The Professional Development Programs and Integration of Learning Management System

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Abstract: The purpose of this study is to identify the impact of Professional Development (PD) programs on the approach to Learning Management System (LMS) in the perspective of educators in selected Private Higher Education Institutions (PHEIs) in Kuala Lumpur. The critical issues are utilization of E-learning not being fully embraced by the educators, approach to E-learning facing difficulties and challenges due to lack of appropriate training, urgency to transform education system to integrate E-learning to fulfill the key result area that set by Ministry of Higher Education (MOHE) and to fill in the gap between PD and E-learning. The notions for the conceptual framework and research instrument for this study were adapted from RPIM Model. Data was collected and analyzed by quantitative methodology utilizing self-administrated questionnaires. The study findings showed that the impact of PD on educators has a significant role in their approach to LMS. The results also indicated that there were deficiencies in readiness and maintenance of PD programs. Moreover, the results confirms that there is a necessity to develop PD programs that caters E-learning environment for diversity of learners and at the same time accommodating sound pedagogy for the students to enhance their learning processes. The results also showed that appropriate training was significant obstacle to the victory of E-learning programs due to most PD activities were offered without considering the actual needs of the educators. This research fills the gap of the literature and contributes to policy makers, academician and PD organizers in empowering educators through PD to support LMS.

Key words: LMS, professional development, educators, E-learning, RPIM Model

INTRODUCTION

Information Communication Technology (ICT) has a vital idea in safeguarding the worth of education and it is being sustaining for good advantages in the higher education institutions. Universally, the Information Technology (IT) programs for educators were predominantly focus in technological and scientific forces and developments as well as the source requesting, marketing power and entrepreneurship (Abdullah, 2006). In the 6th Malaysian Plan, ICT was broadly emphasized as an enabler commonly in the education system. This is extra in constructing forward with the start of the National Information Technology Council (NITC) that create some pathways in ICT as fine merged in the socio-economic organization in Malaysia. In 7 Malaysia Plan, the National Institute for Trial Advocacy (NITA) was articulated to understand the essential aims of NITC. NITA is still observing an instrument for adapting and managing changes on value-based economy from side to side of the development in the education that profits Malaysia.

This situation has delivered breaks in knowing of individuals are the key points in any process (Raitman and Ruth, 2006). The need for further research into the significance of learning styles in relation to E-learning programs and E-learning based environment has been recognised by educationalists. The purpose of this study is to identify the impact of Professional Development (PD) programs on the approach to (LMS) in the perspective of educators in selected PHEIs. PHEIs in Malaysia are initiating to comprise purposes that plan to encourage E-learning methods such as LMS. E-learning is a marvelous procedure in education system and its key issues in starting the definition academician. E-learning is learning and teaching method that is necessitating for educators now a days adjusting their responsibilities from instructor to facilitator or coach. Learning Management System (LMS) is a software application for E-learning education courses or training programs which focus on the management of the learning process and were designed for large-scale corporate enterprise customers such as higher education institutions (Katz and Yablon, 2010).

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There is a necessity to make an LMS that caters for diversity of learners and at the same time accommodating sound pedagogy where students can enhance their learning process for attainment of better results. Total study will be in the perspective of educators. This study will fill the gap of the literature, practical and will contribute to policy makers, academician and PD organizer.

Problem statement: E-learning has been identified as one of the Critical Agenda Projects (CAPs) and a National Key Result Area (NKRA) of Ministry of Higher Education (MOHE). MOHE identifies a few changes as vital such as to increase the usage of IT for educating future graduates, giving training to produce inventive expert in using information, knowledge and current technologies to make fresh economic opportunities and manufacturing of the upcoming. Implementation of E-learning in private higher education facing difficulties and challenges that affects the efficiency of learning and teaching (Youngman, 2005). Various studies and articles have quoted that the needs of training for higher education institution academicians was significant obstacle to the victory of E-learning programs, yet too frequently PD programs were offered without first consider the actual needs of the educators. The aim of this research is to identify the relationship of PD programs for E-learning implementation in PHEI in educators perspective. There is an urgency to transform PD in PHEIs as proposed by this research in order to meet the needs of MOHE to compete in education globally.

Considering the large number of PD programs for educators that were carried out it was strange to discover that studies on enhancing E-learning development were few done in context of Malaysian education system (Youngman, 2005). Towards evaluating PD programs with assistance of RPIM to support educators in the context of the country will contribute to the body of knowledge. There are gap of theories and practical between PD and E-learning in supporting education system in Malaysia. PD trainings are hindered by many factors that are making it inefficient for educators (Green and Cifuentes, 2008). As Youngman (2005), pointed out that despite the large amount of human and financial resources involved in PD they surveyed that very few studies on the relationship between PD programs as educators support for LMS were conducted.

Though, there were not many arguments that PD could aid educators to obtain fresh knowledge and accept fresh drills (Storch and Whitehurst, 2002). Views vary regarding the issues that should PD be systematically considered and evaluated to identify the need of PD

according to the program context, system and the current policy directives in Malaysia. This study could be a room for the PD to be evaluated systematically according to RPIM Model and narrow down the gap identified.

Literature review: Theorists claimed that E-learning should be the real concern on the educators who were at the core (Dede, 2008). Proceeding to this, they recognized the serious issues for fruitful of applying E-learning programs, organization sustenance, operator involvement, level of difficulty and danger rendering to the fresh technologies and function of plan administration in application procedures. Traditional PD training cannot fully meet the needs of the individuals or the needs of the organizations in a rapidly changing world. Wood and Thompson (1980) proposed a development model as having five distinct but related stages that was readiness, planning, implementation and maintenance (Wood and Thompson, 1980). This model was further developed and modified by Thomson and was known as the RPLIM Model (readiness, planning, learning, implementation and maintenance/monitoring). There were similarities between the various steps involved in planning academic PD programs, training and development process of PD programs.

According to Wood and Thompson (1980) most reasons of failure were related with the educators capabilities on learning and teaching. In order to adopt and apply the E-learning in an organization, it is important for the enterprises to know how the educators understand and perceive as a tool to improve the skills and knowledge. Moreover, the enterprises themselves should analyse their capabilities, whether, they can adopt E-learning or not. This research takes the perspective that E-learning has an integral role to be played by PD programs. Indeed they must be adequately prepared to execute this integral role in an environment in which both learners, social and economic environments are going through.

In Malaysia, the policy to uplift the academic qualifications, professional competence and dedication of educators had been recommended in Cabinet Committee on Education Report of Higher Education, 2009. The importance's in improving of PD has been highlighted by many writers (Dede, 2008; Kader, 2008; Schmidt *et al.*, 2009). In the past, failures of new technologies in education had been blamed on the educators inability to adapt the new technologies to their teaching style (Schmidt *et al.*, 2009). The actual professional preparation of an educator extends beyond the PD and spans the whole period of their service. However, the difficulties of providing high quality PD that related to educators needs in Malaysian education system were worsened by the construction of the scheme itself (Lawson and Comber, 1999).

Schmidt *et al.* (2009) results displayed that educators sensed discomfort and not arranged to teach with computer. This is mostly because since they sensed that having rudimentary knowledge of computers will be inadequate to teach with computer and a lot of them sensed that individual features and exterior features inclined educators computing selections. From the researcher's personal experience being a lecturer in higher education institution at one stage without proper training, all the educators were being forced to adapt LMS that was introduced to be big part of learning and teaching. Many lecturers refuse to use the E-learning platform that introduced. Most of the educators were not given proper PD related to E-learning practices. PD organizers were not designing programs according to the needs of the client (Kader, 2008). The seriousness of this problem if not identified and solve can collapse the whole education system. As an educator and researcher, this research going to be a part of contribution to the education system as well as human resources policies in higher education institutions in Malaysia.

PD in higher education institutions have often been criticized for lacking a sound theoretical framework (Abdullah, 2006). This study is attempted to fill this gap by building a theoretical model that integrates theory and practice in higher education in Malaysia. There exists a vast quantity of literature on students learning and teaching but PD Model has somewhat slight influence on the drill of it. They normally do not read books or journals on higher education because the issues raised and the discourse used seem unfamiliar, alien, pretentious and irrelevant to their concerns if they don't teach that subject (Wood and Thompson, 1980). To sum up Wood and Thompson (1980) practice of new technology in higher education was not seen as non-theoretical but as being informed by educational and personal theories. Educational technology were not considered to be non-practical but rather as useful for the improvement of practice in higher education if it was 'grounded' in practice. In higher education that good teaching cannot be reduced to the technical application of educational theories, principles and rules that it involved not only constant practical judgment and decision about alternative strategies to achieve given objectives.

Kemmis and Fitzclarence (1986) extend this notion of the profession as a source of critique of practitioners own theory and practice by suggesting that the profession become an organised source of critique of institutionalized education and the state's role in education. Moreover, critical curriculum theorizing does not leave theorizing practice to experts outside the university nor does it constrain curriculum theorizing to

make of individual lecturer and groups of lecturer within university. Any consideration for the educators needs can not at the same time ignore the broader aspects of what the James Report 1972 (Henderson *et al.*, 1980) called 'career profile' and what Gould (1975) termed 'life stages'. Knowles (1986) introduced an adult learning theory known as the theory of andragogy. This concept of andragogy made four crucial assumptions and activities of the state not only in theory (through having critical ideas) but also in practice (by establishing forms of organization which aim to change education a practical political of education). As Knowles (1986) testifies:

> "Based on my experience in workshops I have conducted for department chairs and faculty at more than sixty college campuses over the past 3 years, most faculty were not familiar with this literature"

Suitable strategies for PD programs would be situation studies, acting, imitations and self-assessment. Tutors must accept the job of an organizer, instead of tutor or grader. Thus, those who initiated PD programs have to take into account the principles and generalizations of adult learning theories. This learning theory, according to Billington (1988), 'underlies many of our most affective adult education programs.' It was felt that the educators being the end consumer. It was felt that the educators being the end consumer of such courses can be tangled in the preparation and operation of PD programs. PD will only become successful if the participants at the end of the program, feel that it was useful and relevant. The main contention of these scholars was that educators PD needs should always precede the planning and organization of PD. The need of the lecturers, however, may not coincide with these of the education system which stressed on the operation of ICT in teaching and learning and societal alteration. The education system and the educators will have some common needs and interests.

To sum up the theories were mentioned by a few scholars that both parties have the mutual purpose of enlightening teaching and lecturers results. In fact, an effective PD Model should be able to accommodate the needs of both the educators and the system they serve. In addition to the content of PD program many other aspects of PD can be fitted into the category or context of educator's PD needs.' Some of these aspects include roles, location, timing, duration, instruction, instructional modes and the cost of PD training courses. These factors very often affect the success or failure of PD programs. The inclusion of these factors in the research instrument was to make the study as comprehensive as possible.

Although, it would be impossible to meet every educator's individual needs, it would be useful to bear them in mind so that the courses become more effective as well as accommodating (Cane, 1969).

Clarke and Chamber (1989) was critical of staff development programs because they tend to focus on voluntary individual development and on instructional skills, rather than on scholarship and improving the quality of the institution. Clarke and Chamber (1989) concluded in summary from an institutional perspective and hard work to improve the strength of current facility could be gathered in three narrow plan zones given that:

- Environmentally friendly sustenance for the scholarly progress of the facility
- Official sustenance for faculty study and instructional progress tasks
- Discerned sustenance for personal faculty desires (Clarke and Chamber, 1989)

Clarke also said that the program developers must learn more about adult development, the professional socialization of faculty members, how their careers were structured and how the academic organization affects their vitality (Clarke and Chamber, 1989). Above all, must be probe into the nature of individual and organizational circumstances. The contextual, situational variables may not be as generizable from one institution to another as the rather prescriptive literature on faculty development programs has conventionally assumed. To sum up Clark's views, the three policies on support for academic staff research and teaching can be integrated in an approach to professional development as academic course development within the contextual, educational framework of a particular institution.

Organization Element Model (Leigh *et al.*, 2000) indicated administrative essential ideal it was one of the hypothetical outlines exercise for thinking thru matters related to administrations (Leigh *et al.*, 2000). It has been used the majority people in forming and studying info assemble on a specific group and the matters it tackled (Leigh *et al.*, 2000). As the structure defined, individuals were at the core of all. It was individuals who articulate plans and who create organizations and control schemes and procedures. It was individuals who progressed and used technologies and it was individuals who gave hand to and retain upon administration's values (Nickols, 2008).

As one famous expert on administrations carved several years ago, "Administrations don't do everything, individuals do" (Leigh *et al.*, 2000). The abilities or skills individual stake along to their work were a vital factor and

so were the ethics and principles they gripped (Leigh *et al.*, 2000). To sum up Kaufman's and Fred Nickols's views, people develop organizations which was to say they form to search their aims and determinations. People generate fairly lasting administrative organizations and briefer scheme structures. Individuals do this to give management over means to allow and legitimize the use of authority and to grip each other.

According to Marshall (1998), PD programs were viewed just as a means of improving the individual's knowledge and abilities thru communication of info. He mentioned that the accountability for preparation, evolving, instigating and assessing professional development programs were done by experts that were the professional staff developer or instructor. Before considering the practical implications of Leontiev's Theory for learning, teaching and staff development in higher education, a brief critical appraisal seems appropriate. Kolb's experimental learning model gives a bond amid model and exercise, among mental generalities and tangible familiarities amid the emotional and reasoning areas. It followed an outline for inspecting and consolidating the serious links between education task and own improvement. Therefore, this model was mainly valuable for advanced education not only for learner learning but also for staff improvement through action research.

Butler pointed out that goals of PD programs must be perceived as vital and pertinent to private and expert desires of the lecturers. It was only then that they would be more committed to learning. The literature survey further indicated that the objectives of a PD programs should be written and specified prior to the implementation of the program. Butler also stressed the importance of this phase of the training process. She wrote that the internal structures used in the design and delivery of PD programs appeared to influence the programs level of impact. She had also presented several key process elements of effective PD programs.

Participants should be actively involved in learning and to take responsibilities for their own learning and was emphasized on self-directed learning as pointed below:

- Contents should be presented in a variety of modes and through a variety of activities, including opportunity for active participant involvement
- There was reinforcement of learning both within the program and as part of the post-program follow-up
- There should be opportunity for collegial learning where participants could work with learns from each other

Pierce shared the view that a PD program carried out by a 'variation of methods to accommodate various learning styles of participants'. Hence, PD activities included workshops, conferences, clinics, demonstrations, discussions or off campus visitations. Other crucial components of successful PD included funding, top management support and commitment from participants. The issue of top management support is paramount in the success of PD programs.

Higher level educators such as deans and head of dean played an important role in ensuring success of professional development programs. They can demonstrate their support for PD programs by allocating time to plan, implement and evaluate development programs together with lecturers. Commitment of the deans, head of dean and lecturers participants were essential for the success of professional development programs. This commitment must be complemented with adequate resources and the provision of time dedicated to full range professional development related activities (Bullough *et al.*, 1997). The same study was also found that heavy workload in the university and colleges were a source of program failure. Thomas emphasized the importance of having time for lecturers to learn together. He elaborated that the feasibility of finding time for lecturers to learn together was constrained by tight budgets. Thus, the issue of commitment, time and funds were interrelated.

Program evaluation typically involved asking participants to rate the instructor conducting the program content, how the program was organized and the time and place of program presentation. For example, lecturers may rate a staff development program positively just because they had enjoyed or was enlightened by an instructor who has good presentation skills. Gabriel (2010), viewed that the objectives or goals of PD programs must be made cleared enough to be measurable. Otherwise according to him, evaluation would just be centered on participants perception of professional development.

The evaluation of PD education would assist in the planning and implementing of programs. Gabriel (2010), concurred that findings from continuing programs evaluation by program participants can also serve as a data base for decisions concerning future professional development programs. Salim and Nor (2005), also pointed out in her literature survey that strong emphasis was placed on the importance of evaluation as a means to improve future programs. Similarly, Farr (2010) listed evaluation plans as one of the key components for the planning of training programs. The literature surveyed generally supports the idea that approaches to PD programs should take into consideration of adult learning principles. Participants of PD programs were individuals and adult learners. Farr (2010) in building her interactive program planning for adults, stressed that successful PD program should include adult learning principles and practices.

The notion of PD suggested developing proficiency in a world in which expert knowledge was rapidly reduced out of date via the quickstep of study. From this viewpoint, experts want to constantly keep informed about the toolbox of ability via obtaining fresh knowledge from specialists focusing in many parts. This knowledge is described in the fine empire of info, abilities, methods and plans that one may think to utilize in his or her training site. Directed thru a type of functionalist reasonableness, ongoing in education turn into a technical practice and the ongoing educator's job were complete with technological accountability (Danielson, 2007). To sum up Danielson (2007) in this opinion of PD, knowledge was impartial, different from the experts who perform on it and not linked to the specific social cultural settings in which they do. It was learned and apparently assumed in the persons by the programs meant at conveying particular knowledge and abilities linked to the presentation of certain job linked responsibilities.

Allington (2008) offer some answers from the outcomes of a nationwide study of academic workers practical in British institutes of advanced education which were alike to the study outcomes of approaches. The main findings by Allington (2008) pointed out that academics lasts to be concentrated on teaching abilities but that there was developing staff acknowledgment of the significance of PD in research and management. The respondents (from forty-one universities and twenty five colleges, each represented by a senior academic or a committee on behalf of the institution) completed a questionnaire and provided additional suggestions for enhancing development. To sum up Allington (2008) views as three major recommended strategies. First, a greater institutional acknowledgment and appreciate for those tangled in taking and conducting development activities financial as well as psychological rewards such as praise and recognition for training and advancement). Second, departmental recognition and rewards (again material and psychological rewards and the visible support of the Dean or head of the department). Third, guaranteeing that training periods were themselves satisfying of high quality, practical, relevant, well organized and enjoyable.

Research question: What is the relationship between LMS and PD programs in the perspective of educators using RPIM Model?

Hypotheses:

- H₁: Institutions offering LMS and PD programs that facilitate LMS are positively related
- H₂: There is a positive relationship between the PD programs and the use of the RPIM Model

Limitation of the study: The study did not draw conclusions with respect to faculty or student performances or satisfaction nor was it intended to. While the methodology of quantitative research was used because of its ability to apply "generalizations from the sample to broader groups beyond" the sample (Holton and Burnett, 1997), the consequence is that this methodology may not be as successful in yielding "thick, rich descriptions" (Creswell and Miller, 2000) as is the case with the qualitative methodology. This study does not measure the impacts or outcomes of type of PD that provided. It also does not articulate how PD is being promoted.

MATERIALS AND METHODS

The sampling was using quantitative research with probability sampling. Academic staffs in private higher education institutions in Kuala Lumpur which were using LMS or were having web based courses were selected in the sample. Data collection instrument is self-administered questionnaire. In this research, equal probability of selection design will be applied where each element in the population have the same probability of selection. Probability sampling that was included in this research was one stage cluster sampling.

Universities in Malaysia were shaped with executive arrange as for every stipulation of the Universities and University Colleges Act 1971. There are 20 public universities and 49 private universities in Malaysia and 15 private universities and universities colleges in Kuala Lumpur. Kuala Lumpur is taken as a population focus of population in this study because it is the capital city of Malaysia and it has an international standard and high quality education which is closely monitored by the Ministry of Education in Malaysia and a wide range of universities. As for this study, the PHEIs that contributing were institutions which using LMS or institutions with web based courses. Based on criteria of selection, there were five private higher education institutions in Kuala Lumpur that were qualified to participate in this study. Based on Krejcie and Morgan (1970)'s table for determining sample size for population of educators in higher education institution a sample size represent as in Table 1.

Table 1: Academic staffs based on level of education in private higher education institution in Malaysia and sample size based on Krejcie and Morgan (1970)'s Model

Items	Total population
Estimated total population of educators in PHEI in Kuala Lumpur	1731
Required sample size (N)	306
Confidence level (%)	95
Margin of error (%)	5

Table 2: Summary results of Cronbach's Alpha

Constructs	No. of items	Cronbach's Alpha
Readiness of educators in professional development programs that facilitate LMS	14	0.8432
Planning of strategies to design professional development programs that facilitate LMS	12	0.9001
Implementation of processes and systems to construct professional development programs that facilitate LMS	17	0.8345
Maintenance of professional development programs that facilitate LMS	18	0.8757

Pilot study: Researcher used convenience sampling in the pilot study. The convenience sampling used allows the researcher to obtain basic data and trends regarding this study. Even though, this sampling would not be ideal to test the entire population but give an overview for a pilot test. The focus group for the convenience sampling was among thirty educators of the private university that were using LMS as their E-learning platform. The purpose of this pilot study was to observe educators views, ideas and outlooks towards the instrument developed. Response of the instrument and conversation were used as guidelines to rewrite the questionnaire. After re-testing the second draft of the questionnaire, ambiguities in the instructions to respondents were identified and corrections made. The validity of the questionnaire was ascertained by showing the draft questionnaire to a panel of experts which mainly leading by the experts in PD programs. This pilot study reliability evaluation was lead with Cronbach's coefficient alpha reliability analysis. The present researcher did not carried out the factor analysis due to the small sample size. Tabanchnick and Fidell review this subject and optional with the purpose of reassuring to encompass at smallest amount of 300 cases for factor analysis (Saunders and Thornhill, 2003). Therefore, factor analysis is not needed in pilot test (Saunders and Thornhill, 2003). While recommended by Nunnally (1978) in the initial point of the research reliability in the variety of 0.8-0.9 is adequate (Table 2).

The results of the pilot test were identified ambiguities in the questionnaire items. Problems concerning the instructions given for completing the questionnaire were also resolved. Several important improvement have been done in response to the feedback

from the pilot test which includes sentence organization and preference of terms, correction of spelling error, the length of the questions was shortened and restructured the positive and negatively worded statement. A final version of questionnaire was then prepared from consideration of the entire commentary, opinion and implication.

RESULTS AND DISCUSSION

Quantitative data statistical techniques data obtained from the respondents was computed through the use of SPSS (Statistical Package for Social Sciences) Window Version 13.0 program. The statistical procedures that were used in the analysis of collected data were summarized as follows.

Demographic data (academic qualifications, teaching experience, gender, age, involvement in professional development was analysed using frequency distributions.

The percentage of respondents who agreed or disagreed with a particular statement was computed based on the Likert scale. A Likert type instrument was designed to collect information about the staff perception on professional development for E-learning based pedagogy. The instrument offering positively worded reports. Every statement 5 alternatives to select from: strongly agree = 5, agree = 4, neutral = 3, disagree = 2, strongly disagree = 1, the mean score and standard deviation of each statement in Section 1 and 11 of the questionnaire were obtained. The standard deviations of each statement were used to gauge the degree of agreement between respondents in each of the statements. Replies close to a particular Likert item was in addition considered as ordinal data, since in particular as with merely five levels.

RPIM Model was used on the four dimensions with the demographics factors. Pearson chi-square analysis was used to determine the relationship between institutions offering LMS as offering PD programs. An exploratory factor analysis (Varimax Rotation with Kaiser Normalization) was utilized to determine relationship between PD and the use of the principles of RPIM Model.

The total survey used to obtain quantitative data was 400 questionnaires which were distributed to educators in five PHEI, completed the survey. According to the statistic, 79.3% (317) of the questionnaires were completed and returned by respondents and 20.7% (83) were not. The majority of this sample was female educators (n = 208, 65.6%) and the remaining was male educators. Composition of participants as lecturer with masters qualification was 42.5%, followed by 32.8% of tutors with degree qualification and 24.6% with Ph.D

Table 3: Means, standard deviations of demographic data (n = 317)

Range				
Variables	M	SD	Min.	Max.
Gender	47.99	3.07	2.00	24.00
Qualification	25.64	1.02	2.00	37.00
Age	7.89	4.11	3.00	9.00
Teaching experience	38.23	6.31	5.00	28.00

qualification. The most common age group was 36-45 years old (62.1%). The remaining (26.4%) were in the 25-35 year old age group and only 11.5% were in the 46-55 year old age group. The majority of participants (n = 152, 48%) indicated that their years of teaching experience was in the 6-15 years range, followed by 90 (28.4%) who have taught lone year or up to 5 years. This group was closely followed by the 16-30 year (n = 75, 23.6.%) group. Further, the sample consisted of 51.5% of participants in university, followed by 48.5% in university colleges. Descriptive statistics of scale scores, including scale means, standard deviations and ranges of demographic variables are presented in Table 3.

The first hypothesis was analysed with Pearson chi-square analysis to determine the relationship between institutions offering LMS with PD programs, whether, it was an in-house PD or a training sessions from the outside vendors. The Pearson chi-square is used to determine if the "data in the form of frequency counts are distributed differently for different sample (Borg *et al.*, 2003). The result of the χ^2-test = 6.569 and p = 0.003 (p<0.05) with df = 1, therefore, rejecting the null hypothesis of independence. The result does indicate that there is a significant relationship that if institutions are offering LMS, they are also offering PD for the educators. Of the five PHEI that participated in the study, all (80%) currently offered LMS whereas 20%, especially from private university colleges currently offered web-based courses. A chi-square analysis between the type of institution and offering LMS or web based courses shows χ^2 = 2.406 and p = 0.013 (p<0.05) with df = 1. This means that there is a relatively high probability that there is a relationship between the type of institution and LMS.

However, when looking at the relationship between offering LMS and location, χ^2 = 0.819 with p = 0.307, there is no significant relationship. While LMS have been viewed as a means to increase accessibility for students (Moody, 2004), the chi-square analysis demonstrated that there was no significant relationship between institution location and LMS. Responses were also collected to identify whether institutions required PD prior to LMS introduction in PHEI. The study found that 64.9% lecturers required PD to teach online; 32.3% tutors required to receive PD and 2.8.6% senior lecturer required

Table 4: Means, standard deviations, reliability and inter consistency of measures (n = 317)

Range

Variables	M	SD	a	Min.	Max.
Readiness	19.59	5.04	0.95	5.00	28.00
Planning	10.54	2.72	0.86	2.00	14.00
Implementation	4.99	1.61	1.00	1.00	7.00
Maintenance	18.99	4.80	0.85	4.00	28.00

to receive PD prior to LMS. The data analysis also found that there was no significant relationship between institution types and PD program to facilitate LMS.

Hypothesis 2 focused on to determine whether there is a positive relationship between PD and the use of the principles of RPIM Model. The questions for this section were developed based on the theoretical constructs of RPIM Model. This study of the survey featured 29 questions with 27 of them based on the four different sections of the RPIM. An exploratory factor analysis (Varimax rotation with Kaiser Normalization) was utilized. The "Varimax method maximizes the sum of variances of required loading of the factor matrix" to give a "clearer separation of the factors" (Hair *et al.*, 1998). The purpose of using factor analysis purpose was to identify if they were valid measures of the factors in RPIM Model. Since, the hypothesis predicted a positive relationship between the availability of PD to facilitate LMS and the use of RPIM Model, bivariate correlational analysis was used to examine all four variables. The Pearson correlation was used because the data included interval variables. Table 4 contains the means and standard deviations for each of the variables.

Table 5 contains the results of the bivariate correlational analysis. It demonstrates there is a significant relationship between the application of variables, the highest availability of PD were (r = 0.442, p = 0.000 (p<0.05)). Based on the questions in the survey, this suggests that institutions have been taking steps to provide the PD in the form of planning and implementation of PD program. All these forms of support provide a direction to the educators relative to the institutions. In the areas of readiness and maintenance, PHEI is not doing as well planning and implementation, with r = 0.124 and 0.163 with p>0.05 (0.604 and 0.170), respectively. The educators were emphasised more on planning and implementation of PD program assuming PD have a relatively high level with readiness and maintenance of PD programs. The results could conclude that institutions were minimally concerned with readiness and maintenance of PD offerings to facilitate LMS. Table 5 also shows the factor analysis yielded a strong relationship between the overall general availability of the RPIM Model in providing PD programs to facilitate LMS.

Table 5: Correlational analysis of RPIM Model

Parameters	Readiness	Planning	Impleme ntation	Maintenance	RPIMv
Pearson correlation r	0.124	0.435**	0.402**	0.163	0.442**
Sig. (2-tailed)	0.604	0.000	0.000	0.170	0.000

**Correlation is significant at the 0.01 level (2-tailed)

With r = 0.442 and p = 0.000 (p<0.05), the null hypothesis for independence is rejected, demonstrating that there is a positive relationship between the availability of PD and the use of the principles in RPIM Model. The finding of the strong relationship between the institutions offering LMS and using the principles of the RPIM Model is significant. It suggested that institutions recommended to develop PD in corporate with RPIM Model as a guidance.

CONCLUSION

The study attempted for better understanding on how PD programs were supporting educators to use LMS. Two hypotheses were tested. The second hypothesis was highly dependent on the successful outcome of the first hypothesis. Since, both null hypotheses were rejected, it can be deduced that for hypothesis 1, there is a positive relationship between the offering of LMS and PD programs. The acceptance of hypothesis 2 indicates that there is also a positive relationship between institutions offering LMS and the adoption of mechanisms consistent with PD using the RPIM Model. It is important to note that there is a significant correlation between institutions offering PD to facilitate LMS and utilizing the RPIM Model, there are in fact specific areas which are readiness and maintenance within the RPIM Model that institutions are lacking. This provided an opportunity for PHEIs to determine the successful pathways of PD programs by knowing the factors that may influence LMS with RPIM Model.

RECOMMENDATIONS

This study contributes to the body of knowledge of PD in facilitating E-learning technologies in institutions of private higher education with a theoretical model that has introduced a new construct that is relevant to the complex and rich environment of E-learning. This study confirmed the significance of this RPIM Model in this setting. However to further improve upon this model in the future is needed. This study also to identify specific opportunities for institutions to further improve PD on facilitating LMS, it merely addresses a few of the several questions relating to what is necessary to improve. Further, research can be in the area of motivations of educators to participate in PD and a change management

that yields behavioural changes in educators. The findings provide a specific starting point for institutions to consider what and how they are going to continue to support E-learning with PD. These findings could possibly shape and steer future of PD efforts at some institutions as well as further research in the E-learning. At the very least, the findings provide a closer look at how institutions are working to support excellence in LMS.

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