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The Attitude of Higher Secondary School Teachers towards E-Learning in Purulia District of West Bengal, India

ABSTRACT: Educational technology has a tremendous capacity to provide best possible output in the process of education for both teachers and the students. Proactive use of technology is not the total answer to inequities and inadequacies that exist in educational programmes and teacher training, but it can provide at least a partial solution by strengthening a school ability to receive, transmit, and exchange information. E-learning is most expedient way in learning and training without having to go to school and training centers. E-learning is very much helpful for the teachers to their professional development. Keeping the importance of e-learning, an attempt has made through this study by the researchers to know the attitude of Higher Secondary School teachers towards e-learning in Purulia District of West Bengal, India. The present study was based on survey method, particularly the normative survey research method. One hundred fifty teachers (both male and female) teaching in Arts and Science's streams were taken as representative sample of the whole population. An attitude scale was used for collecting the data. The means of both groups were tested for significance of difference by using "CR" test. It was found that the attitude of Higher Secondary School teachers of Purulia District of West Bengal, India is neither more favourable nor unfavourable towards e-learning, i.e. satisfactory or average in attitude towards e-learning.

KEY WORD: Attitude, school teacher and student, professional development, school ability, electronic learning, and transmit and exchange information.

RINGKASAN: "Sikap Guru-guru Sekolah Menengah Atas terhadap E-Learning di Distrik Purulia, Bengal Barat, India". Pendidikan teknologi memiliki kapasitas yang luar biasa untuk memberikan hasil terbaik dalam proses pendidikan bagi para guru dan siswa. Penggunaan proaktif teknologi bukanlah jawaban total terhadap ketimpangan dan kekurangan yang ada dalam program pendidikan dan pelatihan guru, tetapi dapat memberikan setidaknya solusi parsial dengan memperkuat kemampuan sekolah untuk menerima, mengirimkan, dan pertukaran informasi. E-learning adalah cara yang paling bijak dalam pembelajaran dan pelatihan tanpa harus pergi ke sekolah dan pusat pelatihan. E-learning sangat banyak membantu guru dalam pengembangan profesi mereka. Menjaga pentingnya e-learning, sebuah upaya telah dilakukan melalui studi ini oleh peneliti untuk mengetahui sikap guru Sekolah Menengah Atas terhadap e-learning di Distrik Purulia, Bengal Barat, India. Penelitian ini didasarkan pada metode survei, khususnya metode penelitian survei normatif. Seratus lima puluh guru (baik laki-laki maupun perempuan) yang mengajar di bidang Seni dan Sains diambil sebagai sampel yang representatif dari seluruh populasi. Skala sikap digunakan untuk mengumpulkan data. Min kedua kelompok diuji untuk signifikansi perbedaan dengan menggunakan tes "CR". Ditemukan bahwa sikap guru Sekolah Menengah Atas di Distrik Purulia, Bengal Barat, India tidak lebih menyenangkan atau tidak menyenangkan terhadap e-learning, yaitu memuaskan atau rata-rata dalam sikap terhadap e-learning.

KATA KUNCI: Sikap, guru dan siswa sekolah, pengembangan profesi, kemampuan sekolah, pembelajaran elektronik, serta pengiriman dan pertukaran informasi.

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INTRODUCTION

E-learning has become the newest craze of the modern day society. With the technology of computer and the internet, e-learning has become a way for people to get their education but do it on their own time and in their own homes. E-learning is basically an internet based education that some schools provide in order to accommodate people who do not have the transportation, time or ability to get to an actual educational center. E-learning is a new education concept by using the Internet technology, it delivers the digital content, provides a learner-orient environment for the teachers and students.

The e-learning promotes the construction of life-long learning opinions and learning society. E-learning is naturally suited to distance learning and flexible learning, but can also be used in conjunction with face to face teaching, in which case the term blended learning is commonly used. E-learning is a means of education that incorporates self-motivation, communication, efficiency, and technology.

Because there is limited social interaction, students most keep themselves motivated. E-learning is a flexible term used to describing a means of teaching through technology. E-learning refers to the use of Internet technologies to deliver a broad array of solutions that enhance knowledge and performance (Wentling *et al.*, 2000; and Rosenberg, 2001). In general, E-learning is the expression broadly used to describe “*instructional content or learning experience delivered or enabled by electronic technologies*” (Ong, Lai & Wang, 2004).

E-learning refers to the use of electronic media and ICTs (Information and Communication Technologies) in education. E-learning is broadly inclusive of all forms of educational technology in learning and teaching. E-learning of and is broadly synonymous with multimedia learning, TEL (Technology Enhanced Learning), CBE (Computer Based Education), CBT (Computer Based Training), CAI (Computer Assisted Instruction), IBT (Internet Based Training), WBT (Web-Based Training), online education, virtual education, VLE (Virtual Learning Environments), m-learning, and DEC (Digital

Educational Collaboration).

These alternative names emphasize a particular aspect, component or delivery method. E-learning includes numerous types of media that deliver text, audio, animation, images, and streaming video, and includes technology application and process such as audio and video tape, satellite TV (Television), CD-ROM (Compact Disk-Read Only Memory), and computer based training, as well as intranet/extranet and web-based learning. Information and communication systems, whether free standing or based on either local networks or the internet in networked learning, underly may e-learning processes.

E-learning is a broadly inclusive term that describes educational technology electronically in technologically supports learning and teaching. Bernard J. Luskin (2002), a pioneer of e-learning, advocates that the “e” should be interpreted to mean “*exciting, energetic, enthusiastic, emotional, extended, and education*” in addition to “*electronic*”. This broad interpretation focuses on new application and development and also brings learning and media psychology into consideration (Luskin, 2002).

Parks suggested that the “e” refer to “*everything, everyone, engaging easy*”. E-learning is a new education concept by using the internet technology, it delivers the digital content, provides a learner-orient environment for the teachers and students. The E-learning promotes the construction of life-long learning opinions and learning society. E-learning is an abbreviation of the term *electronic learning*. E-learning is a term that is used to refer to computer based learning. It uses computer-based training materials, online conferencing, discussion boards, e-mail, and other related methods. It is quite a broader meaning of the term *e-learning* (cited in https://en.wikipedia.org/wiki/educational_technology, 2/3/2015).

Judging in the sense, the learning facilitated by the use of any electronic media or means like microphones listening devices or audio and video-tapes can be termed as *e-learning*. E-learning, however, is not taken in such generalized sense. Although, in general, it may refer to all types of learning facilitated and supported through the use of information

and communication technology, yet in real practical sense, its use is limited and associated nowadays with the field of advanced learning technology (dealing with both the technologies and associated methodologies in learning using networking and multimedia technologies).

B. Hall (1997) stated that e-learning is instruction that is delivered electronically, in part or wholly – via a Web browser, through the internet or an intranet, or through multimedia platforms such as CD-ROM or DVD (Digital Video Disk). M.W. Allen (2003) also stated that e-learning is a structured, purposeful use of electronic system or computer in support of the learning process. R.C. Clark & R.E. Mayer (2003) said that e-learning is training delivered on a computer (including CD-ROM, internet, or intranet) that is designed to support individual learning or organizational performance goals. D. Laurillard (2006) also said that e-learning can be defined as the use of any of the new technologies or applications in the service of learning and learning support.

From the above discussion, it is clear that proper understanding of the e-learning, in which the man/woman lives, is inevitable. Since the higher secondary level is the crucial stage of the present educational system in our country, it needs special attention. Therefore, the necessity of getting the teachers well acquainted with e-learning in higher secondary stage can never be minimized. Computer knowledge and e-learning should spread all over the world. It is found that there are different reasonable opinions in this regards. But, we cannot come to a conclusion about all the Higher Secondary School teachers' attitude towards e-learning from several comments or discussions with a handful of teachers only.

Many questions are arising in the researchers mind about the teachers' attitude towards e-learning at higher secondary level. Still now, it is very important and sensitive issue. It is an urgent need for developing certain strategies, which can improve their knowledge, attitude, and skills on e-learning. Therefore, in order to know the attitude of higher secondary teachers towards e-learning, the investigators have decided to take up a

systematic and objective attitudinal study of Higher Secondary School teachers towards e-learning. The investigators intend to restrict their research work to Purulia District of West Bengal, India.

THE REVIEW OF RELATED LITERATURE

D.W. Sanders & A.I. Morrison-Shelter (2001) examined student attitudes with regards to the web-enabled learning components in a general biology course for undergraduate. The results showed a positive effect on student learning, problem-solving skills, and critical thinking skills (Sanders & Morrison-Shelter, 2001). M. Frank, N. Reich & K. Humphreys (2003), in their study on creating an e-learning environment where students' needs are addressed, evaluated the e-mail using frequencies of students aged 6, 11, and 12 within the distance learning process. Moreover, students' basic computer skills, student-teacher relationship, and the role of the teacher were also examined (Frank, Reich & Humphreys, 2003).

P.G. Paris (2004) also examined the cognitive, effective, and behavioural attitudes of fifty-two year ten students from a public schools in Australia to further assess specific online e-learning (OWAL). The result indicates students responded better towards OWAL, however, gender based difference in attitudes was noticed. Positive correlation was noticed among the Internet users and OWAL attitudes. Pei-Chen Sun *et al.* (2007) stated that the instructor's attitude towards e-learning is one of the critical factors affecting learners' perceived satisfaction. Shu-Sheng Liaw, Hsiu-Mei Huang & Gwo-Dong Chen (2007) found, in their study, that the instructors have a very positive perception towards using e-learning as a teaching assisted tool.

F. Paraskeva, H. Bouta & A. Papagianna (2008) shown that teachers' perceptions and attitudes towards technologies influenced the effective use of these technologies in teaching and learning. Patricia Berteau (2009)'s results revealed that there is a connection between technical abilities and students' attitude towards e-learning. Attitude is also influenced by time dedicated to computer use, indicator of experience. There were found attitude differences in the case of hired students

compared with the unemployed ones (Berteau, 2009).

R. Krishnakumar & M. Rajesh Kumar (2011) found that teachers, who possess knowledge about computer, are having favourable attitude towards e-learning. Teachers having blogs differ significantly in their attitude towards e-learning from those who do not have blogs (Krishnakumar & Rajesh Kumar, 2011). S.K. Behera (2012) found that the attitude of college teachers of Purulia District of West Bengal is neither more favourable nor unfavourable towards e-learning, i.e. satisfactory or average in attitude towards e-learning.

About Need and Significance of the Study.

Beginning as a revolution, the internet has now become a part and parcel of the 21st century world. Everything and everyone is getting online. And those who are not doing so are missing out on the immense power of these modern age wonder. Indeed not, as is evident from the advent of e-learning. E-learning is a vital asset for all employees in the new knowledge economy. Technology offers tremendous opportunities for increasing the effectiveness and efficiency of education in future. Student, faculty staff, and administrators now use technology extensively in their activities and have become reasonably technologically literate.

The trend of using e-learning, as learning and technology tools, is now rapidly expanding into education although learning environments are popular; there is minimal research on teachers' attitude towards e-learning environments. Many educators and researchers had high hopes for e-learning, believing that it would ultimately lead to a new revolution in education. Several studies have been conducted in examine attitudes towards e-learning in the West and other parts of the world. However, lessons so far demonstrate that a wide range of e-learning initiatives have stimulated mainly an agenda of bottom-up innovation rather than one of institutionally led changes in educational delivery processes.

Therefore, the researchers feel that particularly the school teacher's opinions or their attitudes can never be ignored, rather those should be reviewed or re-explored time

to time; it is this feeling that has urged these investigators to take up the present study on a particular region of West Bengal in India. It is expected that, this study though small, will be able to make some significant contributions in the field of education.

SCOPE, DELIMITATIONS, OBJECTIVES, AND HYPOTHESES OF THE STUDY

This type of study may be conducted in different ways and at different levels, such as: (1) a comparative survey of the attitude of school teachers of different states of India towards e-learning may be conducted; (2) a comparative survey of the attitude of school teachers of different parts/districts of West Bengal towards e-learning may be undertaken; (3) the attitude of the school teachers belonging to different socio-economic status may be investigated; (4) the attitude of the school teachers belonging to rural and urban areas of a single state or of all the states of India towards e-learning may be compared; and (5) "in-depth" attitudinal studies may be conducted in order to know real attitude of the school teachers towards e-learning.

About delimitations of the study consisted three aspects, namely: geographical area, level of education, and type of study. About geographical area, the investigation was delimited to only Purulia District of West Bengal in India. About level of education, the study was restricted to the teachers in the Higher Secondary Schools of the Purulia District. Among the Higher Secondary School teachers only the Arts and Science streams teachers were considered as the subjects of the present study.

Finally, about type of study, this was conducted only at surface level. It was not an "in-depth" study. Attempts to know the subject's attitude by administering an attitude scale constructed by the researchers themselves. No inter state comparison was done. Only intra-district comparison between the male-teachers and female-teachers, rural and urban higher secondary teachers, General and SC/ST (Scheduled Caste/Scheduled Tribes) teachers and Arts and Science Streams teachers.

The objectives of the study are: (1) to ascertain the attitude of Higher Secondary School teachers of Purulia District of West Bengal towards e-learning; (2) to compare the attitude of male- and female-teachers teaching in the Higher Secondary Schools of Purulia District towards e-learning; (3) to compare the attitude of urban and rural Higher Secondary School teachers of Purulia District of West Bengal towards e-learning; (4) to compare the attitude of General and SC/ST teachers in Higher Secondary Schools of Purulia District towards e-learning; and (5) to compare the attitude of Arts and Science teachers teaching in Higher Secondary Schools of Purulia District towards e-learning.

The hypotheses of the study are: (1) H_1 , the Higher Secondary School teachers will have more favourable attitude towards e-learning in Purulia District of West Bengal, India; (2) H_2 , there is significant difference between the attitudes of male-and female-teachers in the Higher Secondary Schools of Purulia District of West Bengal towards e-learning; (3) H_3 , there is significant difference between the attitudes of urban and rural Higher Secondary School teachers of Purulia District of West Bengal towards e-learning; (4) H_4 , there is significant difference between the attitude of General and SC/ST teachers in Higher Secondary Schools of Purulia District towards e-learning; and (5) H_5 , there is significant difference between the attitude of Arts and Science teachers in Higher Secondary Schools towards e-learning.

DEFINITION OF THE TERMS AND METHOD OF THE STUDY

About Attitude. According to H.H. Remmers, N.L. Gage & J.F. Rummel (1960:67), attitude is a feeling for or against something. According to S.H. Britt (1958:52), attitude is a mental set response. G.W. Allport (1935:34) defines attitude as a mental and neural state of readiness, organized through experience, exerting a directive or dynamic influence upon the individual's response to all objects and situations with which it is related.

About E-learning. According to A. Rossett & K. Sheldon (2001), e-learning is WBT (Web Based Training), also known as known as e-learning and on-line learning is training that

resides on a server or host computer that is connected to the world wide web.

The present study was based on survey method, particularly the normative survey research method. It is the most popular and scientific research technique, which consists of analyzing the phenomena into their components. The survey of educational problems is one of the most commonly used approaches.

About population of the study, the Higher Secondary School teachers of Purulia District of West Bengal comprised the population of this study. Sample and sampling procedure are: 75 teachers of three urban Higher Secondary Schools (G.D. Lang Institution, H.K.S.G.C.M. High School, and Manbhum Victoria Institution) and 75 teachers of three rural Higher Secondary Schools (Moutorh M.S. High School, Chharra High School, and Jhapra High School) of Purulia District of West Bengal were taken as representative sample for the whole population. Stratified random sampling technique was followed for selecting the schools.

About tool used, an Attitude Scale (Likert Type) was used for knowing the attitude of the Higher Secondary School teachers towards e-learning. The tool consists of 30 statements. Out of the 30 statements, 15 were favourable statements and 15 were unfavourable statements. Statistical technique "CR" (Constructed Response) test was used to analyze the collected data and verify the hypotheses.

RESULTS AND DISCUSSION

Through the help of cut-off point, we verify the H_1 . Here, cut-off point is $M \pm 1\sigma$. **It means, Mean** = 119.93, $N = 150$, and $\sigma = 11.04$. Hence, $M + 1\sigma$ is $119.93 + 1 \times 11.04 = 130.97$. And $M - 1\sigma = 119.93 - 11.04 = 108.89$. Most of Higher Secondary School teachers (109 in number), i.e. 72.67% of teachers were lies between 108.89 to 130.97 scores.

Hence, it can be said that the attitude of Higher Secondary School teachers of Purulia District of West Bengal, India is neither more favourable nor unfavourable towards e-learning, i.e. satisfactory or average in attitude towards e-learning. See table 1.

Table 1:
 To Ascertain the Attitude of Higher Secondary School Teachers
 in Purulia District of West Bengal towards E-learning.

Category	N	Mean	SD
Teachers	150	119.93	11.04

Table 2:
 Showing Significance of Difference between Attitude of Male and Female Teachers
 in Higher Secondary Schools of Purulia District, India

Group	N	Mean	SD	CR	Remark
Attitude of male teachers in Higher Secondary schools	80	117.54	9.94	2.90	Significant at 0.05 levels
Attitude of female teachers in Higher Secondary schools	70	122.67	11.55		

Table 3:
 Showing Significance of Difference between Attitude of Urban and Rural Teachers
 in Higher Secondary Schools of Purulia District, India

Group	N	Mean	SD	CR	Remark
Attitude of teachers at urban H.S. Schools	75	120.15	10.66	0.24	Not Significant at 0.05 levels
Attitude of teachers at rural H.S. Schools	75	119.72	11.51		

It was found that 2.90 is more than 1.98 (2.90 > 1.98), the difference between two groups is significant at 0.05 level. Hence, the H_{02} is rejected and the H_2 is accepted; that is to say that there is significant difference between the attitude of male and female teachers in Higher Secondary Schools towards e-learning.

From table 2, it can be found that M_2 is much greater than M_1 . Since greater score is indicative of more favourable attitude, it can be said that, the attitude of female teachers in Higher Secondary Schools towards e-learning is more favourable than that of male teachers in Higher Secondary Schools. It may be due to the fact that the female-teachers have realized more the importance of e-learning for quality education and their professional efficiency/development. Female teachers feel that use of e-learning provides a better learning experience. See again table 2.

It was found that, 0.24 is less than 1.98 (0.24 < 1.98), the difference between the two groups is not significant at 0.05 level. Hence, the H_{03} is accepted and the H_3 is rejected; that is to say that there is no significant difference between the attitude of urban teachers in Higher Secondary Schools and rural teachers in Higher Secondary Schools of Purulia District towards e-learning.

From table 3, it can be found that M_1 is much greater than M_2 . Since greater score is indicative of more favourable attitude, it can be said that, the attitude of urban teachers in Higher Secondary Schools towards e-learning is more favourable than that of rural teachers in Higher Secondary Schools. On the basis of this finding of the teachers regarding this important issue, little difference is found among teachers of their attitude towards e-learning. Thus, it may conclude that region difference in Higher Secondary School teachers is not a factor for differentiation of their attitude towards e-learning. See again table 3.

It was found that 2.85 is more than 1.98 (2.85 > 1.98), the difference between the two groups is significant at 0.05 level. Hence, the H_{04} is rejected and the H_4 is retained; that is to say that, there is significant difference between the attitude of General Higher Secondary School teachers and SC & ST (Scheduled Caste & Scheduled Tribes) Higher Secondary School teachers towards e-learning.

From table 4, it can be found that, M_2 is much greater than M_1 . Since greater score is indicative of more favourable attitude, it can be said that the attitude of SC & ST teachers in Higher Secondary Schools towards e-learning is more favourable than General teachers in

Table 4:
Showing Significance of Difference between Attitude of General and SC & ST Teachers in Higher Secondary Schools of Purulia District, India

Group	N	Mean	SD	CR	Remark
Attitude of General teachers in H.S. Schools	90	117.2	12.37	2.85	Significant at 0.05 levels
Attitude of SC & ST teachers in H.S. Schools	60	122.08	8.55		

Table 5:
Showing Significance of Difference between Attitude of Arts and Science Teachers in Higher Secondary Schools of Purulia District, India

Group	N	Mean	SD	CR	Remark
Attitude of Arts teachers in H.S. Schools	90	120.6	12.32	0.97	Not Significant at 0.05 levels
Attitude of Science teachers in H.S. Schools	60	118.93	8.86		

Higher Secondary Schools. The M. Att. score of SC & ST teachers in Higher Secondary Schools being greater than that of General teachers in Higher Secondary Schools.

Hence, it can be said that the attitude of SC and ST teachers towards e-learning is more favourable than that of General teachers in Higher Secondary Schools. It may seem to be that, the SC and ST teachers feel that e-learning acquaints them with all sphere of life, specially educational sphere, and they are more conscious about their professional efficiency/development than General teachers. See again table 4.

It was found that 0.97 is less than 1.98 ($0.96 < 1.98$), the difference between the two groups is not significant at 0.05 level. Hence, the H_{05} is accepted and the H_5 is rejected; that is to say that, there is no significant difference between the Arts and Science teachers in Higher Secondary Schools of Purulia District of West Bengal towards e-learning.

From table 5, it can be found that M_1 is much greater than M_2 . Since greater score is indicative of more favourable attitude, it can be said that, the attitude of Arts stream teachers in Higher Secondary Schools towards e-learning is more favourable than Science stream teachers in Higher Secondary Schools. On the basis of this finding of the teachers regarding this important issue, little difference is found among teachers of their attitude towards e-learning. See again table 5.

Though a thorough and sincere investigation has been attempted, the

present investigation has some limitations, those are as follows: (1) the present study was conducted only at surface level, it was not extensive and “indepth” study; (2) this study was conducted only in a particular District of Purulia in West Bengal, India; and (3) attitude of the teachers were measured only through administration of an attitude scale constructed by the investigators, the teacher’s behaviours in some specific situations were not observed, and also no intensive interview with the teachers was held for knowing their real attitude towards e-learning.

Educational implications are: it is a tame attempt in this path to assess the level of knowledge and attitude of teachers towards e-learning; this study contributes a new teaching-learning in the form of assessing the level of knowledge and attitude towards e-learning in the classroom instruction; the need of the day is to make teachers realize their capabilities and improve upon capabilities to help solve the problems of their life through e-learning; special efforts should be made in order to develop e-learning awareness among the Science stream teachers; special efforts should be made in order to develop e-learning awareness among the male teachers; efforts should be made in order to develop e-learning awareness among the teachers of rural regions; and this study will be of immense use for the educational administrators, which will throw light upon the attitude of teachers’ of all level of education.

CONCLUSION

The study revealed that the attitude of Higher Secondary School teachers of Purulia District of West Bengal, India is neither more favourable nor unfavourable towards e-learning, i.e. satisfactory or average in attitude towards e-learning. The study also found that there is significant difference between the attitude of male and female teachers in Higher Secondary Schools towards e-learning.

From the analysis of the study it was found that there is no significant difference between the attitude of urban teachers in Higher Secondary Schools and rural teachers in Higher Secondary Schools of Purulia District towards e-learning. The study also shown that there is significant difference between the attitude of General Higher Secondary School teachers and SC & ST (Scheduled Caste & Sceduled Tribes) Higher Secondary School teachers towards e-learning. The study also found that there is no significant difference between the Arts and Science teachers in Higher Secondary Schools of Purulia District of West Bengal towards e-learning.

However, e-learning encourages teachers to take personal responsibility for their own learning. When teachers succeed, it builds self-knowledge and self confidence in them. The recent trend in e-learning sector is screen casting. E-learning will bring a substantial change in the method of spreading knowledge to improve the quality in teacher education and, hence, will make teachers of global standard. Thus, e-learning is beneficial to education, corporations and to all types of teachers/learners. It is the effective learning process created by combining digitally delivered content with learning support and service.

Suggestions for further research are: similar studies can be conducted by taking larger sample of from other parts of the country; similar studies can be done at various levels of education in India; similar studies can be undertaken in different states of India; "indepth" studies may be conducted in order to know real attitude of the subjects, and a team-work may be required for the purpose; and if comparative surveys indicate unusually

adverse attitude of a group of subjects towards e-learning, causal studies may be undertaken to know the reasons behind such unusual attitude.¹

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¹**Statement:** We would like to declare that this article is our original work; so, it is not product of plagiarism and not yet also be reviewed and published by other scholarly journals.

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The Teachers at the School of West Bengal, India
(Source: <http://mpurgdl.hpage.co.in>, 2/3/2015)

The study revealed that the attitude of Higher Secondary School teachers of Purulia District of West Bengal, India is neither more favourable nor unfavourable towards e-learning, i.e. satisfactory or average in attitude towards e-learning. The study also found that there is significant difference between the attitude of male and female teachers in Higher Secondary Schools towards e-learning.