

E-Learning and Faculty Competence: An Analytical Study of IT-Driven Education for Climate-Conscious Sustainable Development

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Abstract:

A learned teacher is the backbone of any education system and is responsible for not only the success of students but also plays an extremely vital role in the growth and expansion of a nation and its economy. Thus, it is extremely important for any teacher to be well equipped with the profound knowledge of the subject she teaches by equipping herself with the highest qualification in the area of her expertise. In the present scenario, it has been felt by institutions, academicians and different stakeholders that in spite of the attainment of highest qualification, the knowledge acquired becomes less effective or stale primarily due to the globalization and incorporation of internet and technology in the education system thus slowing the economic growth. So, to make teaching more effective and students well equipped with hands-on on the skills required in the real time environment, it has become imperative for faculties to undergo Development Programs. This is a survey paper which is going to talk majorly about the immense advantages faculties have of E-platforms and what skills faculties have developed over a period of time and how this adaptation has been instrumental in the economic growth of nation. There will also be mention of drawbacks/limitations.

Keywords – Economic Growth, Information Technology, E-Learning, Pedagogy, Critical Learning,

I. Introduction

It is imperative for teachers to keep upgrading their skills, and knowledge so as to contribute maximum to the growth of their students. This, in turn, improves the quality of education, empowering students with the skills needed for the workforce. A well-trained faculty fosters critical thinking, innovation, and research, all of which are essential for driving economic growth. In fact, most of the teachers undertake higher degrees, certification and courses to keep them abreast to the latest technology of the times. Apart from these approaches, teachers do undertake faculty development program for improving their skills, knowledge, and effectiveness in classes. Undoubtedly, in an ever-evolving global economy, investing in faculty development is key to building a robust educational ecosystem that supports sustainable economic progress.

II. Faculty Development Program

A faculty development program (FDP) is a structured initiative designed to enhance the skills, knowledge, and effectiveness of faculty members in educational institutions. These programs aim to support the professional growth of faculty and improve the overall quality of teaching, research, and service within the academic community. Faculty development programs can be found in various forms, and their specific focus may vary depending on the institution's goals, faculty needs, and the academic disciplines involved. Here are some common elements and objectives associated with faculty development programs:

1. First and foremost merit of FDP is its vital role in improving teaching pedagogy, method of delivery and assessment strategies which ultimately benefits students. Workshops which are integral part of FDP's majorly contribute to it.
2. As per New Education Policy (NEP), institutions must impart quality education which should be outcome-based learning. These FDP's equip teachers with skills and methods to assess students on the learning-based outcomes.
3. FDP's role in sharpening research skills of the academic fraternity cannot be overlooked. It is through their active participation in FDP's that faculty remains abreast to the latest in different fields.

Workshops on Research Methodology, Research grant, and research paper publication etc. greatly cater to the latest in the field of the research.

4. FDP's contribute to the overall development of faculties as apart from academic enrichment, faculty members do get their hands-on effective communication, time management, ethical research, etc. thus assuring high success of the faculty members.
5. Imparting knowledge pertaining to Technology integration in FDP's, helps educators disseminate knowledge more effectively.
6. FDP's are an excellent platform to promote inclusivity in diversity. Faculties are trained on creating a learning environment which thus fostering cultural understanding and harmony.
7. Networking that promotes mentoring and collaborations amongst faculty members is another virtue of FDP's. Networking with people from industry, academia, research etc. further augment the overall learning
1. FDP's ease adaptation of the members of the academic fraternity to the latest in the field thus making them well-prepared for imparting latest in the field and making students industry ready.

III. E-Learning Platforms

Advent in the online learning resources post pandemic has revolutionized the whole education system. Online learning resources refer to courses, webinars, virtual classrooms, and other digital tools through electronic platforms. Flexibility, ease of accessibility, and massive outreach are few of the advantages the E-learning offers. Following are the key features of E-Learning platforms:

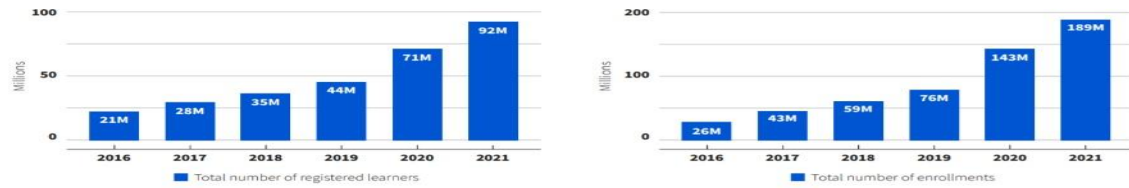
1. E-learning offers creation and delivery of academic content over the internet that any student or learner may access. Content may take the form of any multimedia format i.e. Quiz, Video, Discussion, Images etc.
2. Virtual classrooms that provide a real-time interaction between a learner and educator is another forte of E-learning. There is no barrier of distance, time, duration etc. thus easing discussion, group activities and presentations.
3. Organizations are rigorously switching over to Learning Management Systems (LMS) which are customized solutions for the learning needs of learners. Through LMS, content development, student participation, progress, assessment etc. can be monitored and evaluated.
4. Now with the emergence of a large number of mobile phone users across the world, Mobile learning has also emerged as a game changer. Smartphones and tablets have further eased the whole learning process by providing easy access, flexibility and ease of devices.
5. Numerous adaptive learning strategies are also an integral part of E-learning. Approaches like Gamification, Webinars that make online learning more interactive and beneficial.
6. **Massive Open Online Courses (MOOCs):** MOOC's are massive online learning in the form of courses. These courses are designed by the prominent academicians and institute of international and national repute. Learning through these courses help learners' overcome barrier of distance, admission, high price etc.

As per the recent World Economic Forum reports shown in the fig. above, there is sharp increase in the numbers of learners accessing online learning resources. Year 2016, reported 21 million learners and this number showed an upward trend for coming five years leading to a whopping record of 92 million by the year 2021. What further adds to the vastness of online learning is that this data



More learners are accessing online learning

The demand for online learning on Coursera continues to outpace pre-pandemic levels.



More than 20 million new learners registered for courses in 2021. Image: Coursera

is reported solely from Coursera platform. These figures become more stronger when it comes to total number of enrollments which stood at 189 million as compared to 26 million in the year 2016.



Top 10 countries with the most learners

Learners from around the world come to Coursera to build critical skills.

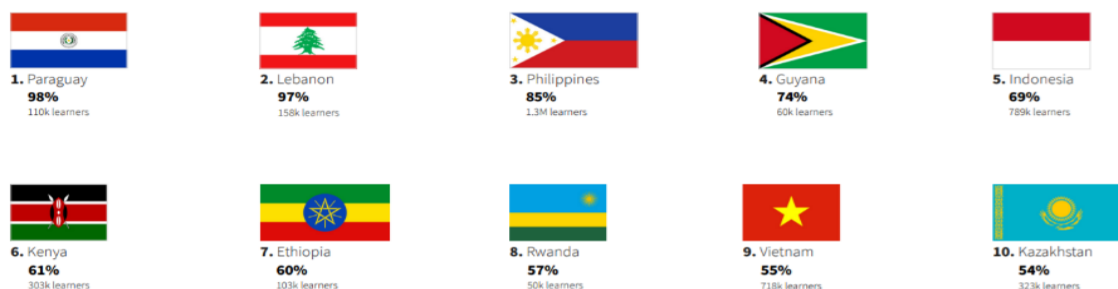


As per the another report by World Economic Forum as shown in the figure above, United States shows very high number of 13.7 million learners who pursued these courses to develop critical skills. India stood 2nd in position with 13.6 million learners who opted for these platforms to develop advance skills.



Top 10 countries by learner growth

Emerging economies reported the highest rate of new learner growth.



Emerging nations are seeing the fastest rate of growth in online learning. Image: Coursera

E-learning platforms have emerged as a strong tool for learning fraternity of students and academicians to empower and equip themselves with the latest and most advanced knowledge in the different fields. E-learning

platforms have given a great boost to learner growth also in context of emerging economies. Countries like Paraguay, Lebanon, Philippines etc. reported 110k, 158 k and 1.3 million learners.

IV. Integration of E-Learning Platforms and Faculty Development

The integration of e-learning platforms into faculty development programs can enhance the effectiveness of professional development initiatives for educators. Here are some ways in which e-learning platforms have successfully integrated into faculty development:

Online Workshops and Training Modules:

Now, faculties can develop and host online workshops and training modules on the e-learning platform. These can cover various aspects of teaching, research, technology integration, and pedagogical approaches.

Provide resources such as video tutorials, e-books, and interactive quizzes to engage students in self-paced learning.

Virtual Faculty Meetings and Collaborative Spaces:

Faculties have effectively learnt to use the e-learning platform for virtual students meetings, collaborative discussions, and knowledge sharing. This fosters a sense of community and allows students to share their knowledge, challenges, and innovative ideas.

Implement discussion forums, chat rooms, or collaborative documents to facilitate ongoing communication and collaboration among students.

E-Learning Certification Programs:

Develop certification programs on the e-learning platform that allow faculty members design courses so as to make students earn credentials in specific areas of expertise. These programs can include assessments, project work, and peer-reviewed assignments.

Offer badges or certificates upon completion to recognize and acknowledge students' achievements.

V. E-learning- Challenges and Limitation

With numerous advantages to its credit, E-Learning does have its share of limitations and challenges. Few of such challenges are:

1. **Restricted Social Interaction:** With no physical connect, face to face meeting and interaction, learners often suffer due to no opportunity to discuss, interact or collaborate with fellow mates.
2. **Less or No Networking Opportunities:** Again due to missing element of face to face interaction, learners do not develop a long lasting bond.
3. **Technological Barriers:** Not all learners have access to devices, gadgets or technology needed for E-learning thus being not able to take advantage of this opportunity. Even, some times academic content is incapable of catering to learning needs of different individuals.
4. **Other Challenges – Lack of Hands-On Experience, Self-Motivation and Discipline, lack of Structure, and personalization, Cheating in assessments, Copied assignments** are few other challenges that make E-Learning ineffective. E-learning often requires students to be more self-directed and disciplined in managing their time and staying motivated. Some students may struggle with the absence of a structured classroom environment

VI. Solutions

There are numerous solutions to the challenges or limitations that arise out of E-learning platform –

- Challenge of limited social interaction can be minimized by incorporating few off-site sessions or one-to-one interaction in the online sessions. Slots may be created where participants need to carry out their

free-flow conversations or discussions thus helping them to connect with others and develop inter-personnel relations with fellow participants.

- An advance planning keeping in mind the time given to all learners to access e-learning platform, easy setups, or advance support before the beginning of the e-learning programs or usage of interesting or easy media can help learners to overcome Technology related barriers.
- Hands-on-experience can be provided to online learners by collaborating with local service providers or industry contacts in different locations.
- It is possible to motivate students by delivering motivational lecture, giving real-time examples of people who succeeded with their self motivation. Connecting students on a personal level and mentoring them will keep them challenged enough to attain professional and academic goals honestly. It will deter them from resorting to cheating or any other unethical practice during the tenure of learning.
- E-learning platform must provide some provision and availability of instructors so that learners can connect to get real time feedback, seek support and improve.

VII. Conclusion

There is no doubt that every new opportunity comes with its own set of benefits and challenges. Similarly, E-learning also has its own USP's and limitations, but by addressing these limitations with careful planning, effective instructional design, and ongoing improvements in technology and pedagogy, we can create a more comprehensive and inclusive e-learning experience for all the learners' across the globe.

In conclusion, e-learning has emerged as a transformative force in the realm of education, acting as an IT-driven catalyst for enhancing faculty competence and fostering economic growth. By providing accessible and flexible learning opportunities, e-learning enables educators to continuously upgrade their skills and stay abreast of technological advancements. This not only enhances the quality of teaching but also equips students with the competencies needed to thrive in a dynamic global economy. The integration of e-learning platforms promotes lifelong learning, encourages innovation, and facilitates collaboration, thereby creating a more skilled workforce. As a result, it plays a pivotal role in driving economic growth by ensuring that educational institutions produce graduates who are adaptable, tech-savvy, and ready to meet the demands of an increasingly digital and competitive world. Ultimately, embracing e-learning can significantly contribute to building a more resilient and prosperous economy, underpinned by a well-prepared, future-ready workforce.

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