e-Learning in Malaysian Institutions of Higher Learning:

Status, Trends and Challenges

Mohamed Amin Embi

Universiti Kebangsaan Malaysia

Abstract

Since e-Learning is one of the Critical Agenda Projects (CAPs) and a National Key Result Area (NKRA) of the Malaysian Ministry of Higher Education (MOHE), a comprehensive study on the implementation of e-Learning in institutions of higher learning (IHLs) was recently conducted and funded by MOHE. This keynote will highlight key findings of this nation-wide study aimed at exploring the status, trends and challenges of e-Learning implementation in Malaysian IHLs. A total of 26 e-Learning administrators, 1,635 lecturers, and 6,301 students from selected Malaysian IHLs were involved as respondents. Data were obtained from the Malaysian IHL e-Learning Questionnaire or MIeLQ (IT Manager) which contains 74 items, the MIeLQ (Instructor) which contains 35 items, and the MIeLQ (Students) which contains 20 items. The main aspects investigated include: (i) policy, ii) governance, iii) Learning Management System (LMS), iv) training, (v) e-Content development, and (vi) integration of e-Learning in teaching and learning. Findings will be presented in terms of a) status, b) trends, and c) challenges of e-Learning implementation in Malaysian IHLs.

Introduction

The National Higher Education Strategic Plan (PSPTN), Ministry of Higher Education (MOHE), is a document that translates the direction of national higher education for the future that focuses on the development of quality human and intellectual capital. This is to realize the country's aspirations to become a developed, prosperous, and competitive nation. To ensure that the implementation of PSPTN is according to the set phases, the Ministry of Higher Education (MOHE) has developed 21 Critical Agenda Projects or CAPs. Each of these CAPs has strategic objectives, indicators, and targets to be achieved through various planned activities. These activities must be executed either at the Ministry level or at the agency level, including all agencies under MOHE, which includes all Institutions of Higher Learning (IHLs). As e-Learning has been identified as one of the Critical Agenda Projects (CAPs) and a Key Result Area (KRA) of MOHE, a comprehensive study on the status, trends, and challenges of e-Learning implementation in IHLs was conducted and funded by MOHE (Mohamed Amin Embi, 2011). Apart from achieving the targets of the e-Learning CAPs, this study is undertaken because although e-Learning has been used in Malaysian IHLs as early as the year 2000, there has been no comprehensive study on the implementation of e-Learning in Malaysian IHLs.

Nation-Wide Study on e-Learning Implementation

The study was a survey method using online questionnaires. The samples involved e-Learning administrators, lecturers and students from 26 Malaysian IHLs, comprising of 20 public IHLs, 3 private IHLs and 3 polytechnics. A total of three sets of questionnaire were developed and used for this study. They are i) instrument for e-Learning administrators called the Malaysian IHLs e-Learning Questionnaire (IT Manager) or MIeLQ (M) containing 74 items, ii) instrument for lecturers called the Malaysian IHLs e-Learning Questionnaire (Instructor) or MIeLQ (I) containing 35 items, and iii) instrument for students called the Malaysian IHLs e-Learning Questionnaire (Students) or MIeLQ (S) containing 20 items ((Mohamed Amin Embi, 2010; 2011). All instruments were made available online using the services of SurveyMonkey (www. surveymonkey.com). A total of 10,019 respondents filled out all three online questionnaires. However, only 7,962 responses (90%) were selected for analysis because 2,057 responses were incomplete. A total of 26 respondents (90%) completed the online questionnaire for e-Learning administrators. The number of respondents who completed the online questionnaire for lecturers were 1,635 (65%), while 862 lecturers did not complete the questionnaire. For students, a total of 6,301 (85%) completed the online questionnaire compared to a total of 1,192 who did not complete it.

Status of e-Learning Implementation in Malaysian IHLs

e-Learning Policy

Data obtained from the sample of academic staff showed some interesting findings. First, 80% of the sample surveyed indicated that e-Learning policies existed in their respective institutions. Of these, most (92.5%) indicated that they were aware and knew about the e-Learning policy in their respective institutions. According to them, information about the policy was mainly obtained from institutional websites (58%), circulars (57.4%), and formal training programmes conducted by their respective institutions. In terms of compliance with the e-Learning policy, the data showed that 30.6% of academic staff complied with the policy fully, while 58.7% complied with some parts of the policy. This shows that academic staffs were not only aware of the existence of an e-Learning policy, but also carried out the e-Learning process in accordance with the guidelines set by the policy. Out of the 26 IHLs involved in the study, only 38.5% or 10 IHLs have formulated and adopted the e-Learning policies. The remaining 61.5% or 16 IHLs still do not have any e-Learning policies. For the IHLs having e-Learning policies, only the top management and representatives of the faculties/centres/departments were involved in formulating these policies. The data showed that none of the IHLs involved students and outsiders in the formulation of their e-Learning policies, who, by right, have vested interest in the implementation of these policies. The data also showed that in most cases, the e-Learning policies were approved by the Senate (60%) or the top management such as the Board of Council (40%). In terms of the methods used to disseminate and inform the institution community about the e-Learning policy, data showed that formal training programmes recorded the highest percentage (80%) followed by using the institution's website (70%). Other methods include circulars or memos (60%), booklets or guidebooks (60%), and induction programmes (40%).

Governance of e-Learning

In terms of e-Learning governance, only five IHLs (19.2%) did not have a dedicated centre/ division/department/unit specifically to manage the implementation of e-Learning in their

respective institutions. Typically, e-Learning governance is placed under the Information Technology Centre (61.5%) followed by the Academic Development Centre (38.5%) and the Centre for Teaching and Learning (34.5%) of the respective institutions. Only seven IHLs (26.9%) had e-Learning Centres that function as a formal governance structure for the planning and implementation of e-Learning. Two IHLs placed governance under the responsibility of the faculties, while one HEI placed it under the responsibility of the e-Learning committee of the institution. Interestingly, almost half of the IHLs (42.5%) make the e-Learning coordinators accountable for the management of e-Learning, while 23.1% of the IHLs gave the responsibility to their respective Director of the Information Technology Centre. In addition, almost all IHLs (80.8%) had e-Learning committees at their respective institutions. The data specifically shows that only half of the IHLs (57.7%) in Malaysia have allocated their annual budget to manage e-Learning. The main components that make up the annual e-Learning budget are training and software such as LMS development tools (93.3%), followed by the acquisition of hardware and provision for the physical infrastructure (66.7%). The benchmarking and consultancy components are allocated the least amount of budget.

Learning Management System (LMS)

Data shows that all (100%) 26 IHLs involved in this study already have an LMS. Most (57.7%) are using Open Source platforms, while 34.6% purchased commercial LMS and 15.4% developed their own. The data shows that 12 IHLs are using Moodle, while two are using the Claroline platform. In addition, six IHLs purchased their LMS from local vendors, while two IHLs purchased Blackboard, an international commercial LMS. Half (50%) of the IHLs involved have been using their LMS since more than three years, 30% for between one and three years, and 19.2% have been using it since less than a year. In terms of the major LMS components, all IHLs have the common LMS applications normally found in a standard LMS. The most widely used applications are Communications (96.2%), Course Delivery (96.2%), Productivity (88.5%), Content Development (80.8%), and Administration (73.1%). However, only a few of the IHLs (65.4%) had LMS features that encourage students' involvement, such as Groupwork and Portfolio. In terms of integration of the LMS with existing information systems, only 65.4% are integrated with the Student Information System and only 61.5% are integrated with the Staff Information System. Other than that, only four IHLs (15.4%) integrated their LMS with the Library Information Systems and only two IHLs (7.7%) integrated it with their Financial Information Systems. Almost three quarters (73.1%) of the LMS available in Malaysian IHLs complied with the SCORM standards. In addition, more than half (53.8%) IHLs previously had a different LMS, but migrated to a new platform mainly because the new system was more cost effective.

e-Learning Training

Data shows that all IHLs involved in this study conduct e-Learning training for their academic staff. However, only 69.2% or 18 IHLs conduct training for support staff and 50% of the IHLs conduct e-Learning training for their students. From the perspective of the contents of training conducted, content is usually focused on making staff skilled in using the applications available in the LMS (96.2%) and introduction to e-Learning (84.6%). Some of the IHLs offer training related to e-Learning pedagogy (57.7%) and e-Content development (53.8%). In addition, only one-third of IHLs (34.6%) included Web 2.0 applications in their e-Learning training for their teaching staff. With regard to e-Learning training, the study

found that the majority of the IHLs (84.6%) provide e-Learning training as part of their academic staff training and development programmes in their respective institutions. In addition, 11 IHLs conduct e-Learning training 1 to 3 times a year (42.3%), 9 IHLs conduct training more than 6 times a year (34.9%), while 6 IHLs conduct training 4 to 6 times a year (23.1%). Majority of training (73.1%) was conducted in one day, while only a small proportion (26.9%) of training was conducted in more than one day. The main mode of training is face-to-face (92.3%) followed by the *blended* mode (42.3%) and *on-demand* (34.6%). The percentage of *fully online* (11.5%) and *CD-based* (7.7%) training is very small. Only 6 IHLs (23.1%) make e-Learning training mandatory for all academic staff; while 7 IHLs (26.7%) make it mandatory for new staff only. Half of the IHLs surveyed carried out their e-Learning training on a voluntary basis. The study showed that e-Learning training is usually conducted by internal trainers (100%); however, there are several institutions that invited outside consultants (34.6%) to conduct some of the e-Learning training programmes. None of the IHLs used the services of foreign consultants for their e-Learning training programs. Typically, the internal trainers have attended TOT (Training of Trainers) programmes related to e-Learning (73.1%), attended workshops/seminars on e-Learning at the national and international levels (42.3%) and/or have Ph.D. qualifications. There are also trainers (23.1%) who obtained relevant e-Learning skills through self-study.

e-Content Development

Data shows that only half (50%) of the IHLs involved in this study have a dedicated centre/ department/unit to manage e-Content development. Generally, the main strategy (92.3%) adopted by most Malaysian IHLs was to establish a collaboration between these dedicated units with subject matter experts who were the lecturers. The main applications used for e-Content development were *Flash* (92.3%), followed by *Articulate* (46.3%), Adobe Captivate (38.3%), *Camtasia Studio* (30.8%), *Lecture Maker* (15.4%), and *Raptivity Interactive Builder* (15.4%). In addition to lecturers or subject matter experts (92.3%), graphic designers (84.6%) and multimedia developers (84.6%) were the main groups of people involved in the development of e-content. Technical advice and consultancy form the bulk of the support facilities provided by the IHLs (84.6%) for lecturers who wish to develop e-Content. Other major forms of support are in the form of equipment/ authoring software (76.9%) and training on the development of e-Content (69.2%). So far, only one (7.7%) Malaysian IHL provides e-Content development grants to academic staff. Out of the 13 IHLs which have a dedicated centre responsible for the development of e-Content, only 6 (46.2%) provide incentives for lecturers to develop their own e-Content. Out of these six IHLs, four provide incentives in the form of awards, three in the form of honorarium, and two in the form of reduced teaching load.

e-Learning Integration into Teaching & Learning

In general, from the 26 IHLs surveyed, 42.3% or 11 IHLs offered more than 50% of their courses online. A total of 15.4% or four IHLs offer 0–10% courses online, 11.5% or three IHLs offer 11–20% courses online, 11.5% or three IHLs offer 21–30% courses online, 11.5% or three IHLs offer 31–40% courses online, while 7.7% or two IHLs offer 41–50% courses online. The most popular e-Learning mode among the IHLs is the supplementary to face-to-face mode, followed by the *blended learning* mode.

Trends on e-Learning Implementation in Malaysian IHLs

e-Learning Policy

Data shows that almost all IHLs (90%) which already had e-Learning policies have their own implementation plans. Out of all the IHLs which had e-Learning policies, 70% make the use of e-Learning compulsory among their lecturers and students. Nearly half of the IHLs (40%) had implemented their e-Learning policies in more than three years or between one to three years, while only two IHLs (20%) had implemented their e-Learning policies in less than a year. Data showed that the least mentioned components in e-Learning policies were incentives, awards, and quality assurance. For most of the IHLs involved in this study (90%), e-Learning policies have been made part of their strategic plans, while 70% make the e-Learning agenda a part of their KPIs. Out of the 10 IHLs having e-Learning policies, 4 do not have clear e-Learning policy implementation plans. In terms of e-Learning policy awareness, among the 10 IHLs with e-Learning policies, the e-Learning administrators believe that the level of awareness among the academic staff in their respective institutions is satisfactory. Six IHLs pointed out that the level of their e-Learning policy awareness among the academic staff was in the range of 76–100%; one HEI was in the range of 51–75%; three IHLs were at the 26–50% range, and the remaining four IHLs had the lowest level of awareness, i.e. 0-25%. In terms of success in implementing e-Learning, the data shows satisfactory results. The figure shows that eight IHLs have successfully implemented their e-Learning plans, each achieving a success level of 51–100%, while 12 out of 20 IHLs stated a success level between 0 to 50% only so far. In general, support from top management, faculty/school/department, and students was at the 76–100% level, while support from the lecturers were at the 25–50% level. This shows that the support from lecturers is less compared to the other stakeholders.

e-Learning Governance

In terms of the effectiveness of existing governance, only half of the sample of administrators involved in this study (50%) believes that their institution has an effective governance structure. In addition, only half of the e-Learning administrators (57.7%) think that their institutions have adequate facilities for the implementation of effective e-Learning. However, most e-Learning administrators (65.4%) believe that representatives at the faculty/school/department level are playing an effective role in encouraging the use of e-Learning in IHLs.

Learning Management System (LMS)

According to the e-Learning administrators involved in this study, in terms of the effectiveness of the LMS, on an average, most of the features such as *accessibility* (61.5%%), *reliability* (57.7%), *user friendliness* (57.7%), *security* (57.7%), *flexibility* (53.8%), and *scalability* (53.8%) are performing well. However, the integration of LMS with other systems is at a moderate level (42.3%). Most of the academic staff and students involved in this study also agreed that their LMS are performing well in terms of effectiveness. There are a few LMS trends obtained from the 1,635 lecturers and 6,301 students who participated in this study. Data shows that the majority of the lecturers (77.%) are using the LMS provided by

their respective institutions. As far as the breakdown of other tools used by lecturers who do not utilized LMS provided by their institutions, main applications employed are content *sharing tools* such as *Slideshare* (36.9%) followed by *social networking* tools such as *Facebook* (26.7%) and *photo/video sharing* like Youtube (24.3%). This is quite different from the applications used by lecturers to complement the LMS provided by their institutions, whereby social networking is the favourite (45.7%), followed by communication applications such as Yahoo (35.4%) and content sharing (32.8%). According to the students, the most widely used applications used by lecturers as alternatives to the LMS are *content sharing* (45.3%), *photo/video sharing* (37%), and *social networking* (36.8 %). In terms of the trends in LMS usage, the main features of the LMS most used by lecturers were *course delivery* (65.3%), *content development* (58.8%), and *communications* (45.3%). In terms of frequency of accessing the LMS, the data shows that most lecturers access their LMS once a week (30.8%), followed by those who access it once daily (21.5%), and those who access it several times a day (18.5%). The number of lecturers who do not access the LMS at all was very small, only 8.1%. The LMS features most frequently used by lecturers during a semester was *email* (34.6%), while frequently used features included *course management* (38.3%), *content sharing* (33.8%), *course templates* (33.4%), and *assessment* (32.5%). However, the student data shows that the LMS features often used by students were *searching within course* (40.1%), *assessment* (39.7%), and *course management* (39.1%). The LMS features most beneficial to teaching were *email* (61.3%), *course management* (56.7%), *content sharing* (52.2%), and *assessment* (45%). The features most beneficial to student learning were *assessment* (55%), *email* (54.2%), *course management* (52.8%), and *content sharing* (36.6%) as ranked by the students involved in this study. When asked about the usefulness of the LMS components, lecturers and students involved in this study equally believed that all components were useful except for *chat* and *bookmarking*. Finally, when asked about the online activities they were most interested in, students chose *self-directed learning* (66.3%), c*ollaborative assignment* (57.9%), and *interactive quizzes* (57.8%) more than *forum/chat* (49.4%).

e-Learning Training

In terms of e-Learning training given to academic staff, the study showed that more than half of the IHLs involved in this study have conducted e-Learning training for their respective academic staff. However, 5 IHLs indicated that only 11% – 35% of their academic staff have been trained, 5 IHLs indicated less than 10%, while the majority of the IHLs indicated that 36%–50% of their academic staff have followed a training programme related to e-Learning. Only 57.7% or 15 IHLs offer follow-up programmes after the e-Learning training sessions, while 30.8% or 8 IHLs make attendance to e-Learning training part of the annual appraisal for academic staff. From the 1,635 lecturer sample who participated in this study, almost two-thirds (65.7%) had undergone e-Learning training in the last two years in their respective institutions. In addition, a majority of them (77.3%) indicated that the e-Learning training was either effective or very effective. As mentioned earlier, the main mode of training preferred by the lecturers is the face-to-face mode (45.1%) followed by the *blended* method (26.5%). The percentage of lecturers who are keen on *fully online* training mode (13%), *CD-based* (7.6%), and *on demand* mode (6.3%) is very small. Aspects or topics of interest to lecturers are online assessment (67.7%), e-Content development (56.5%), content management (55.3%), and pedagogy related to e-Learning (38.3%). In terms of applying the knowledge and skills gained during the e-Learning training, most of the lecturers (72.6%) felt that they have successfully applied it in their teaching. Only a small portion of lecturers (14.6%) felt that they managed to apply all the knowledge and skills learned, while 12.8%

stated that they did not have the opportunity to apply what they learned during the e-Learning training.

e-Content Development

Data shows that in general, the online materials can be accessed easily in the majority of IHLs (69.2%), while in six IHLs (23.1%) it can be accessed very easily. In terms of *compatibility*, 69.2% were *compatible,* 23.1% were *very compatible,* while 7.7% were *moderately compatible.* In terms of interactivity of the online materials, only 3.8% were very interactive, 34.6% were interactive, 50% were moderately interactive, and 11.5% were not interactive. Data on e-Content development obtained from the 1,635 lecturers surveyed that only 17.1% lecturers believed that they were not competent to develop e-Content. Half of them (50.4%) felt that they are moderately competent; 27.8%, competent; and 4.6%, very competent. A total of 1,438 lecturers or 88% believed that they should be involved in the development of e-Content. Secondly, the survey shows that the main support needed to develop e-Content was technical support (77.3%). This is followed by authoring software (72.1%), e-Content development grants (57.4%), and recording studio facility.

e-Learning Integration into Teaching & Learning

Data shows that the percentage of *blended* courses offered by lecturers is between 1–80%, while the percentage of online courses taken by students is 81–100% (27.3%). When asked whether there was an increase in e-Learning activities in the past two years, the majority of lecturers (73.5%) agreed. Data also shows that most students access the online courses that they are taking once a week (37.7%), followed by those who access it once daily (29.6%), and those who access it several times a day (17.6%). The number of students who do not access their online courses at all is very little, only 2.1%. Most students access their online courses from the hostel (71.4%), followed by those who access it the computer laboratory (50.2%), and those who access it from home (46.9%). Most of them access online courses using their own laptops (94.2%), and 63.7% of them use the campus wireless network as the main mode of access to the online courses. The data showed that only 13.8% lecturers provide more than 80% online learning materials. Most of the lecturers (79.1%) provide between 1–80% online learning materials. The main file formats provided by lecturers and downloaded by students were common file types such as *pdf, ppt, doc,* and *xls* (96.8%). Multimedia files provided are very few (21.3%). In terms of how the learning materials were uploaded by the lecturer, data shows that the majority of lecturers (50.1%) preferred to upload materials on a weekly basis before classes begin. This method is found to be the most preferred by students (44.6%). However, most students (84.7%) prefer to read the materials *offline* rather than online. In terms of online assessments, 40.3% of lecturers do not conduct assessments online, while 28.2% conduct 0–10% conduct assessments online, and 17.2% conduct 11–20% assessments online. Only 14.3% lecturers conduct more than 20% assessments online. Data shows that for most students (30.9%), only 11–20% of their courses include online assessments. For 26% of them, 0–10% of their course assessments are conducted online, while for another 26%, over 20% of their course assessments are conducted online. Tthe majority of lecturers (93.4%) believe that the integration of e-Learning in their courses have benefited the students, while 88.5% believe that the use of e-Learning has a positive impact on their students' performance. About half of the number of lecturers (52.4%) are of the view that the integration of e-Learning in their institutions are at

the moderate level, while more than half of the number of students (56.8%) believed the same.

Problems & Challenges of e-Learning Implementation in Malaysian IHLs

The main challenges related to the governance of e-Learning (Zaidan Abdul Razak et al., 2011) are the shortage of manpower (84.5%) and the lack of incentives for those involved in implementing e-Learning in IHLs (69.2%). In addition, other challenges encountered in relation to the governance of e-Learning are the lack of a clear e-Learning policy (61.5%), the absence of a clear governance structure (50%), and the lack of a clear line of responsibility on the task of planning and implementing e-Learning (42.3%). Seven IHLs (26.9%) felt that the absence of a dedicated e-Learning centre/unit/department is one of the main challenges. Only three IHLs (11.5%) are of the view that the main challenge is the lack of support from top management.

The main challenge faced by IHLs (88.9%) in relation to the utilisation of the LMS by academic staff was complacent with the current teaching practices (Afendi Hamat et al., 2011). Nearly two thirds of IHLs faced the problem of staff not being well versed in IT (69.2%), academic staff too busy with research and publication (65.4%), academic staff burdened with heavy teaching load (65.4%), and staff sceptical of e-Learning (64.5%). Only three IHLs (11.5%) felt that the major challenge in the use of LMS was the tendency towards open-source platforms. In addition, only two IHLs felt that the major challenges in the use of LMS were that the existing LMS was not user-friendly and the lack of training related to the LMS. The main reasons given by the sample of lecturers who did not use the LMS provided by their respective institutions include lack of training (37.4%), lack of time (36.15%), prefer traditional teaching methods (30.1%), lack of technical support (29.6%), lack of facilities (28.3%), and additional burden to existing teaching load (27%).

In terms of e-Learning training (Supyan Hussin et al., 2011), two key challenges faced by most IHLs involved in this study are moderate levels of motivation among the teaching staff (69.2%) and low attendance during training (53.8%). Other challenges include lack of expert trainers (38.5%), lack of training modules (30.8%), and unsuitable training schedule (30.8%). The findings also indicated that lack of budget and lack of facilities were not major problems in implementing e-Learning training in Malaysian IHLs. In addition, one of the main reasons why most of the lecturers did not attend the e-Learning training conducted by their respective institutions is the inappropriate timing of the training schedule which is usually conducted in the middle of a semester, when they are busy with their teaching duties.

In terms of e-Content development (Abdul Halim Sulaiman et al., 2011), the five major challenges faced by most IHLs were the lack of motivation among academic staff (65.4%), lack of expertise (53.80%), lack of a dedicated team to develop e-Content (53.8%), lack of commitment among the academic staff (46.2%), and lack of funding/budget (46.2%). Surprisingly, support from top management was not the main challenge faced by IHLs in the development of e-Content. There were also IHLs that gave the reasons of 'no policy to encourage staff to develop e-Content' and 'lack of e-Content development staff'. Another problem faced by the majority (80.8%) of Malaysian IHLs in the development of e-Content

was the copyright issue.

Data shows that the two main challenges faced by lecturers in integrating e-Learning in their teaching and learning (Norazah Mohd Nordin et al., 2011) are balancing teaching and research (59.8%) and time constraints (54.9%). Technophobia was the least responsible factor among the challenges faced by lecturers in integrating e-Learning. For students, the challenges they face in the virtual environment are the lack of access (53.4%), lengthy response time from lecturers (42.8%), lack of content (32.7%), time consuming (32.4 %), lack of interesting content (31.3%), and uninteresting content (31.3%), and not like other applications (e.g Facebook) (28.1%). Only 294 students (4.7%) indicated that technophobia is one of the main problems that they faced.

Proposed Improvements and Policy Implications

Based on the summary of findings (Mohamed Amin Embi et al., 2011) on this nation-wide study, a number of policy implications (Hanafi Atan et al., 2011) and improvements were suggested based on the six main areas investigated.

e-Learning Policies

i.   MOHE should provide a mechanism, to ensure that all IHLs that presently do not have a policy, to formulate their e-Learning policies and implement it.
ii. The role of MOHE is essential in providing a complete set of guidelines on the formulation of a comprehensive policy that involves all *stakeholders* to be adopted by IHLs that have yet to formulate their policies.
iii. MOHE should coordinate the development of e-Learning policies for those IHLs that are yet to develop their own policies and make the implementation of e-Learning a benchmark for the success of an IHL.
iv. The establishment of a National Institute of e-Learning under the auspices of MOHE is the best move in providing guidelines for the formulation of e-Learning policies and to coordinate and monitor its implementation.

e-Learning Governance

i.   For a sound governance structure that has clear roles and responsibilities defined in accordance with the appropriate governance hierarchy, MOHE should implement a policy that all IHLs using e-Learning should establish their own e-Learning governance structure.
ii. Ongoing training for new or existing staff should continuously be monitored, whether conducted by the IHLs themselves or those provided by AKEPT.
iii. AKEPT should be sensitive to the training needs of IHLs and should provide relevant training programmes continuously. This will enable the staff of IHLs to be exposed to the e-Learning governance and the latest best practices in e-Learning technology.
iv. MOHE, AKEPT, and each IHL are suggested to prioritize the e-Learning budget to ensure that all IHLs in Malaysia can compete at the global level.

Learning Management Systems (LMS)

i.   Each IHL should reflect on the sustainability of their systems including the LMS because teaching and learning is a *core business* for any institution of higher learning.
ii. e-Learning in Malaysian IHLs, as supported by the LMS, is still focused on the mechanical aspects of learning, such as content delivery and assessment. The challenge that must be addressed as the next step is to make existing systems to drive and support the more important aspects such as creative learning and knowledge management.
iii. MOHE can play a role in coordinating the development, enhancement, and management of resources with respect to the LMS for use in IHLs in Malaysia. This will enable more effective centralised resources for use by Malaysian IHLs.

e-Learning Training

i.   The management team of IHLs should be exposed to new technologies such as Web 2.0, Web 3.0, Web 4.0, and mobile technologies, as well as upgrading the existing LMS according to the latest learning technologies.
ii. The training schedule implemented by each IHL must be flexible to ensure that more staff can be trained, and at the same time, the training does not affect their teaching duties.
iii. The management team of IHLs is encouraged to give recognition or incentives to motivate staff to continue to integrate the latest technologies in e-Learning. In particular, staffs who are qualified to be in-house e-Learning trainers should be awarded certificates, diplomas, or degrees in accordance with their expertise.
iv. Specialized training on e-Learning pedagogy should be increased because the e-Learning pedagogy aspect is an important training component in ensuring the success and effectiveness of e-Learning in IHLs.
v.   MOHE should have a policy for e-Learning to guide the coordination of training in all IHLs. With this policy, aspects of training will be better designed to take into account the short, medium, and long term needs and demands.
vi. More structured training programmes, an annual training budget, support centres, human capital development, incentives and motivation, continuous infrastructure improvements, and a strong integration with the curriculum should be enhanced from time to time in IHLs.

e-Content Development

i.   For those IHLs that have a dedicated centre for the development of e-Content, a clear policy, especially in terms of incentives, needs to be formulated since the establishment of these centres involve high costs, particularly in terms of equipment, software, and human resources.
ii. Lecturers wished that IHLs would provide technical support, including training, in order to facilitate the development of e-Content. Thus, incentives should be provided, such as giving awards or honorarium to the lecturers who have developed the best e-Content.
iii. Since most IHLs offer common university courses, the e-Content for these courses can be developed jointly by a centre under the Ministry of Higher Education. This is a more efficient use of resources, time, money, and manpower, while maintaining an acceptable level of quality. This is in line with the efforts of several leading universities in the world that provide *'open courseware'* which can be accessed freely by anyone.
iv. A clear policy about the copyright issue at the ministry level should be formulated as lecturers are reluctant to develop or share e-Content, especially if their efforts are not recognised or compensated accordingly.

e-Learning Integration in Teaching & Learning

i. Each IHL should enhance and stimulate e-Learning activities in their respective institutions as the integration of e-Learning is an inevitable trend for the digital generation.

ii. MOHE is recommended to offer more opportunities for IHLs to continue to conduct research to enhance e-Learning activities in line with global technologies by providing funds for potential research.

iii. As for AKEPT, e-Learning training should be intensified for the same purpose. AKEPT should also provide budget to fund potential workshops at IHLs.

iv. Each IHL should strenghten its their digital infrastructure throughout the campus. The enhancement of broadband facilities should be considered seriously, and ICT services should be systematically monitored.

References

Abdul Halim Sulaiman, Mohamed Amin Embi & Afendi Hamat. 2011. e-Content Development in Malaysian Higher Education Institutions. In Mohamed Amin Embi (Eds.), e-Learning in Malaysian Higher Education Institutions, 67-79.

Afendi Hamat, Mohamed Amin Embi & Abdul Halim Sulaiman. 2011. Learning Management Systems im Malaysian Higher Education Institutions. In Mohamed Amin Embi (Eds.), e-Learning in Malaysian Higher Education Institutions, 30-50.

Hanafi Atan, Mohamed Amin Embi & Supyan Hussin. 2011. e-Learning Policy in Malaysian Higher Education Institutions. In Mohamed Amin Embi (Eds.), e-Learning in Malaysian Higher Education Institutions, 5-18.

Mohamed Amin Embi. (Pynt.) 2010. Amalan, Keberkesanan & Cabaran Pelaksanaan e-Pembelajaran di IPT Malaysia. Klang: Kementerian Pengajian Tinggi Malaysia.

Mohamed Amin Embi. (Ed.) 2011. e-Learning in Malaysian Higher Education Institutions. Klang: Ministry of Higher Education, Malaysia.

Mohamed Amin Embi & Mohd Najib Adun. (Pynt.) 2010. e-Pembelajaran di IPTA Malaysia. Klang: Kementerian Pengajian Tinggi Malaysia.

Mohamed Amin Embi, Hanafi Atan & Afendi Hamat. 2011. Summary of Findings on the Status, Trends & Challenges of e-Learning Implementation. In Mohamed Amin Embi (Eds.), e-Learning in Malaysian Higher Education Institutions, 107-115.

Norazah Mohd Nordin, Mohamed Amin Embi & Zaidan Abdul Wahab. 2011.. In Mohamed Amin Embi (Eds.), e-Learning in Malaysian Higher Education Institutions, 107-115.

Supyan Hussin, Mohamed Amin Embi & Hanafi Atan. 2011. e-Learning Training in Malaysian Institutions of Higher Learning. In Mohamed Amin Embi (Eds.), e-Learning in Malaysian Higher Education Institutions, 51-66.

Zaidan Abdul Razak, Mohamed Amin Embi & Norazah Mohd Nordin. 2011. e-Learning Governance in Malaysian Higher Education Institutions. In Mohamed Amin Embi (Eds.), e-Learning in Malaysian Higher Education Institutions, 20-27.