MERIT RESEARCH JOURNALS
www.meritresearchjournals.org

Merit Research Journal of Education and Review (ISSN: 2350-2282) Vol. 12(2) pp. 014-023, April, 2024
Available online http://meritresearchjournals.org/er/index.htm

DOI: 10.5281/zenodo.11092071

Original Research Article

Conformity of E-Learning for Teaching and Learning in Ethiopian Higher Education: Analysis on User-Friendliness of E-Resources

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Abstract

The study investigated the practicability of e-learning for teaching and learning in Ethiopian higher education in terms of availability, clarity, accessibility in terms of accommodation and economy. The research looked into the roles of e-provisions based on the country's Information and Communication Technology (ICT) in education policy guidelines as benchmark. Descriptive survey research design was used in the research since the study focused on indicating status than in-depth institution-based analysis of technology-use in education. Two higher institutions were selected for their relative proximity and viability for data collection. Data for the research were collected from 150 students, 4 technical support renderers and 30 teachers. Instruments of data collection were binary mode questionnaires and semi-structured interviews. Findings indicated shortage in a purpose-orientation, weak cross-institutional interchange and low mainstreaming of e-resources for course-provision. Though initiatives were high to use e-resources across lessons, shortage in internet access and prevailing digital divides were common barriers. Selective use of e-learning was witnessed on the part of technical support providers. multiplier effects in sharing experiences were not practiced among the teachers. Purpose-conformity was met on highly individualized bases. inter-institutional experiential exchange was insufficient though there was high emphasis on supporting selected instructional strings.

Keywords: Conformity, Ecological, E-Learning, Higher Education, Teaching-Learning

INTRODUCTION

The world is experiencing the use of e-learning in education, a learning system based on formalized teaching with the help of electronic resources (Singh et al., 2022; Patel, 2016). E-learning also involves facilitation, support and enhancement by information and communication technology which enables people to learn at their own schedule and in all settings regardless of distance (Abed, 2019). More recently, remarkable progresses have been witnessed in the arrangement and allocation of information and communication technology resources in Ethiopian education (Hare 2007). Such an extension is a part of the ICT in Education Implementation Strategy and its corresponding Action Plan aimed at developing Ethiopian national e-education

initiative built on main streams such as Ethiopian National SchoolNet Initiative, the National ICTs in Higher Education Initiative, and the National ICT Education, Training and Awareness Initiative (Hare, 2007).

In support of improved access to sources of academic and research data-bases, provisions far excelling the text-based practices of reference-making and heavy reliance on internet are observed on the part of both students and teachers (Marshall, 2002). Such a provision is also witnessed to be in place in Ethiopian higher educational institutions such as Adama Science and Technology University, where there are ICT pools for reference-making. Internet users perch at a site to browse for documents. However, availability of online resources for all beneficiaries, accessibility, and reasonable use of the resources in a productive manner remain to be points of concern.

It is evident that, technology-based learning undergoes three levels: learning the technology, learning from the technology, and learning with technology (Reeves, 1998). Ecological conformity, in one form, can be ascertained in terms of users' experiential status with respect to the levels of mastery in utilizing the destined technology (Marshall, 2010). While having good know-how of what to do with technology is one aspect, evenness in the provisions of services is the other aspect requiring both support providers and users to be alert on the quantity and quality of its benefits. Availability of resources is wastage when it is not supported by proper distribution and benefits; and benefits cannot be ensured without guidance. The core issue is in earmarking the quality of provision; the function e-learning has in boosting the vested purpose with little divisiveness and minimum wastage. The surrogate mother incident in ICT implementation process gives more impetus to user-alienated service where the expectation and the use go deceptive.

The context of this research is Ethiopian higher education which is based on three major pillars such being academia, research and community-services. In such a tripolarity of pillars, the role of information and communication in general and e-learning provision in particular is indispensable (Yonas, 2019; Moges, 2021). The practical aspect, however, reveals lack of e-learning policy and awareness shortage among the staff (Tadesse, 2015). Yonas investigated success in e-learning models by taking the case of Ethiopian higher education which revealed low quality of institutional support, e-learning service quality, low service quality, teachers' and learners' disinclination and shortage in system-usage. Other researches on Ethiopian e-learning use in education denote that, the implementation process has been facing such challenges as shortage of the necessary hardware (Hirut, 2011; Hare 2007), low speed of internet connectivity, shortage in improved software, power failure, lack of awareness and motivation on the part of users, shortage in training facilities, and relative resistance to change in extending the use. Higher institutions of education may solve such shortages; yet, the conformity within them to use technology-based

learning such as e-Learning is a point that needs deep research.

Supporting this concern, Tamukong (2007) underlines the need to devise policies of due responsiveness to the human and physical ecology in order to curb major difficulties facing ICTs in Africa.

Higher educational institutions in Ethiopia intend to resolve immediate shortages in infrastructure, human resources and access. But, generic implications to the ecological conformity of e-learning to the Ethiopian higher education context appear to be a novel concern due to the fact that, ordinary use of electronic media without good understanding of what it is for and how it works with the respective media can lead to wastage. This study, therefore, focused on investigating ecological conformity of e-learning for teaching and learning in higher Ethiopian higher education in terms of support to both teachers and students, with the rationale to clarify its viability for constructive and transformative teaching and learning. Core questions of concern were the following:

1. How are purposes for the use of e-learning communicated?
2. How is e-learning practiced in meeting the purposes?
3. How does the e-learning situation respond to diversity in use among students and teachers?
4. What are academic and experiential gains and challenges in terms of students' and teachers' practices?

Significance of the Study

This research is thought to be significant for policy makers on e-learning as it applies to the identification of concerns, contents, contexts and implementation strategies. The study will also be significant for teachers in higher educational as it marks issues they should consider to make e-resources the best strategies for affiliating and enhancing learning. Moreover, it will support higher educational institutions to make e-resources conforming both contextually and technically for teaching and learning.

Review of Related Literature

The world of education is characterized by the exchange of knowledge and experiences world over, which is also supported, enhanced and improved by information and communication technologies (Patel, 2016). Formalized

teaching and learning with the help of electronic resources is also at the hem of e-learning (Singh et al., 2022). Research has shown also that, e-learning enhances the extensive roles of enhancing globalization and citizenship, and the bargaining of know-ledge available on the internet as well as the building of

knowledge-based economy (Holmes and Gardner, 2006). Flexible, independent and competent taskforce as well as proactively acting communities is also a part of the integration in the materialization of e-learning.

E-learning, as a system of online learning needs to follow such principles as equality in using resources, helping relationship, avoiding contempt and negative competition, fraternal exchange and interchange, and concern for diversity in gender and age (Besele, 2021). Other principles encompassing fitness for curriculum in intent, content, strategy and follow-up, learner engagement, innovativeness, being possibly assessed and improved in steps, cost-effectiveness and ease for use are also asserted to be essential for e-learning (Anderson & Maccormick, 2005).

Certain challenges are underlined to deter the efficacious use of e-learning. From staff perspectives, the use of e-learning in conformity with the human, environmental, technical and demographic ecology is challenged by factors relating to goal-orientation, users' interests and skills, infrastructural, interruption of electric power supply and shortage in internet (Qashou, 2022).

From students' perspectives, there are challenges pertaining to awareness and understanding, resistance to using the new learning system, influence on the part of the institutions and educators, and possibility in blending e-learning with the near and far social networking (Hujran et al., 2013). Research on South African institutions has shown, further, that weak technical support, lack of internet connectivity, failure to afford the cost of ICT equipment, and students' lack of prior skills to work with the technology were some of the challenges facing e-learning effectiveness even in ICT classrooms (Agbenyegah and Dlamini, 2019).

Aldresti (2023) provides a more comprehensive set of challenges which affect the proper implementation of e-learning, based on studies on higher institutions in Indonesia. The first is the students' dimensions which embraces student frustrating to them when not accessed well, disappointing when connection fails, weak interaction owing to individual focus on online lessons, weak lesson-management owing to insufficient skills and experiences, and failure to maintain lesson-focus. The second is teachers' dimension which includes low lesson-engagement, low guidance provision due to skill shortage, inability to walk with e-learning system owing to shortage in understanding the e-learning platform. Educational dimension is the third area of challenge which unveils weakness in teacher-student and student-student interaction, and focusing on assignments rather than tasks of clarifying lessons and maintaining focus.

The fourth dimension is technological, which underlines challenges in providing training through experts, establishing the techno-culture especially in integrating the e-learning system first with the academic works and processes and then with the community's culture, and failure to adjoin elements of the learning interaction system (teacher-student-classroom). In a consonant manner, Kibuku, Ochieng and Wausi (2020) reviewed challenges of e-learning in Kenya, and came up with challenges pertaining to e-learning theories and policies, ICT infrastructure, demand posed by ever-evolving e-technology, weak technological and pedagogical competencies backed up by loose web of e-tutors' and e-learners' training, budget constraints, negative perceptions on the part of the staff, and lack of collaboration on the part of key stakeholders.

The above reviewed resources clearly marked the references (basics), principles and challenges but did not underline the ecological soundness of the e-learning system with respect to goal-orientation, task-relatedness, learners' diversity, progressive learning and improvement of the system and the outputs. Hence, this research looked into the ecological conformity of e-learning for teaching and learning in Ethiopian higher education, with specific focus on user-friendliness of the resources and the provision system.

METHODOLOGY

Cross-sectional descriptive survey design (Olsen and George, 2004), was used to unveil the status to which e-learning was applied in conformity to teaching and learning with respect to purpose-orientation, focused practices and interchange among users in the teaching-learning situation.

Data for the research were presented in the form of experiential reflection ICT support-renderers, students and teachers were data-providers. Generally, 150 students, 30 teachers and 4 technical support providers were taken as samples. The target students were selected through clustered-random--sampling where school-clusters were identified and randomized samples were taken from the clustered departments.

Generally, three clusters were identified from Adama Science and Technology University from which sample students (n=100) were randomly selected. One department was identified from Hawasa University from which 50 sample students were selected. Samples among teachers were selected through stratified random sampling.

Technical support-providers at institutional ICT centers were selected purposively as per their roles. Instruments of data collection were open-needed questionnaire for students and teachers, and semi-structured interview for technical support providers. Students' questionnaire data were collected first from Adama Science and Technology University; and, then, from Hawassa University. Reference to teacher-based data was made only from ASTU because for the purpose of making target

Table 1. Indicators of Purpose-orientation (Very high to None)

No.	Response Options	Mean
1.	Training on types and relevance of e-resources	2.4
2.	Training on ways (how to) of using e-resources	2.3
3.	Training on skill-based application across streams	3.4
4.	No awareness training at all	4.4
Grand mean		3.11

Table 2. Availability Status Indicator

No.	Response Options	N (%)
1.	Internet services	78(52%)
2.	Educational radio	-
3.	Educational films	11(7%)
4.	Televised lectures	-
5.	Teleconferences	9 (5%)
6.	PowerPoint presentation	52(35%)

reference to the proximate institute for data management. Subsequent data organization and analysis was made statistically in the form of percentage scores and mean score.

RESULTS AND DISCUSSION

This part of the research dealt with purpose-orientation, availability of e-resources, accessibility of resources, conformity to time and team-learning structures, and practical learning spheres.

Students' Questionnaire Responses

Purpose-Orientation

Data in Table 1 above indicates that, purposes of e-learning were not communicated through awareness-raising to the largest extent, as indicated in the highest mean value (M = 4.4). Some respondents indicated that, they had training on types of resources; not on how to use. In that case, it could be said that, there was non-conformity in training between technology types and methodology. According to Nagarjan and Jiji (2010), online educational system (e-learning) has the purpose of equipping users with experiences to handle changes with the changing scenarios, besides facilitating individuals' learning practice and constructive engagement in and out of the classroom. Kanninen (2008) asserts , by far that, e-learning has the purpose to share documents, video and audio, forum for discussion and tools for making different activities that match with students' learning styles. In this regard, e-learning requires students not only know how to get to information but also to construct through synchronous and asynchronous communication for which purpose-conformity is very essential. Anderson and Mccormick (2008) also underline the purpose and principles of e-learning relating to curricular match, inclusive pedagogy, learner engagement and motivation, fitness for learning intent or purpose, and learner agency and autonomy. So, lack of awareness on the purpose of e-learning, as observed in the data, meant lacking access to such essential platforms and principles.

Availability of E-Resources

From data presented in Table-2 above, it could be stated that, internet had the highest availability as marked by 78 (52%) respondents. Higher availability was witnessed of PowerPoint presentation by 52 (35%). Educational radio provisions had no space in the data. Teleconferences (5%) were the comparatively minimal in use were stated as the second non-available resources. Educational radio and films, as the most easily accessed and cost-effective,

were not traced to have been available ((Arulchelvan and Viswanathan, 2006).

It can be stated from the data that, of all the instructional resources listed, internet was most dominantly used. PowerPoint presentation was the other medium in the order, having higher level of availability whereas educational films /videos were the least available. It must be underlined, once more, that though PowerPoint is very expensive and one-way in its provisions. it, still, has a higher rate of availability than educational films or videos. Responses from a lecturer and training coordinator in e- learning center on E-resources indicated the availability issue:

Table 3. Accessibility of E-Resources for Instructional Purposes

No.	E-Resources	Mean
1.	Internet	3.15
2.	Educational radio	2.12
3.	Educational films	2.17
4.	Teleconferences	1.91
5.	Instructional videos	2.10

Table 4. Purposes Given Priority

No.	Response options	No. (%)
1.	Personal communication	7(4.7%)
2.	Individual academic work	112(74.7%)
3.	Cooperative learning	-
4.	Entertainment	10(6.6%)
5.	No targeted purpose	21 (14%)

With sharp distinction between instructional technology and E-learning technology, we provide computer-supported e-lessons on both intranet and internet bases. Such a provision is based on course-area needs where selected chapters viable for e-learning have been selected and training on how to deliver online has been arranged (P-1,C-1).

From the data above, three categories could be formed, for further interpretation. The first point is classification of *e-resources as learning categories* and e-learning categories. While learning technology embraced the whole range of media and technology of instruction, e-learning revolved around computer-based technology of instruction, which could be online or offline. *The second category* of data went to elective provision as per course requirements. *The third category* underwent training on the selected course strings. In this regard, e-learning in the target situation of the higher education teaching and learning has more of a supplemental role than blended (Sife et al., 2007); in that, it largely supports mostly online, where big reliance rests on computer-based lessons. The learning and e-learning category formation appears to have prematurely delimited the scope of e-resource use since e-learning largely embraces electronic lesson-delivery but not with the exception of the other media encompassing and complementing it (Neil, 2014).

Access-Conformity of E-Resources

Data in *Table-3* above denote that, internet was the most accessible electronic medium of learning while teleconferencing was the least. Educational films, Radio and instructional video, with almost equal level of accessibility, stood next to internet. Qualitative data from ICT support unit indicated accessibility in terms of scheduled course segments which were designed for practice of e-learning, as set here below.

A blended e-media utilization exists in terms of adjoining online and face-to-face instruction for selected course units. When the teacher is absent or when students need further references, the online lesson is available to them through modules. Even so, accommodating all needs through such a blending program is a hard task since infrastructures have shortage such that not all students can have access to the online delivery of lessons . (P-2, C-2)

It is indicated in the data above that blending and programmed lesson provision are the two highly stressed means to make e-learning complete and accessibly used. According to Kotrilik and Redmann (2009), every educational program stands on the existing technological bases which it tends to use in due accord. Martinez-Caro

(2009) asserts ease with which e-Resources are accessed to have remarkable effects on the successful utilization of the resources and subsequent construction of knowledge. Mwanguzi and Lin (2012) also stress the need to ensure universal access and usability of online technologies, and reduce educational inequities and frustrations encountered by blind students.

Marshall (2002) specifically presents accessibility of e-Learning resources in terms of equal presentation for students according to their special needs and availability in the required quantity as well as type.

Purpose-Conformity of E-Resources in Learning

As indicated in the above table, majority of the students witnessed their using e-learning resources for individual academic works (74.7%). This denotes that, students did

Table 5. Sufficiency of E-Learning for Role-Based Learning

No.	Response Option	N (%)
1.	Sufficient	18(12%)
2.	Insufficient	116(77%)
3	Non-existent	16 (11%)

Table 6. Extent to which E-Learning Conforms with teaching-learning Practices

No.	Response Options	Mean Values
1.	Goal-orientation	2.2
2.	Objectiveness	**2.48**
3.	Need-relatedness	2.2
4.	Ethicality	2.4
5.	Level of complexity	2.2
6.	Performance conformity	**2.64**
7.	Meaningfulness	**2.82**
8.	Concern diversity in uptake	2.02
9.	Activating self-learning	2.2

not have a cooperative use of e-learning since they largely focused on personal utilization. Although ICT could be used for personal purposes, most progressive trends of learning with technology support cooperative involvement. While entertainment shared higher attention, the use of e-resources for personal communication and hobbies was the least targeted purpose. So, purpose conformity was higher with individual academic work.

Conformity to Cooperative Use

Responses related to experiences target students shared with students in other universities indicated insufficient opportunity to the largest extent (116, 77%). Some of the respondents indicated their having opportunity to a sufficient extent (18. 12%), although the range between sufficiency and insufficiency was very high (Table 5). There were also cases where no such exchange was experienced (16,11%). Regarding institutional experiential share, one of the technical support-renderers asserts as under:

Practices of internet and intranet learning are institution-bound, and there are selective extensions even to course areas. Shortage in computer literacy and power failure make it hard to handle the online lesson-delivery system in a valid manner. Inter-institutional or across-institutional learning ties are not yet developed, and need sharp attention. (P-3).

From the qualitative assertion it could be clear that, e-learning services (both within and between organizations) were bound to institutional procedures. There were also reported cases of skill-shortage and internet failure creating flaws on online lesson-delivery. Inter-institutional and intra-institutional experiential exchanges on e-learning are also not developed in a manner which can be facilitative to e-learning and e-teaching opportunities.

Practice Conformity of E-Learning

As indicated in *Table 6*, visibility and meaningfulness of e-learning had the highest indicator of strength, as denoted by target respondents (m=2.82). Students also

rated relatedness with performance standards to be the other point of strength (m=2.64). Visibility of behavioral objectives and balancing theory and practice saw almost an equal rate of strength (m=2.49 and 2.48 respectively) whereas respecting students' moral stood as the fifth point of strength (m=2.4). Having due directions and diversity was rated the lowest in strength (m=2.02).

Findings Based on Teachers' Experiential Reflections

Teachers' experiential reflections were looked into in relation to the succeeding presentation.

Purpose-Orientation

As indicated in table clarity in purpose articulation was affirmed by majority (53%) of the respondents, and comprehensiveness of purposes was also affirmed by considerably high rate (47%). But, proper communication of purposes was indicated to have been lacking as

denoted in 53 percent of the respondents. Relatedness of e-Learning purpose to users' knowledge was also lacking to the highest (57%) as was also true with relatedness with academia, research and community issues. Numerous literature sources assert that instructional technology needs to have purpose in view without which it remains to be shallower in function. Noeth and Volkov (2004), for instance, underline the purpose of instructional technology to be an enabler to organize learning materials and procedures for students; to play interactive role between school, student and home; help in prioritizing the use of materials; and make possible the facilitation of learning for those with special needs. Purposes in e-technology use must also be diverse (Chapman and Mahlck, 2004). Koller, Harvey and Magnotta (2004) specifically assert that, in postsecondary education, technology-based learning has the purpose for selective course provisions, online learning and blended-learning, besides filling the gap in traditional learning. So, it would have been very essential to consider the e-Learning purpose as well as the setting up of gadgets in the concerned research site. Deep and progressive goal-orientation can also lead to success and constructive engagement (Bala, 2015; Cidral et al., 2020).

Ease of Access to Use E-Resources

It was evident from the data that, while the existing e-Resources saw the highest accommodation in terms of free access (M=3.2.3), diversity in function as with academic, entertainment and social communication was also rated above grand average (M=2.96). Equity in access for all to use was rated the lowest as indicated in the value (M=2.36) and so was relatedness to specific needs of the learners (M=2.7) with resource availability still falling below average, as denoted by respective mean value (m=2.46). From the data provided, it is clear that, though e-resources were complete to the extent they were arranged, they were not equally available to all users owing mainly to personal shortages such as lack of personal skills on the part of users and shortages (uneven possession) of some resources such as personal computers. *Skill-conformity* could be the most grinding factor in that respect since the mere presence of the technical arrangement had no means of pooling the use aspect. Regarding this, Tarhini, Hone and Liu (2013) underline that personal perceptions and skills are grand factors, which could affect efficient use of e-technology in learning. Research findings from Ghana (Arthur-Nyarko and Kariuki, 2019) denoted also that, access to ICT and possibility of using the e-learning resources with continuous power supply had significant effects on the students' learning. Gokah, Gupta and Ndiweni (2015) assert on the basis of their study on schools in Dubai that, with restricted access to e-learning resources, students are likely to adapt technological skills which can support their learning progresses. What mattered most in this research was equity in access among the diverse cohort of users, which requires both policy makers and implementers on site to have sharp and progressive regulatory policies in order to make access to e-learning evenly sufficing.

Conformity to Instructional Activities

The presented data show that, most of the respondents did not use E-resources to prepare notes or reviews (67%). Correspondence with respective fields was also indicated to be to the negative for many (70%). Being up-to-date (67%), correspondence with level of command (53%), and consistency in provision (67%) also saw negative responses from many. From the responses given, it could be inferred that, though the rate varied, the responsiveness of e-technology to teaching and learning was largely negative. E-resources are destined to provide for instructional system with functional aspects (Naidu 2003), and such a provision could be realized when it is related with the users' level of command and when it is up-to-date (Gordon 2014). Perhaps, consistency in provision is also essential for reliable use to be realized (Ehlers et al., 2005). Taking teaching, learning and research as the core activities in higher education. there are associated activities such as instruction and instructional mechanism, learning activities, campus environment and infrastructure, innovations and inter-ventions, a university teacher should involve students in

the learning process through activities aiming to inculcate academic and social skills (Sharma and Kumar, 2018). Field-relatedness, correspondence with learning standard, and consistency in provision are the essential points which most researches did not touch.

Overall Barriers to E-Learning in Instructional Provision

From the data, it could be ascertained that, shortage of internet pools (M=3.5), disorderliness of the use process (3.4), lack of focus on the part of users (M=3.3), shortage of service delivery time (M=3.2) as well as sudden power failure (M=3.2) were barriers to effective e-Learning. From the researcher's very observation, ICT pools in the target universities were concentrated around administration-building, to which effect; it was hard for students in far blocks to get access, especially during the night-time.

Besides that, disorderliness was observed in terms of interest; while some users listened to music or watched films opening them loudly, others were disturbed though reading to make references. No students were observed taking notes. It was only in the library pools that orderly reference making was realized. Lack of clear focus on the part of the users , backed up by clear purpose-orientation and follow-up appears to be the most grinding ache. Moreover, shortage of service-delivery time on the part of destined trainers and technical support providers could be the other pitfall-bearer since such supporters have other roles than the technical.

FINDINGS

In line with the specific questions of the research, discussion of major findings was given as under:

Regarding Purpose-Orientation: By and large, awareness on the purpose and means of using of existing E-resources was very scarce, and there was high rate of focus on utility without purposes clearly identified. In the real sense of the matter, the stages or steps of technology use in lesson-delivery in general and e-learning process in particular should embrace learning the technology (Henry 2005), learning from the technology and learning with the technology (Moeller 1996). Purpose-Orientation could also be pertinently made clearly with respect to building quality performances in line with e-learning maturity model (Marshall 2010).

Practices of E- Learning: As seen from the standpoint of availability and accessibility of e-Resources, internet and PowerPoint presentation covered the grand share, the implication being that, diversification of the use of instructional technology with large scope of utility was not considered well. Further implication could also be that, added to the insufficiency in the internet resources, not having access to complementary resources such as video presentations and audio resources was the other bottleneck to e-Learning practices.

Extracurricular consumptions were also observed where students browsed for documents which had little academic and research values, although students' responses indicated a high rate of academic use.

Cross-Institutional Exchanges and Multiplier Effects: Cross-institutional exchange of knowledge and experiences through eLearning have not developed such that, only lower level practices based on sample lessons were carried along. Though there were intra-institutional introductions on the use of technology, largely based on sample lessons, training given to subject-teachers did not get cross-sectional and vertical footings to reach colleagues and students. So, multiplier effect in experiential transfer was very much minimal. Inter-institutional, exchanges whereby students and teachers could use e-resources online did not get due considerations as well. Due concerns of exchange and interchange are, however, key aspects besides access and timely use of technological resources in education (Gorska, 2016).

CONCLUSIONS

In this research, references were made to e-learning practices in terms of purpose-orientation, breadth and depth of practices and overall challenges on the conformity of e-learning to higher education teaching and learning. As set in the background, ecological conformity of e-Learning was looked into from both physical and mental facility aspects. While *physical facilities* (hardware, techno-ware and software) did not have very much shortage, *mental facilities* (humanware) did get much space as seen in terms of purpose-orientation, methodological induction and cross-institutional experiential exchanges. Major challenges rested in *lack of methodological induction, use of complementary instructional resources*, and *lack of focus on multiplier training exchanges* intra-institutionally and *consistent means of experiential* exchanges inter-institutionally.

RECOMMENDATIONS

The following recommendations have been given to help e-Learning practices to get *workable shape* of consistent nature: *University pedagogic and information technology support and exchange centers* must be reset and re-

established to help delivery of purpose-oriented E-lessons. *Skill-based e-learning training* sessions should be extended by university e-learning centers or ICT for Education Centers to provide skill induction and wide-scale in-staff interchange on multiplier bases. Concerned universities and underlying e-learning centers need to design *large-scale and progressive inter-university exchanges on e-learning and online learning* support among students and teaching staff. As stipulated under the purpose-orientation issue, ICT in general and E-learning *conformity to the pillars, especially teaching and learning activities*, needs to be the priority concern by colleges/faculties and departments.

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