assisted students with visual impairment in case they met a challenge and they are the ones who trained them in information literacy. Purposive sampling technique was used to select all respondents for this study. The data collected was analyzed using both quantitative and qualitative methods. For Quantitative methods, descriptive statistics were used to analyze quantitative data, specifically, Statistical Package for Social Sciences (SPSS) was used to generate frequencies and percentages which described the challenges.

A major finding of the study: Most of the students were not able to retrieve and use e-resources through their efforts. More than half of the students with visual impairment used a long time to retrieve a single e-resource. More than half of the students used e-resources often. However, a good number of students also indicated that they rarely used e-resources. After retrieving, most students with visual impairment used other students to read for them. A significant number used screen readers while only a very small number used the staff to read for them. More than half of the students indicated that it is not easy to use e-resources. The majority of the students indicated that there are not enough computers in the section for users with special needs. The majority of the students indicated that the staff serving in the section for users with special needs was not enough to assist them. The awareness level of students on assistive technology was sufficiently high.The study concluded that students with visual impairments lacked independence in using e-resources because they were not able to retrieve and use e-resources through their efforts. This conclusion was reached with the realization that the efforts of the students with visual impairment to retrieve a single

resource resulted in spending a lot of time and that even after retrieval they had to rely on other sighted students to read for them. The information-seeking behavior described above was a product of the various challenges that students with visual impairments faced when accessing e-resources. The study findings indicated that the literacy levels of both staff and students in assistive technology were low thus limiting access to e-resources. However, the study concluded that assistive technology is a key aspect in the access of e-resources by users with visual challenges and thus much emphasis should be put.

Kamba M (2009) conducted a study on "Problems, Challenges, and Benefits of Implementing E-learning in Nigerian Universities: An Empirical Study". To examine and discuss the problems, challenges, and benefits of implementing e-learning in Nigeria. The survey research method was adopted for the study, and the questionnaire was the only instrument used for the data collection. The findings of the study show that out of the 18 universities selected from different specialization areas, i.e three universities from each Geopolitical zone, only 12 universities responde with usable answers. The study obtained 120 responses for the quantitative approach and 36 interviews for the qualitative approach. The response rate was 67%, which is an expected rate for such surveys. Awareness of e-learning among the universities is very high but investment and commitment to developing an e-learning application are very poor and below expectations according to the study. Most of the staff and students in the universities only use Internet-related e-learning sites just for the sake of finding related information for their researches, since their libraries cannot afford to provide them with adequate and current materials but not for the sake of real online learning. The study also found out that some of the universities have a web page and others are in the trend of creating a web page, which is usually for the advertisement of the universities but not for the e-learning activities. Furthermore, the findings also reveal that staff and the students have also been using e-mail and the Internet in addition to developing web pages for the transaction of students. Universities are planning to invest a number of funds in the future in the selected areas of the e-learning application. The Statistical analysis result shows that there are significant differences across both forms of e-learning activities and types of universities in Nigeria.

2.4 Trend Analysis

The research trends in the literature reviewed during the period from 2004 to 2019 have been considered. Studies on the factors that could affect online education, the Usage, Opinions Perception Attitude and Problems of these students were studied in India like (Pune, Maharashtra, Gujarat Jammu and Kashmir, Chandigarh, UP, MP Indore, Tamilnadu, and International studied like USA, Bangladesh, Jordan Nigeria, Pakistan, Malaysia, Spain, Hong Kong, Bahrain, Turkey, and Kenya. The Minimum study sample size was 15 and the maximum size was 10636. The majority survey design was used and largest sample size study conducted in UP . The trend of the sampling technique suggests that most studies have used random sampling and the convenience sampling technique. The tools used for data collection was Structured Questionnaire with Five-point Liker scale. Statistical Analysis was done through the Frequency Percentage and Correlation coefficient.

It was found that age, gender, prior knowledge, technical skills, computer and internet connection, academic achievement, infrastructure, cultural background, and personal values are the main determinants of the perception of students in the usage of Web-based learning. In this way, apart from one research reported gender to be non-significant for web-based learning. The mixed experience study emphasizes on reviewing the importance and the level of the significance between the students and faculty. On the other hand, it has been observed that no research has been done on the Social Sciences. Then again, the trend has revealed that there is a significant correlation between the accessibility of computers in the sample under study and their attitude and satisfaction with mixed learning methods. The results generally showed that mixed learning was an effective method for in-dept. knowledge of academic subjects.

2.5 Research gaps

The research analysis trends revealed that :

In India, there wasn’t single study that threw light on Usage, Opinion, and Problems faced by Undergraduate students and studied the relationship between the Soft skills and Curriculum Aspects. The variables like Age, Gender, Discipline, Monthly Family Income, ICT Competencies, and Attitude towards ICT have not been studied. No single study on a study on Usage, Opinions, and Problems of web-based learning by Undergraduate Students was carried out in Vadodara, Gujarat. Trends concluded that: moderate to high level of

usage of web-based learning among college students. Attitudes of college students to online learning have also been positive in many studies.

As internet use was higher among young people, it was common among both boys and girls. Young generation learns through Web-based learning. The trend of using Web-based learning for a different purpose was noted. Web-based learning provides a wide variety of usage, opinion, and problems for learning.

The behavioral traits of students were found to be insufficient infrastructure facility in the Colleges and Universities. There is a lack of research support on the relation of Usage, Opinion, and Problems of Web-based learning by undergraduate students in India or Gujarat specifically. It can be concluded that Web-based learning is essential for the Undergraduate students to learn the new information about e-learning is shortage along with the outcomes at the end of the process are better along with the use of Web-based learning is higher.