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Review Paper

LSPU Main Campus E-learning Readiness Assessment

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Abstract

A phenomenal impact of Information Technology in educational environment has significantly been a topic of recent studies which stresses the significance of information technology in education. E-Learning in the Philippines can be regarded as relatively new and in its infancy, in spite of this private higher educational institution has been implementing e-Learning in academic environment. Most state universities in the Philippines such as Laguna State Polytechnic University Main Campus is still using traditional methods or traditional teacher-centered methods and eLearning specifically Learning Management Systems is nonexistent. The study aims to assess the e-Learning readiness of Laguna State Polytechnic University Main Campus based on the following factors: i. E-learning Readiness ii. Acceptance iii. Training iv. Technological Infrastructure v. Tools Awareness. The study involves 23 Faculty members and 37 students from nine Colleges. Statistical analysis method was utilized to treat the assessment results. The result of this study shows that both faculty and student in the undergraduate program agree that the campus is ready to accept e-Learning in the current educational environment. The research evaluated the preparedness of the campus to implement an eLearning experience for the undergraduate programs, to design a good Learning Management System framework and to formulate a student-centric eLearning environment that will open the opportunity for the growth of e-learning in the LSPU system.

Keywords: eLearning Readiness, Assessment Tools.

Introduction

Over the last decade significant changes in terms of technological advancements and the rapid exchange of information arises. In education these transformation has revolutionized the four walls of classrooms and its traditional settings. The chairs have been turned, technological pedagogical has been developed, and has been modern learning strategies and teaching methodology has been exploited. Information and Communications Technology or ICT has changed a role of teachers a facilitator, supervisor and guide as students can avail the knowledge and information from application of various forms of ICT[1].

The impact of e-Learning in educational environment has significantly been a topic of recent studies which stresses the effectiveness of eLearning. Researchers have affirmed that computer technology provides abundant opportunities for students to build or modify their personal knowledge through the rich experiences that technology affords[2].

E-Learning or electronic learning is an instruction delivered on a digital device such as computer or mobile device that is intended to support learning[3]. The definition has several elements, electronic pertains to the tool or medium of information delivery, learning is the knowledge or skill acquired by instruction or study and the strategy or approach to effective delivery of knowledge and skills. Therefore, e-Learnings' purpose is to help students achieve educational goals. The formation of an e-Learning environment is not simply a technical matter; rather, it demands the consideration of several human and social factors[4]. Technology alone cannot complete the educational environment and improve learning management. Technology is just a tool to support instruction and to complete the educational environment stakeholders must also be considered. Stakeholders such as educators, students and school administration and ICT resource support and facilities[5].

Private higher educational institutions aims to increase enrollment numbers and decrease the number of extra-hire teachers. This has brought colleges and universities to offer e-Learning on their degree programs[6]. In some cases demands for more flexible schedule and distance education for students who cannot commit with regular school settings.

In the Philippine educational settings, the prime advocates that spearhead the drive to incorporate e-Learning technologies into the Philippines school system are educators from prominent universities like the University of the Philippines which started offering fully accredited classes in 2001, University of Sto. Tomas (UST) that added e-learning course in their curriculum that provides learning materials on-line named as e-LeAP (e-Learning Access Program), Ateneo de Manila University, the De la Salle University and other major universities offer some

form of online courses. Many of these academic institutions use prepackaged programs brought from suppliers, although some schools are now creating their own programs using a variety of software options. Some Higher Educational Institutions specifically State Universities and some Private owned uses Moodle, NeoLMS, Schoology and other open-sourced Course Management System (CMS)[7].

According to Arabasz as institutions adopt e-learning, some important issues arise: i. Institutions must provide an adequate and reliable technical infrastructure to support e-learning activities. ii. Instructors and students must possess the technical skills to use e-learning tools. iii. Instructors must redesign their courses to incorporate e-learning[8].

On that note, higher educational institutions should conduct a rigid study regarding the implementation of eLearning. This research recognizes the issues that arise in the adoption of eLearning, also this research will be the avenue to find out the opportunity of eLearning specifically Learning Management System in Laguna State Polytechnic University.

Laguna State Polytechnic University is one of the biggest University in terms of population of student in Laguna established in 1952. Having four different campuses such as Los Baños Campus, Siniloan Campus, San Pablo Campus and Sta. Cruz Campus – Main Campus. At present, LSPU Main Campus does not have an e-Learning program or Learning Management System implemented. In fact the mode of instruction mostly used is still traditional method or teacher-centered instruction.

This study is conducted to assess the readiness of LSPU. The study aims to assess the inclination of both faculty and students integrating to e-Learning in the current learning management system by assessing the e-Learning readiness of Laguna State Polytechnic University Main Campus. To sustain the endeavor of the study research questions were formulated i. What is the result of the assessment of the faculty in terms of the following area (a) E-learning Readiness (b) Acceptance(c) Training (d) Technological Infrastructure (e) Tools Awareness? ii. What the result of the assessment of the students is in terms of the following area (a) E-learning Readiness (b) Acceptance(c) Training (d) Technological Infrastructure (e) Tools Awareness? iii. Is there any significant difference between the assessment of the faculty and students on the e-Leaning Readiness of Laguna State Polytechnic University Main Campus?

This research conducted survey of literatures and pursued this research from various studies and articles. The researchers utilized these related studies in the conduct of this research.

Chapnick formulated a readiness model designed to simplify wide variety of factors into eight categories which allows practitioners to use the same process to assess the vastly different stakeholders in the system. The white paper entitled "Are You Ready for E-Learning?" The factors are: psychological readiness, sociological readiness environmental readiness, human resource readiness, and financial readiness, technological skill aptitude readiness, equipment readiness and content readiness. This model provides a simplified way of determining whether e-learning can be implemented successfully[9]. However, in the study conducted by Kaur, Kuldip, Zoraini, Wati, Abas which is entitled "An assessment of e-learning readiness at Open University Malaysia" which was presented in International Conference on Computers in Education 2004 stated that E-learning readiness is an important part of distance education as it is conceivably related to the success of e-learning initiatives and on this study am eLearning Readiness Tool was formulated. The e-learning Readiness Research Tool which was questionnaire developed by a panel of experts representing 12 Malaysian education and technology-oriented institutions. The 60-item questionnaire consisted of two parts: 16 items focused on gathering demographic data and 44 items exploring eight constructs, namely, learner, management, personnel, content, technical, environmental, cultural and financial readiness. The questionnaire were distributed and data were gathered from a sample of 93 receivers and 35 enablers. The findings raised a number of issues that are significant to the success of e-learning initiatives at OUM. It was concluded that learners and enablers surveyed are moderately ready for e-learning, and that there are individuals who may need to be acculturated into the e-learning system before they can be said to be at an advanced state of readiness for e-learning. Finally, the study has shown that policy makers and regulatory bodies have to play a more concerted role in enhancing the image of e-learning programs so that there is greater engagement in a technology-driven teaching-learning environmentdesign[10].

In the Philippines, eLearning is still an emerging market and use is still sporadic and most users represent only a small segment of the Philippines education and business communities. According to Arimbuyutan, Seoksoo, Jae-gu, Wooyoung on their collaborative research entitled "A Study on e-Learning for Philippines" the design for a good formula to suit the Filipino preference will open the opportunity for growth of e-learning in the Philippines. Also according to the researchers those who belong to large organizations such as universities, big communities, large and medium-sized businesses that can reduce their training costs and improved learning standards. In the final analysis of their collaborative research, it is recommended that to remain competitive in the global workforce the Philippines has to give total attention to e-learning development and be used by business professionals, students, administrators and government offices[7].

Philippines eLearning advocates find ways to improve and enhance the eLearning system and implementation in HEIs. One of which is Mercado, on her study in 2008 entitled "Readiness Assessment Tool for An eLearning Environment Implementation" she developed and formulated a readiness assessment tool for an eLearning environment implementation which includes different factors the technology access, technical

skills, student and teacher attitude toward eLearning and institutional readiness. In her research entitled "Readiness Assessment Tool for An eLearning Environment Implementation" the formulated assessment tool is not only to evaluate the readiness it would also help analyst to evaluate the eLearning needs that would reflect the value of understanding the institutions current state and the different readiness parameters in implementing an eLearning environment[11]. This evaluation tool was utilized in a study entitled "An Assessment of the eLearning Readiness State of Faculty Members and Students at Malayan Colleges Laguna" which discusses the assessment of the eLearning readiness status at Malayan Colleges Laguna (MCL) in preparing the faculty members, students, administration and facilities for its implementation of eLearning. In this study conducted by Red, Borlongan, Briagas, Mendoza three different sets of questionnaires distributed for students, faculty, and administrators. For students, the instrument contains a total of 53 questions divided into 3 parts-technology access, technology skills, and attitude towards eLearning. Questions on attitude are further divided into study habits, abilities, motivation and time management. For Faculty, it contains a total of 71 questions which are also divided into technology access, technology skills, and attitude towards eLearning. Questions on attitude are further divided into teaching styles and strategies, abilities, motivation, time management. For the administrator, there are only 15 questions which consist of commitment, policies, and instructional administrative support questions and another 15 questions for the resource support of the school which consists of financial, human, and technical[9]. MCL is currently implementing blended learning and the research found out that based on data collected the following are the factors that should be looked into for the improvement of the eLearning environment at MCL for faculty, students and institution. Faculty member the following should be taken in consideration: i. Access to computer ii. Literacy on software application iii. Training on the use of learning management system iv. Attitude towards eLearning v. Time management for electronic courses preparation. For students: i. computer and internet access ii. Training and resource materials iii. Good study habits. Lastly, the institution should improve the bandwidth capability for eLearning website accessibility[12].

On the other hand, Akaslan, Law stated in their study entitled "Measuring the Student eLearning readiness: A Case about the Subject of Electricity in Higher Education Institutions in Turkey" successful uptake of eLearning depends on cluster of personal, technological, institutional and domain-specific factors. Based on their study which was conducted in HEI in Turkey 704 students' respondents from 417 departments of in 425 completed responses through web-based survey. Findings revealed that the students were sufficiently ready for eLearning, training for eLearning is considered essential for enhancing eLearning readiness[13].

The researcher used these related studies and literature in the conduct of this research. Chapnick on her paper "Are You Ready for E-Learning?" identified eight factors such as psychological readiness, sociological readiness, environmental readiness, human resource readiness, financial readiness, technological skill readiness, equipment readiness and content readiness in the development of an eLearning assessment tool. While an article by Pirani's posted in Educase identified the following factors: technical infrastructure of the institutions, instructors and students' technical skills, and instructors' capability to design online courses which incorporates effective pedagogy[14]. Also Anderson's recognized five critical success factors: culture, content, capability, cost, and clients in the success of eLearning readiness and implementation[15]. However, according to Tham's article entitled "Designing and Evaluating Elearning in Higher Education: A Review and Recommendations in Elearning in Higher Education" identified critical factors: institutional, technological, and student issues[16]. Khan's eight critical dimensions: pedagogical, institutional, technological, interface design, evaluation, management, resource support, and ethical considerations[14]. The eLearning Assessment tool produced by Akaslan, Law assessment tool which perceived readiness in three phases namely, Readiness, Acceptance and Training has been very useful in this paper by adopting these readiness phases in devising the questionnaires[10]. The paper also stated that stakeholders' critical success factors such as faculty member, students consideration factors and the institution involvement which is supported by the paper This paper was referenced to formulate the evaluating critical success factors of eLearning readiness.

The review of related study and literature pursued by this research extract the cohesions of different issues and concerns and derived with four important critical success factors for the eLearning needs of teacher and student: technology access, technology skills, attitude and administrative support. The eLearning Assessment tool created by Akaslan, Law was utilized by the researcher in the conduct of the study. These important critical success factors have been adopted to formulate an assessment tool for this research and these five areas came across: i. E-learning Readiness ii. Acceptance iii. Training iv. Technological Infrastructure v. Tools Awareness[11].

Methodology

The research aims to assess the e-Learning readiness of Laguna State Polytechnic University Main Campus, descriptive methods were utilized. In lieu, fact finding techniques were used to gather data necessary to support the objective of the study. Questionnaires was formulated based on the gathered study which identifies important critical success factor and were designed in such a way as to collect the required information in a clear and efficient manner.

The research was conducted in LSPU Main Campus which has nine colleges, 254 faculty members and 8,894 students as of 1st Semester Academic Year 2014-2015.

Table-1 shows the distribution of the respondents 100 questionnaires were distributed to different colleges 50 for faculty and 50 for students. Out of 50, 23 faculty members responded and participated in the survey and only 37 students responded and participated in the survey.

Table-1
Distribution of the Respondents

Indicators	Frequency		Percentage
	Distributed	Responded	
Faculty	50	23	38%
Students	50	37	62%
Total Number of Respondents	100	60	100%

Scaling was also used to measure association of qualitative constructs with quantitative metric units. As shown in Table-2, this study makes use of the five-level Lickert items. Quantitative analyses and statistics are the primary methods for the illustration of accurate conclusions from data. As a result, the selection of appropriate statistical techniques is critical for the success of the project. Statistical technique was utilized to manage gathered data together with basic statistics such as percentage, mean, median, standard deviation, degree of freedom, and statistical technique chi square statistic.

Table-2
Lickert Scale Interpretation

Point Interval	Verbal Interpretation
1.00	Strongly Disagree
1.80	Strongly Disagree
1.81	Disagree
2.60	Disagree
2.61	Neutral
3.40	Neutral
3.41	Agree
4.20	Agree
4.21	Strongly Agree
5.00	Strongly Agree

The questionnaire was adopted from the formulated eLearning readiness assessment tools of Akaslan, Law based on a conceptual model of the readiness for e-learning which assesses the perceived readiness in three phases namely, Readiness, Acceptance and Training. Survey examines five main areas Area 1: E-learning Readiness, Area 2: Acceptance, Area 3: Training, Area 4: Technological Infrastructure, Area 5: Tools Awareness[11].

A five-page questionnaire were distributed to both faculty and students with 5 areas which pertains to the five main areas which corresponds to its items Area 1: Q1-Q18, Area 2: Q19-Q24, Area 3: Q25-Q29 Area 4: Q30-Q50 and Area 5: Q51-Q60

Results and Discussion

This presents the analysis and interpretation of data gathered and the assessments of respondents on the topic.

Demographic Profile and Assessment Result regarding the Readiness, Acceptance, Training and Technological Infrastructure as Perceived by the Faculty: Faculty are also known as enablers Kaur et. al.[10] important stakeholders in the eLearning environment. Generally or 56.52% of the faculty respondents' ages between 21 to 30, 30.43% of the faculty respondents' ages between 41 to 50 and 4.25% of the faculty respondents' ages between 50 to 60. And most of the faculty respondents are female 60.87% while male faculty respondents are 39.13%.

Table-3 shows mean assessment result with regards to Readiness, Acceptance, Training and technological infrastructure as perceived by the faculty. With the highest overall weighted mean of 4.08 which can verbally interpreted as Agree that eLearning is Acceptable as perceived by the Faculty and with the mean of 3.77 the faculty Agrees the eLearning in the campus is indeed ready. On the other hand Area 3 and Area 4 garnered an overall weighted mean of 2.67, 3.13 respectively which can be verbally interpreted as Neutral which suggests that the faculty respondents are uncertain that the technological infrastructure of the university is sufficient for eLearning and it suggests that rigid training and educating faculty member about eLearning should be conducted.

Table-3
Assessment Result with regards to Readiness, Acceptance, Training and Technological Infrastructure as Perceived by the Faculty

Areas	Mean	SD	Interpretation
Area 1 : E-learning Readiness	3.77	0.82	Agree
Area 2 : Acceptance	4.08	0.77	Agree
Area 3 : Training	2.67	0.88	Neutral
Area 4 : Technological Infrastructure	3.13	0.89	Neutral

Table-4 shows the percentage distribution of the faculty assessment regarding the Tools Awareness with the highest percent of awareness garnered 95.65% is aware of Q59 having the lowest percentage 4.35% of the respondents are using it. With the highest percentage of 73.91% using Q55 having the lowest percentage of 26.09% faculty respondents aware to this technology. Lastly having 86.96% of faculty aware of the Q60 while only 13.04% are using it. This suggests that the faculty are highly aware of the technology but the percentage of the faculty is low.

Table-4
Tools Awareness
Assessment as Perceived by the Faculty

Area 5	Aware	Using it
Q51: Media Sharing (e.g., YouTube, SlideShare)	43.48%	56.52%
Q52: Media Manipulation and Mashups (e.g. Google Mashup Editor, Microsoft's Popfly)	82.61%	17.39%
Q53: Instant Messaging and Chat	34.78%	65.22%
Q54: Virtual World and Online Games (e.g., CyGames, Virtual Peace)	82.61%	17.39%
Q55: Social Networking (e.g., Facebook, MySpace)	26.09%	73.91%
Q56: Blogging (e.g. Edublogs, Twitter)	82.61%	17.39%
Q57: Social Bookmarking (librarything, citeulike)	86.96%	13.04%
Q58: Wikis and Collaborative Editing Tools (wikipedia, skoolaborate	52.17%	47.83%
Q59: Syndication (bloglines.com, podcast,net)	95.65%	4.35%
Q60: Online Forums	86.96%	13.04%

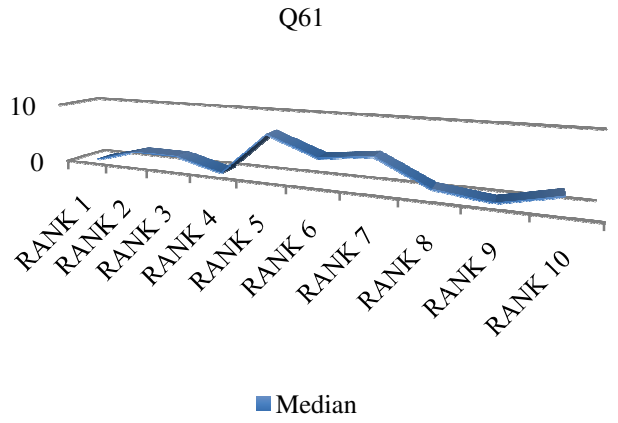

Figure-1
Illustrates the University Readiness Assessment of the Faculty item 61

With 1 being the lowest and 10 the highest the assessment median resulted to 6 for item Q61: what extent do you think your university is ready to migrate to e-learning which is above the median baseline less than which can be interpreted as high rank.

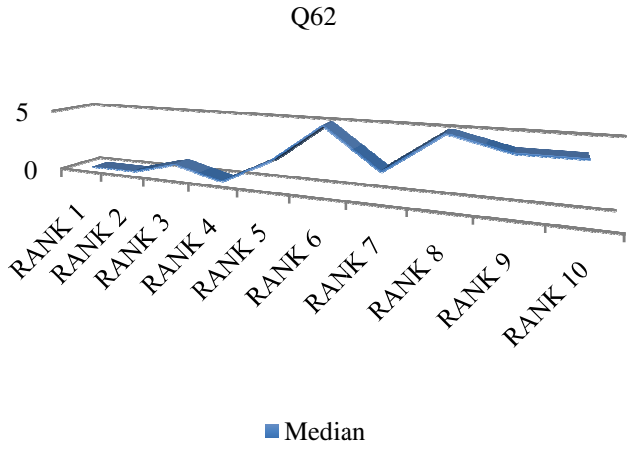

Figure-2
Illustrates the University Readiness Assessment of the Faculty item 62

The median value of 8 for item Q62: what extent you support the integration of e-learning in your department/program which is above the median baseline less than which can be interpreted as high rank.

Demographic Profile and eLearning Readiness of Students: Students also known as receivers Kaur et. al.[10] are significant stakeholders in the eLearning environment. 83.8% of the student respondents' ages between 16 to 20, 13.5 of the student respondents' ages between 21 to 25 and 2.7% is over 26 years old. Most students' respondents are female 51.4% while male faculty respondents are 48.6%

Table-5 illustrates the mean assessment result with regards to the 4 areas. Area 2 garnered the highest mean of 3.42 which can be verbally interpreted as Agree. On the other the rest of the areas gathered a mean of 3.39, 2.73, 3.13, respectively which can be verbally interpreted as Neutral which suggests that the students are disengaged of the eLearning readiness implementation of the campus, training should be conducted to educate and elucidate the purpose of eLearning to learner and technological infrastructure of the campus as perceived by the students.

Table-6 illustrate the tools awareness percentage result as perceived by the students having the highest percentage of 83.33% the students are highly aware of the technology Media Sharing while 16.67% are using it. 57.14% of the students are aware of Wikis and Collaborative Editing Tools while 42.86% are using it. With a percentage of 19.44% Online Forums is the least used technology by the students.

Table-5
Assessment Result with regards to Readiness, Acceptance, Training and Technological Infrastructure as Perceived by the Students

Area	Mean	SD	Interpretation
Area 1: E-learning Readiness	3.39	0.092	No Significant Difference
Area 2: Acceptance	3.42	0.82	No Significant Difference
Area 3: Training	2.73	1.04	No Significant Difference
Area 4: Technological Infrastructure	3.13	10	No Significant Difference

Table-6
Tools Awareness Assessment as Perceived by the Students

Area 5	Aware	Using it
Q51: Media Sharing (e.g., YouTube, SlideShare)	72.97%	27.03%
Q52: Media Manipulation and Mashups (e.g. Google Mashup Editor, Microsoft's Popfly)	83.33%	16.67%
Q53: Instant Messaging and Chat	57.89%	42.11%
Q54: Virtual World and Online Games (e.g., CyGames, Virtual Peace)	70.27%	29.73%
Q55: Social Networking (e.g., Facebook, MySpace)	52.63%	47.37%
Q56: Blogging (e.g. Edublogs, Twitter)	64.86%	35.14%
Q57: Social Bookmarking (library thing, citeulike)	78.95%	21.05%
Q58: Wikis and Collaborative Editing Tools (Wikipedia, skoolaborate	57.14%	42.86%
Q59: Syndication (bloglines.com, podcast,net)	78.38%	21.62%
Q60: Online Forums	80.56%	19.44%

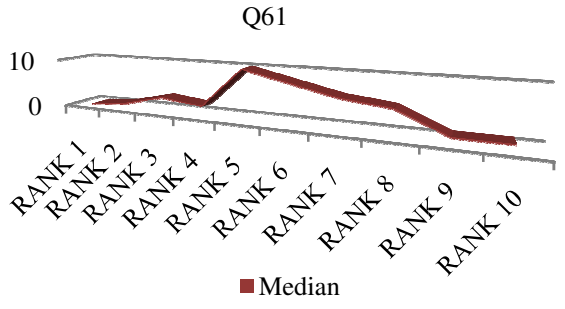

Figure-3
Illustrates the University Readiness Assessment of the Students item 61

The median value of 6 for resulted to 6 for item Q61: what extent do you think your university is ready to migrate to e-learning which is above the median baseline less than which can be interpreted as high rank.

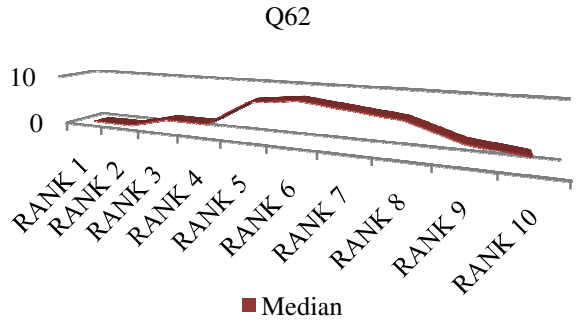

Figure-4
Illustrates the University Readiness Assessment of the Students item 62

The median value of 6 for item Q62: what extent you support the integration of e-learning in your department/program which is above the median baseline less than which can be interpreted as high rank.

Assessment of the Faculty and Students on the e-Learning Readiness of Laguna State Polytechnic University Main Campus: The study aims to find out if there any significant difference between the assessment of the faculty and students on the e-Leaning Readiness of LSPU.

Table-7 shows the assessment of the faculty and students on the eLearning readiness, based on the chi square distribution table with a significance value of 0.05 and a degree of freedom 2 the critical value is 5.99 all items has a computed chi-test value less than the critical value which rejects the null hypothesis which can be verbally interpreted that there is no significant difference between the assessment of the faculty and students with regards to the eLearning readiness of the campus.

Table-7
Significant Difference on the Assessment of the Respondents with regards to all Areas

AREA	x2	H0	Interpretation
Area 1: E-learning Readiness	0.66	REJECT H0	No significant difference
Area 2: Acceptance	0.48	REJECT H0	No significant difference
Area 3: Training	0.62	REJECT H0	No significant difference
Area 4: Technological Infrastructure	0.49	REJECT H0	No significant difference
Area 5: Tools Awareness	0.32	REJECT H0	No significant difference

Assessment of the Faculty and Students with regards to extent you support the integration of e-learning in your department/program

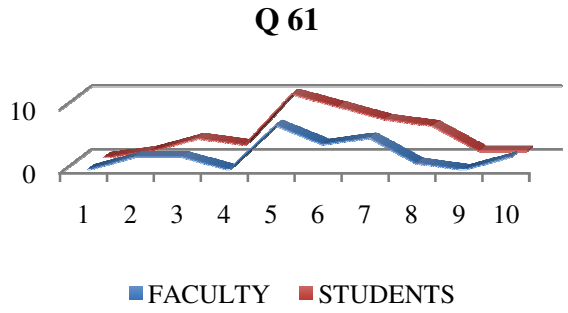

Figure-5
Illustrates comparison the assessment rating of the faculty and students regarding item 61

Item 61 which allows the respondents to rate to what extent you support the integration of e-learning in your department/ program in which the two results are the same both faculty and student assessment median result is 6.

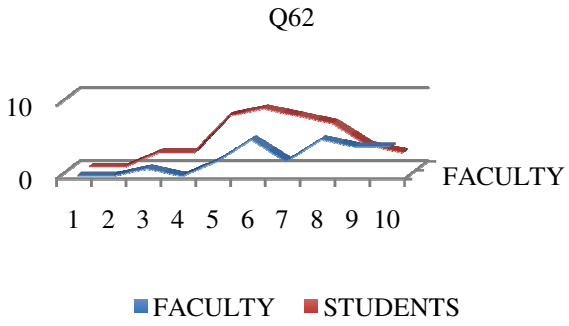

Figure-6
Illustrates comparison the assessment rating of the faculty and students regarding item 62

Q62: what extent you support the integration of e-learning in your department/program in which the two results are the same both faculty assessment median results is 8 and student assessment median result is 6. It also proves that the assessment results of the respondents is close and above the median least half.

Conclusion

This era of pervasive technology has significant implications for higher education. Technological innovation will have a major impact on teaching methodologies over the next years [9]. This research endeavored to assess the opportunity of eLearning in LSPU Main Campus by enquiring the main stakeholders of the learning environment the faculty and students. Using the Akaslan Law readiness assessment tool to formulate the 62 item questionnaire.

Based on the gathered results of the assessment, it is found out that the there is no significant difference between the assessment of faculty and students. In addition to this, faculty responded Neutral to Training and Technological Infrastructure which suggests that the faculty neither agree nor disagree that the training and technological infrastructure of the university is sufficient for eLearning and it suggests that seminars, trainings and educating faculty member about eLearning should be conducted. While the students' perception about eLearning readiness, training and technological infrastructure of the campus is Neutral which suggests that the students are disengaged of the eLearning readiness implementation of the campus, training should be conducted to educate and elucidate the purpose of eLearning to learner and technological infrastructure of the campus. It is also found out that both respondents are highly aware of the tools but rarely use it.

The research indicates that LSPU Main Campus must consider critical success factors such as preferment of ICT application in academic environment, eLearning training for faculty, students, technical and administrative personnel and improve campus technological infrastructure.

Although both respondents accepts that eLearning can improve the learning process, increase their productivity and can accomplish more effectively than traditional classroom based-approach it is not sufficient both the academic force and administration should highly consider the improvement of technological infrastructure and promote technology in education.

The research does not only aim to evaluate the readiness of the campus but also a need assessment to prepare the campus to be eLearning ready. The following are the recommendation to further investigate and examine the opportunity of eLearning in LSPU Main Campus: i. The ICT Services (IT Dept.) must conduct seminars and trainings about educational technology and introduce open source and web-based LMS to encourage eLearning. ii. Improve the technological infrastructure of the campus. iii. Conduct another research with broader respondents' distribution and include the administration as one of the respondents. iv. Conduct another research after a series of seminars and trainings educating and enhancing the technological infrastructure of the campus.

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