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Designing Online Course- Experience of learning to make Learning Student Centred

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Abstract: When the world of knowledge is knocking the doors of Indian Higher Education, it is time to warmly welcome and accept. Where India can be the knowledge generator according to the needs of Indian students, why to just stay back and be the user of the information and knowledge from the foreign land. Following this a study was conducted of designing an online course for undergraduate students of family and community sciences discipline. An experimental study was conducted using pre-post experimental design. Blended learning method was used to teach 95 first year students of faculty of family and community sciences, the Maharaja Sayajirao University of Baroda, Vadodara. The major finding of the study revealed that there was significant difference in gain in knowledge of the students studied through the designed online course.

Keywords: Online course, Higher Education.

I. INTRODUCTION

Higher education is generally understood to cover teaching, research and extension. Higher education is the source or feeder system in all walks of life and therefore supplies the much-needed human resources in management, planning, design, teaching and research. Scientific and technological advancement and economic growth of a country are as dependent on the higher education system as they are on the working class. Higher education also provides opportunities for life- long learning, allowing people to upgrade their knowledge and skills from time to time based on the societal needs (NAAC, 2006). The report of the UNESCO International Commission on Education in the 21st Century titled "Learning: The Treasure Within" (popularly known as Delors Commission) emphasized four pillars of education: learning to know, learning to do, learning to live together and learning to be. While, higher education intends to inculcate all these four in individuals and the society, the report highlighted the following specific functions of higher education too: • To prepare students for research and teaching; • To provide highly specialized training courses adapted to the needs of economic and social life; • To be open to all, so as to cater to the many aspects of lifelong education in the widest sense; and • To promote international cooperation through internationalization of research, technology, networking, and free movement of persons and scientific ideas (UNESCO, 1996).

II. PARADIGM SHIFT FROM TEACHER-CENTERED LEARNING TO STUDENTCENTERED LEARNING

Higher Education plays an important role in contributing to economic development, social progress and political democracy in independent India. Higher education also helps increase wages and productivity that directly enrich individuals and society (Singh,1989). It is the quality of higher education that decides the quality of human resources in a country. Over the years, there has been a tremendous expansion of educational opportunities at all levels, particularly in higher education, and various committees and commissions on education have emphasized directly or indirectly the need for improvement and recognition of quality in Indian higher education system (NAAC, 2006). As per the available reports, two third of the Indian universities are providing sub-standard education while 90% colleges in India are below



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average. Nowadays, students / teachers are running after attaining or providing degrees and there is no concern for gaining knowledge and wisdom thereby making most of the institutions a factory of degrees only. Attendance has dropped drastically in most of the institutions and class room teaching has become only a ritual, which is followed mechanically. In short, the overall scenario of higher education in India does not match with the global quality standards (Nagoba, and Mantri, 2015). Students are concern only for getting high marks and they study only for grabbing jobs. There is absence of creativity in them, they are hard-worker but not innovative. There is a great need to bring about a change in higher education (Singh, J. D, 1990). There is a need to bring about quality education in higher education. For this, adoption of student-centered learning in classroom teaching by the teachers can be one of the means to bring quality in higher education. From various pedagogical research, it has been found that what teachers do in the classroom is undoubtedly the key educational determinant in student learning and achievement. To achieve the desired learning outcomes of the students in the most effective way, it is therefore important to identify and promote the most effective practices. From this perspective, there is a general rejection (on the part of researchers, decision makers, teacher trainers, educational support staff, parents, classroom practitioners) of what is referred to as "traditional" teaching. This is a form of teaching, dominated by the teacher, which relegates pupils to a passive role, reduces their classroom activity to the memorization of data to be recited to the teacher, and in particular, leads to the acquisition of skills of a lower taxonomic level (Gauthier and Dembele, 2004). To bring about quality education, the learning outcome of the students is also important. Swami Vivekananda laid emphasis on self- teaching or self- learning. According to him, the child is regarded as the pivotal point of education and education must be based on the needs of the child. He is the storehouse of knowledge and this knowledge resides within the child. Until the inner teacher opens, all outside teaching is vain (Purkait, 1995). In the Education International project-Time for a New Paradigm in Education: Student Centred Learning, the definition of Student-Centred Learning (SCL) is given as-Student-Centred Learning represents both a mindset and a culture within a given higher education institution and is a learning approach which is broadly related to, and supported by, constructivist theories of learning. It is characterized by innovative methods of teaching which aim to promote learning in communication with teachers and other students and which take students seriously as active participants in their own learning, fostering transferable skills such as problem-solving, critical thinking and reflective thinking.

Student-Centred Learning comprised of the following elements (Education International, 2010):

- The reliance on active rather than passive learning;
- An emphasis on deep learning and understanding;
- Increased responsibility and accountability on the part of the student;
- An increased sense of autonomy in the student;
- An interdependence between teacher and student;
- Mutual respect within the student-teacher relationship; and
- A reflexive approach to the teaching and learning process on the part of both the teacher and the student.

In the traditional approach to college teaching, most class time is spent with the professor lecturing and the students watching and listening. The students work individually on assignments, and cooperation is discouraged (Felder, n. a.). When students work alone, they do not learn to collaborate with other students, and communication skills may suffer. Teacher-centred instruction can get boring for students and their minds may wander, and even may miss important facts. In teacher-centred instruction, students are not allowed to express themselves, ask questions and direct their own learning (Concordia University, 2016). In student-centred instruction, students and instructors share the focus. Instead of listening to the teacher exclusively, students and teachers interact equally. Group work is encouraged, and students learn to collaborate and communicate with one another (Concordia University, 2016). This approach include active learning, in which students solve problems, answer questions, formulate questions of their own, discuss, explain, debate, or brainstorm during class; cooperative learning, and inductive teaching and learning (Felder, n. a.). Some disadvantages of this approach are —as students are talking and interacting, classrooms are often busy, noisy and chaotic. It can be difficult on the part of the teachers to manage all students' activities at once when students are working on different stages of the same project. Because the teacher doesn't deliver instruction to all students at once, some students may miss important facts. Some students prefer to work alone, so group work can become problematic (Concordia University, 2016).



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In recent years, more teachers have moved toward a student-centered approach. However, some students maintain that teacher-centered education is the more effective strategy. In most cases, it is best for teachers to use a combination of approaches to ensure that all student needs are met. When both approaches are used together, students can enjoy the positives of both types of education. Instead of getting bored with teacher centered education or losing sight of their goals in a completely student-centered classroom, pupils can benefit from a well-balanced educational atmosphere (Concordia University, 2016) VI.

BENEFITS OF STUDENT CENTRED LEARNING:

The benefits of Student Centred Learning includes providing skills for life of the students, creating independent students and responding to the changing and differing needs of individual students. SCL helps in quality enhancement in higher education. Overall, this approach provides benefit to the institutions, teachers, society and students. As suggests further that e-learning a good solution for student centred learning. Individualized self-paced e-learning refers to situations where individual students access learning resources like database or course content online through Intranet/Internet. Individualized self-paced e-learning - offline is about a student using learning resources like database/computer assisted learning packages.

E-learning (Markovi 2010) enables higher interactivity among professors and students and study material coverage in both undergraduate/graduate students. Further, professors and assistants ensure that students' critical thinking is developed, and to provide them freedom in discussion, topics choice, exchange of ideas and information, and expansion of knowledge.

With time, when technology grows, e-learning helps students to cope up in an easy manner. Over the years it has become a popular medium due to its flexibility and better innovativeness.

E- learning is commonly referred to the intentional use of networked information and communications technology in teaching and learning. It is also known widely as online learning, virtual learning, distributed learning, network and webbased learning. They all conceptualise the educational processes that utilise information and communications technology (ICT). However, these terms cannot be used synonymously with e-learning because it comprises more than these. The word "e" in "e-learning" stands for "electronic", e-learning would incorporate all educational activities that are carried out by individuals or groups working online or offline, and synchronously or asynchronously via networked or standalone computers and other electronic devices (Romiszowski, 2004).

The growth of e-learning is directly related to the increasing access to information and communications technology, as well as the decreasing cost of usage. Developments in internet and multimedia technologies are the basic enabler of E-learning. It is commonly thought that new technologies can make a big difference in education. Ministry of HRD, Government of India has introduced several online course development programs viz., National Programme on Technology Education Learning (NPTEL) by offering free online video lectures in engineering, science and humanity courses. NPTEL is an open courseware initiative collaboratively started by seven Indian Institutes of Technology (IITs) and Indian Institute of Science (IISc). The purpose of online course development is to create an information rich society. Everyone in the society is empowered to create, receive, share and utilize information for their progress. Very well designed, developed and validated online course will provide access to high quality meaningful digital content and serve as an effective virtual teacher. Many important developments have occurred in education with the arrival of the net. Nowadays, even the youngest of persons are able to effectively use smart phones, internet, text messaging etc. Thus implementing an e-learning course has become an easy matter. Social media, message boards and other forms of online communication allow students to stay in touch and conduct discussions on course materials, thus giving a feel of a community.

CHARACTERISTICS OF ONLINE LEARNING:

Online learning has certain amount of characteristics that differentiates it from the normal mode of teaching and learning (M.F.Paulsen, 2003). Some of them are as follows:

a. Student Centric Approach: the focus is from teacher centric and subject centric approach to that upon the student itself. Here the student itself is the active participant behind its own learning.



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- b. Flexibility: the timings, pace of learning is flexible according to the convenience of the student. They are not bound to a rigid pattern of teaching and learning methodologies.
- c. Customised/Personal content: the learning content is determined by a group of students or by the individual students based on their needs and aims.
- d. Non-linear content: this allows direct access to knowledge in whatever sequence the student wants to learn from. No static format learning is present.
- e. Continual learning: the learning can take place continuously in parallel loops.
- f. Interactive learning: it facilitates more chances of having someone at the virtual end to help the student with their problems.
- g. Dynamic content: content is changed automatically continuously for a given user based on the users input, experiences and new practices.
- h. Systematic Learning: occurs as an integrated activity.
- i. Distributed content: this content is generated from educator-student interactions.

NEED FOR ONLINE TEACHING AND LEARNING:

Over the years, many reasons have come up which has led to a greater demand for e-learning as an alternative method of teaching and learning. Some of them are outlined as below:

- a. Teachers' shortage: the quality and quantity of good teachers is a problem that plagues the education system today. Teaching as a profession is not an option for many individuals today.
- b. A3 (any time, any place, any pace) learning: (Huang, 2010) This enables the students to take to studying when he/she feels it is convenient to study. This reduces the pressure to come together at a fixed place at a fixed time period.
- c. Enhanced learning experience: e-learning enables a high degree of personalization and a wide range of instructional methods. Powerful simulation environments, multimedia capability and high-end visualization support enables a student to relate to the subject much more deeply and hence understands well.
- d. Content creation: India, despite her IT prowess, is still a poor contributor of content in the Web. Adopting e-learning enables and encourages one to do this naturally, some once work is already online, perhaps with a limited reach and once are comfortable with this, it is a small step to reach out to the world.
- e. Enhancing quality of teaching: it goes without saying that e-learning can help in strong networking with other teaching and learning professionals widening the area of subject knowledge. (Kumaresen, 2002)
- f. More systematic feedback and evaluation: Bringing assessment and other activities under e-learning enables to gather much more detailed feedback on various aspects of the course.

BENEFITS OF ONLINE LEARNING:

Increasingly, organizations are adopting online course as the main delivery method to train employees. At the same time, educational institutions are moving toward the use of the internet for delivery, both on campus and at a distance mode. For the instructor, tutoring can be done at anytime and from anywhere. Online materials can be updated, and students are able to see the changes at once. When students are able to access materials on the internet, it is easier for instructors to direct them to appropriate information based on their needs.

Multi-access: Despite teacher, student or tutor, the accessibility of information is made available 24 x 7 days on websites. **Speed:** Using electronic resources, Search feature has become quicker and faster to extract the page. **Functionality:** Starting with content page to Index page with prominent links will ease user navigation skills. **E-Content:** e-Resources can contain a vast amount of information, but more importantly the material can consist of mixed media i.e. images, video, audio and animation which could not be replicated in print. **Storage:** With the increasing storage capacities and multi-variant devices, the ability to store and retrieve large amounts of information has become simple and transparent.



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CHALLENGES AND ISSUES OF ONLINE LEARNING FOR HIGHER EDUCATION:

The recent statistics reveal that there is a dearth of quality teachers for various education programs in the country. It became a major hurdle in providing quality education to students and achieving socio-economic development of the country. Hence, a set of quality experts contribute to build such content that can be made available on websites of the institutes, accessible to all groups of users. To meet this goal, Government of India has recently issued guidelines for online course development (UGC, 2012). Another hassle in manual content is search feature which is of course, dynamic in online resources. Retrieval of vast content is so quick with online search feature in online course resources. But the challenge lies in the internet penetration which is little slow in India, though we have occupied third position beating Japan recently. Only 14% e-literacy is observed against 74% of literacy rate among the country population. e-Learning and online course both are proportionately related to each other in library domain. Particularly, in distance learning institutions the skills up gradation is becoming compulsory. Essentially, the receiver must also possess thorough knowledge in using these technology based literature and online services. Having insufficient internet bandwidth and power constraints are big challenges in the Indian context. Since the technology depends on expensive tools like server, personal computer, scanner, photocopier etc thus, selection of automation tools will remove economic inequality among the users. A standard tool that can support all the activities of library in a University by providing not only English content but also content that supports other languages going to play a key role (Sharma et al, 2013).

Inadequate and uncoordinated Information and Communication technology characterized by low access and utilization, Lack of formal training in teaching and poor teaching aids/laboratory equipment, Sound knowledge of practical examples of use of Open Educational Resources to illustrate key points and up-to-date Knowledge of the arguments for and against use of Open Educational Resources, Expertise in technical skills to develop and maintain web platforms to host Open Educational Resources online, as well as to share the content and meta-data with other web platforms.

Few Notable Initiatives By The Indian Government (Ministry Of Human Resource Development are NPTEL, Virtual Labs, CEC, E-Yantra, Digital Library Inflibnet, OSCAR++, E-Kalpa and FOSSEE

There is a need for innovative work in online course material as a form of digital literacy in educational settings particularly to investigate the implications of new forms of social networking, knowledge sharing and knowledge building. Finally, because of the pervasive nature of online course as a digital technology, the commercial interest that is invested in it and the largely unregulated content of Internet based sources; there is also a need to begin to sketch out what a critical digital literacy might look like. There is, in short, plenty to be done if India has to prepare children and young people to play an active and critical part in the digital future. Looking at the above view the researcher conducted a study with following objectives.

OBJECTIVES OF THE STUDY:

- > To design and validate an Online course on a core course on "Introduction to Extension and Communication" offered to the undergraduate students of Faculty of Family and Community Sciences, The Maharaja Sayajirao University of Baroda, Vadodara
- > To study the effectiveness of an Online course on a core course on "Introduction to Extension and Communication" in terms of gain in knowledge amongst the undergraduate students of faculty of family and community sciences in relation with the following variables Medium of instruction at school, Stream of Study in Higher Secondary Examination/ Equivalent, Level of Education of Parents, Usage of Computer and internet user, Exposure to ICT, Possession of Gadgets, Budget for Internet Usage
- > To study the reactions and feedback of Students regarding Online course

III. METHODOLOGY

The study was conducted using experimental design in the academic year 2017-18. Pre-post Experimental research design was used to conduct the research. It was decided to take only one experimental group to reduce the error in the experiment and control external variables. The students of first year were selected as experimental group. There were 103 students enrolled for the experiment but 95 students sustained till the end of experimental period.

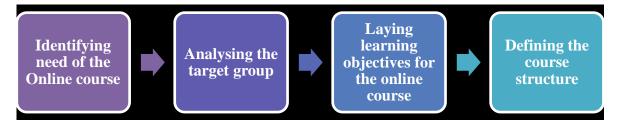


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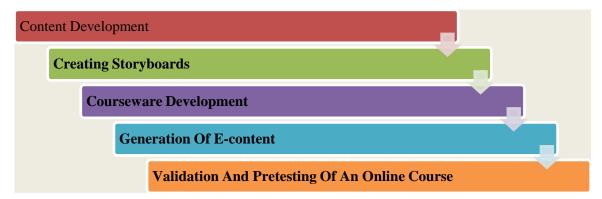
DESIGNING AN ONLINE COURSE:

The components developed online course and each stage of designing an online course on "Introduction to Extension and Communication" is explained in detail. It was decided to have an instructor-led and facilitated online course. In this model, a linear curriculum was developed that integrated several content elements and activities into a chronological course or syllabus. The course was scheduled and led by an instructor and/ or facilitator through an online learning platform. E-learning content for individual study was integrated with instructor's lectures, individual assignments and collaborative activities among students.

STAGE: 1 IDENTIFYING AND ORGANISING ONLINE COURSE:

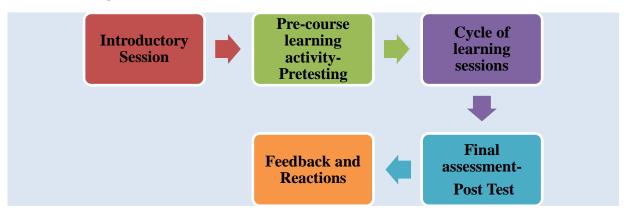


Stage: II DEFINING INSTRUCTIONAL, EVALUATION AND DELIVERY STRATEGIES:



EXPERIMENTAL PHASE:

Online facilitated and instructor-led course was organized into sessions, which was daily or weekly, depending on the duration of the course and on students' available time on their time table. **The following were the components of an online course learning:**



The experimental phase refers to the actual delivery of the instruction, whether it's classroom-based, lab-based, or computer-based. The purpose of this phase was the effective and efficient delivery of instruction. As the researcher teaches first year and she was assigned Group D, for convenience and with purpose the sample was selected. It was decided to do the experiment of two module to check the effectiveness, Module 1 Communication and Module 2 Graphic Aids. These two modules were selected keeping in mind the theory as well as practical aspects of the course. Those



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lessons were divided into 14 learning sessions. As decided in analysis phase the experiment was conducted using the blended mode of teaching leaning to increase the participation, learning and reduce the anxiety of the students. It was decided to take two theory sessions and one practical session every week. The experiment was decided to conduct during the month of July, August and September for 7 weeks.

After all the preparation, the time had come for action and that was conducting the experiment. The classes were arranged at seminar room- Pragati a Centre for non-formal education as the room had audio-visual facility. After selection of the sample the researcher provided the URL http://:www.introductiontoextensionanfcommunication.in of Online course on "Introduction to Extension and Communication" to the students of experimental group for study. To initiate the study, the researcher visited the class, she introduced herself and explained about the experiment. Then, all the 103 students were given pre-test to check the knowledge level of the sample before the beginning of the experiment. After conducting the pre-test, students were given the checklist to fill to collect the profile of the students.

The theory sessions were conducted using online course and the students used to study the topic at home through their phone or on laptops or desktops.

Post Experimental Phase- Feedback and Reactions:

After the blended learning through the online course the students were given the knowledge test to check gain in knowledge. A reaction scale was also used to take the feedback and reactions of the students about their experience to study new learning technique, the problems they faced while learning and suggestions for future of developing online course.

IV. MAJOR FINDINGS

- All the students belonged to the Age of 17-18 years
- Approximately 30.5% of students' mother had moderate level of education, 35.8% had higher level of education, followed by 33.7% had lower level of education.
- Little more than half (53.7%) of students' father had higher education, 28.4% of students' father had moderate education and 17.9% of students had low level of education.
- Majority of the respondents (77.9%) belonged to nuclear family and rest of the students (22.1%) belonged to joint family.
- Thirty four percentage (33.7%) of students belonged to lower and higher 34.7% income group whereas 31.6% of students belonged to middle income group.
- Majority (61.05%) of the students had general stream in their higher secondary examination or equivalent examination, whereas rest of students had science stream in their higher secondary examination or equivalent examination.
- Little more than half (53.7%) had English as medium of instruction in school whereas 46.3% of the students had Vernacular medium of instruction in school.
- Forty percentage (38.9 %) of the students had lower usage of computer and internet, whereas approximately thirty seven percentage 36.8% moderate usage followed by twenty four 24.2% percentage had higher usage of computer and internet.
- Thirty seven percentage (36.8%) of students had low exposure of ICT, whereas, 33.7% had moderate exposure, followed by 29.5% had low exposure to ICT.
- Forty four (44.2% students had low budget for internet usage, whereas 34.7% had moderate budget, followed by 21.1% had high budget for internet usage.
- There was significant gain in knowledge learning through online course among students.



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- There was no significant difference in the gain in knowledge of the students in learning through online course in relation to their type of family, stream of study in school, mother's level of education, father's level of education and budget for internet usage.
- There was significant difference in the gain in knowledge of the students in learning through online course in relation to their Medium of Instruction in School, family monthly income, Usage of Computer and Internet and Exposure to ICT
- All the students except reported that while learning through an online course it gave them freedom to select the topic of study (97.9%) and important terms to remember helped them in learning the content. **Features helped students to learn through Online course:** Freedom to select to study at their own time (94.7%), Freedom to study at their own pace (88.4%), Question bank (90.5%), Summarisation of each topic (87.4%), Videos (82.1%), Movements in visuals (77.9%), Verbal commentary with text (77.9%), Tests at the end of each topic or subtopic (74.7%),
- All the Physical aspects of the Online course helped students to learn to Great extent Colour combination in the e-content was soothing, The e-content was well designed, Background music in e-content was pleasing, Each page was organized properly, e-content worked smoothly, Verbal commentary helped in understanding the concepts in better manner, Pages were linked well, All the button in the e-content worked properly and Background music in the e-content increased concentration.
- Content aspects of the Online course helped students to learn to Great extent Translation in Gujarati of the content helped in understanding the definitions and explanation of the content, "Glossary of terms" helped in understanding the concepts, Language used in e-content was easy to understand, Visuals were relevant to content, Examples given in the content increased clarity of concept, Content in the developed e-content was explained in detail, Content in the e-content was self-explanatory, Examples given in the developed e-content were sufficient, Examples given in the developed e-content were appropriate, Content was logically sequenced, Visuals were sufficient, Content in e-content follows by learning principles i.e. known to unknown and easy to difficult, Instructional page in the e-content had complete information about how to operate it, Visuals were self-explanatory and Summarization at the end of each topic helped in knowing the important things to remember from the module.
- Evaluation aspects of the online course helped students to learn to great extent were after each module and subtopic in the module, the test helped understanding of the content, Questions asked were easy to understand, The number of evaluation items was adequate for providing feedback, Gaming in the test was interesting and Answer keys given for each evaluation items helped in self-correction of answers.
- It was noticeable that low percentage of students faced problems learning through online course. **Problems faced while learning through online course** that Internet connectivity was creating problem (31.6%), Self-regulated learning was not possible at undergraduate level(31.6%), There was interruption in learning because the e-content did not run properly (29.5%), It was difficult to learn without physical notes (26.3%), There was interruption in learning because the computer or mobile used to get hanged due to heavy content(20%). It was found difficult to operate e-content (18.9%), Background music was distracting (16.8%), Note making was difficult (15.8%)

V. CONCLUSION

To conclude it can be said that an online course can a good option for making the learning student centred. It is evident that the role of teacher cannot be replaced but it is changing with the time. The technology based learning can complement the teaching learning process but Indian education climate is yet not 100% ready for going full online. Instructor led or teacher supported online courses with a blended mode can more effective especially at undergraduate level. But it also focuses on the reality that modernization of education in Indian colleges and universities is a necessary attempt. The syllabuses, subjects and courses have to be planned in such a way that it satisfies the top international standards. To attract affordable international students, who are interested in comparatively quality education, eLearning has to be promoted. Infrastructures also have to be standardized so that it satisfies the basic needs of every student. On the technology support side we need adventurous faculty collaborators willing to share both their content expertise, and their



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experience as effective teachers and communicators. The knowledge resource from the best brains of various institutes, colleges and universities has to be used for bringing about a better society. "Open up the doors – to as many people as possible to gain access to it, at whatever moments in their lives, however frequently they choose to knock upon this or that education door." When the world of knowledge is knocking the doors of Indian Higher Education, it is a need of an hour to warmly welcome and accept. Where we can be the knowledge generator according to the needs of Indian students, why to just stay back and be the user of that knowledge.

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