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Assessing the impact of e-learning system of higher education institution's instructors and students

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Abstract. Through technological and globalization innovation, the traditional mode of instruction in higher education institutions has been transformed through e-learning. It is a new educational trend which created a new medium in the delivery of instruction. The researcher attests by determining the e-learning systems influence on students and instructors is vital to the advance implementation of effective and suitable in e-learning systems. In order to know the perceptions of the students and instructors from higher education, the researcher conducted a survey regarding their current experiences. The main purpose of the study was to investigate the impact of e-learning in higher education. This study shall document the e-learning systems impacts which had on Instructors and Student participant's performance about the level of user satisfaction and productivity, utilization and problems encountered. The study found out that the use of e-learning systems shows a positive influence on student learning. Most instructors utilized e-learning system as presentation and preparation tool in teaching and learning. Evidently, most instructors positively confirm that e-learning supports teaching and learning effectively implemented.

1. Introduction

One of the trending educational tools in the market today is the E-learning system which is used as an alternative to the traditional learning. E-learning connects two areas like learning and with the use of technology. Nowadays online teaching and learning are used in other prestigious universities. In achieving knowledge, a combination of learning and use of educational technology is a component of the learning process. E-learning systems have faster delivery cycle time than traditional classroom-based instruction because system combined with tools such as writing technologies, communication technologies, visualization and data storage. [1]. As of now the perception of conducting classes is face to face interaction inside the classroom with teacher and group of students has been the common practice in some schools, however with the emergence of computer technology and internet the traditional approach is already starting evolving into e-learning. [2]. With the new approach and environment for learning the used of electronics networked allowed learners to interact between instructors, teachers and peers will receive individualized support that is suitable for the students [3]. E-learning will also support the scheduling and time management for the learning process of the learners.



This research study assessed the impact of the e-learning systems used in three universities in the Philippines namely University of the Cordilleras, Panpacific University and Bulacan State University. The main purpose of this study is to evaluate the learner's perception of the frequency and nature of use of e-learning, Instructors satisfaction with access to e-learning resources and Instructors views on the impact of e-learning on learners' experiences of higher education.

The traditional process of teaching in other developing country has been started to evolve with the new technologies and other learning tools [4]. A study showed that the learning process in Ajman University with the used of Learning Management System there is a positive response and increase collaboration of learners and peers [5]. With the use of information and communication technology e-learning has been started to develop because it helps a lot especially on distance learning where e-learning is one of the solutions. Colleges and Universities use e-learning to improve the classroom experience and to deliver over the Web. E-learning is a learning process that is increasingly being used in an institution, however, e-learning is still at the primary stage and the adoption of e-learning continues to rise [6].

Nowadays, the use of electronic learning is not restricted to the students. Educators and institutions can also realize the great benefits from the adoption of e-learning programs like students can perform better when online learning is incorporated because the student can study the lesson in advance and will increase interaction and collaboration of students, peers, and instructors compared to traditional learning. The use of e-learning can lower the operating cost while also lowering the costs associated with the production of materials for the activities, hand-outs and laboratory manuals. Today's students and instructors engaged to work on their mobile devices and other digital tools. By incorporating technology into our daily activities, classroom instruction, educational materials it can give more improvements in student learning [7]. The use of e-learning has a great help rather than the traditional techniques [8].

The challenges of educators and learners is the lack of knowledge and skills of how to use the e-learning tools, however proper dissemination, focused, more time and efforts in using the e-learning and with the help of the top management for proper implementation with enough physical infrastructure will create a better opportunity for the user [9].

E-learning offers many opportunities for students in their learning process, but it has challenges for Instructors who forced to create new teaching methodologies [10]. Information technology tools for e-learning are available on the Web, however, engagement and more practice in using the e-learning will have a better opportunity to become an effective learner. [11].

Thus, this paper presents the results of the study and their indications for the impact of e-learning system on students and Instructors for higher education institution in University of the Cordilleras, Panpacific University and Bulacan State College.

2. Methodology

To attain the objectives of this study, the researchers used the descriptive survey method. It is applicable to this study primarily because it describes the influence of the E-learning system to higher education institution instructors and students using quantitative data. The respondents of the study came from the 17 instructors and 80 students of different schools namely Panpacific University, Urdaneta City, Bulacan Agricultural State College, Bulacan and University of the Cordilleras Baguio City. A questionnaire was used to gather data for this study. The tool used for this research has been lifted from the study "Impact of e-learning in Further Education: Survey of Scale and Breadth" [1]. The data gathering tool consists of the demographic profile of the respondents, questions on how e-learning system is being utilized, the number of occurrences in utilizing the e-learning system, the teachers' insight on the use of e-learning and the level of satisfaction. The researchers will then give the questionnaire among the respondents, give them ample time to answer it and retrieve the data gathering tool upon completion. The researchers then tabulated the data; interpreted the data. Response to the questionnaires by the respondents was statistically analyzed; descriptive statistics which is the frequency count and percentage distribution were used to statistically quantify the satisfaction and impact of using e-learning for teachers and

students.

3. Results and Discussion

As gleaned in table 1, most students utilize e-learning system to submit their assignments or work all the time which represents 47% of the respondents as supported in the study entitled ‘Student Awareness Towards E-Learning in Education’ that the application of e-learning helped the students in doing their homework’s efficiently and effectively [12]. It also noticeable that students perceived to be that they are well organized in their work as they responded frequently (52%). Students occasionally present written work/data research topic to the e-learning system they used most probably because they want to personally interact with the instructor. It is also worth noting that students collaboratively work with peers in the classroom.

As gathered in table 2, the instructors mostly utilized e-learning to prepare and present their lessons. It is noticeable that teachers perceived to be that e-learning are used to make course materials available to students and present it to the class through these students understanding their lessons are being developed. Additionally, giving assistance or academic counseling is also being performed using the system. One feature of the e-learning is the forum in which it gives the students an avenue to discuss and solve their academic concerns. Thus, learning is implemented in this very effective medium [13].

Table 1. Learners’ insight into the number of occurrences based on how e-learning is used

use of e-learning to:	Constantly %	Frequently %	Occasionally %	Never %	No response %
Present written work/data Research topics	21	42	37	0	0
Submission of work assignment on time	47	29	23	0	2
Participation in classroom activities	29	45	23	0	3
Organize activities	31	52	13	0	5
Consultation with teachers	29	34	31	3	3
Collaboration for class activities	21	47	32	0	0

Table 2. The frequency of use of e-learning by Instructors

use e-learning to:	Constantly %	Frequently %	Occasionally %	Never %	No response %
make course materials available to learners	75	19	6	0	0
discuss information in the class	75	19	6	0	0
develop learners’ understanding of the subject	69	25	0	6	0
communicate with learners outside of the classroom	56	38	6	0	0
test learners’ understanding	50	31	13	0	6
give one-to-one consultation to students in the classroom	31	50	13	6	0

Table 3, as shown below, instructors perceived to be that most learners utilized e-learning system for them to engage in the class. Students also used it in presenting their output such as researches and other written works. It is also being noticed that students used the e-learning system to catch up with their

lessons. However, working collaboratively of students to their peers is occasionally practiced. E-learning provided a new form of learning where it uses internet technologies. It does not require the attendance of the teacher and the students in the educational activities at the same time [13].

Table 3. Instructors' insight into the number of occurrences based on how e-learning is used

Students use e-learning to:	Constantly %	Frequently %	Occasionally %	Never %	Don't know %	Not applicable %
Discuss written work/data Research topics	13	63	25	0	0	0
Create visual presentations	38	50	13	0	0	0
Submit homework's' on time	44	50	6	0	0	0
Engage with the subject in the classroom	63	31	6	0	0	0
Work collaboratively with peers in the classroom	38	38	25	0	0	0
Catch up on missed lectures	44	31	25	0	0	0

Table 4 shows the satisfaction if instructors in terms of the access to e-learning resources. It can be observed that instructors had enough access to the e-learning system for them to design their research and make their lessons. However, they have less fulfillment with the use of e-learning to communicate and provide support for their learners. It is evident that the learning experiences of the students were efficiently and effectively enhanced with the utilization of blended learning [14].

Table 4. Instructors' approval with access to e-learning resources

Enough resources to	I have enough access %	I have less access %	I have no access %	Unsure %
Design research and make lessons	69	31	0	0
Share course materials with colleagues	56	38	6	0
Share course materials with learners	50	50	0	0
Communicate and provide support for learners	38	63	0	0
Monitor and assess learners' progress	44	56	0	0
Ensure that learners can use e-learning whenever required in the classroom	63	38	0	0

Table 5 shows, that, generally, instructors are contented with the sustenance available in terms of delivery of technical support and access to enough and relevant e-learning training. Additionally, there is also satisfaction in the availability in incorporating learning into the process. Satisfaction in learning using blended learning environment greatly affects students learning styles and performance [15].

It can be observed that instructors have a positive response when asked about their present involvement and training in using e-learning. As can be gleaned in table 6, 63% percent of the instructors strongly agreed that they have enthusiasm in using e-learning in teaching and learning, 50% of them agreed, to some extent, that they can recognize opportunities in the use of e-learning. On the other hand, there is a certain 13% percentage of the instructors that felt e-learning consumes so much time in teaching and risks and issues has been created. This means that instructors must have much time as they must prepare and upload all materials to be used by the students in the e-learning.

Table 5. Contentment with the availability of assistance in the use of e-learning

Contentment with support	Very Contented %	Contented %	Uncertain %	Dis-Contented %	Very Dis-Contented %
Provision of technical assistance	25	56	19	0	0
Enough access and relevant e-learning training	31	56	13	0	0
Provide time for attending e-learning training opportunities	19	50	25	6	0
Provide time to incorporate e-learning into teaching and learning	25	56	19	0	0
Reliability of equipment	31	50	13	6	0

Table 6. Instructors' views on the knowledge of using e-learning

Instructors' opinions on e-learning	Strongly Agree %	Agree %	Uncertain %	Disagree %	Strongly Disagree %
I show enthusiasm about the use of e-learning in teaching and learning	63	38	0	0	0
I can willingly recognize opportunities in my subject for the use of e-learning	50	44	6	0	0
I show determination to use e-learning to its full potential	31	56	6	0	0
E-learning is too overriding to use in teaching and learning	25	31	25	13	6
E-learning has several risks	19	38	25	13	6

It can be seen in table 7, that instructors have the most similar views on the impact of e-learning in teaching and learning activities. Most of the instructors responded that e-learning has helped them in making the course materials in their subject available to students which they find it more effectively. Additionally, Instructors perceived to be that communicating with students outside the classroom and sharing course materials to their colleagues the impact of e-learning is more effective. On the other hand, there is a small percentage of instructors who perceived on the impact of e-learning less effectively in managing individual student activities and outputs and giving them assistance one-to-one.

Table 7. Instructors' views on the effect of e-learning on their teaching

Teaching activity	Very effective %	No Change %	Less effective %	unsure %	Not applicable %
Make course materials available to learners	94	6	0	0	0
Course materials sharing with colleagues	69	19	19	0	0
Lesson plan preparation	75	19	6	0	0
A medium of communication to the students	69	25	0	0	6
Management of individual activities of the students	63	19	13	0	6
give one-to-one consultation to students in the classroom	50	31	13	0	6

It can be gleaned in table 8, that instructors view on the impact of e-learning on learners' experiences shows that, it developed students understanding of the subject more effectively which represents 75%

of the total response. It also impacts the students conduct of research, helped reinforcement in their knowledge, create visual presentations more effectively. Exercises and activities provided in the system made the students self-reliant, involved in working collaboratively and have good time management [16]. E-learning became an effective tool in training teachers. It promotes improved teaching and learning process [17].

Table 8. Instructors' views on the effect of e-learning on learners' experiences

Learning activity	Very effective%	No change %	Less effective %	Don't know %	Not applicable %
Doing research	69	6	0	0	6
Reinforce their knowledge	63	13	0	6	0
Develop their understanding of the subject	75	13	0	0	0
Work independently Contact me with queries	63	13	6	0	0
Engage with the subject in the classroom	63	0	13	6	0

Table 9. Instructors' perceptions of the possible advantage of e-learning

E-learning has the possible advantage to:	Strongly Agree %	Agree %	Uncertain %	Disagree %	Strongly Disagree %
Provide flexibility in learning the process	94	6	0	0	0
Provide students with a better understanding of the lessons	81	13	6	6	0
Provide students better employability	56	38	6	6	0
improve communication of teachers and students.	81	13	6	0	0
Identify learning to individual learners' needs	75	25	0	0	0
save lecturers' time by using online resources	81	19	0	0	0

Most respondents strongly agreed that e-learning has a higher possibility to enhance the teaching and learning experience in all the aspects listed in table 9. Ninety-four (94%) of the respondents strongly agreed that e-learning provides flexibility in the learning process. Also, 81% have a strong belief that e-learning help students better understand their lessons, improve how staff communicate with learners and saved lecturers time by using online resources. Importantly, E-learning improves the educational system as it provides better teaching and learning experiences. It bridges a way to alleviate barriers to education as it delivers new and creative method to implement educational practices [16].

4. Conclusion

The focus of this research is to assess the impact of e-learning on teachers and students in higher education. Based on the result on the conducted survey, different Instructors e-learning had aided them to be more effective in their teaching strategy. Many Instructors point out that e-learning had helped them to prepare their teaching and learning scheme. Also, they used this application to prepare their presentational tool to be more effective in giving lessons and learning materials to their students. E-learning tools also aid the instructor in strengthening the interface between learners and lectures. Based on the result of the survey, noticeably fewer indicated that e-learning tools helped them as a medium for assisting and handling learning more effectively. However, numerous instructors stated that this

particular tool had helped instructors in preparing learning materials and presentation to be more convenient of work in strengthening and developing knowledge. Based on the result of the survey, it shows that fewer instructors point out that this tool helped both instructors and students in undertaking collaborative activities.

To further maximize the potential use of e-learning, enhancement of faculty multimedia skills must be undertaken by providing them training about how to use multimedia resources for them to create their own media for additional teaching materials which will be made available to the learners. Greater use of e-learning tools by instructors for sharing educational materials and developing understanding requires good access. The benefits of e-learning tools, such as improved performance, engagement in school activities, increased motivation, and development of other skills like interpersonal communication, let particular indirect ways in which this certain tool may impact on achievement, contribution, and retention [18].

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