QASPIR | भारतीय विश्वविद्यालय संघ
ASSOCIATION OF INDIAN UNIVERSITIES

Preparedness of Indian Higher Education Institutions for Online Education

2021

A survey report by AIU and QASPIR

Project Team

Association of Indian Universities, New Delhi

Dr (Mrs) Pankaj Mittal,
Secretary-General

Dr Amarendra Pani,
Joint Director, Research

Dr. Sandeep,
Sr. Research Assistant

Dr. Rahul,
Research Assistant

QASPIR

Mr. Stuart Blacklock,
CEO

Dr. Rinkle Sangoi Kapoor,
COO

Dr. Richard Nelson,
VP Online Development

Dr. Abhilasha Singh,
Director

QASPIR | भारतीय विश्वविद्यालय संघ ASSOCIATION OF INDIAN UNIVERSITIES

Contents

Executive Summary

This report details the outcome of the project undertaken by AIU in collaboration with QASPIR to get a realistic and complete picture of the digital infrastructure availability and preparedness of Indian Higher Education Sector for teaching remotely/online.

The data was collected from July 2020 to October 2020 from ***546 Higher Education Institutions*** constituting both universities and colleges across India. It is worth noting that the data was carefully reviewed and incomplete submissions removed to ensure the objectivity of the study and gain better insights.
The final sample size was 366 (155 universities and 211 colleges) and the data was analysed by applying descriptive survey research methodology.

The description of the characteristics of respondents' institutions was covered with the help of the metadata provided in the survey. The key finding was that majority of the respondents were adopting online education and appreciated the benefits of a blended learning method to cover the scope of the entire education system. In the survey, suggestions were made about the uniformity and revision of the curriculum at all levels and development of infrastructure in all regions especially in terms of the technology required to facilitate online delivery and learning to bridge the digital divide. The existing efforts of the Government to promote online education were also appreciated by the majority of respondents.

This report explains the readiness for online education through the key factors such as institutional profile/demography, its infrastructure, internet connectivity, the readiness of students, current practices and student engagement in online education.
The report also takes into account other factors like online value-added services, issues and challenges, goals for online learning, institutional policy, and faculty readiness for online teaching and learning.

The findings of the report highlighted that in the majority of cases the leadership support for technology is positive. However, the lack of financial resources is a serious bottleneck and increased financial resources would facilitate the delivery of online education in institutions by developing the required infrastructure. The study recognises that the student readiness for online education is positive, however, more efforts are required to enhance awareness in the government institutions. In the case of colleges, the responses also suggest that most of the colleges are struggling with infrastructure issues and faculty unpreparedness to deal with online education. A vast majority of colleges indicate lack of student familiarisation of various online education platforms and poor student engagement.

Even though the overall impression is good in terms of value-added services and facilities for online education in the institutions, and the students have access to the devices required for the participation in online education including mobile phones, laptops or desktops, the institutions are not offering many MOOC courses to the students and this can be interpreted as low engagement in online learning activities.

The use of LMS, availability of online material, provision of the online fee payment system, and online feedback system were common to almost all institutions, yet, the feedback system in some central and state universities is conventional and recorded manually. It is further notable that the provision of online assessment is low to medium in government institutions as compared to their counterparts of private institutions.

The survey results demonstrated that online or blended mode of delivery is satisfactory in almost all types of institutions except the central universities. The condition in private institutions is satisfactory in terms of value-added services; however, internet connectivity is reported to be a common challenge in all types of institutions.
Among the modes of conducting an examination, the online proctored examination was considered an important and preferred choice by most of the respondents in the survey. Other high valued goals as stated were quality of education, accessibility and offering of the online courses, professional development, and alignment of department-level goals, availability of MOOC platforms, and the LMS for the institutions to support and implement online education.

Introduction

The onslaught of the COVID-19 global pandemic has caused many disruptions in almost all countries across the world. Industry, business, corporate sector, academic institutions and above all the economy of the countries have been jeopardized due to lockdown of the nations. The economy has been severely affected, leading to a global slow down. Common life has been disrupted. The pandemic has fundamentally challenged all human activities and operations all over the world. Academic institutions have been impacted negatively due to long time shutdown and not being able to carry out their normal functions. Unfortunately, this has happened during a time when examinations at universities and admissions for the new session were scheduled. The pandemic has placed an additional obligation for the Academic institutions to switch over to online teaching-learning, examination, training, etc. A large section of academia, academic administrators, regulating agencies of higher education and policy planners have contemplated resorting to measures to shift to online processes to minimize the academic loss caused to the students or to compensate the learning outcomes and save time.

In the last few decades, the government of India has introduced many policy measures related to digital initiatives to bring in qualitative reforms in higher education and to translate the power of IT into expanded learning opportunities. Some noteworthy initiatives are Study Webs for Active Learning for Young Aspiring Minds (SWAYAM), which is an indigenous India MOOCs platform designed to provide the best quality education that can be accessed by anyone at any time from anywhere by using the internet.. It involves online delivery of high-quality interactive learning content to a large number of people simultaneously. It allows sharing of best quality learning materials among the learners thereby bringing equity in learning opportunities. The second initiative is SWAYAM PRABHA which constitutes 32 educational Television Channels covering a wide verity of learning materials with quality content. The other initiatives National Academic Depository (NAD), National Digital Library (NDL), e-shodhsindhu, National Mission on Education through Information and Communication Technology (NMEICT), etc. With these initiatives, noteworthy progress in digitalizing the higher education system and leveraging the potential of Information and Communication Technology (ICT) in the teaching-learning process has been achieved. But with the recent experience of an unprecedented situation like COVID-19, a dire need was felt for switching over to online mode completely.

Switching over to wholesale online education is a gigantic task for a country like India which has vast geographic and cultural and demographic diversities. The size of its higher education system itself poses a formidable challenge in the process of its modernization. The educational institutions are unevenly distributed and sparsely located. A large majority of institutions are situated in rural & remote areas with hostile terrain. The climatic conditions of some regions where important educational institutions are located are inhospitable during some seasons thereby preventing the students to access education at their convenience.
Under such situations maximizing the use of technology and shifting to online mode remains as the only viable option for uninterrupted delivery of education. Contrary to the demand and situation on-the-ground, realities are different.

A recent survey entitled as “The Use of Technology in Teaching and learning in Indian Higher Education Institutions,” conducted by Schoolguru Eduserve (an educational technology company) to analyse the acceptability of digital education among teachers revealed that around 50% of university teachers are not comfortable with online teaching, 82% of college teachers have never been offered any professional training on dealing with online learning tools and techniques.
Only 3% of the respondents from a total of 1200 had an experience of developing online teaching content.
Eighty-Nine per cent (89.92 %) of faculty members had never used technology in their classroom and 83% had never delivered an online lecture.
The primary reasons for the situation can be attributed to the skill gap of teachers (Education Times, Times Of India, September 14, 2020).

The Rationale of the Study

Education systems around the world, in general, are facing a complex situation.

The Indian higher education system is currently passing through turbulent times because of a myriad of challenges.

However, the online education that India has been vying for, is closer to becoming a reality. While challenges still exist in the Indian higher education, the online shift that we are witnessing amidst this crisis has the potential to be scaled up and serve the whole education community.
We are now trying to leverage our strengths and further exploring our online education possibilities.
Online education in India is taking steps towards filling the existing education gaps in Indian higher education. The Indian government and leading education organizations in the country are implementing their best efforts to put forward the education agenda aligned with the sustainable development of the country.
There is a dire need to create an online education infrastructure for the Indian higher education system, to ensure equitable learning for all, irrespective of regional barriers.

The Association of Indian Universities (AIU) is an apex representative body of higher education and a 'think tank' organisation of the country.
Since its inception, it has been engaged in assisting the Government of India in policy formulation in higher education by providing research-based policy inputs.
With the outbreak of COVID -19, pandemic when the educational institutions were abruptly closed down, most of the institutions attempted to go for online teaching and learning.
There was also an upsurge in demand from higher education leaders, policy planners and the government functionaries to switch over to online learning and teaching.

The Association of Indian Universities conducted several professional development programmes for capacity building of teachers to deal with online education. These professional development programmes were organized in a joint venture with Quality Assurance Strategic Planning and Institutional Research (QASPIR), an educational Consultancy organisation in the UK, which has established its credibility in helping a large number of higher education institutions in many countries in the professional development of their faculty, developing quality assurance mechanisms and contributing to promoting institutional research.

During the execution of these programmes and while interacting with faculty members some of the crucial issues pertaining to the technology-enabled learning were discussed. The difficulties faced by the teachers related to infrastructure availability, network and bandwidth, teacher preparedness, faculty familiarity with online courses, student readiness and engagement, institutional policies, leadership issues, etc. were highlighted as the bottlenecks for online education. Therefore, it was thought appropriate to conduct an online study to assess the preparedness of Indian Higher Education Institutions for online education.

AIU and QASPIR launched this survey intending to present a realistic and complete picture of the digital infrastructure availability and preparedness of Indian Higher Education sector for online learning and teaching.

The survey provides insight into the sector to enable the higher education policy planners and Government to take requisite policy measures to respond to the changing requirements.
The survey will support all stakeholders, especially the educational institutions, to identify their strengths, weaknesses and highlight areas that need improvement.

Study Objectives

The AIU and QASPIR survey is designed to assess the preparedness of Indian Higher Education institutions for online education as well as for developing an understanding about the needs of the institutions in terms of infrastructure, pedagogical reforms, professional preparations of training of faculty members and desired policy measures. Online learning and teaching in higher education have become essential because higher education is considered to be the economic driver of today's knowledge-driven society. Although the need of technological applications and online education for enhancing the effectiveness and efficient delivery of higher education was raised long ago, the unfortunate situation created by COVID-19 has increased the adoptions of online learning and teaching and placed an additional obligation on higher education community to shift to online mode. Under the situation, assessing the needs of the institutions for shifting to online education becomes all the more important to support organisations through the crisis of global pandemic. A situation that has forced the shutdown of educational institutions and disrupted their normal and conventional functioning.

The inferences and analysis in the report portray a clear picture of preparedness and capability of our universities/colleges in terms of online shift of educational activities. This report showcases the current scenario of online readiness in India, highlighting the need for high-quality digital infrastructure before a complete transitional shift of our higher education system to online/virtual mode. This report analyses nine important parameters to check online preparedness of Indian higher system. The parameters cover infrastructure availability/Internet connectivity and bandwidth, student readiness and acceptance of online learning, present practice and student engagement in online education. The parameters also include online value-added services, issues and challenges, goals for online learning, institutional policy, faculty orientation readiness & training and networking and collaboration. The study concluded that Indian institutions of higher education have the potential to transform into online education. The role of government and institutions' management is vital to extend moral and logistic support in this direction. In preparedness for online learning and teaching, the majority of the institutions reported that they were already transforming to the blended mode of learning and teaching.

Methodology

The survey data was analysed by applying descriptive research methodology.

All close-ended items were analysed quantitatively by measuring the relative frequencies of the response values.

The survey was conducted through a questionnaire designed for a specific purpose. To ascertain the validity of the questionnaire, it was sent to three experts in the field of higher education for review. After receiving their feedback some items in the questionnaire were modified and some items were eliminated. The questionnaire in its final form with 85 items was mailed to around 1000 universities and 1500 colleges.

After excluding the missing cases and incomplete submission the final sample size of 366 was considered for analysis. All other missing data points in any single item were kept as they hold valuable information on other respective fields.

The descriptive analysis was done on each item and a summary report was produced providing the overall pattern of Universities and Colleges.

The analysis is divided into two sections:
- Section one is devoted to universities and
- Section two includes the analysis of the data obtained from colleges.

The survey was distributed during the pandemic, and responses were captured during July 2020 to September 2020.

The responses were collected directly from the faculty working in universities and colleges. The highest response was in the middle of August 2020.

The sample size in the university population was 155, and for the colleges, it was 211.

The cases from the public and private universities were found evenly distributed (approximately 50%).

Section 1: Universities

The data in the survey was collected from Universities from two different sectors:
- Public and
- Private.

A Public Sector University includes institutions collated under the categories of a central university, deemed to be an institution of national importance and state government university.

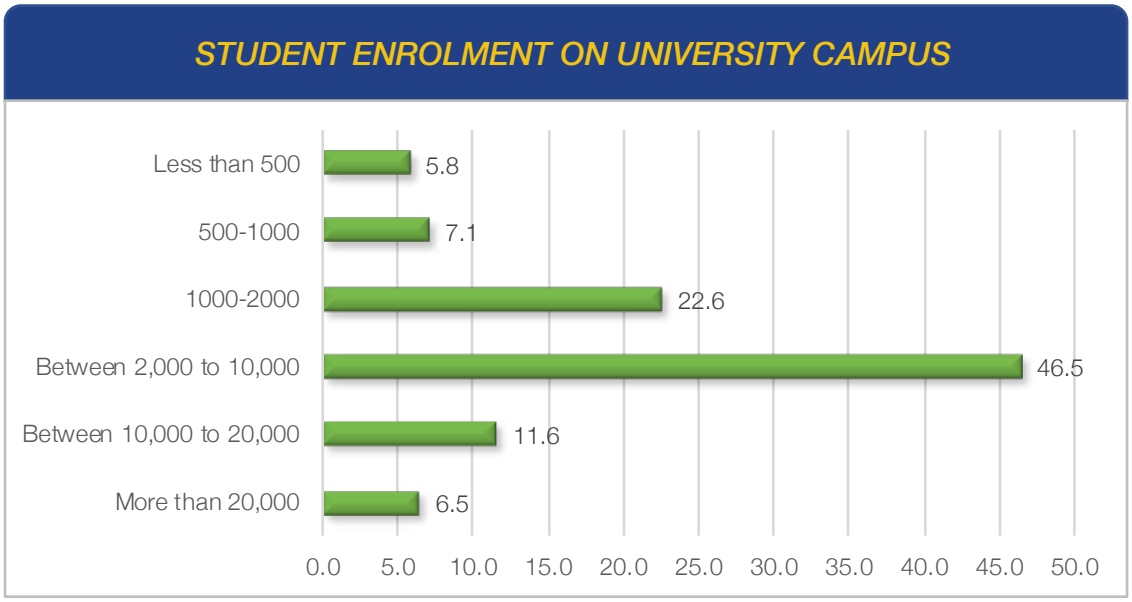
Private sector universities were deemed to be privately funded universities and state private universities.

The state universities were the largest group in public and private institutions. The participation rate was almost the same between the two groups with respect to the total participation in each group.

Out of 155 respondents, seventy-seven were from the public sector and seventy-eight were from the private sector. The participation rate was highest from the institution with enrolment between 2000 to 10000 in both public and private sector groups.

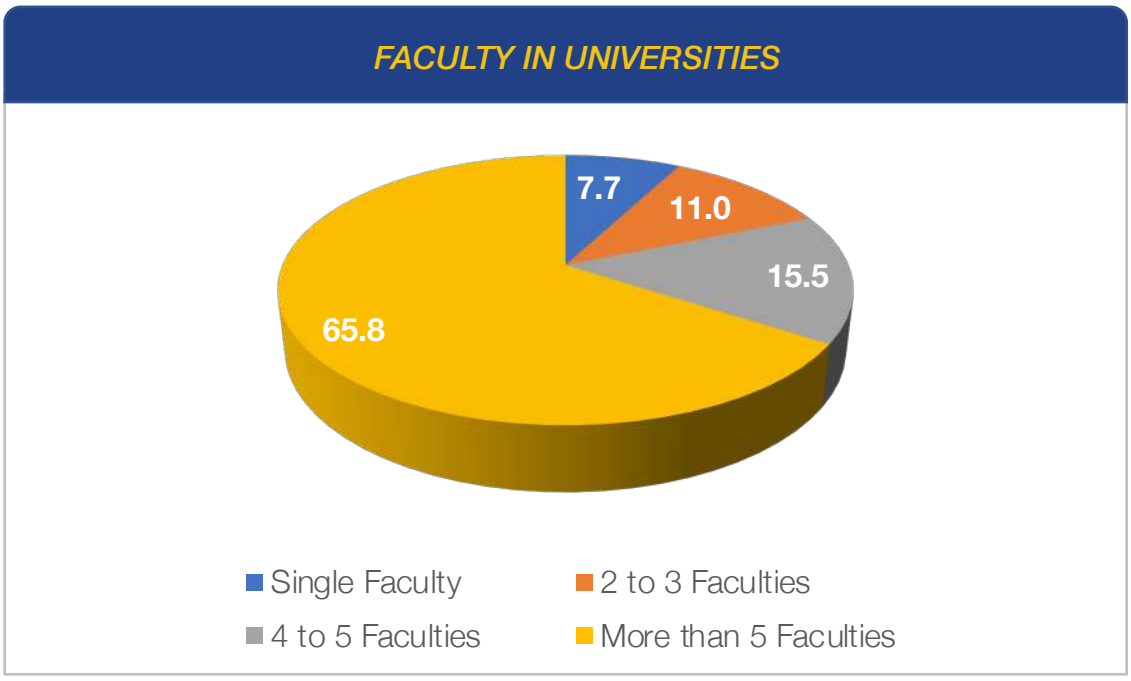
Likewise, the institutions in the private and public sector with more than 5 faculties have a high proportion of participants in the survey.

Section 1: Universities



Effective management of institutions concerning infrastructure and other logistics requirements largely depends upon the size of the enrolment of students. It has also a direct link with issues of Access, Equity, and Excellence that have been emphatically underscored in all most all policy documents especially after the launching of the XIth Plan Period. The data received from responding institutions reveal that **majority (46.5%) of universities have student enrolment ranging from 2000 to 10,000. 35.5 percent of universities have a student enrolment of less than 2000 and only 18.1 percent of universities have 10000 or greater student enrolment.**

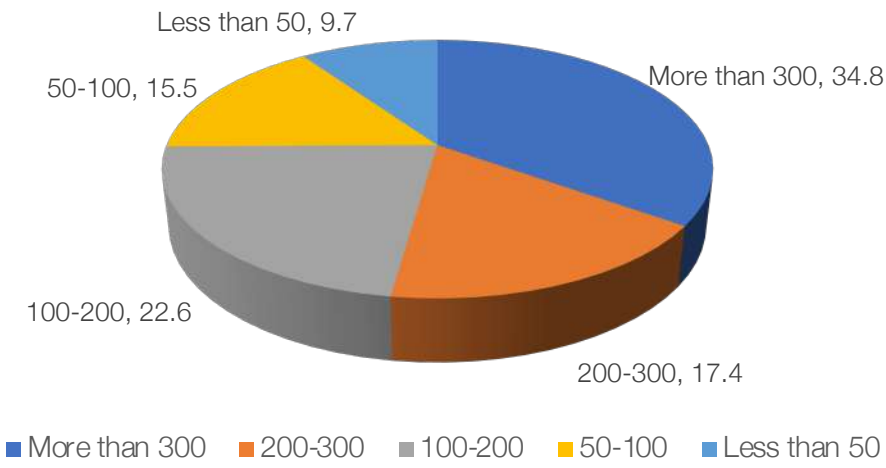
35.5 percent of universities have a student enrolment of less than 2000 and only 18.1 percent of universities have 10000 or greater student enrolment.



NEP 2020 has recommended for multidisciplinary and a holistic education across sciences, social sciences, arts, humanities, and sports to ensure that the compartmentalization of knowledge be minimised and an integrated structure of knowledge with multidisciplinary and interdisciplinary approach be encouraged. The data obtained from responding universities suggests that most of the universities (65.8%) have more than five faculties on their campuses.

- ***A large percentage (34.2%) of universities have less than five faculties on campus. This does not relate to the spirit of making the universities centres of multidisciplinary learning.***

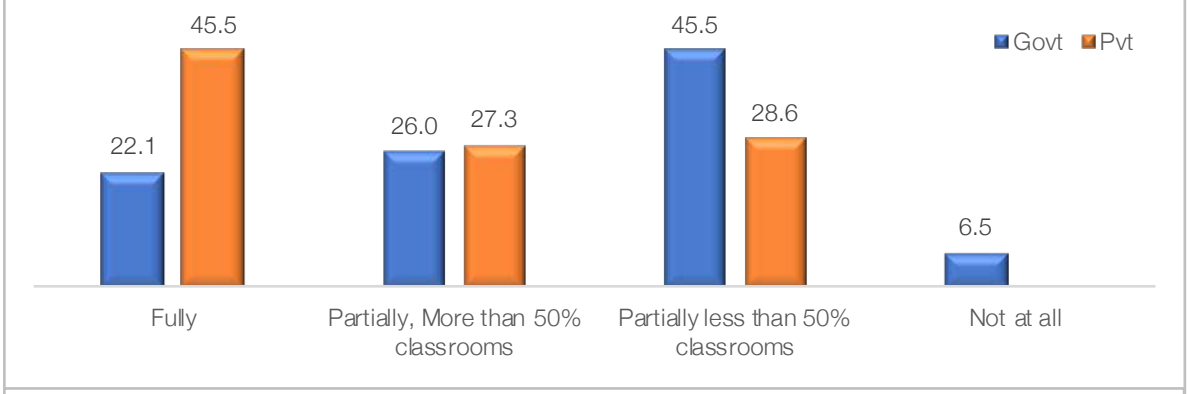
TEACHERS IN POSITION

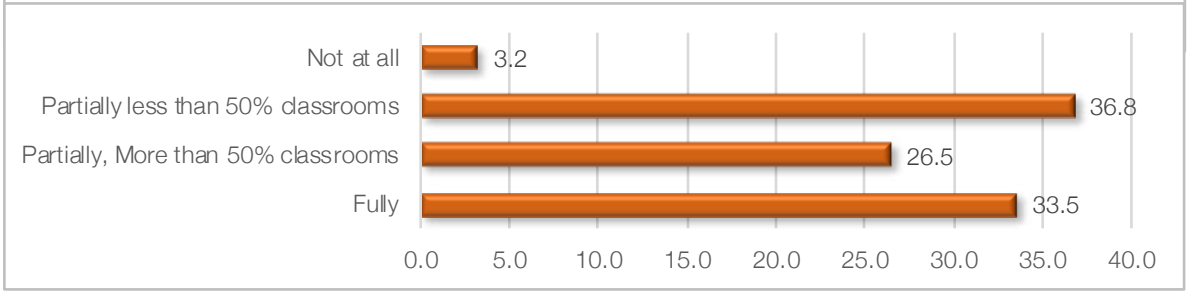


The teacher is the main pillar of the fundamental reforms in the education system. Contrary to this, a shortage of competent and qualified faculty in Indian higher education institutions is a perennial issue that is a grave concern and potential impediment to the quality improvement efforts. To address this issue, the New Education Policy strongly advocates for recruiting motivated, energised, and capable faculties members in higher education institutions. The survey reveals that only **34.8 percent of universities** are equipped with more than 300 teachers and **65.2 percent** of universities have **less than 300 teachers** in position. The situation raises an alarming concern that needs immediate redressal.

The Teacher position raises an alarming concern that needs immediate redressal.

INSTITUTIONS EQUIPPED WITH SMART CLASSROOMS



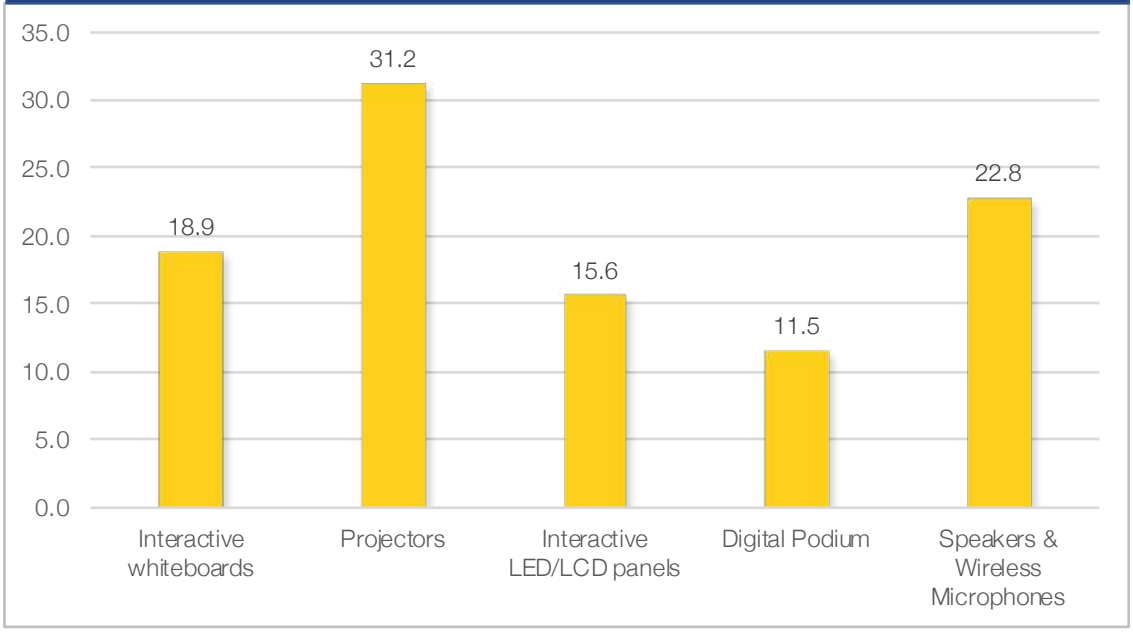


A smart classroom is advanced technology-based teaching and learning that is proposed as a solution to increase the perception and capabilities of students. In the era of advanced digital technology, the old-fashioned classroom is gradually becoming obsolete. Smart Classrooms facilitates effective and interactive learning opportunity for students and also helps in student engagement. **It was observed that even 50 percent of the sampled universities are not fully equipped with a smart classroom.** As can be seen from the above graphical depiction, in **36.8 percent of institutions less than 50 percent** of the classrooms are equipped with smart features only. Further analysis suggests that only 22 percent of the government universities and 45.5 percent of Private universities are fully equipped with Smart Classrooms. The status of a private university is found to be relatively better than the Government (Public) institutions. The salient points that emerged from the analysis of smart classroom are:

- 52% of government universities are working with less than 50% smart classrooms which include 6.5% with no smart classroom facility at all.
- 66.5% of universities are still not fully equipped with smart classrooms.

More than half of the universities (both Govt and Private) are not fully equipped with smart classrooms.

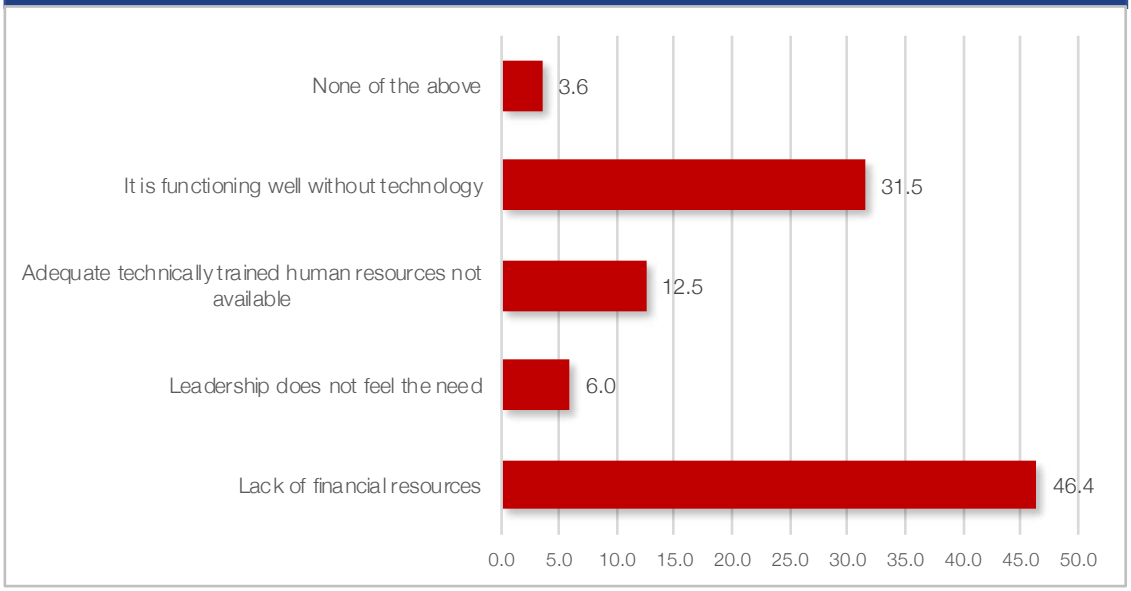
SMART CLASSROOMS EQUIPPED WITH FOLLOWING



A deeper probe into the available features of the smart classroom reveals that more than 75% of universities are not having features like interactive whiteboards, interactive LED/LCD panels, digital podium, and speakers & wireless microphones.

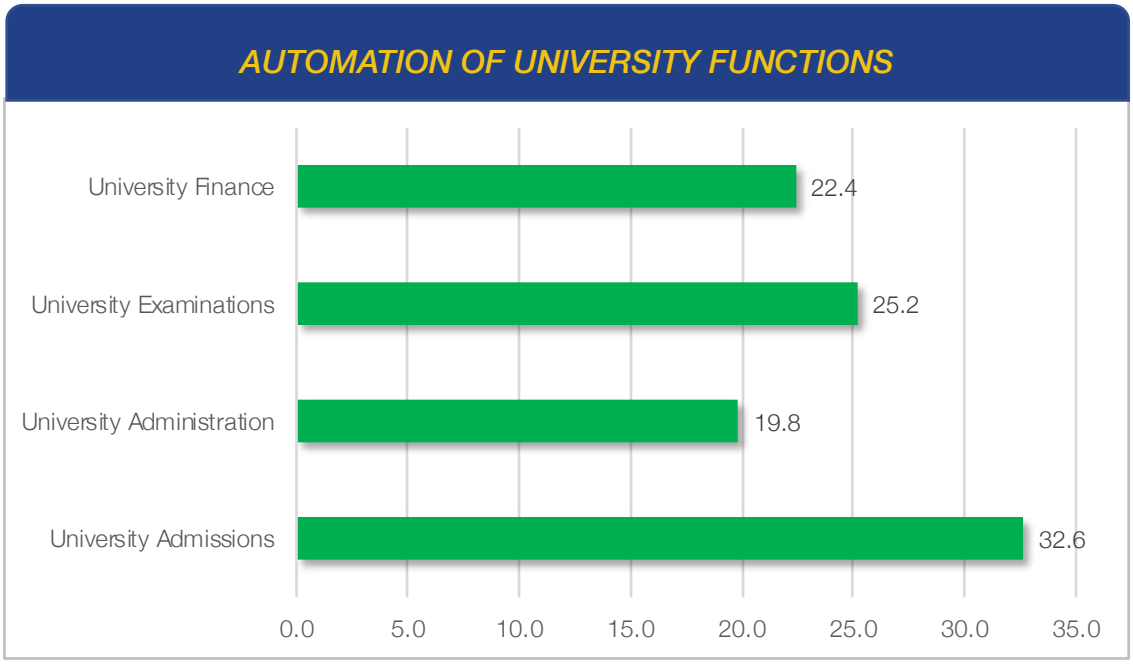
More than half of the universities do not have projectors.

REASONS FOR NOT BEING COMPLETELY EQUIPPED WITH SMART CLASSROOMS



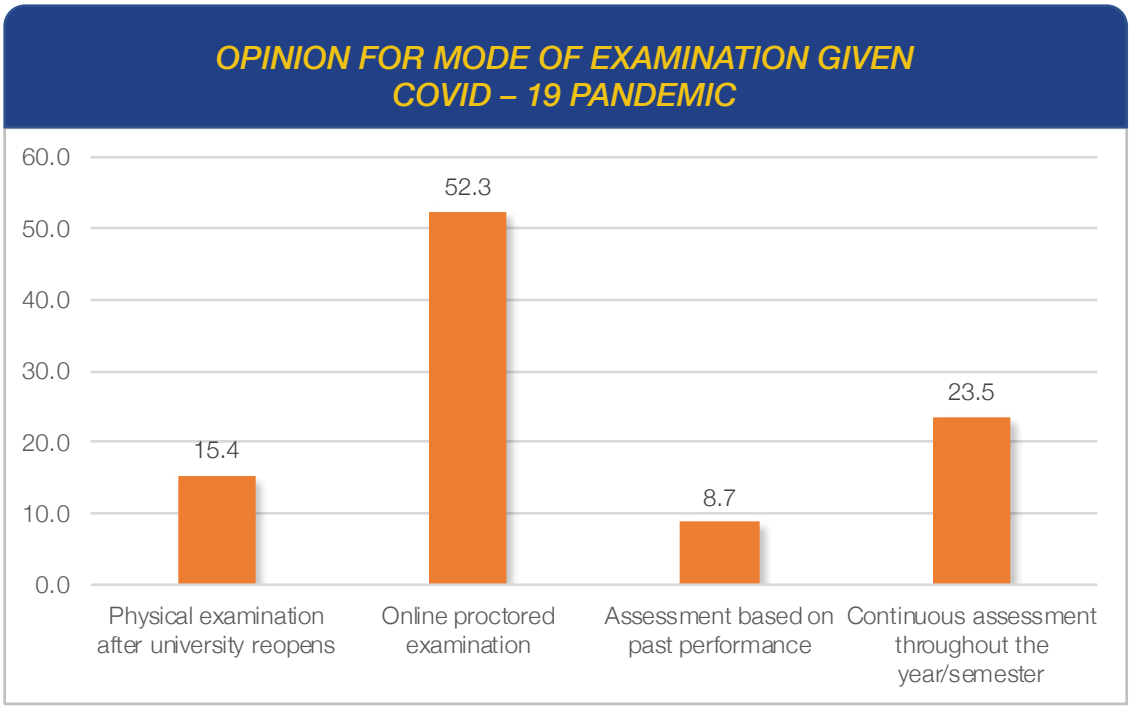
The lack of financial resources has been attributed by **46.4 percent of institutions** as the major hindrance for the institutions for not being able to be fully equipped with Smart Classroom. **31.5 percent of institutions say that they are functioning well without technology** and **12.5** find difficulty because of the **non-availability of adequately trained staff**. The findings indicate that there is a need for sensitising the university leaders for tapping the potentials of emerging technology and their adoption for improving the classroom process

Quality Demands Cost. 12.5 Percent Universities find difficulty because of the non-availability of adequately trained staff.



Given the continuous upsurge in student enrolment in higher education and the effective management of institutions, automation of various functions of the universities has become essential. Automation of functions has become the trend as it brings efficiency and transparency to the process. Contrary to the requirements, the survey finds that only **32.6 percent of universities** Admission is automated. Automation of Examination is found in only **25.2 percent of universities.** The overall situation related to the automation of Universities does not project an encouraging picture. **This is a major challenge in the process of shifting to an online education model.**

Major activity like admission is still not automated in 67.4% of universities.

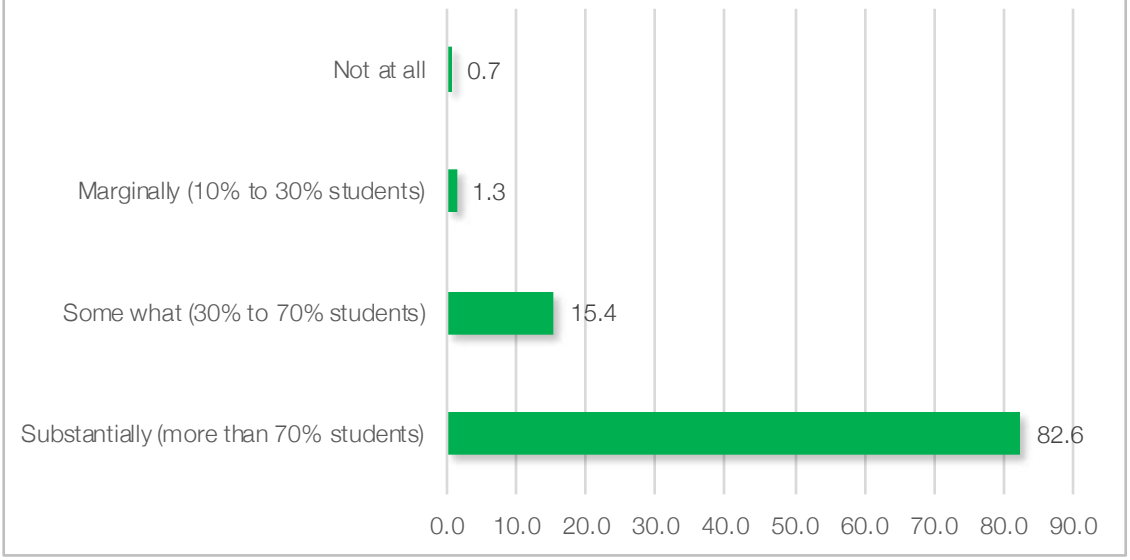


It is encouraging to note that most institutions (52.3%) preferred to adopt online proctored examination whereas semester and continuous assessment was preferred by 23.5 percent of universities. Hosting examination in a physical space on campus after COVID was preferred by 15.5% of institutions and assessment based on past performance was considered by 8.7 Percent.

- ***More than half of universities want to conduct online examinations after the COVID-19 pandemic.***

A quarter of universities see the feasibility in continuous assessment throughout the year/semester.

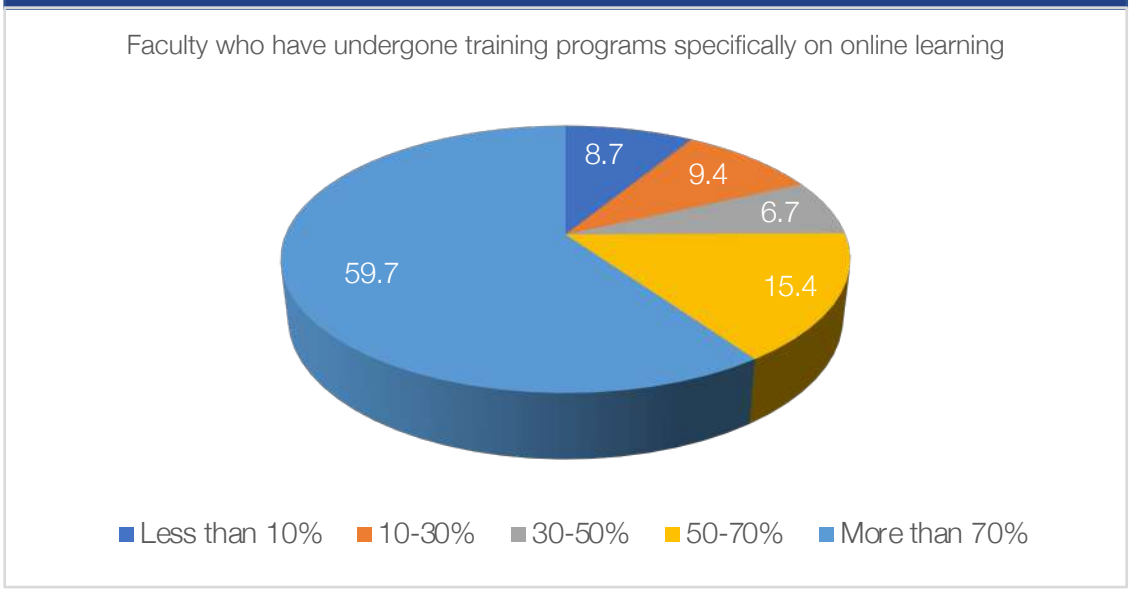
ONLINE STUDENT ENGAGEMENT



Transitioning from a classroom teaching to online learning is a challenging task for both students and teachers. Teachers need to make extra effort to engage students effectively, and students in turn have to make an extra effort to stay engaged amid distractions at home. The analysis suggests that typically students are not fully engaged by the universities in online courses. **82.6 percent of the responding universities engage more than 70 percent of students** in online learning.

Approximately 18% of universities were engaging less than 70% of students online.

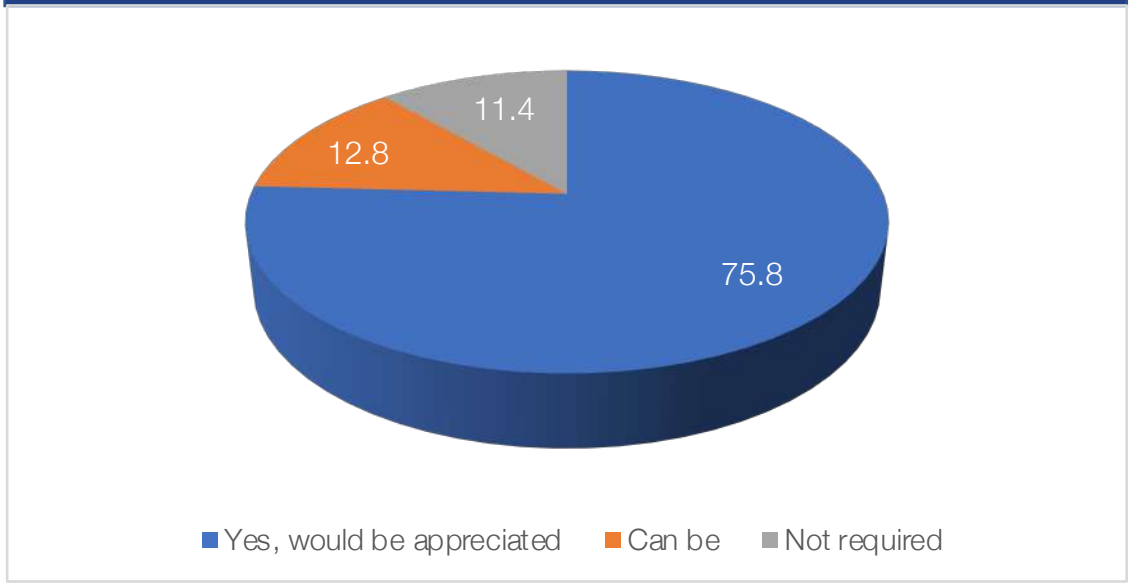
FACULTY TRAINING PROGRAMS FOR ONLINE TEACHING-LEARNING



Training programs specifically for dealing with online teaching-learning is perceived to be a catalyst for teachers to reflect on and evaluate their current teaching practices. Training for learning to teach online has the potential to transform the faculty's assumptions and beliefs about teaching, changing their face-to-face teaching practices. Most importantly, during such a time of crisis when the physical classroom is not feasible, switching over to online mode remains to be an only viable option. But to do so, the capacity building of teachers is essential.

- ***Around 40 percent of the university faculty members of Indian Universities have never undergone any professional training to deal with online teaching-learning.***

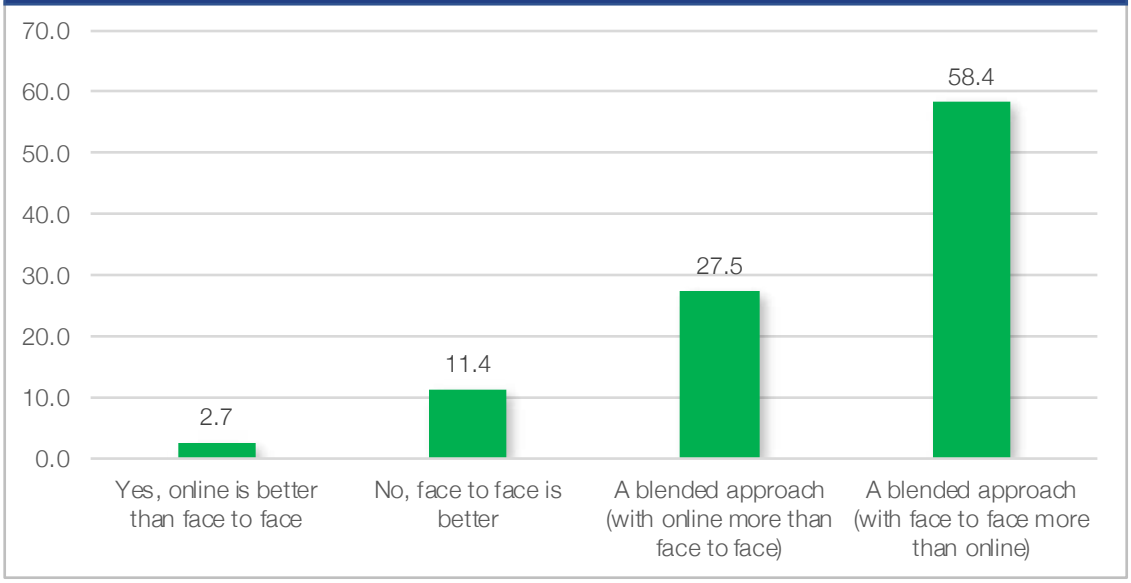
NEED FOR A CENTRAL AGENCY TO ORGANIZE TRAINING PROGRAMS FOR CAPACITY BUILDING OF FACULTY FOR ONLINE TEACHING



Some faculty members are capable of online teaching, but many faculty members are only beginning to integrate technology into their teaching. Having spent the majority of their years as practitioners in a traditional face-to-face classroom, a large volume of teachers lack experience in online teaching. Their initial teaching model is typically generated from that of their professors or senior colleagues, which was based on face to face learning. Therefore, almost all teaching professionals require rigorous training for online teaching.

More than 75% of universities required training for capacity building of faculty for online teaching.

ONLINE LEARNING AS AN ALTERNATIVE TO FACE-TO-FACE LEARNING

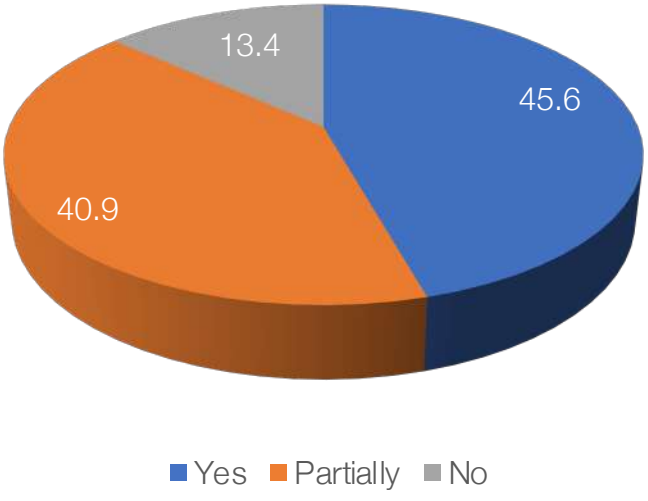


The classroom approach of teaching is changing and online teaching is no more limited to Open and Distance learning. Online learning is much more scalable, unlike face-to-face learning where there are always restrictions on the number of students a teacher can reach. Online teaching practices allow teachers to prepare course materials once and share them with as many students as required. A good blend of learning formats goes a long way in offering efficient learning to students, curtailing costs, and extending the learning accessibility.

More than 75% of the universities opted for a blended approach. This triggers a need for devising policies for blended learning.

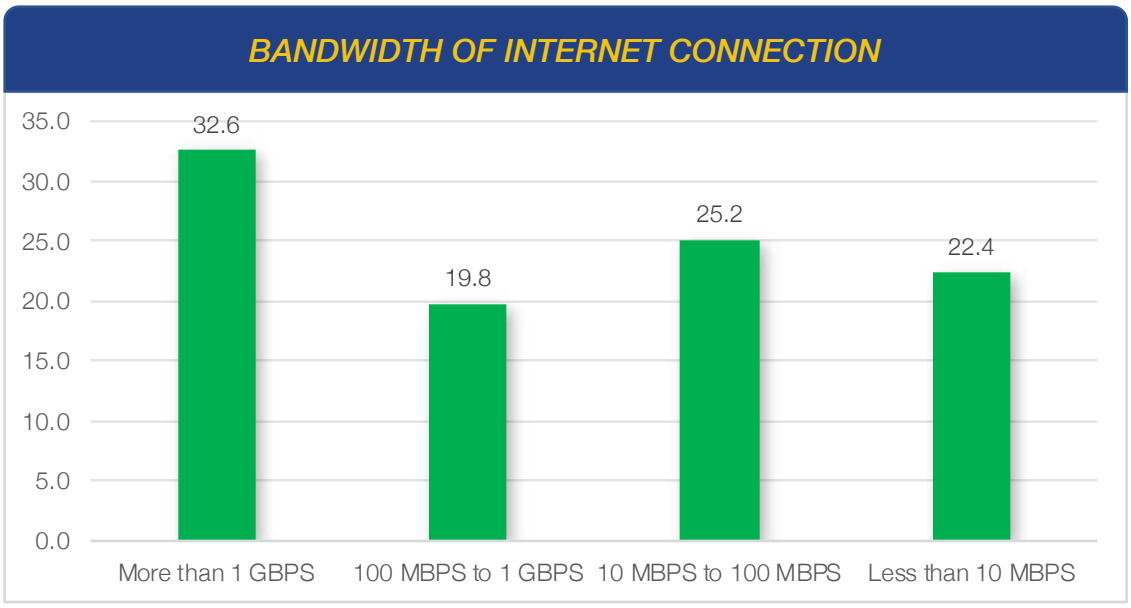
Blended approach is best suited for teaching and learning

PROVIDING ONLINE VALUE-ADDED SERVICES SUCH AS INTERNSHIPS AND LIVE PROJECTS ALONG WITH ONLINE EDUCATION



Ever since the initiatives for skill development were introduced, internships have become an important part of college programmes and mandatory to gain practical exposure. They help students to brush-up skills and provide hands-on experience before heading out into their job. To continue their regular activities during the COVID pandemic many higher educational institutions and students have offered internships and projects in online mode. Online internship systems need to strengthen to reach all institutions

More than half of the universities are not providing fully online value-added services like internships or projects.

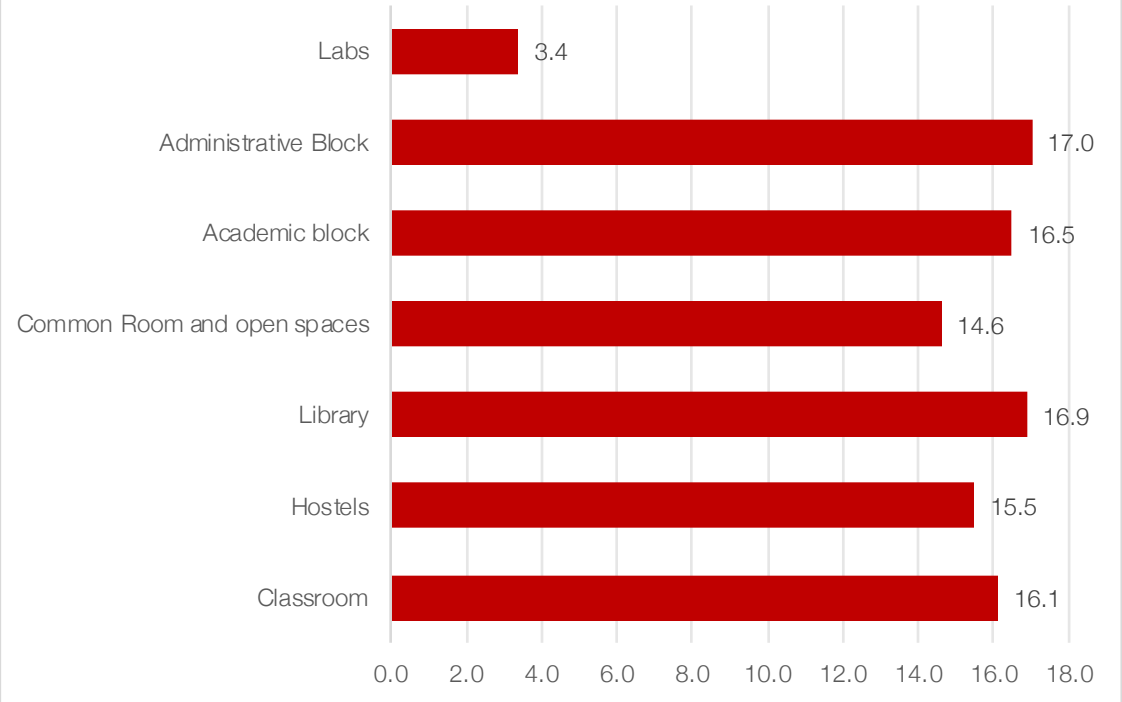


Most of the university's activities after the lockdown are running in online mode but most higher education institutions do not have adequate Internet access. Connectivity with good bandwidth is a primary requirement for online education.

- ***More than 65% of universities work with less than 1 GBPS bandwidth of internet connection in which 22.4% facing narrow bandwidth problem.***

High Bandwidth is prime concern for online

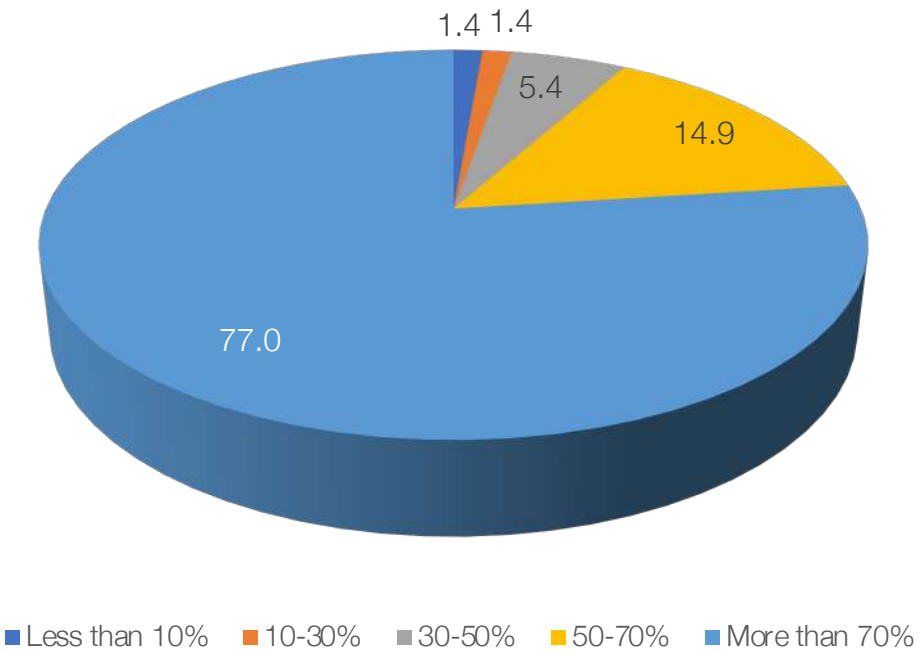
WIFI CONNECTIONS AVAILABLE IN UNIVERSITIES



To enable the universities to run online education and implementing innovative learning strategies, the universities should be equipped with key infrastructure and support systems.

- ***More than 75% of universities Wi-Fi connections are not available in classrooms, hostels, libraries, academic blocks and labs and common facilities & open spaces***

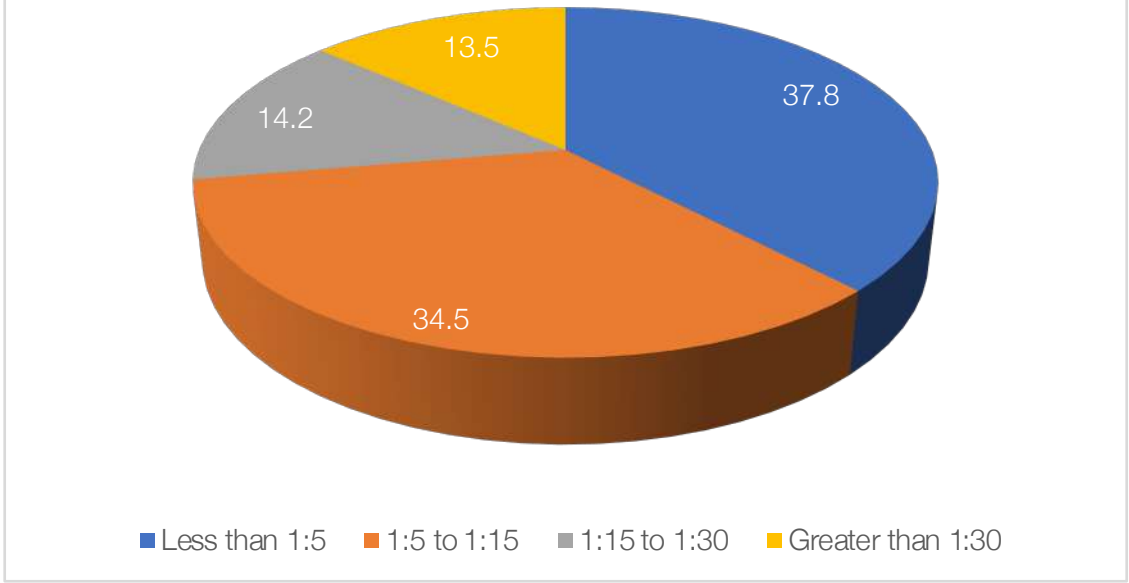
FACULTY PREPAREDNESS FOR EFFECTIVE TEACHING THROUGH ONLINE MODE



Universities around the world have suspended face-to-face classes due to the COVID pandemic. Almost every university, faculty are being asked to prepare for teaching courses online.

Majority of faculty members are capable of teaching online

COMPUTER TO STUDENT RATIO IN UNIVERSITIES

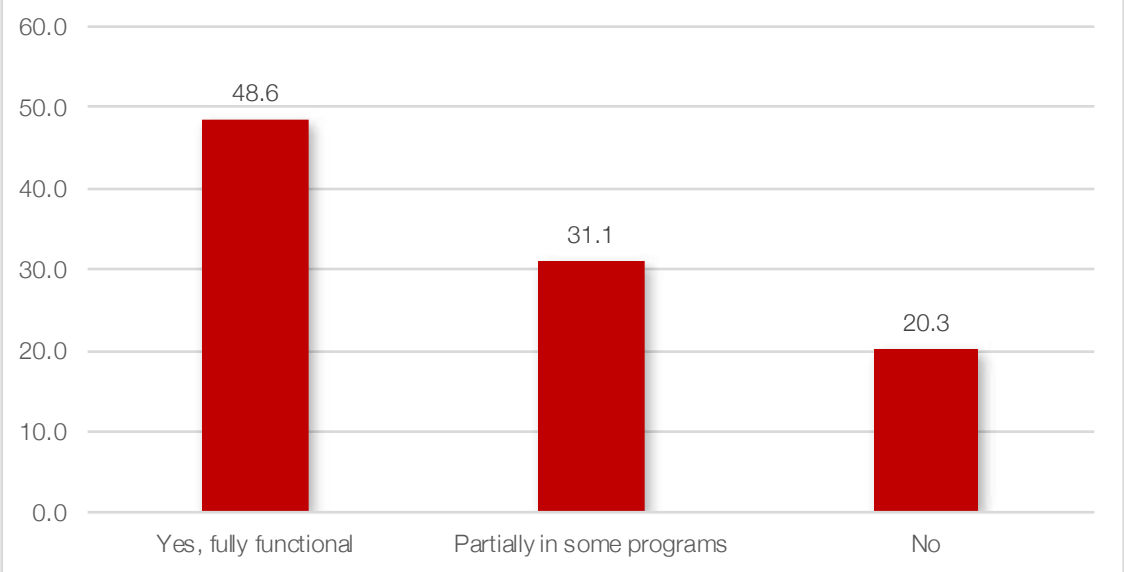


Moving to an online teaching-learning model requires the availability of computers. Effective and advanced teacher learning is an integral element of the successful learning program but survey findings on the computer to student ratio reveals the following facts.

- ***More than 85% of sampled universities have more than 1:5 computer to student ratio.***
- ***13.5% of sampled universities facing severe computer facility problem with greater than 1:30 computer to student ratio.***

Need to improve Computer to Student ratio

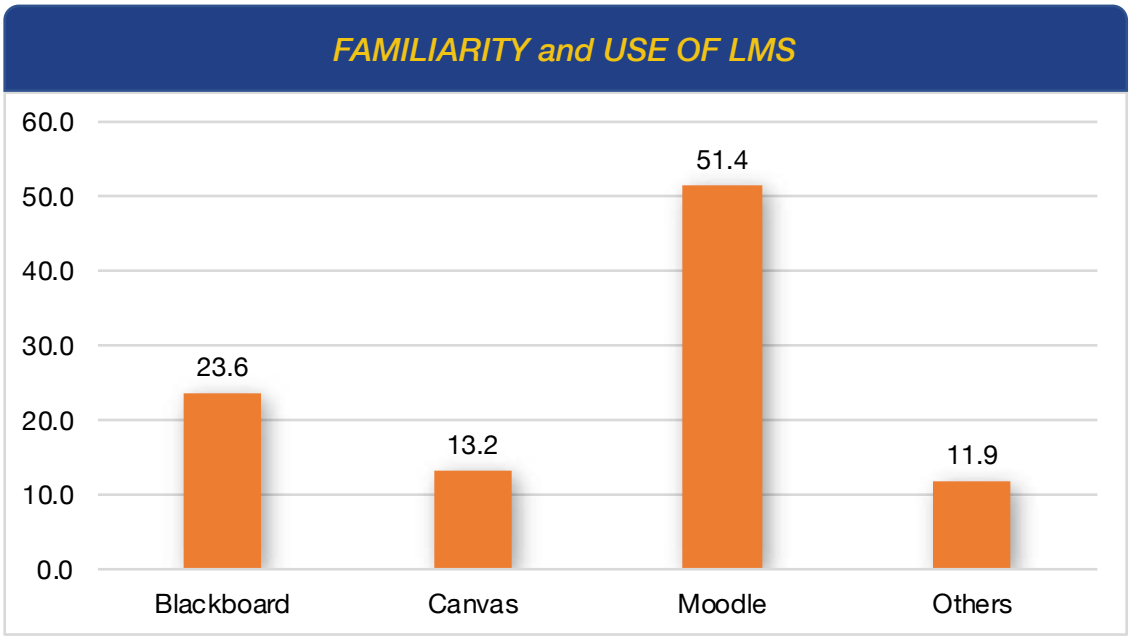
USE OF LEARNING MANAGEMENT SYSTEM (LMS) FOR TEACHING



Learning Management Systems – LMS are innovative tools for better involvement of teachers and students, especially during this pandemic. LMS help to create, adopt, administer, distribute and manage all of the activities related to online teaching, or can act as an alternative to classroom learning. LMS makes the classroom experience much more robust because in this advanced digitized era educational methodologies have shifted to simpler, more personalized, interactive, and experiential forms but our universities need to work hard to fully implement LMS in the education system.

- ***More than half of the universities are not fully functioning with LMS including 20.3% sampled universities having no LMS facility***

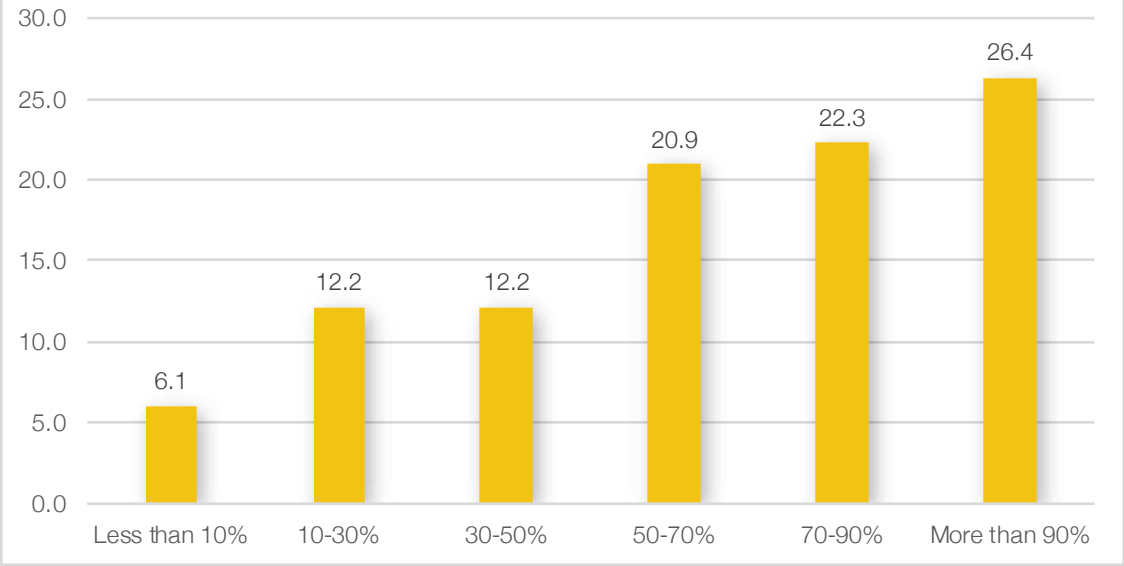
LMS is a game changer in online education



Familiarity with LMS enhances the chances of its use in the teaching-learning process. Soon after the ICT revolution, many institutions have started using various LMS. Therefore, an effort was made to elicit a response from the universities about the familiarity and extent of usage of LMS. The study found Moodle LMS system is the first choice followed by Blackboard and Canvas.

- ***Most sampled universities (51.4%) are familiar with the Moodle LMS system.***
- ***Less than 5% of universities familiar with Sakai, Schoology, Brightspace and LearnDash LMS system.***

FACULTY CAPACITY FOR INDEPENDENT CREATION OF ONLINE COURSE MATERIAL

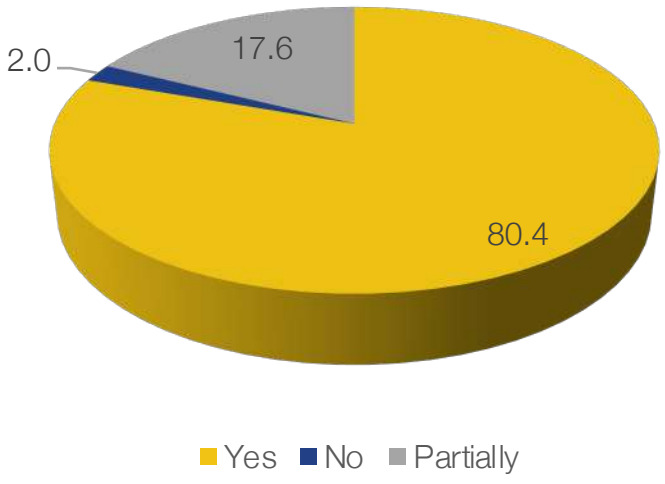


The pandemic is forcing teachers to put more and more of their lectures and other course materials online. But in actual scenario universities are not fully prepared as the majority of teaching staff are not capable of independent creation of online course material, survey findings indicate the following glaring facts of the current situation.

- ***Approximately 75% of sampled universities have less than 90% of faculty is capable of independent creation of online course material.***
- ***Around 30% of universities have less than half of faculty capable of independent creation of online course material.***

Faculty members are not fully prepared for independent creation of online course material.

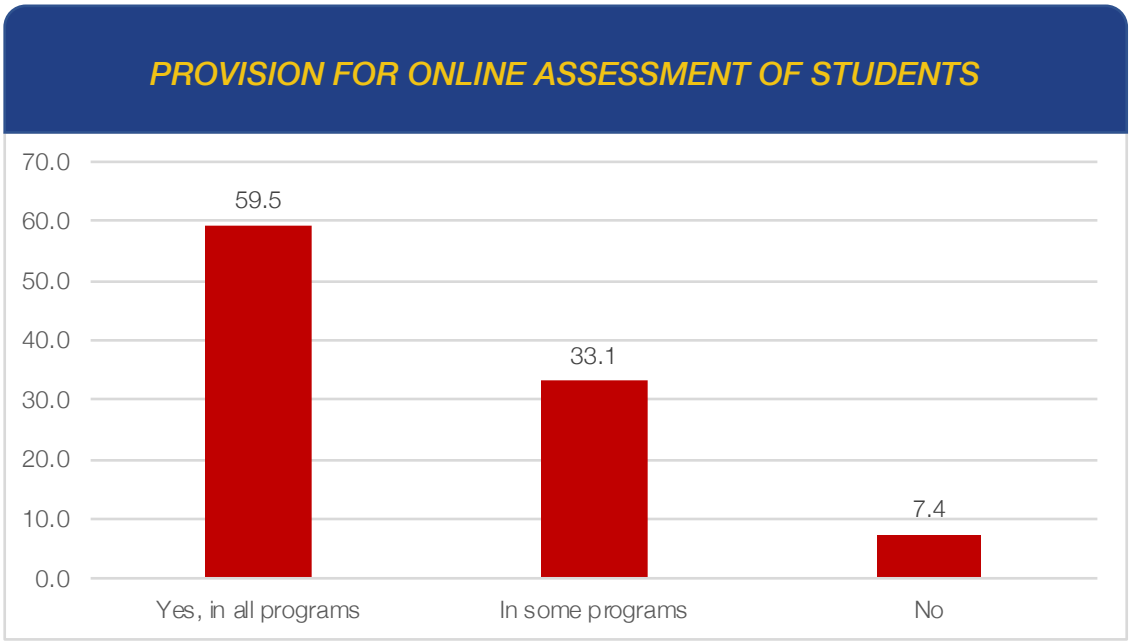
PROVIDING ONLINE COURSE MATERIALS TO STUDENTS



To combat the problems created by the coronavirus outbreak, universities are encouraging teaching staff to utilise this time productively by engaging the students in online learning. Many universities are offering their content for free now and students who are sitting at home can make full use of this learning material but for full implementation of this more focus is required on this matter, survey analysis reveals these facts.

- ***Around 20% of universities are not providing most of the course materials online.***

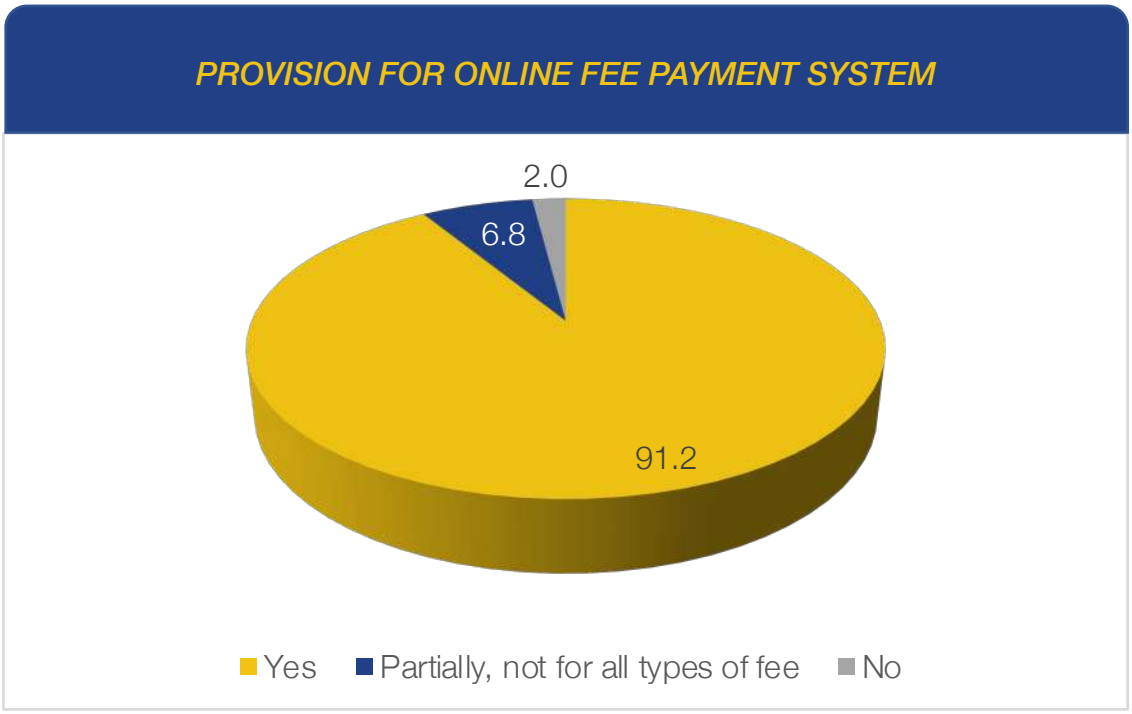
Availability of online course material should be ensured.



The examination system in higher education in India has always been subject to intense criticism for assessing rote learning, emphasising the memorisation and reproduction of learning outcomes without triggering critical thinking and problem-solving. Lately, Online assessment is gaining popularity. Online assessments are about more than just grades. When meaningful and well-constructed, they help students gear up for success by challenging them to reflect, interact, and apply their knowledge to answer questions, solve problems. and communicate information effectively.

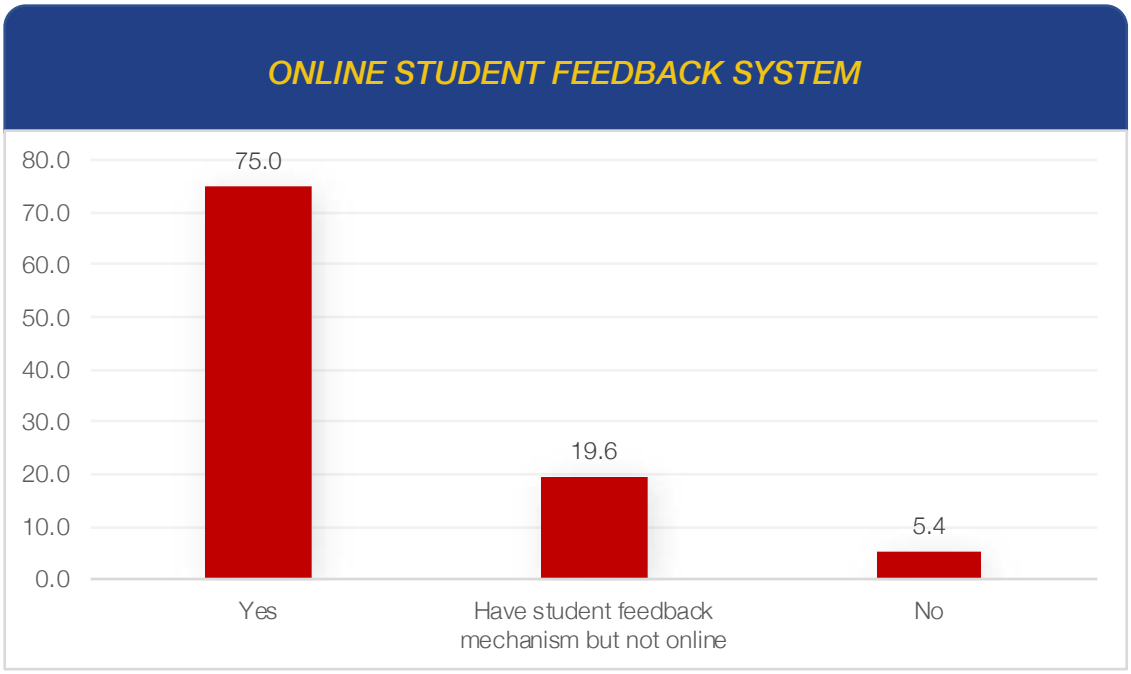
- ***Unfortunately, the survey finds that around 40.5% of universities do not have an online assessment in all programs, including 7.4% of institutions with no online assessment.***

Need to focus on online assessment



Online digital payments have revolutionized the financial transaction system in almost all sectors. Although educational institutions took time to adopt the e-payments systems, many are now clearly seeing the benefits of online fee payment systems but some of the universities need to work on this important task.

- ***More than 90% of our universities have online fee payment system but 2% of universities still have no online payment system.***



Student feedback system constitutes to be a major mechanism for redressal of student grievances and to have appraisal about the shortcomings of the system for strengthening the student support services. In the case of online education, the need for a structured feedback mechanism becomes more important. Lack of a meaningful feedback mechanism possesses the biggest challenges for online learners. Ever since the introduction of online student feedback mechanisms the universities have been taking initiatives to put a structured feedback mechanism in place. It was observed that the majority (75.0 %) of the responding universities have a functional online student feedback mechanism.

- ***5.4% of sampled universities have no feedback system***

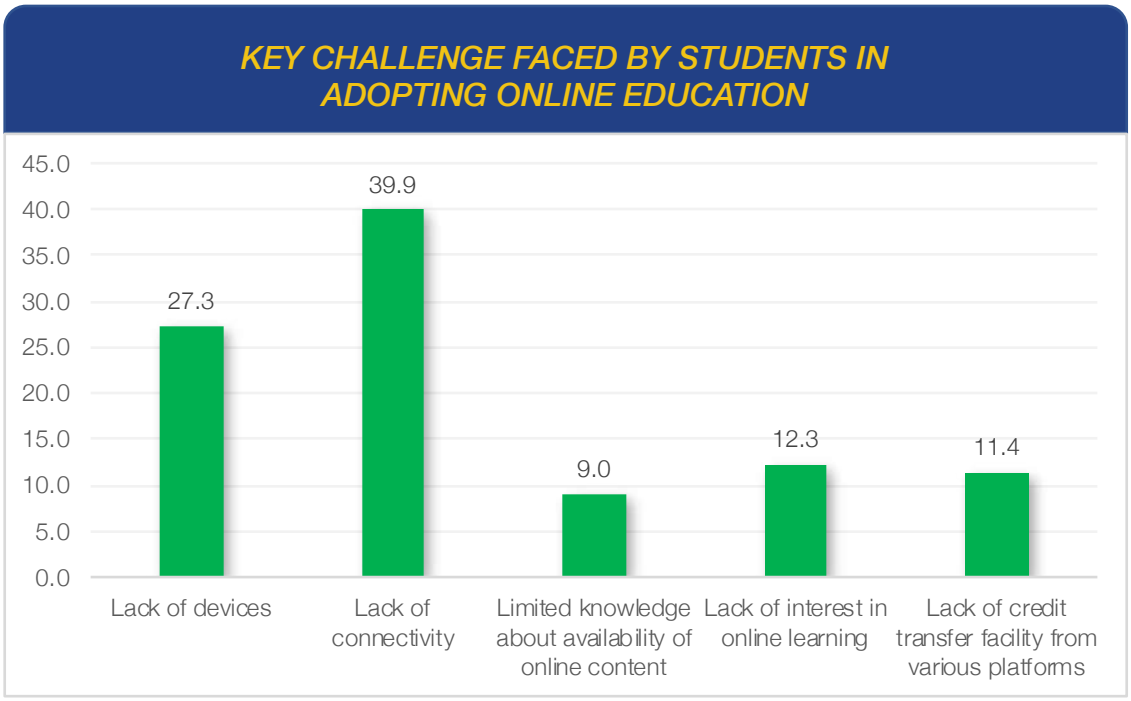
A quarter of the universities did not have an online student feedback system

FACTOR FOR SELECTING ONLINE COURSES FOR STUDENTS

There are many advantages to online education, but plenty of factors to consider before selecting online courses for students. The survey analysis reveals that the quality of online courses is the major key factor in selecting online course material.

- ***The majority of universities select online courses for students based on the quality of the study material.***

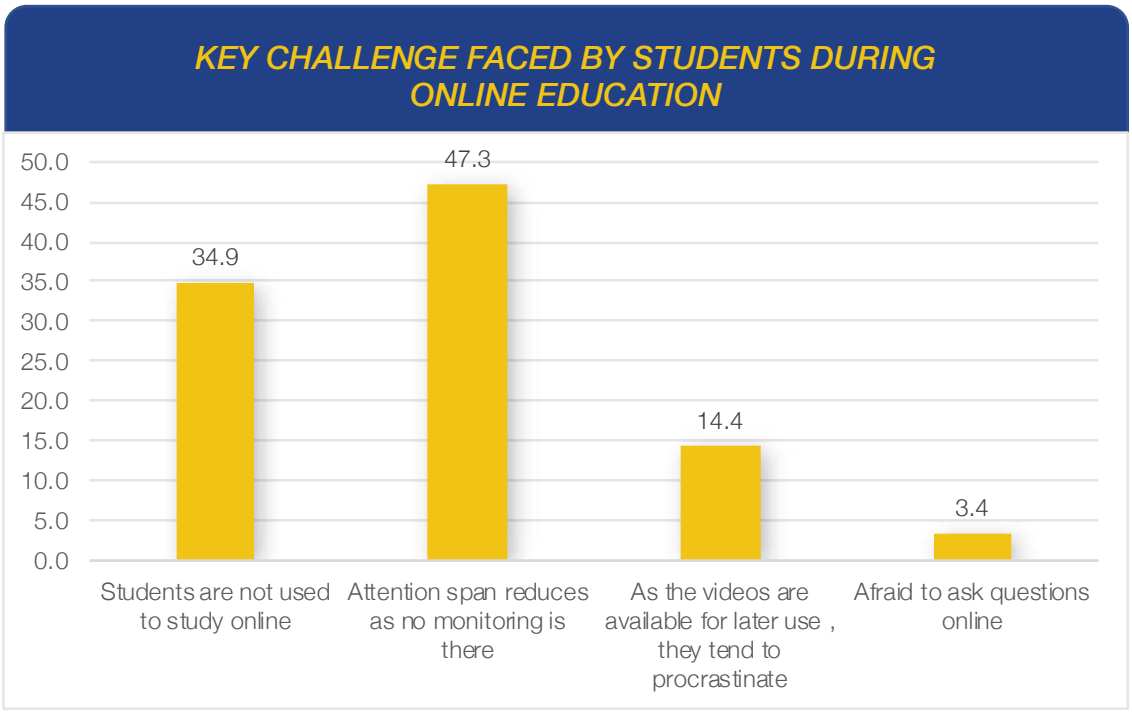
Faculty recommendation is also a prime factor in selecting online courses for students.



Despite the adoption of online education being relatively recent, it is already being developed in several institutions despite posing many challenges for both teachers and students. While teachers need to put in intensive work and time to design the instruction, students need to equip themselves with technical proficiency to decode the course material. Survey analysis reveals the following facts about key challenges faced by students in adopting online education.

- ***Lack of connectivity and lack of devices are the key challenges faced by students in adopting online education covering approximately 70% of universities students.***
- ***More than 30% of universities students facing other Key challenges in adopting online education.***

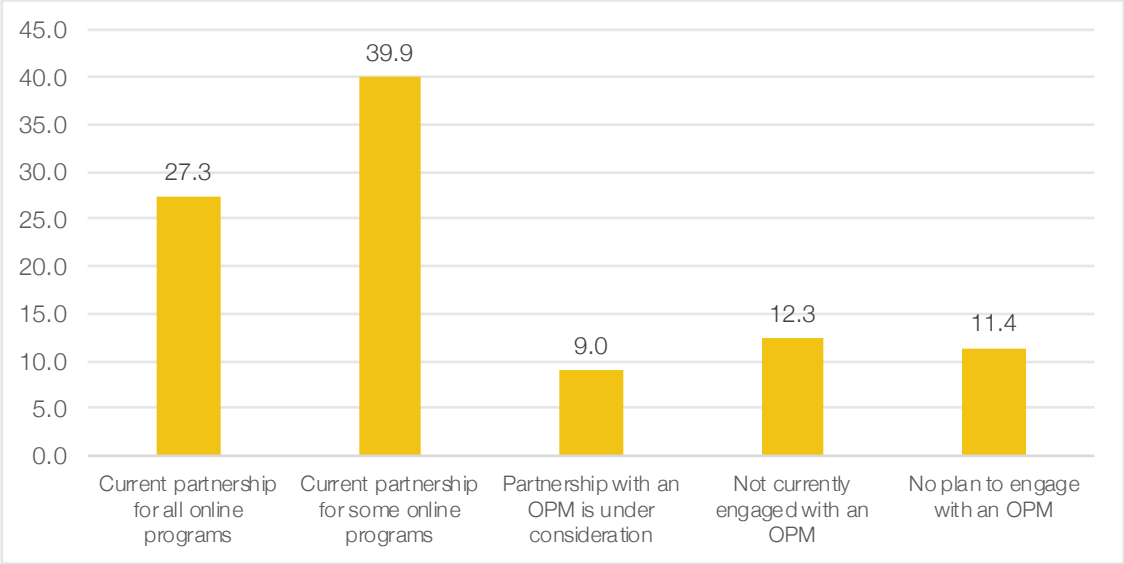
Lack of connectivity and lack of devices are prime concern



Switching from classroom learning to online learning in a virtual classroom makes the learning experience entirely different for students. Online learning is a better alternative, but at its initial stage, it poses certain challenges to students. Students need to change their mindset to follow the new educational trends and properly equip themselves for future challenges in their online education. The survey covers major key challenges and findings reveal the following facts.

- ***In most universities, two major key challenges faced by students during online education are Attention Span Reduces as No Monitoring is there and Students are not used to studying online.***

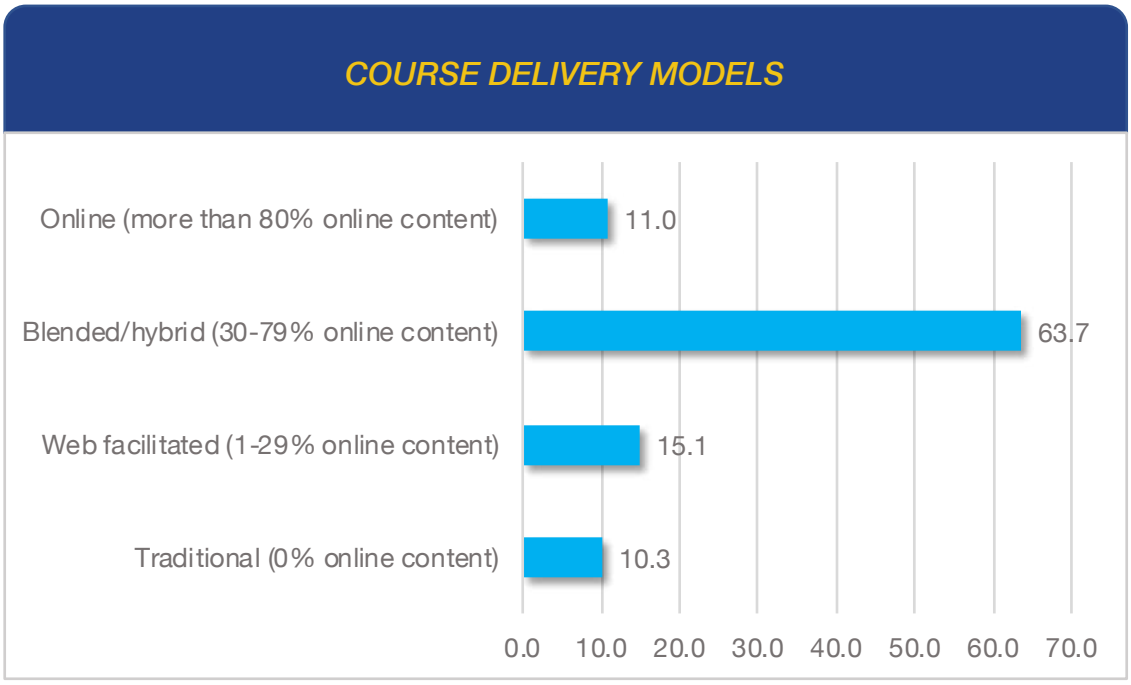
PARTNERING WITH ONLINE PROGRAM MANAGEMENT (OPM) COMPANIES



As online learning increases within the higher education system, universities are increasingly choosing to develop and implement online programs to keep up with the growing demand. With this comes a critical decision: How to develop and launch the online program. One option is to launch the program internally with existing resources and personnel; however, some universities are entering into a partnership with online program management (OPM) companies to fulfil the current demand for online education. The data received from responding universities indicate the following.

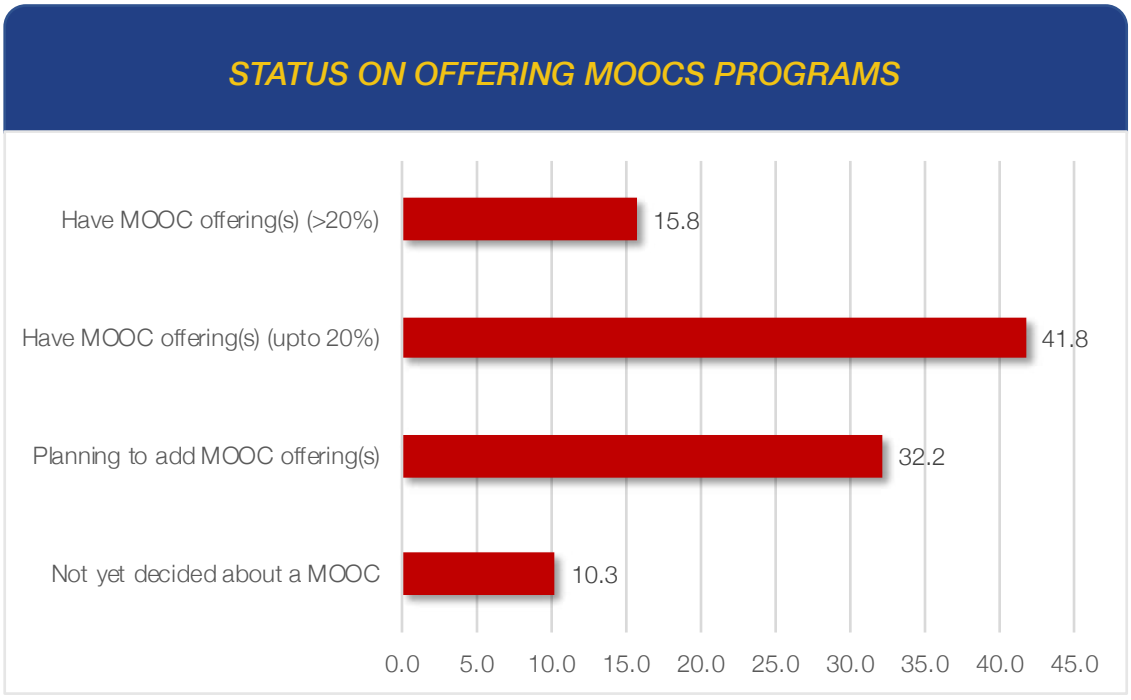
- ***More than 70% of universities are not in a partnership with OPM companies for all courses.***

Majority of institutions prefer a partnership with OPM companies for some programs.



Blended learning offers flexibility, effectiveness, efficient and quick knowledge delivery, and different rationalization options. However, it is important to note that these can only be useful when the chosen method fits the needs of the educational institution. Survey findings reveal that the use of online content is less in universities.

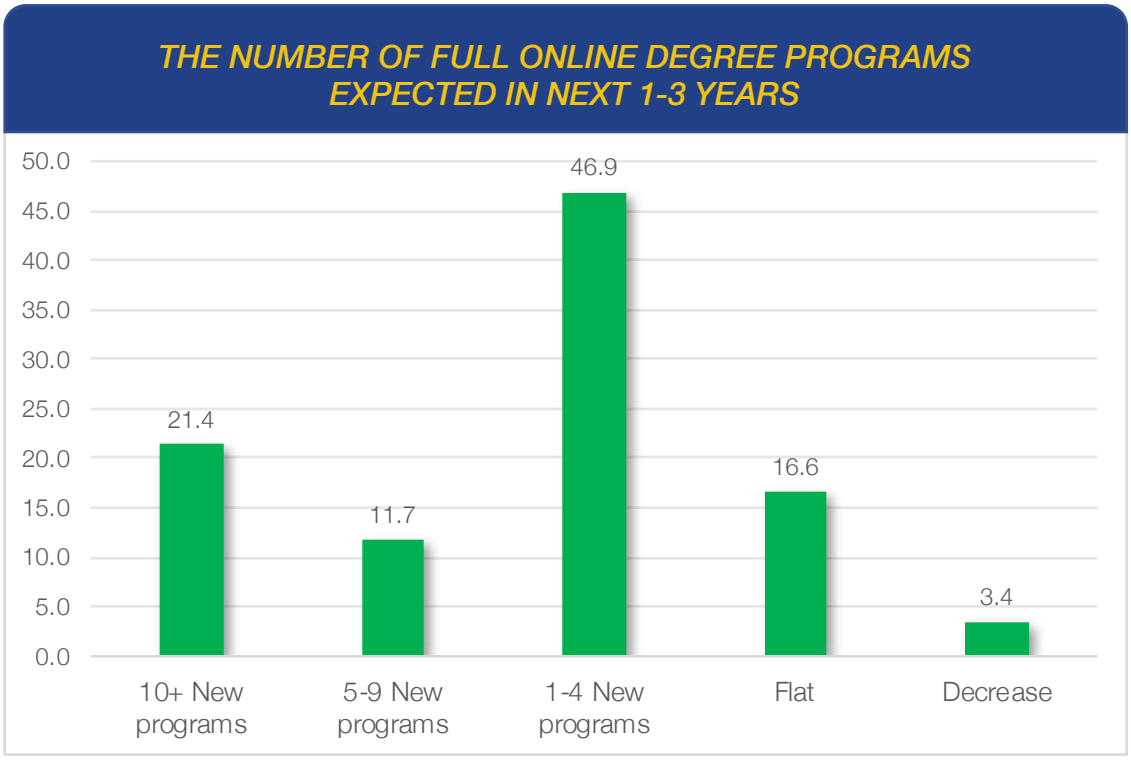
- ***Approximately 90% of universities using less than 80% online content.***
- ***Around 10% of universities are still not using any online content.***



MOOCs provide an affordable and flexible way to learn new skills, advance careers and deliver online education. Millions of students around the country use MOOCs to learn for a variety of reasons, including career development, changing careers, college preparations, supplemental learning, lifelong learning, training and more. Survey findings show that the universities need to go ahead in MOOC offering.

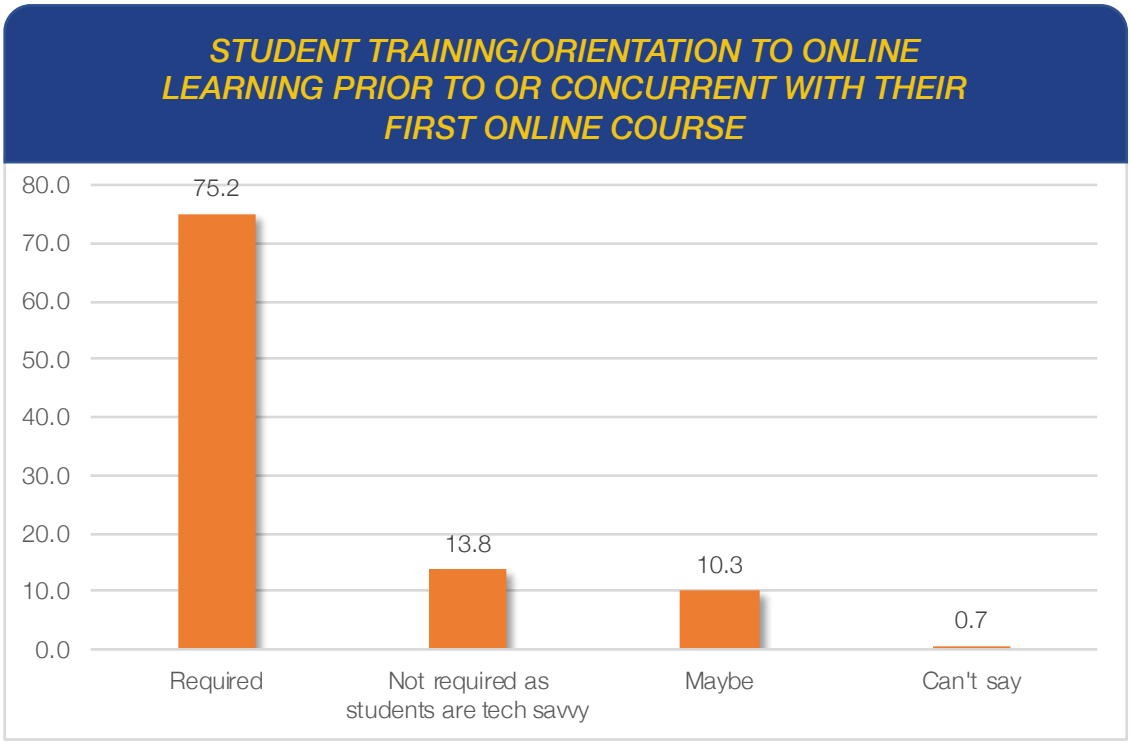
- ***42.5% of sampled universities are not offering MOOCs programs including 32.2 % planning to add MOOC Programs.***

Only 57.6% of universities are offering MOOC programs.



In 2020, Universities started offering fully online degrees. Though it was started as a response to the pandemic. Survey findings show a growing trend in online degree programs in the next three years.

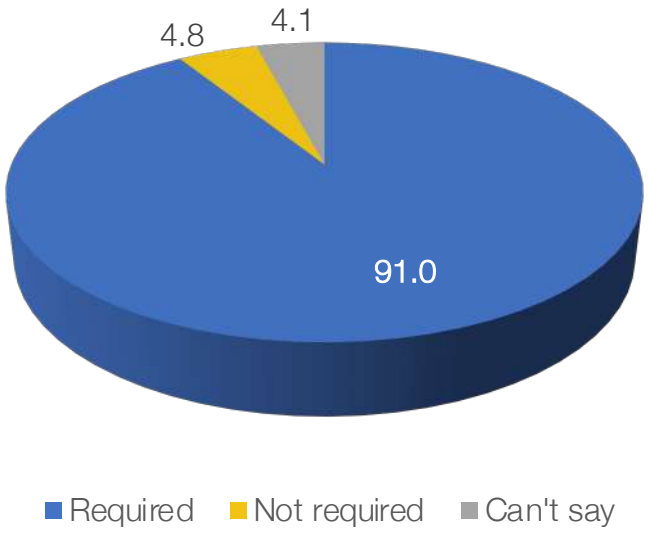
- ***In the next 1-3 years, 80% of universities are expecting the number of fully online degree programs at their institution to increase.***



In India face-to-face classroom teaching is the dominant model. Very few universities were offering online courses before the corona pandemic. The sudden shift to online teaching needs rigorous training of the students so that the purpose may be served in a better way. From the analysis following facts emerges.

- ***In 85.3% of sampled universities' students' required training/orientation to online learning before or concurrent with their first online course.***

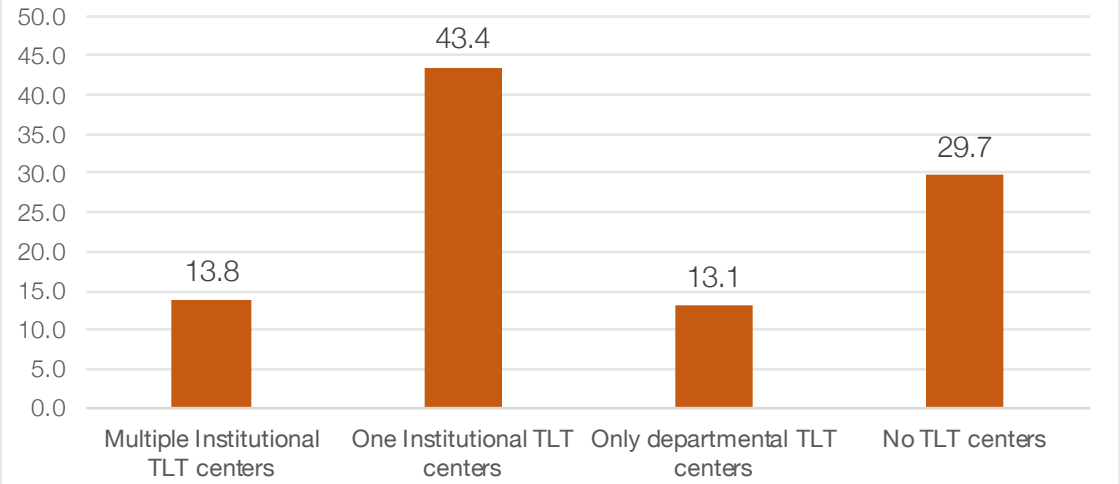
FACULTY TRAINING / ORIENTATION TO ONLINE LEARNING PRIOR TO OR CONCURRENT WITH THEIR FIRST ONLINE COURSE



The biggest benefit of online teaching is that teachers can focus their energies on content rather than settling the students. To utilize this energy efficiently there is a need to train teachers so that structuring and quality of content may be enriched and this will make the education landscape more accommodating and flexible that puts students first but to implement this almost the entire teacher's community requires a massive training and survey analysis also supporting this fact.

90% of university faculty required online learning prior to or concurrent with their first online course.

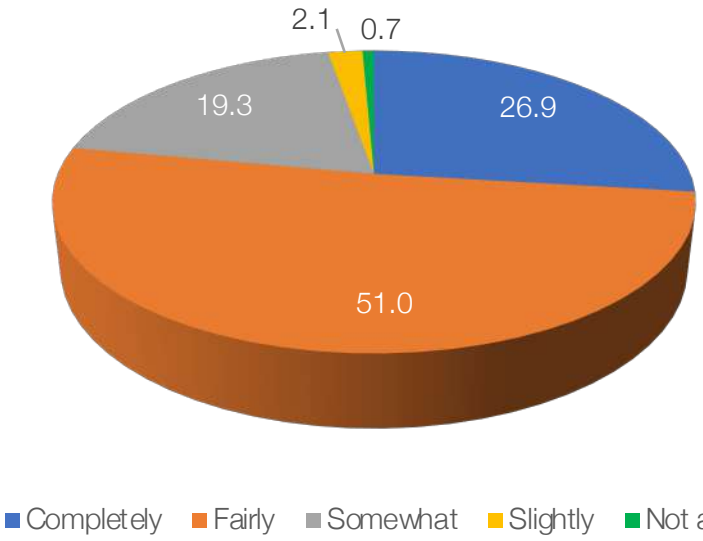
AVAILABILITY OF TEACHING/LEARNING/TECHNOLOGY INNOVATION CENTER, OR ITS EQUIVALENT



Indian higher education system needs effective innovation centres in universities that can help to produce the needed high-quality learning outcomes across the system. The primary focus of educational innovations should be on teaching and learning practices, as well as on the students. Technological innovation in education needs a solid infrastructural foundation base, systemic approach, and sound pedagogy. Survey findings show that the majority of universities have at least one Teaching/Learning/Technology Innovation Centre but they need to ensure quality and scalability.

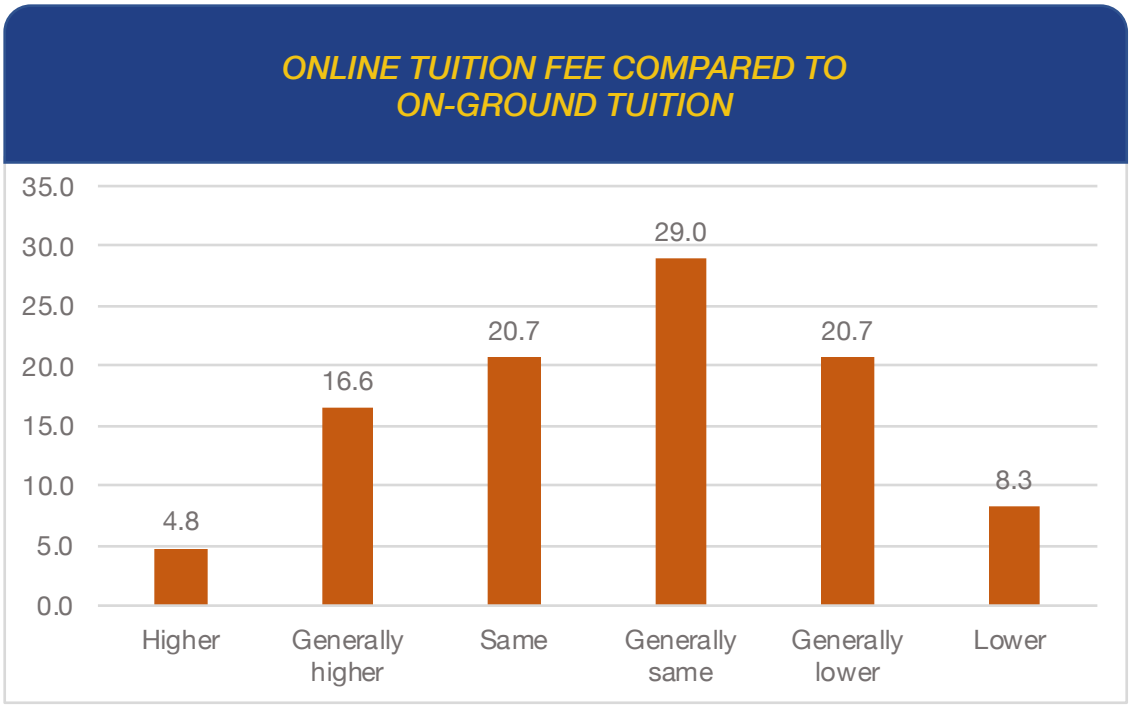
- ***70.3% of universities have at least one Teaching/Learning/Technology Innovation Centre or equivalent.***

CONFIDENCE LEVEL IN UNDERSTANDING THE COST DETAILS OF DEVELOPING, DELIVERING, AND MAINTAINING ONLINE PROGRAMS



Majority of institutions are shifting their traditional education to new normal i.e. online education. This needs a proper mindset and targeted goals of educational administrators. Survey analysis pointing out that most universities started functioning with some level of confidence in understanding the cost details of developing, delivering, and maintaining an institution's online programs.

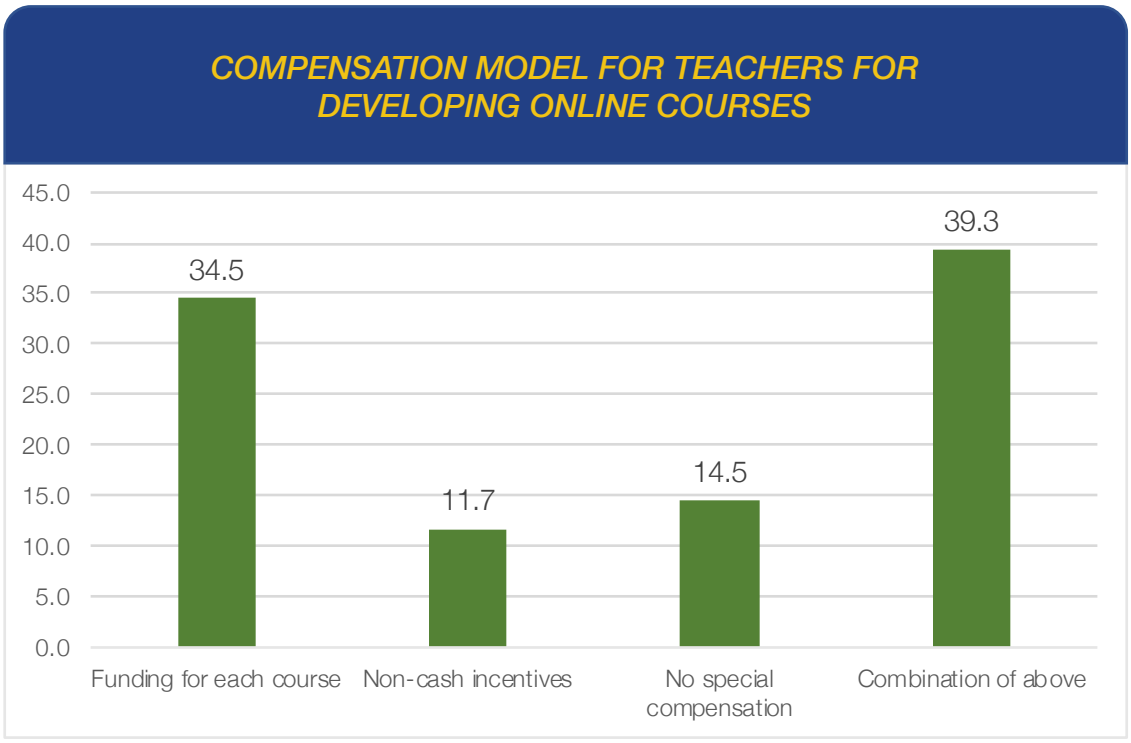
- ***More than 95% of sampled universities have some level of confidence in understanding the cost details of developing, delivering, and maintaining an institution's online programs.***



In India educational fee is a prime concern since 40% of the population is living below the new international poverty line of $1.25 (PPP) per day. Implementation of online education needs to be modelled in such a way that fee either is same or low with traditional education and survey analysis also supporting the same facts.

- ***76.7% of universities considering online tuition fee compared to on-ground tuition fee is same or lower.***

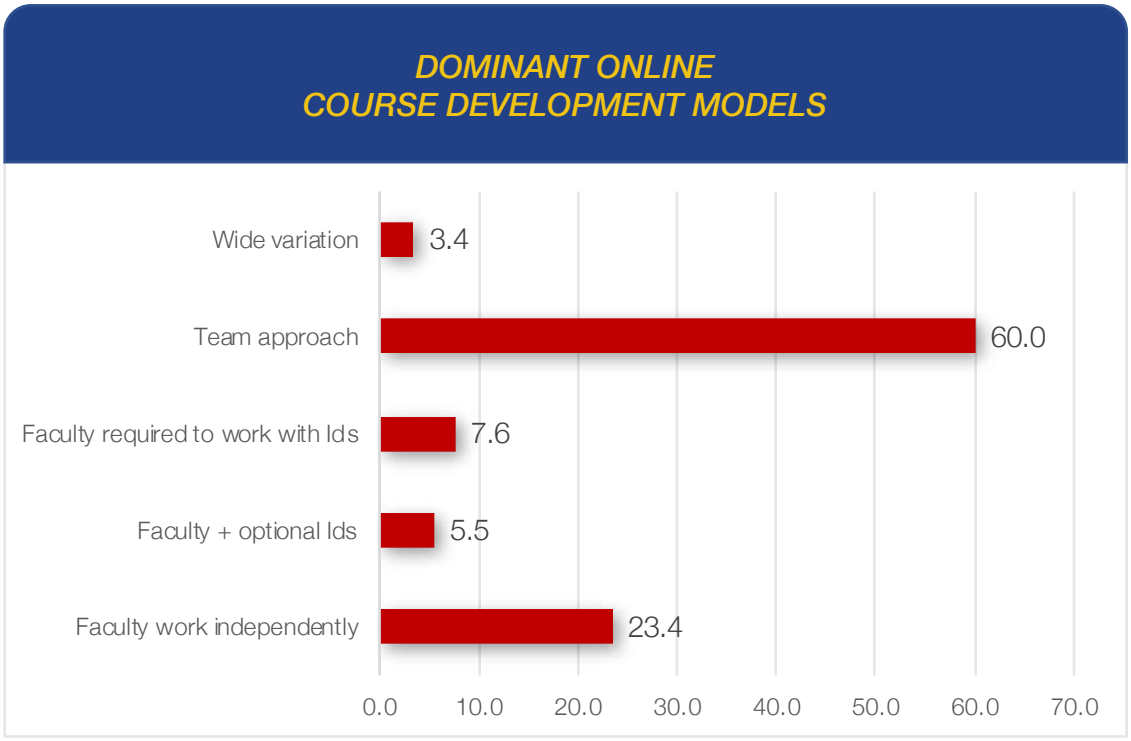
Around a quarter of universities feel the online tuition fee compared to on-ground tuition fee is higher in some manner.



The compensation model for teachers developing online courses should be to promote financial equity among faculty offering online courses, as well as to facilitate a positive impact on faculty welfare and student access to online courses. Survey findings favouring funding model for teachers developing online courses.

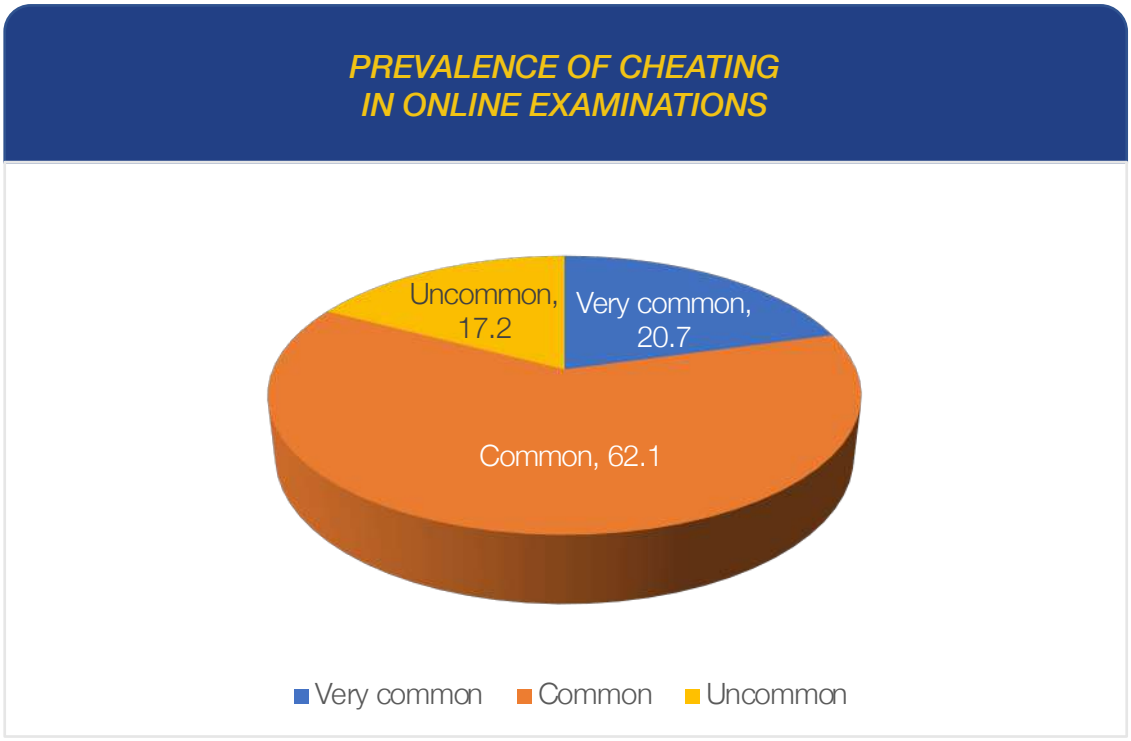
- ***73.8% of universities consider that some form of funding compensation model is required for teachers for developing online courses.***

Section 1: Universities



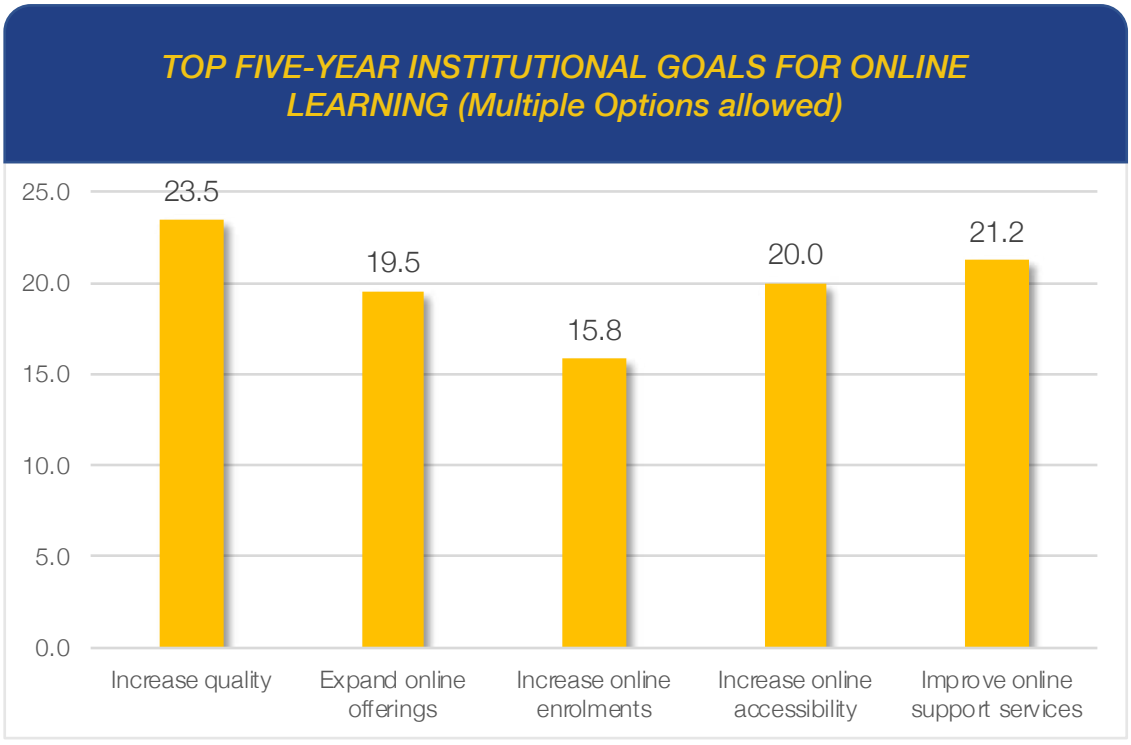
As the demand for online education is spiking, institutions are faced with developing process models for efficient, high-quality online course development. Survey findings indicate a team-based approach that most universities follow.

- ***More than half of the universities' faculty are not able to develop primary or dominant online development models independently.***
- ***Most universities required a team approach to develop primary or dominant online development models***



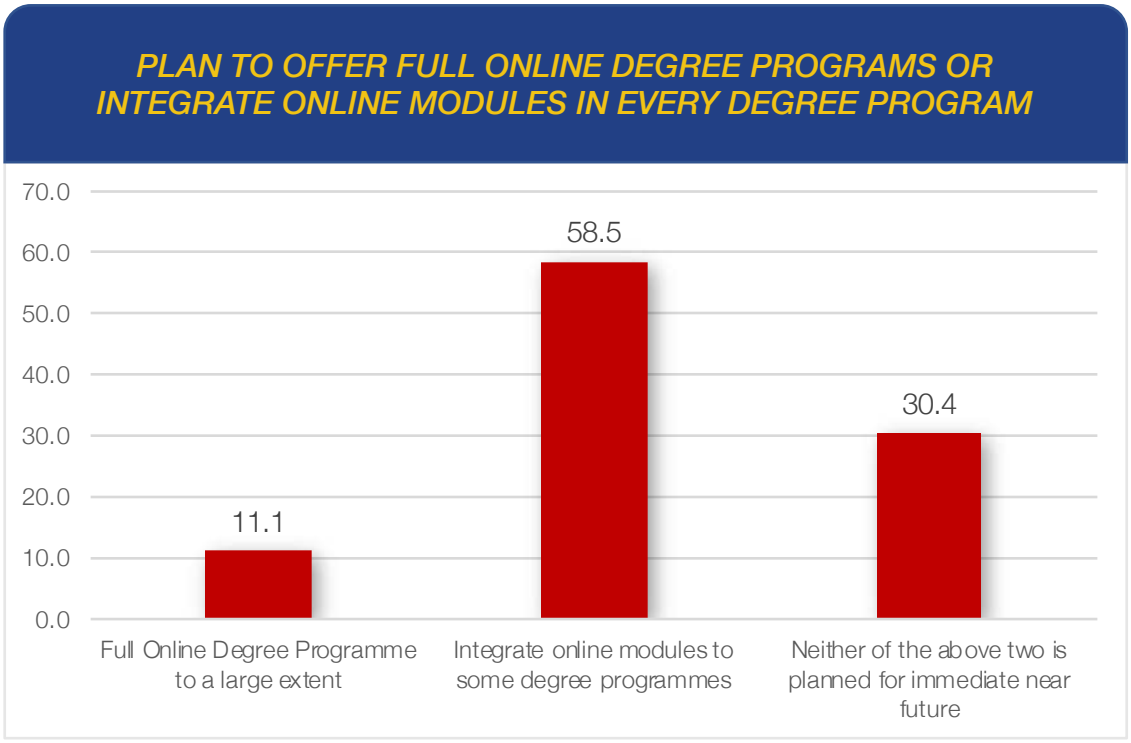
The prevalence of cheating in online courses is common. An important implication of the study is that relatively simple, technology-based tools can be used to significantly put a check on dishonest practices in online courses.

- ***Survey analysis showed that in 82.8% of cases cheating in online examinations is common. There is a dire need to strengthen the overall mechanism to resolve this issue and make it full proof.***



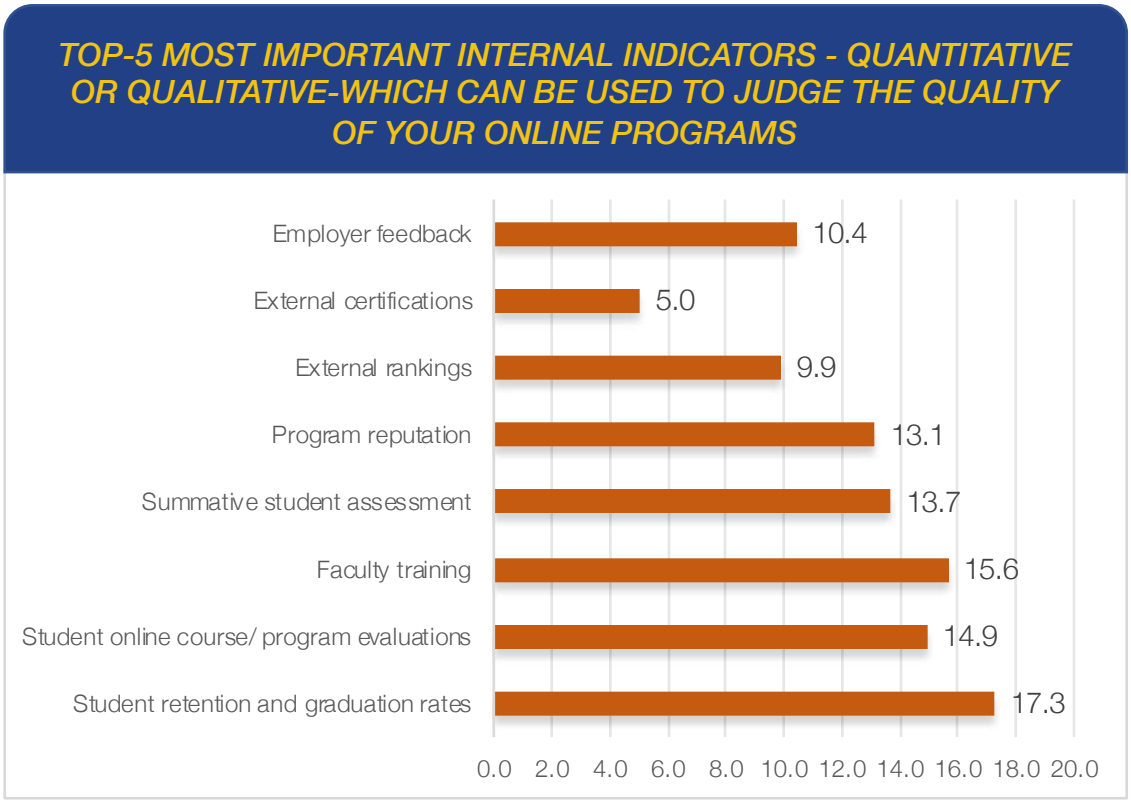
Setting effective goals is important in implementing online learning as it will help in producing better results. The key success of effective online learning goals is not only to set goals but to set the right goals. Survey findings point to some important goals.

- ***Most universities are in favour to increase quality and support services for online learning systems in the next five years.***

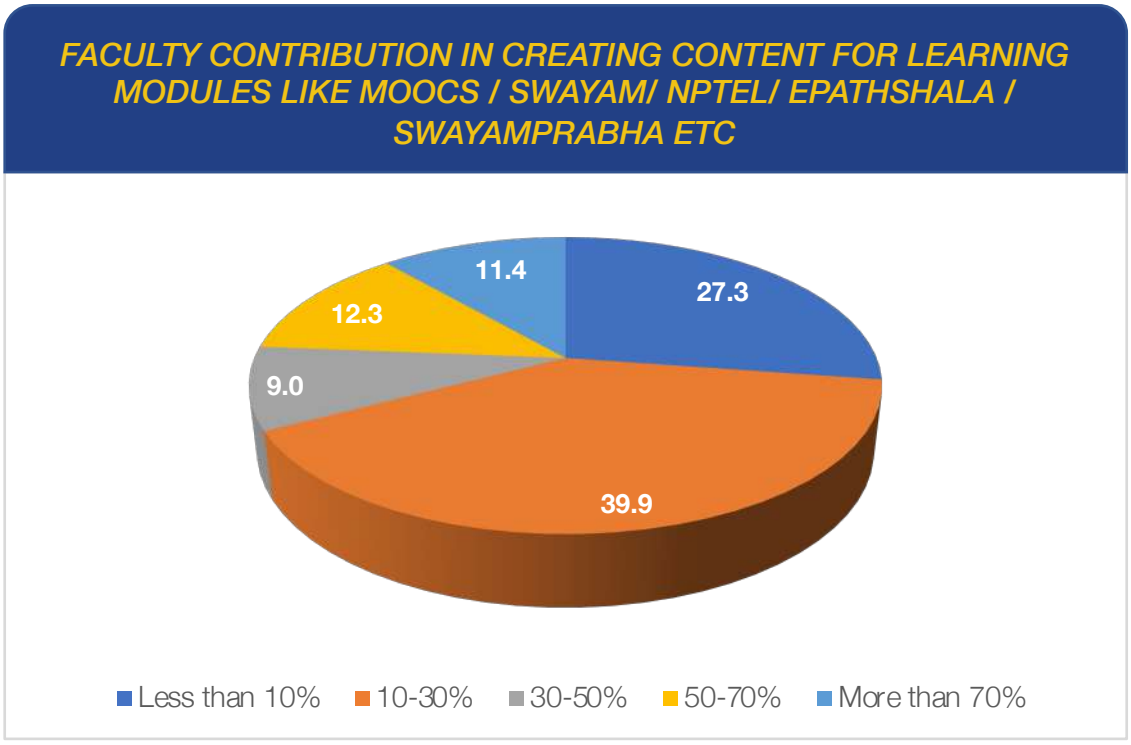


Earlier, Indian universities were not allowed to offer more than 20 percent of a degree online because of concerns about quality and other parameters. Now, as a response to demand during corona, and to widen access to higher education, barriers to online learning are starting to lift. The survey findings are also in favour of online degree programs.

- ***Around 70% of universities are in favour of online modules in every program in a full or integrated manner.***

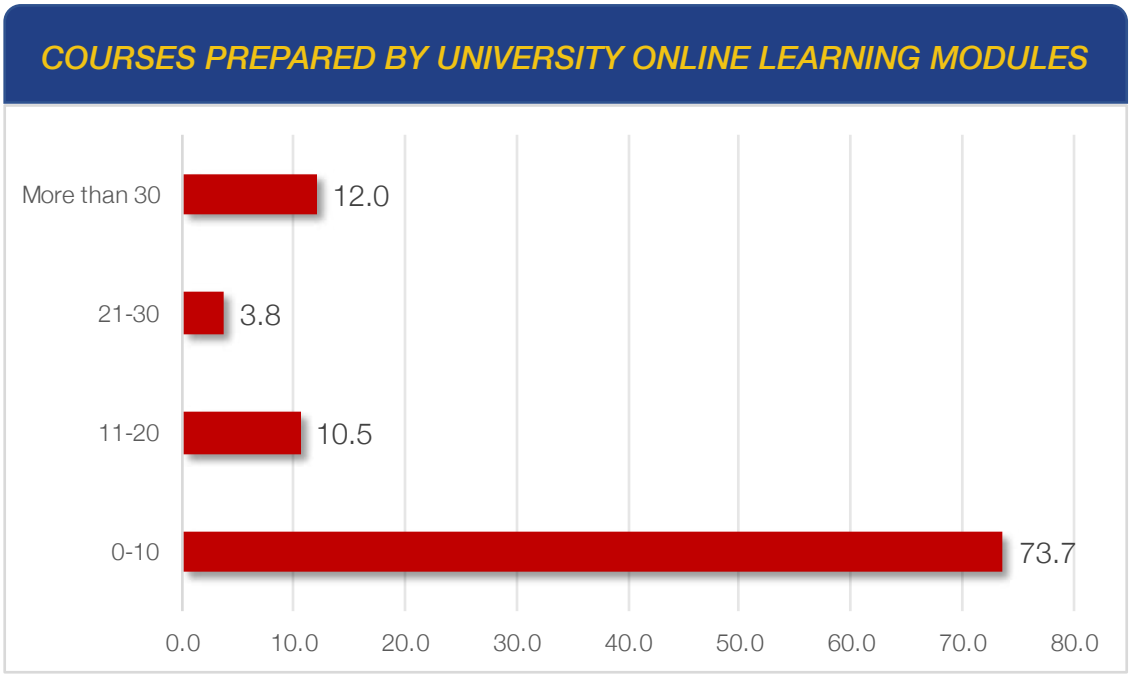


The quality of online programs is based on various parameters related to faculty and students, how faculty are designing and implementing courses and what students are gaining from online courses. However, the student point of view is most important in online courses. Survey findings present that among the factors, **student retention and graduation rate (17.3%) and faculty training (15.6%) and summative student assessment (13.7%) are considered as the most important internal indicators for judging the quality of online programmes.**



Enhancing the number of online courses seamlessly helps students and teachers to improve their knowledge with quality educational content. Faculty contribution to creating content for online learning modules is a potential indicator of the interest, commitment and familiarisation of faculty members.

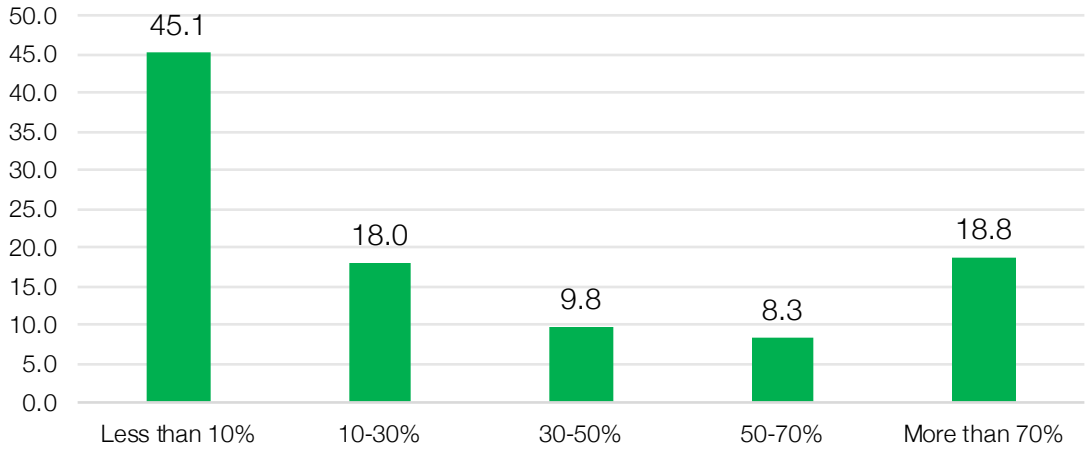
- ***In 76.3% of sampled universities half or less faculty have contributed to creating content for online learning modules.***



The universities need to extend course offerings in MOOCs programs so that the majority of remote location students get access, equity and quality in education. Survey analysis shows that universities need to design more courses for MOOCs programs.

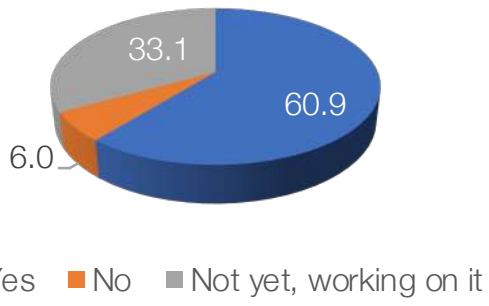
- ***More than 80% of universities prepared 20 or fewer courses for online learning modules.***

STUDENTS UNDERGONE COURSES ON ONLINE LEARNING MODULES

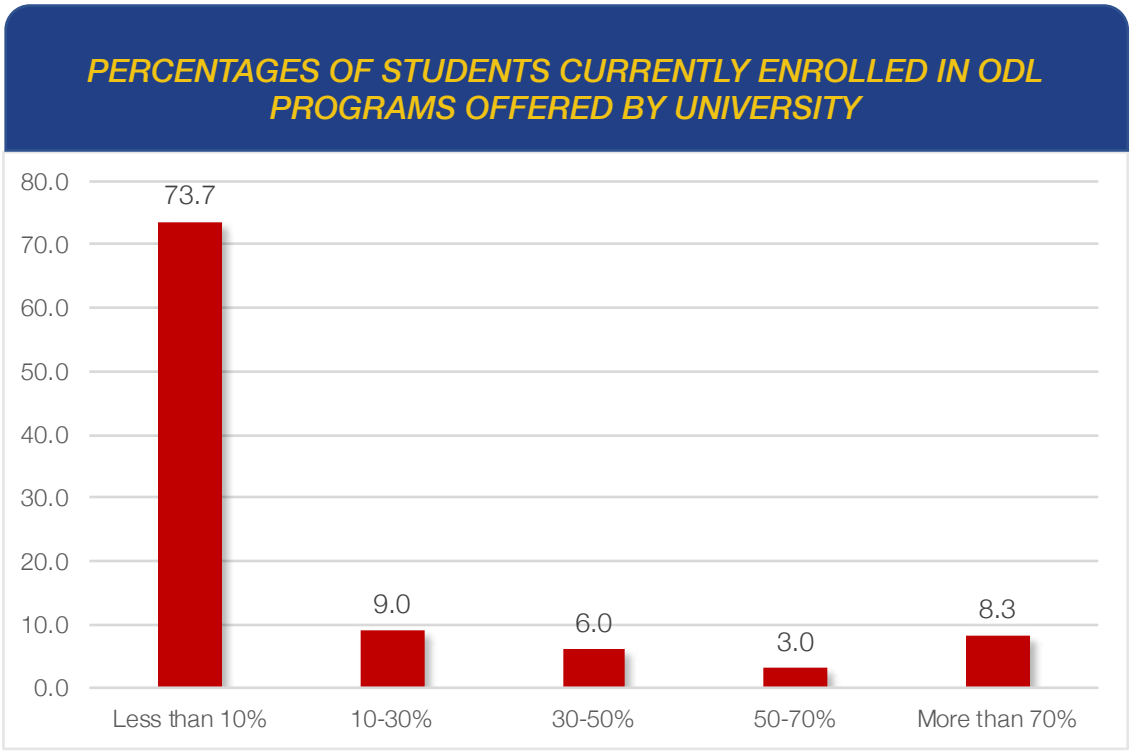


Universities need to motivate and circulate the importance of these courses among students otherwise all students will not take these courses as seriously as the survey findings indicate that **in 81.2% of universities less than 70% of university's developed courses are taken by students.**

RECOGNISING CREDITS EARNED ON ONLINE LEARNING MODULES



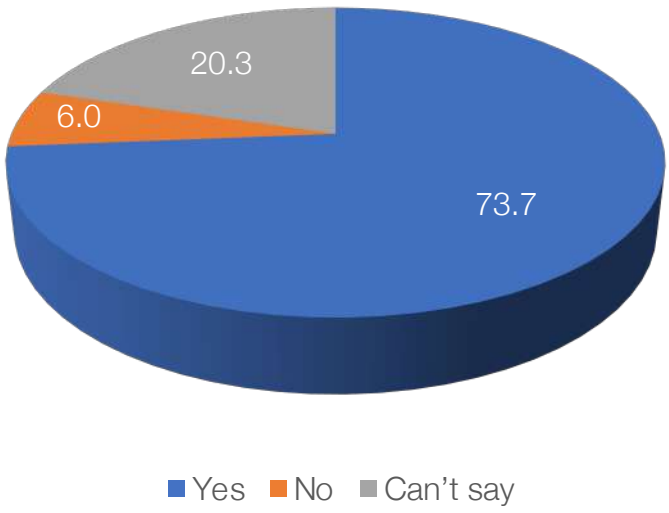
Around 40% of sampled universities need to work on credit recognition systems for online learning modules



Open Universities in India offers distance education to people who are unable to pursue courses on regular mode. These universities offer undergraduate, postgraduate, and doctoral programmes under the Open Distance Learning System in India but enrolment in these universities is still low as indicated by the conducted survey.

- ***In 88.7% of universities, half or fewer students are currently enrolled in ODL programs offered by universities.***

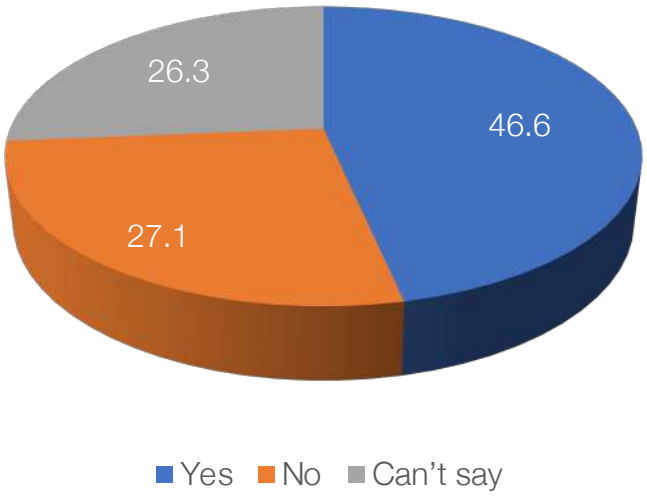
THE E-LEARNING PLATFORM LIKE SWAYAM PROVIDES ALTERNATIVE OPPORTUNITIES FOR HIGHER STUDIES TO UNIVERSITY STUDENTS



The e-learning platform provides an unlimited number of students with a chance of distance education with the best institutes in the country. If there is a particular course students want to pursue but cannot, they have an option of considering a MOOC for their chosen higher education path. However, survey findings indicate that universities still are not considering these courses as an alternative.

- ***More than a 70% of universities consider e-learning platforms like Swayam as an alternative opportunity for higher studies.***

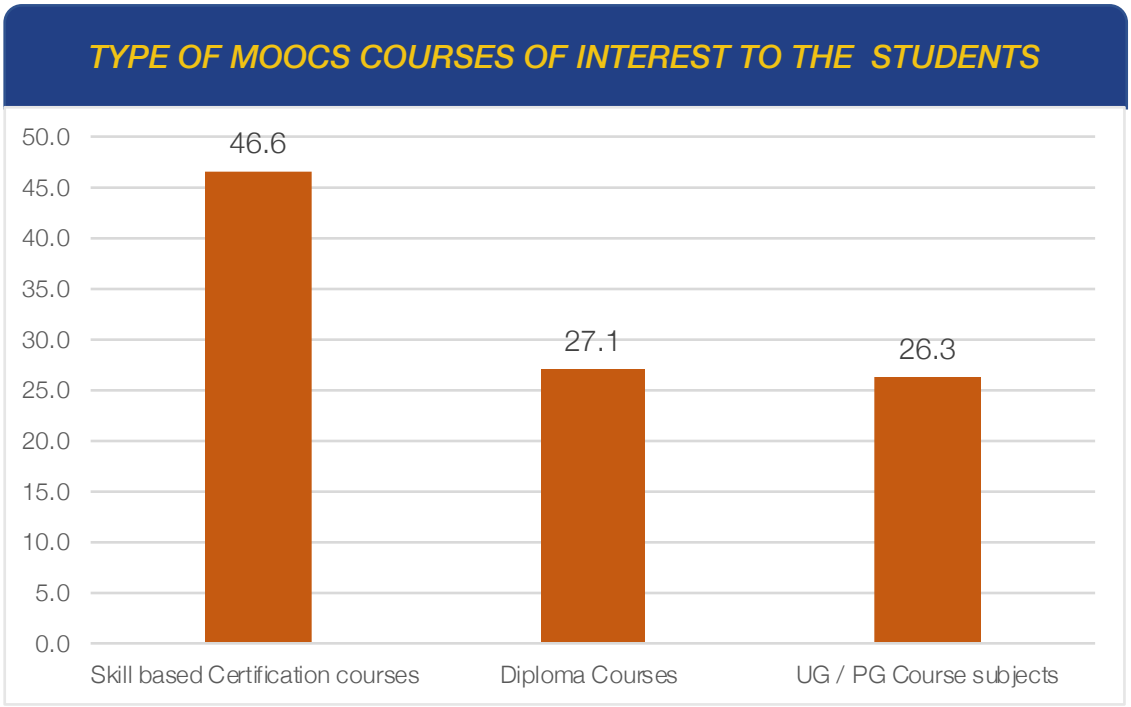
STUDENTS ARE SELF MOTIVATED TO USE SWAYAM PLATFORM



Many e-learning platforms have communities that have interactive sessions and forums between the student, professors and Teaching Assistants (TAs) along with the study/course material and video lectures which may play a meaningful role in the motivation of students if the access to these courses ensured by the government with better connectivity as survey findings indicating that students are not self-motivated.

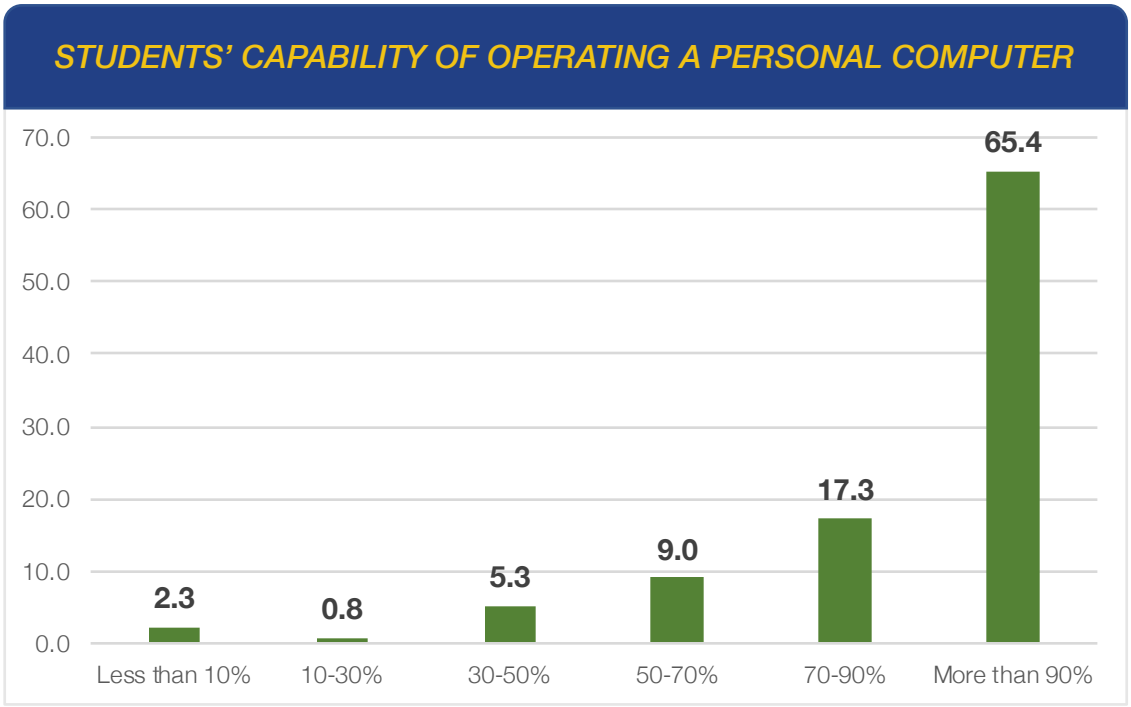
- ***In more than half of universities students are not self-motivated to use the SAWAYAM platform. This needs to be rectified by increasing the awareness opportunities for the students.***

Need to start awareness programme to increase accessibility of SAWAYAM platform.



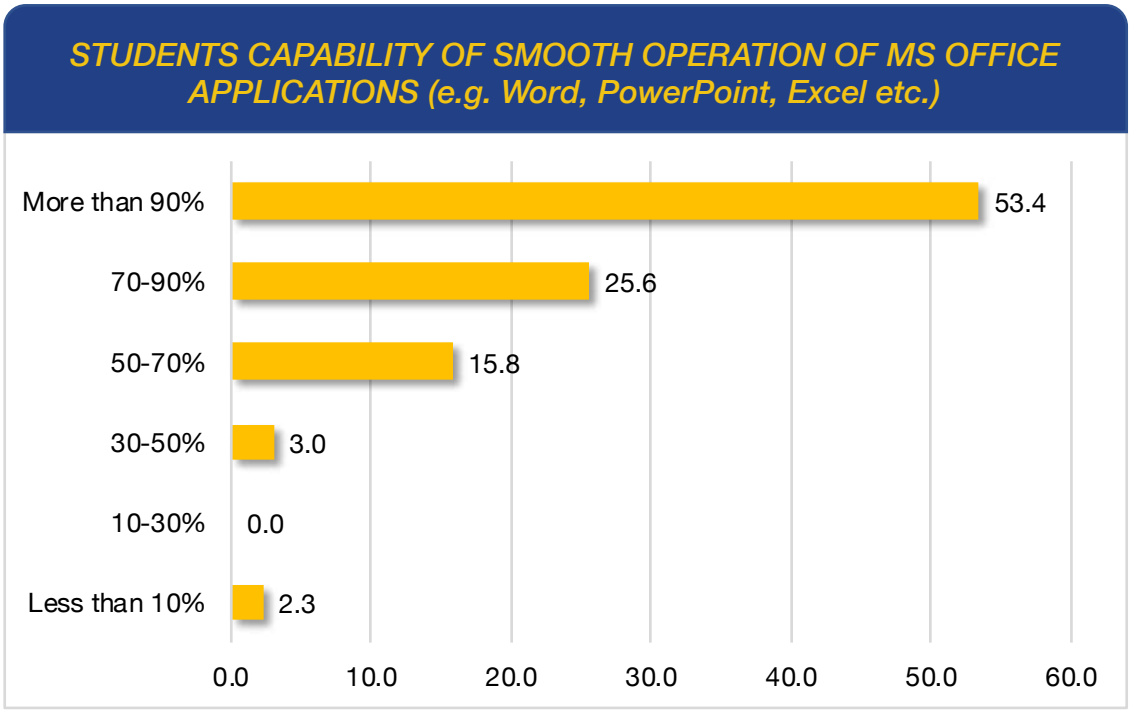
Both the course i.e. skill-based and curriculum-based are preferred by the students as per their requirements. Survey findings indicate some important facts with numbers.

- ***The majority (53.4%) of students preferred curriculum-based courses on the MOOC platform.***
- ***Students' interest in skill-based MOOC certification courses is also growing at a good pace.***

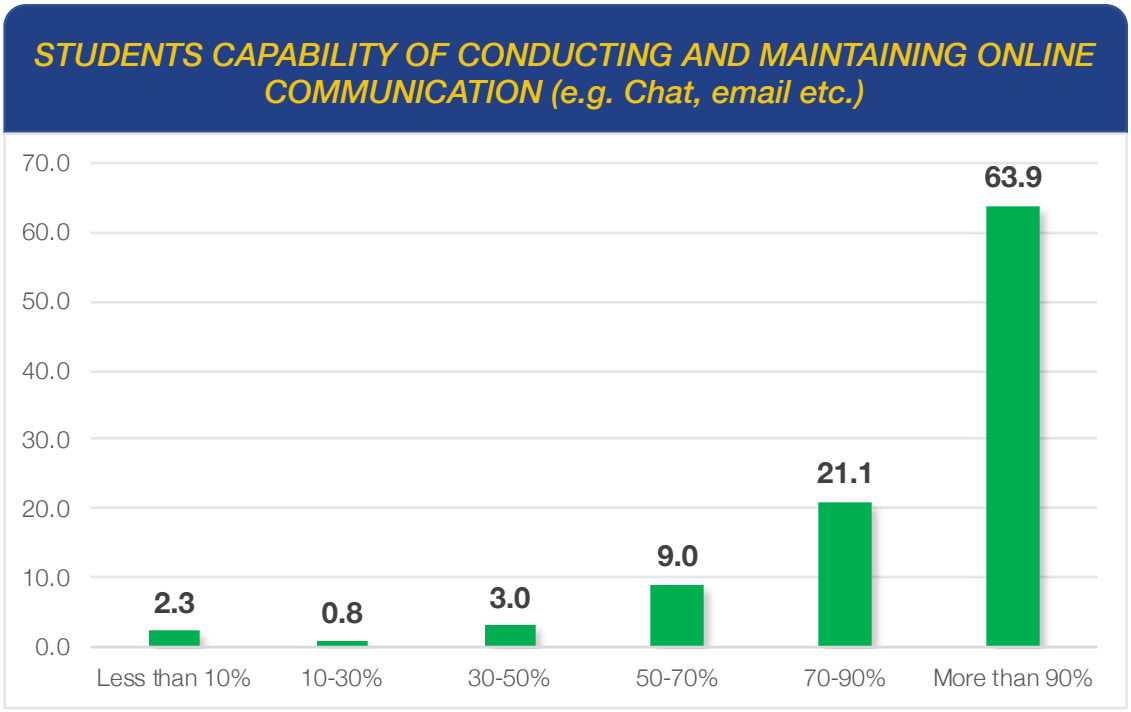


To increase access to online education, the government needs to ensure the availability of computers to every student, as survey findings are indicating that a large chunk of students is still not capable of operating a computer.

- ***Approximately in 10% of universities, half or fewer students are still not capable of operating a personal computer.***



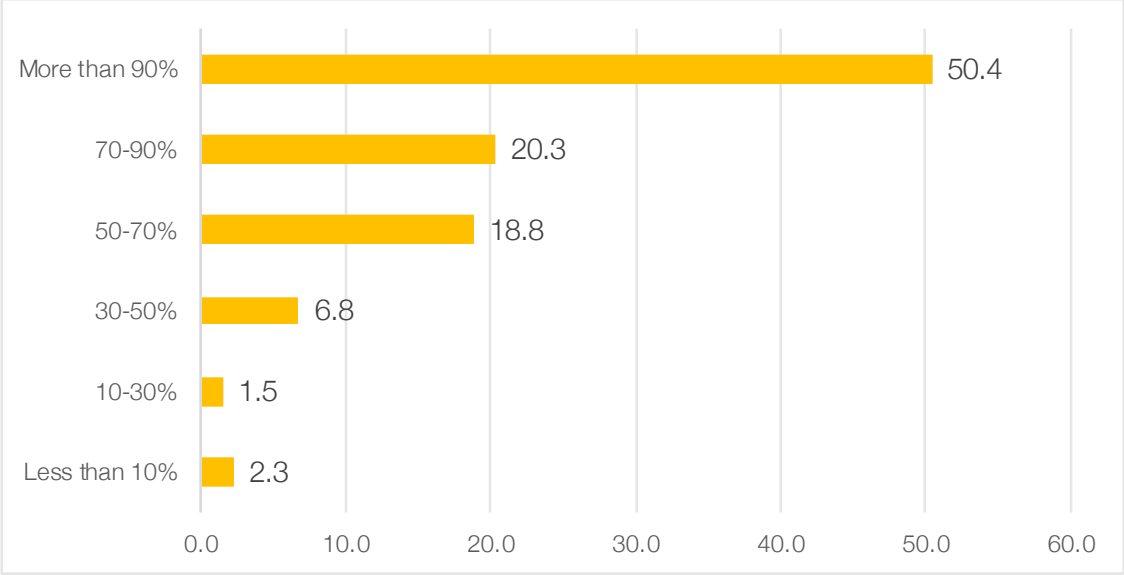
In NEP 2020 computer or skill-based education is ensured by the government but this would be possible when the availability of computers and required software packages are available at an affordable cost. The survey findings indicate that in some universities students still do not know basic software packages.



The issue of basic computer knowledge to every student is still pertaining to our universities survey findings indicating these facts.

- ***In 94% of sampled universities, students can conduct and maintain online communication.***

STUDENTS CAPABILITY OF BROWSING THE INTERNET FOR SCIENTIFIC RESEARCH ARTICLES AND OTHER EDUCATION MATERIALS

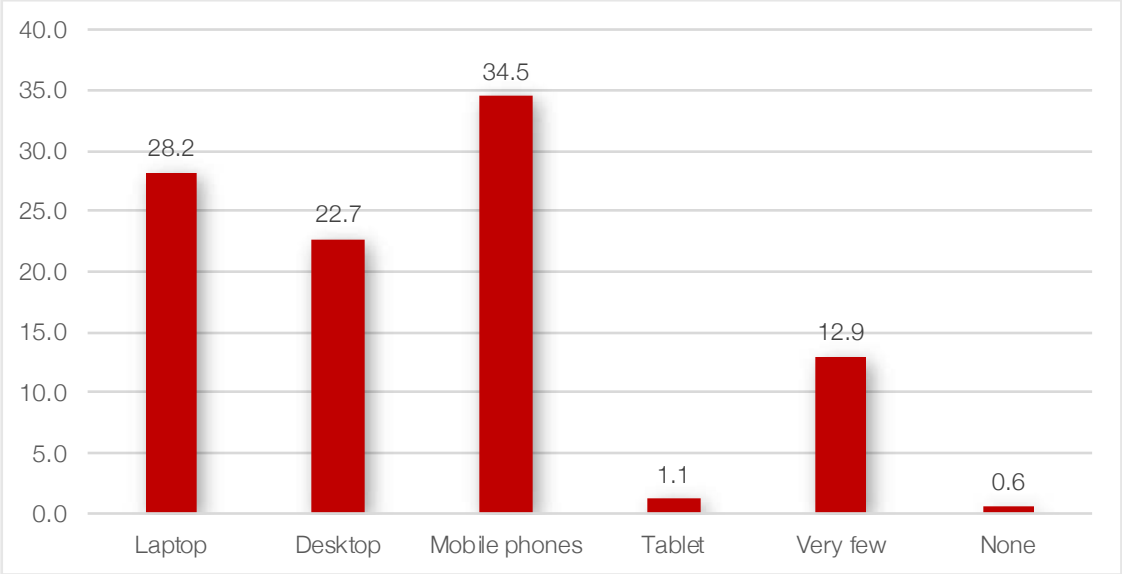


Most research articles are available to students via the Internet via subscription by universities but in most cases due to scarcity of funds universities are not capable of renewing these subscriptions and then students are not able to have access to desired research articles.

- ***In around 50 % of universities all students are capable of browsing the Internet for scientific research articles.***

Accessibility of research article should be ensured.

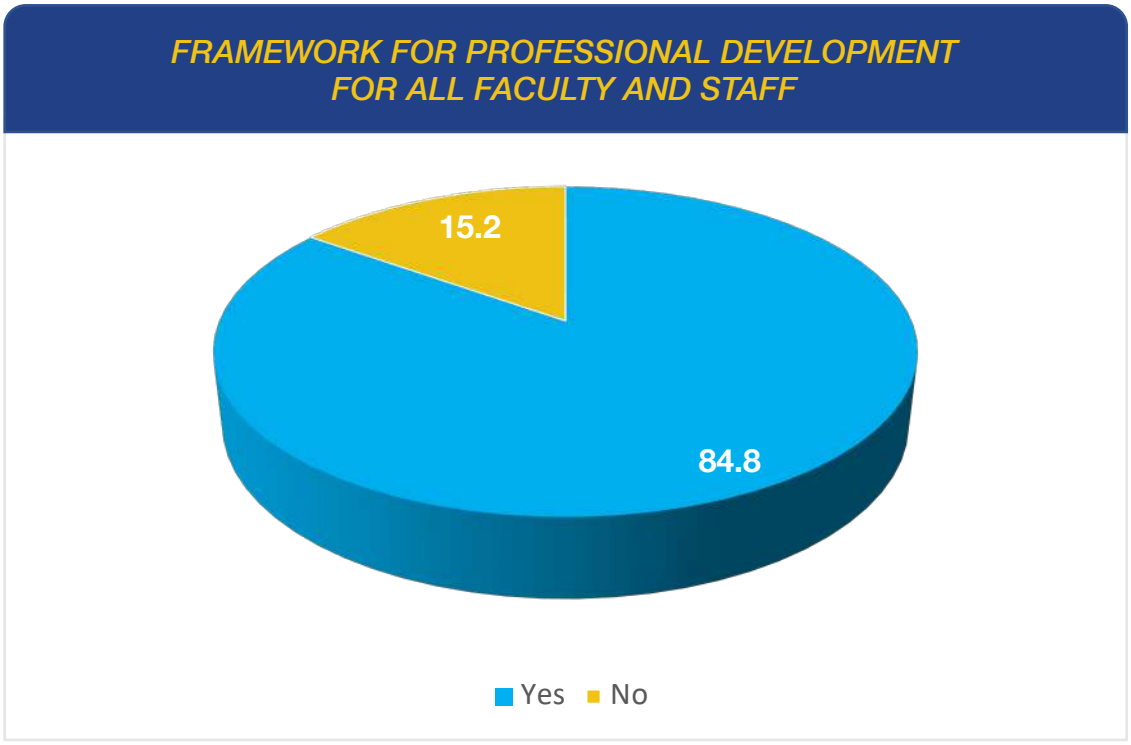
STUDENTS ACCESS TO DEVICES FOR MOOCs



For full implementation of online education availability of required devices is a must for every student. User-friendly devices are also required to achieve the goal. Survey findings show that enough devices are not available to all students to access online education.

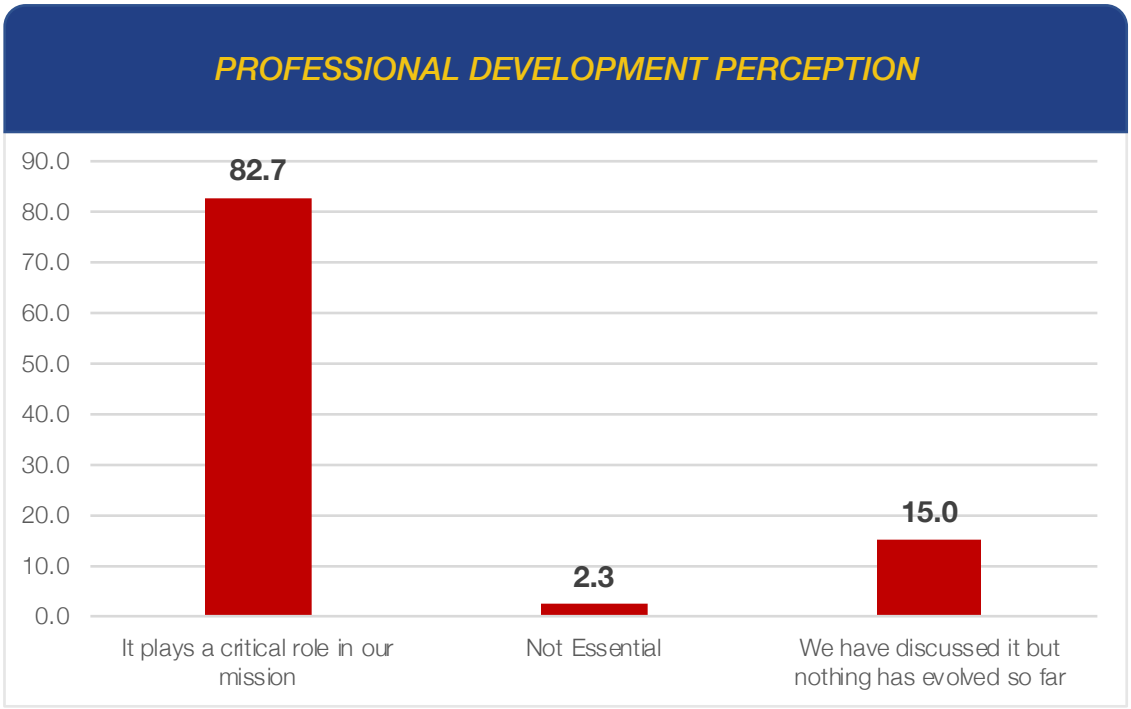
- ***In 13.5% of universities' students have very few or no facilities or devices required for MOOC programs.***
- ***Mobile phones and laptops are mostly used by students to access MOOCs and the use of tablets is still very low.***

The use of tablets is still very low.



The professional development of faculty and staff is a prime concern in our universities as the framework and goals are not set by every university, survey findings also indicate the same.

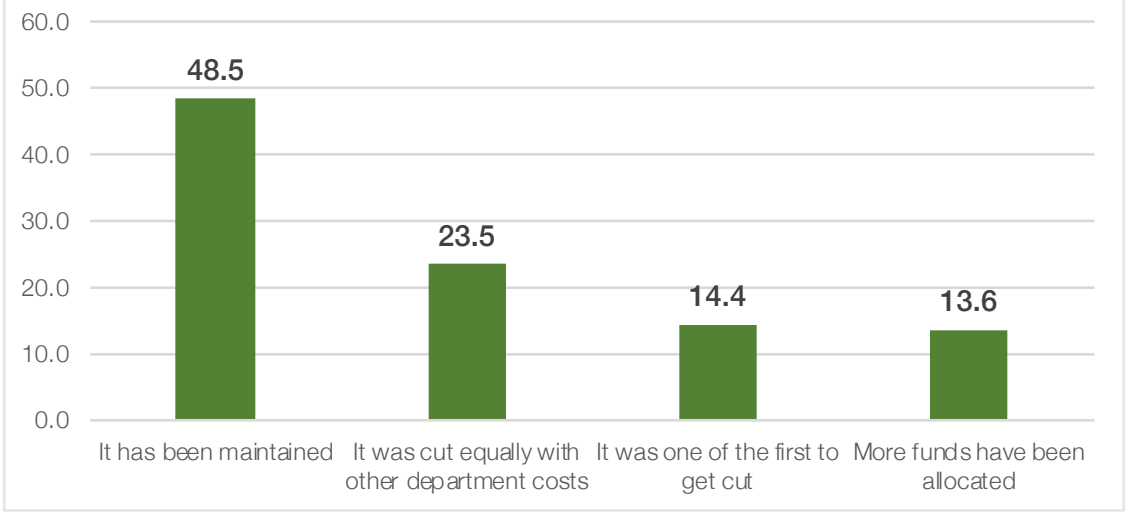
- ***15.2% of universities need to work on a framework for professional development for all faculty and staff.***



Teachers need to upgrade or brush up their skills and knowledge regularly as changing technology and innovation demand this. Survey findings show some alarming facts:

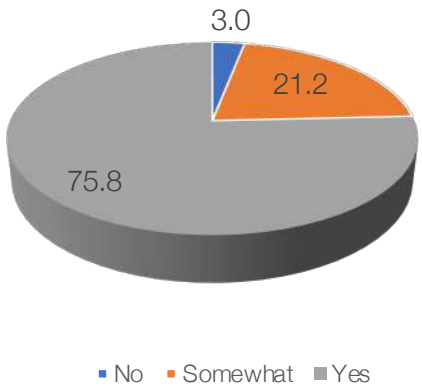
- ***Around 18% of universities are not considering the importance of professional development critically.***

IMPACT OF COVID-19 ON PROFESSIONAL DEVELOPMENT BUDGETS



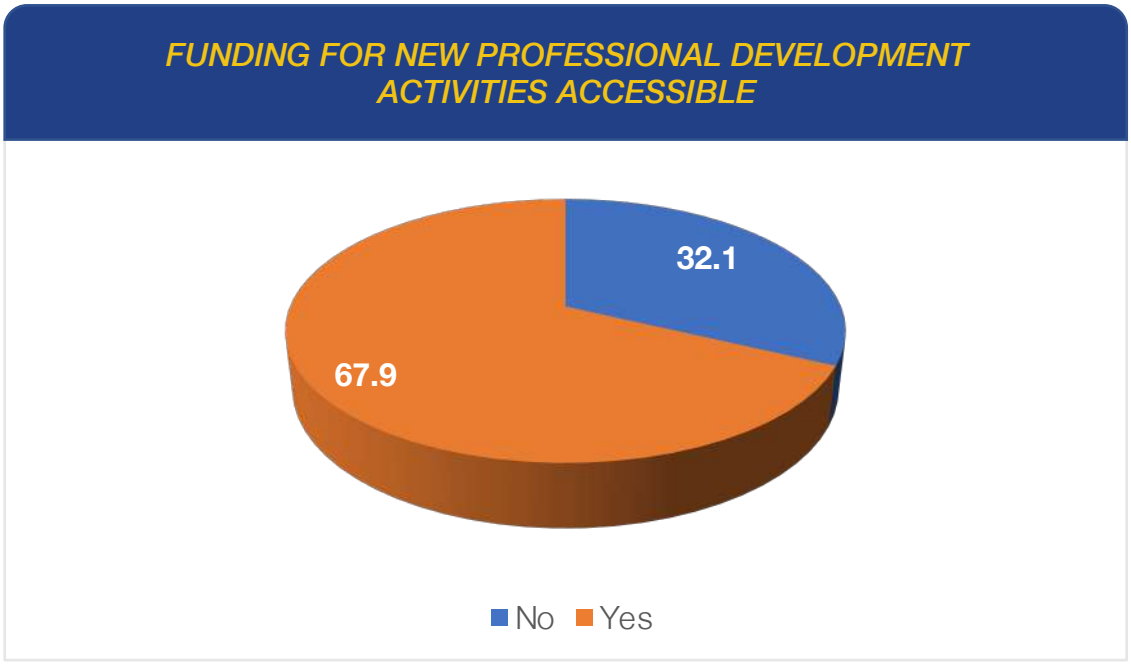
In 37.9% of universities, the funds for professional development have been cut as an impact of Covid-19

IMPACT OF COVID-19 ON PROFESSIONAL DEVELOPMENT BUDGETS



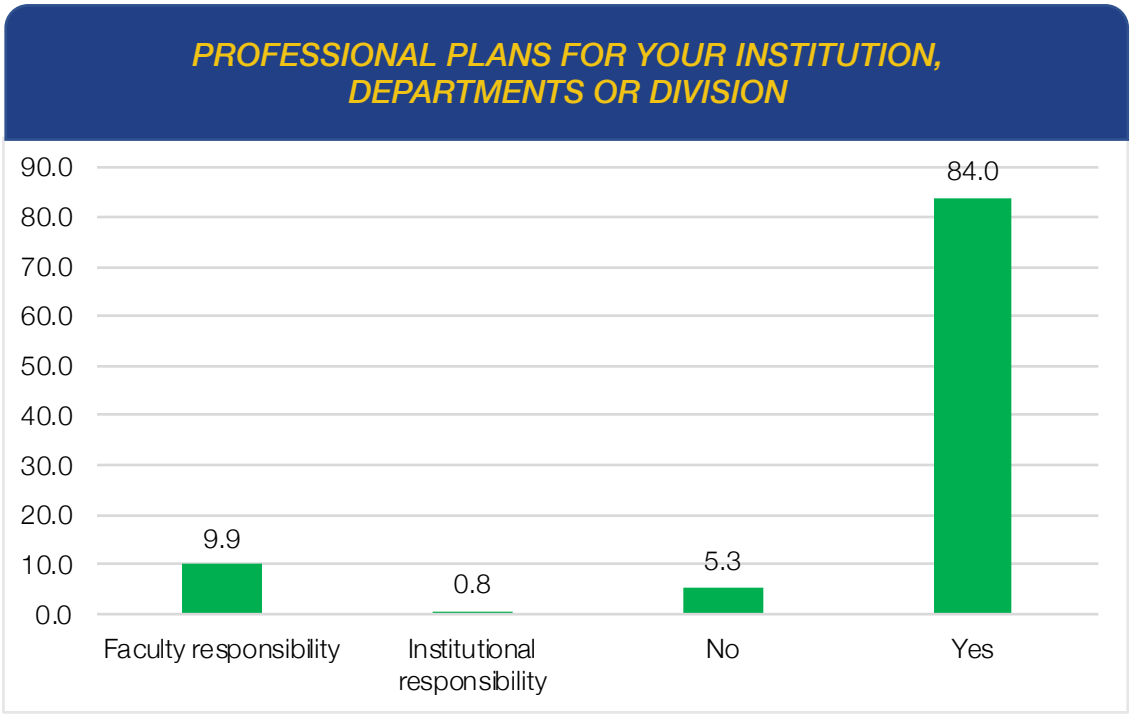
Professional development goals are important for achieving the mission and objectives of the universities. These are supposed to be aligned with the goals of the department for the system to work holistically.

Though, the response is encouraging as the majority (75.8%) responded in affirmative. However, around 25 percent of the universities responded as either 'somewhat' or 'No'.



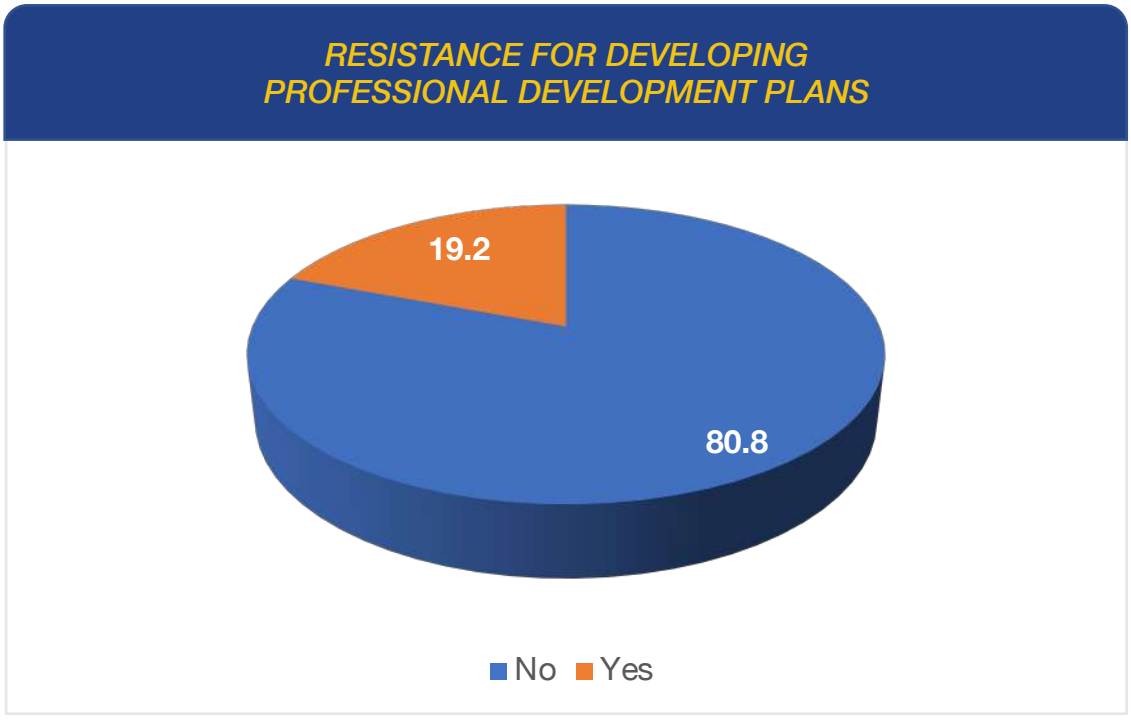
Funding is a major issue in the higher education system in India even appropriate funds are not available for basic courses and professional development funds are far from reality in many universities. This needs to be solved with some new funding models. Survey analysis shows that funds are a major issue in professional development in India.

- ***In more than 30% of university funds are not accessible for new professional development activities.***



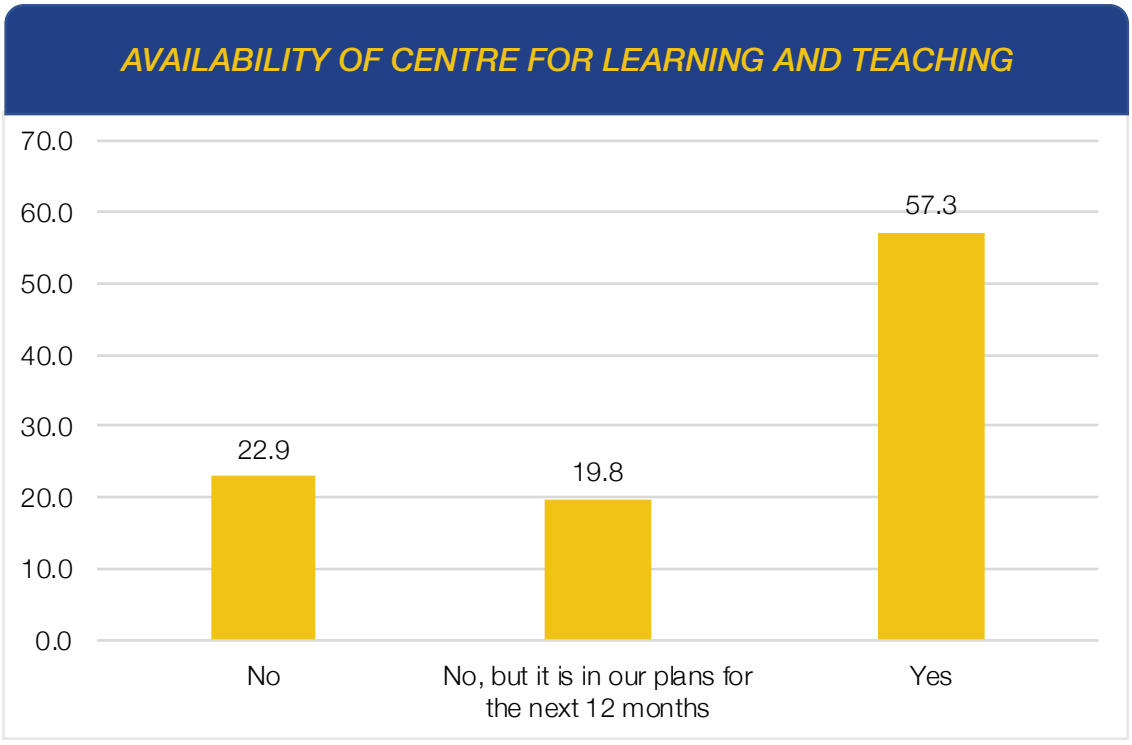
The mindset of higher education administrators also needs to be changed in the context of professional development as they are not considering this as an important activity.

- ***16% of universities feel that professional development activities is not an important responsibility of theirs.***



Survey findings indicating that some faculty and staff of universities are resistant to professional development. They need to self-motivated in the context of professional development otherwise the situation will remain the same.

- ***Around 20% of universities are resistant to the development of Professional Development Plans.***



Survey findings indicate that the centre for learning and teaching is also not available in every university. Full access to these centres may change the current situation of professional development in the country.

- ***42.7 percent universities are not equipped with a centre for learning and teaching including those planning to set up in the next 12 months.***

Section 2: Colleges

In this section, the data from the respondents of colleges is analysed.

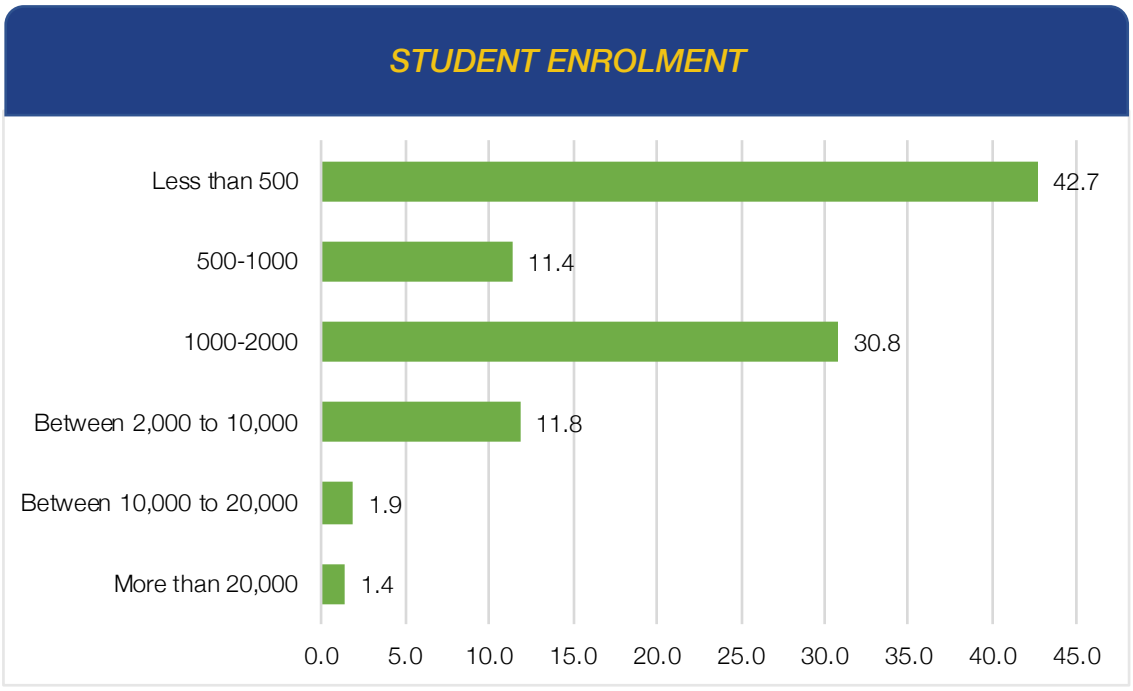
The participation rate out of total college-level participation was 17% from the public sector and 82% from the private sector.

The largest group among private colleges was from the self-financed institutions where 75% of participants responded to the survey.

The participation rate was highest from the institution with enrolments below 500 followed by the institutions whose enrolments were between 1000 to 2000 in both public and private sector groups.

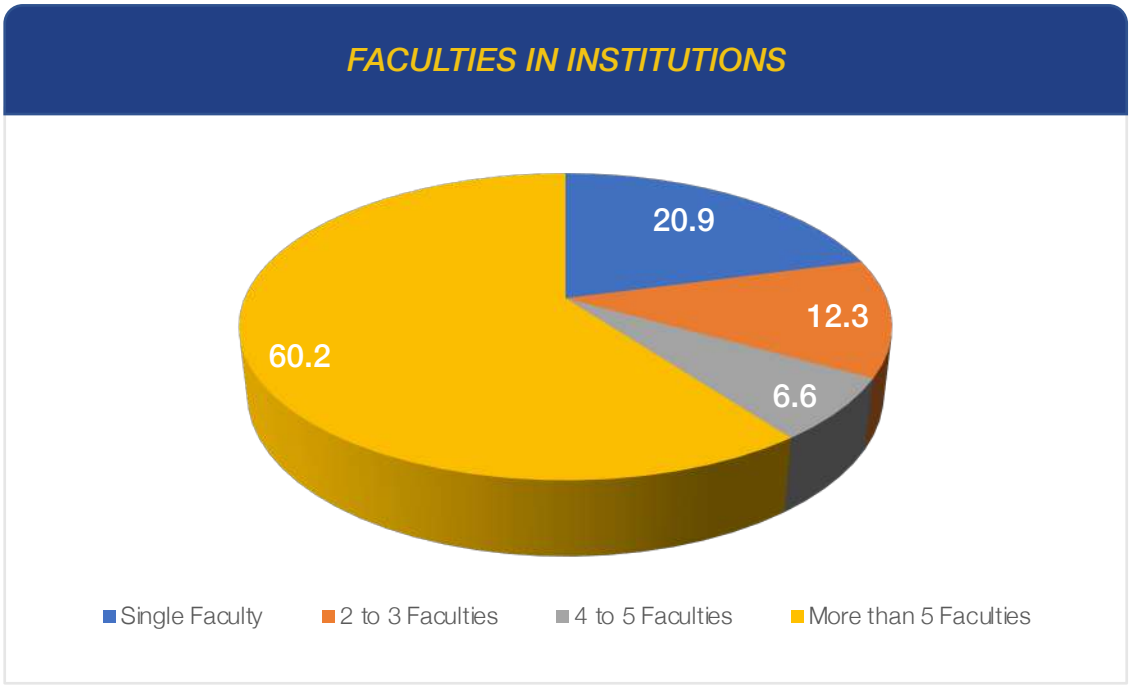
Likewise, the institutions in the private and public sector with more than five faculties have a high proportion of participants in the survey.

The following sections present the analysis to examine the evidence supporting or refuting the hypotheses that the public and private sector institutions in India are ready to transform to online teaching and learning.



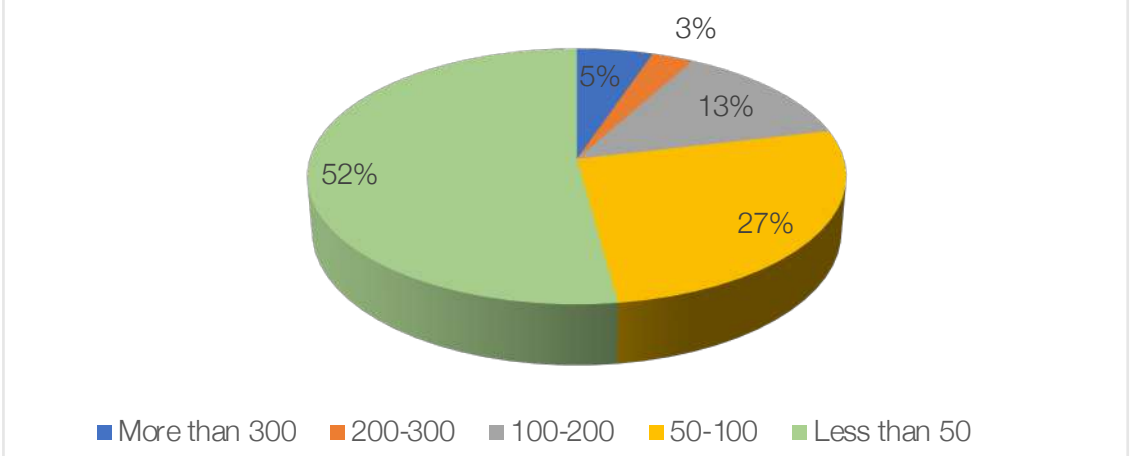
In India, colleges share the largest portion of student enrolment in higher education. The National Education Policy 2020 (NEP-2020) aims to increase the Gross Enrolment Ratio in higher education including vocational education from 26.3% (2018) to 50% by 2035. In the process of achieving the ambitious objective of increasing the enrolment and thereby widening access to higher education, there is an impelling need to enhance enrolment in colleges. Contrary to the requirements, survey findings suggest the majority of colleges have less than 500 enrollments. The findings also nearly corroborated by the AISHE report of 2018-19 which mentioned that 16.3% of the colleges have enrolment less than 100 and only 4% of colleges have enrolment more than 3000.

- ***In 84.9 % sampled institutions, student enrolment is 2000 or fewer - including 42.7% of institutions having less than 500 enrolments.***



Large multidisciplinary universities will facilitate the move towards high-quality holistic and multidisciplinary education. This will be encouraged by increased faculty in institutions but our college institutions are not rich in faculty. This fact has been revealed by survey findings since ***39.8% of institutions have 5 or fewer faculties, including 20.3 % institutions which have only single faculty.***

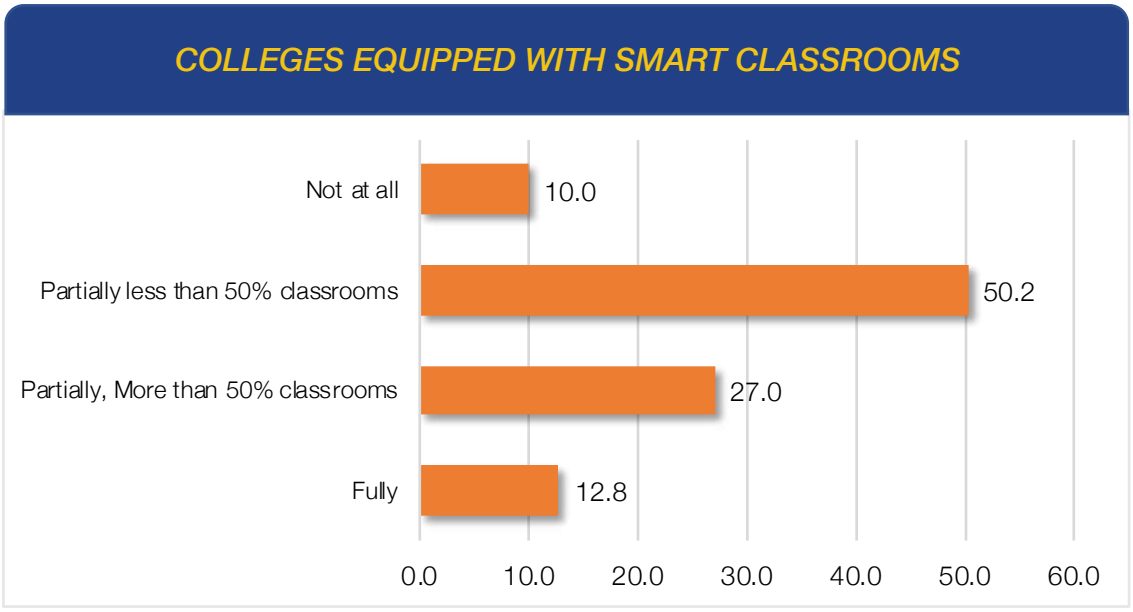
TEACHERS IN POSITION



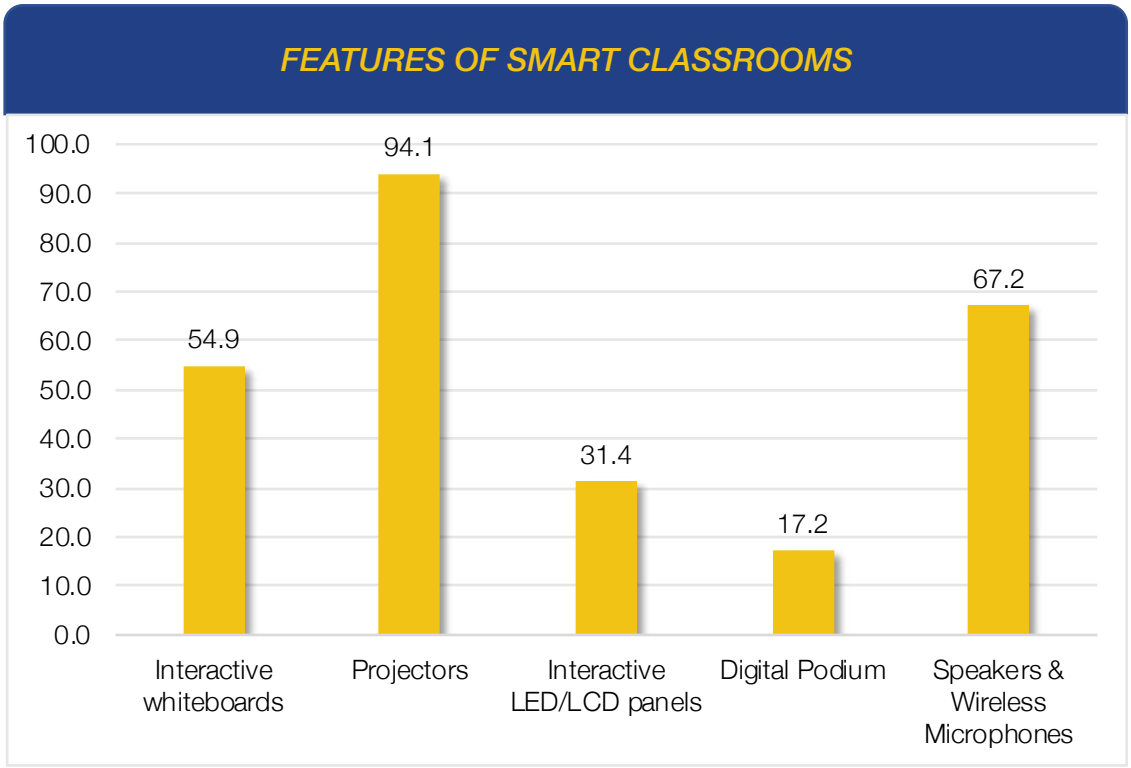
The most important factor in the success of higher education institutions is the quality and engagement of its faculty. Acknowledging the criticality of faculty in achieving the goals of higher education, various initiatives have been introduced in the past several years to systematize recruitment and career progression, and to ensure equitable representation from various groups in the hiring of faculty. However, this issue is remaining unaddressed.

- ***In 79% of institutions 100 or fewer teachers are in position. Only 8% of institutions have 200 or more teachers in position.***

Only 8% of institutions have 200 or more teachers in position.

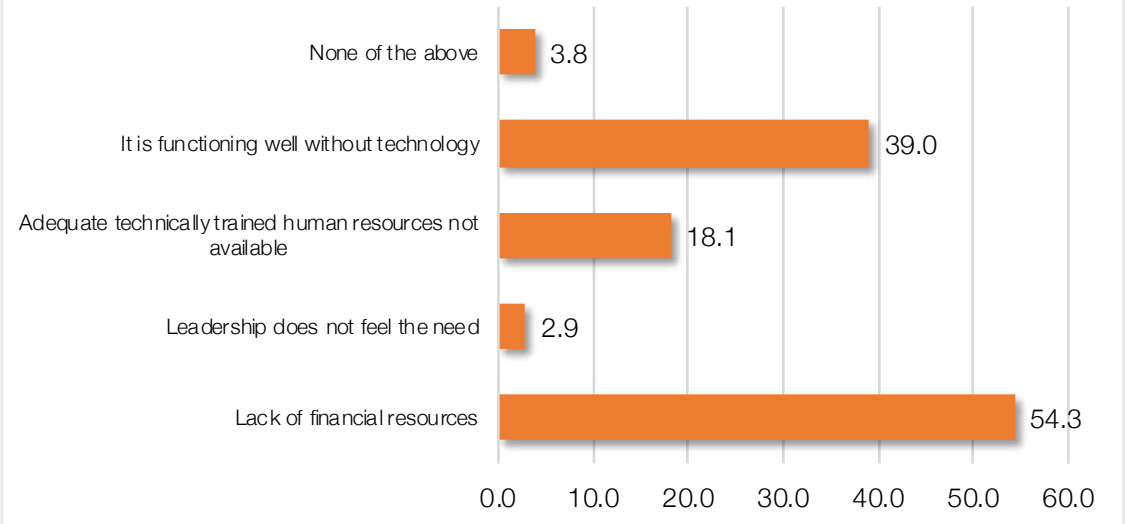


In an era of advance technology, Smart classrooms play a key role in increasing the perception and capabilities of students by engaging them in more interactive pedagogy. This mode of teaching and learning improves facilitates student engagement but also makes learning easier and interesting. Surprisingly, the survey finds that ***60.2% of colleges either have less than half or no smart classrooms. Only 39.8% of institutions have more than half or full smart classrooms.***

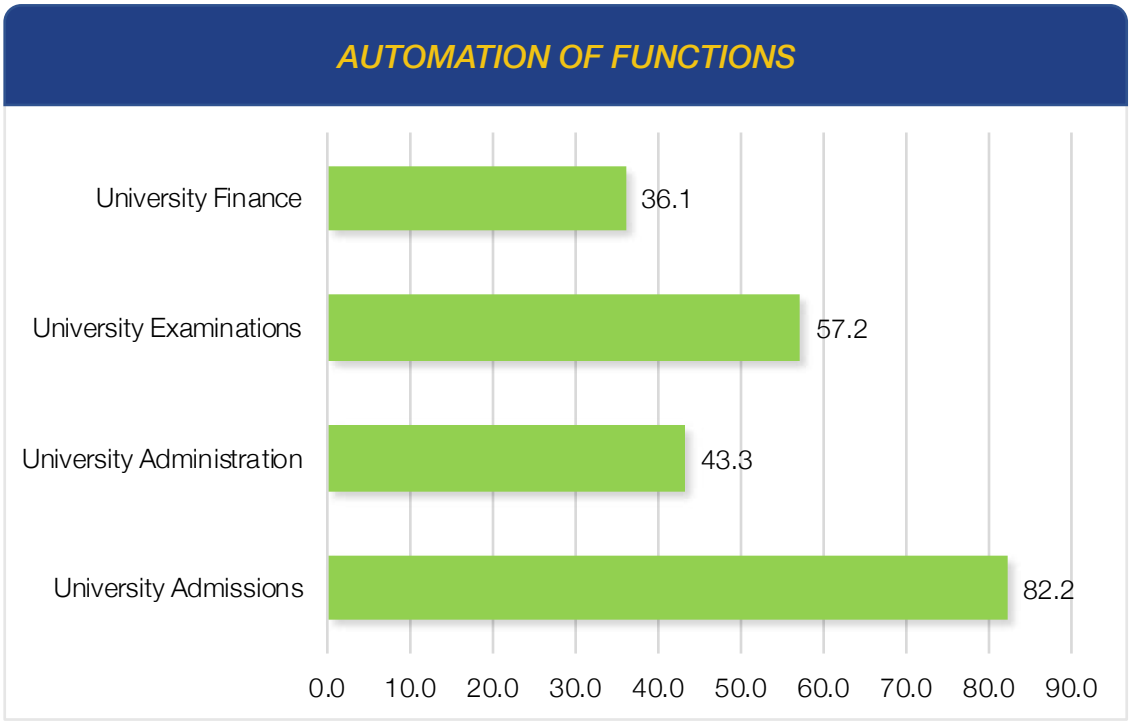


As projected in the above graph the basic features of Smart Classrooms such as Projectors are available in a large majority of colleges. Interactives boards, speakers and wireless microphones are also available in a good number of colleges. The colleges are facing a lack of advanced features like **Digital podium and interactive LED/LCD panels, which makes a smart classroom more effective.**

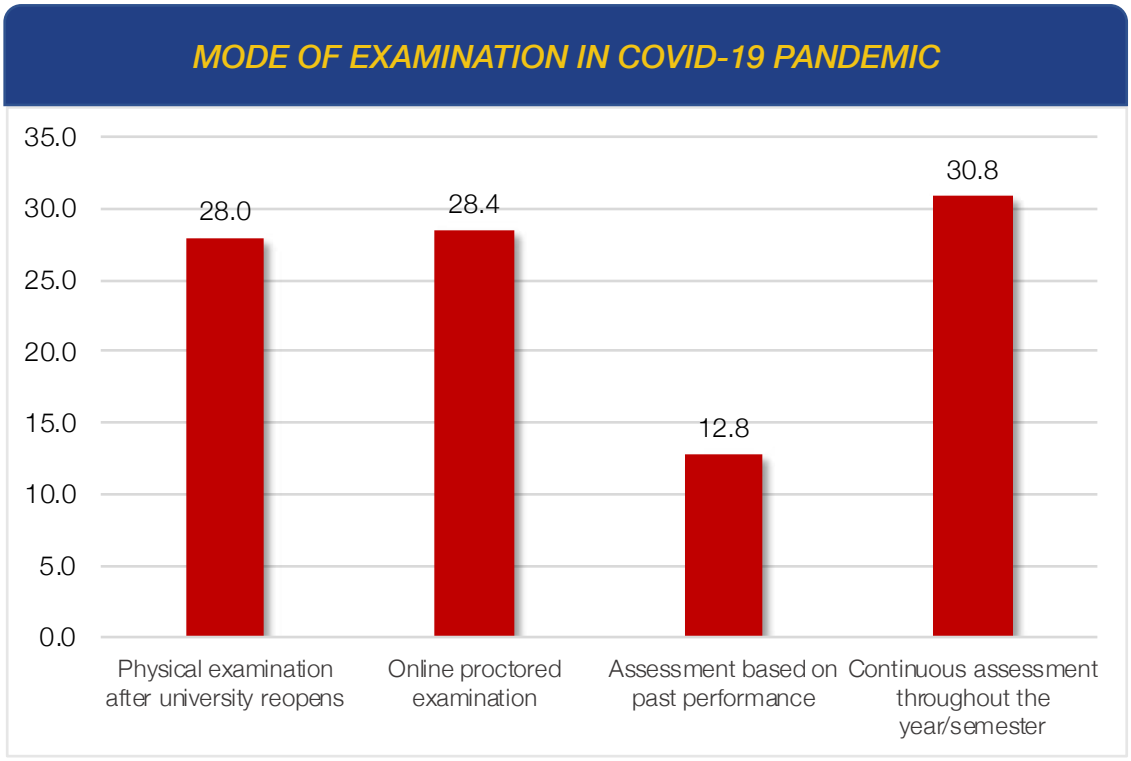
REASONS FOR NOT BEING COMPLETELY EQUIPPED WITH SMART CLASSROOMS



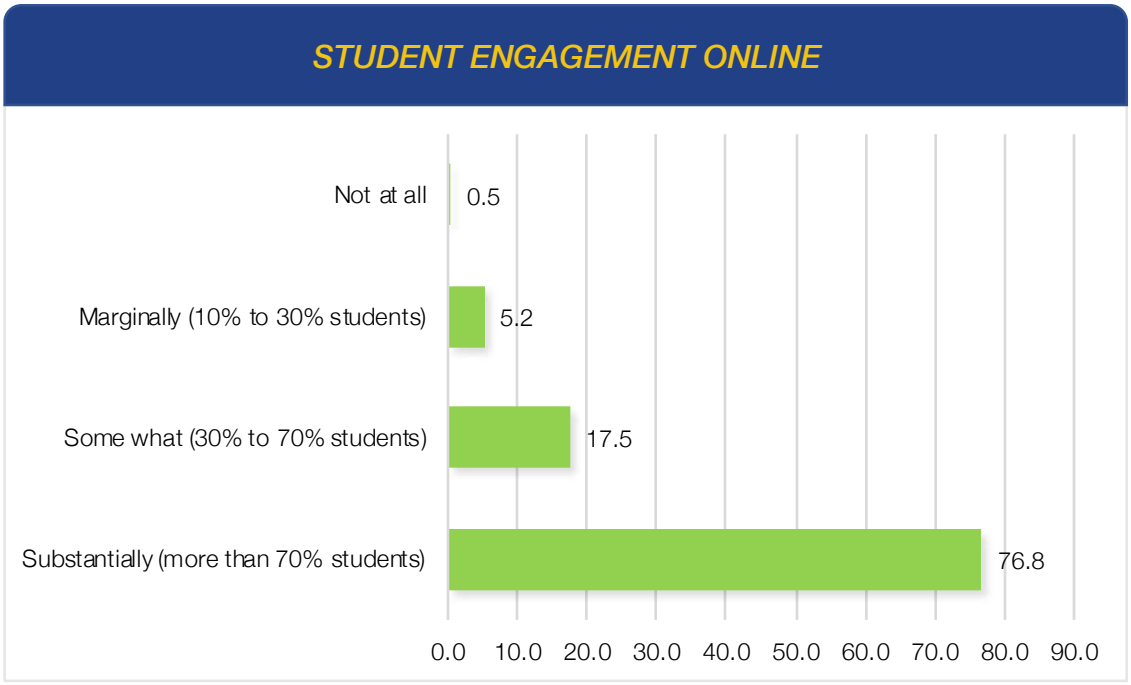
The most common reason for not being completely equipped with smart classrooms is attributed to **lack of financial resources (54.3%) and functioning well without technology.** The issue of financial resources needs to be addressed urgently for building infrastructure for smart classrooms. More important is to sensitise the teachers and educational administration for changing the mindset and maximising the use of technology



For managing the massive student enrolments, teaching-learning and examinations, etc. automation of college administration are essential. ***In more than half of the sampled institutions, examination and admission activities are automated. In 55% or more sampled universities administration and finance activities are not automated.***

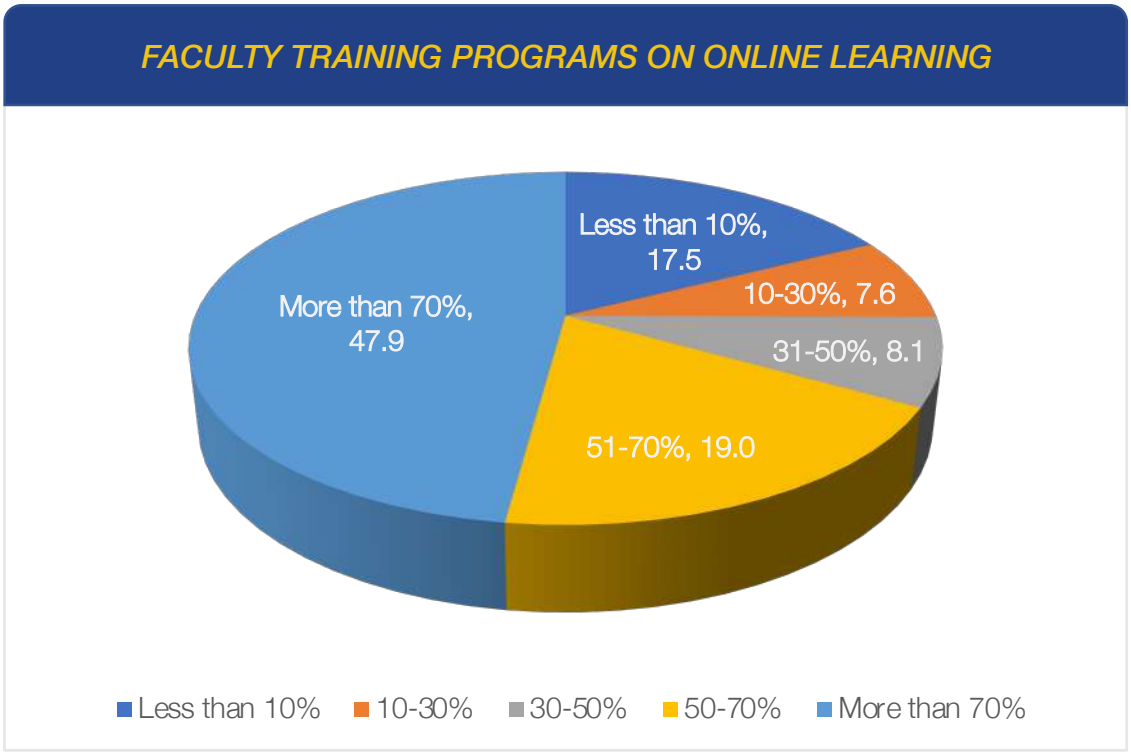


43.6% of sampled institutions are not favouring any exam either in physical or online mode. **They are preferring assessment based on past performance or continuous assessment thorough the year/semester.**



Teachers should undergo rigorous training in learner-centric pedagogy and on how to become high-quality online content creators themselves using online teaching platforms and tools. There should be an emphasis on the teacher's role in facilitating active student engagement with the content and with each other. As per the data received from responding colleges only in ***23.2% of institutions, less than 70% of students are engaged online.***

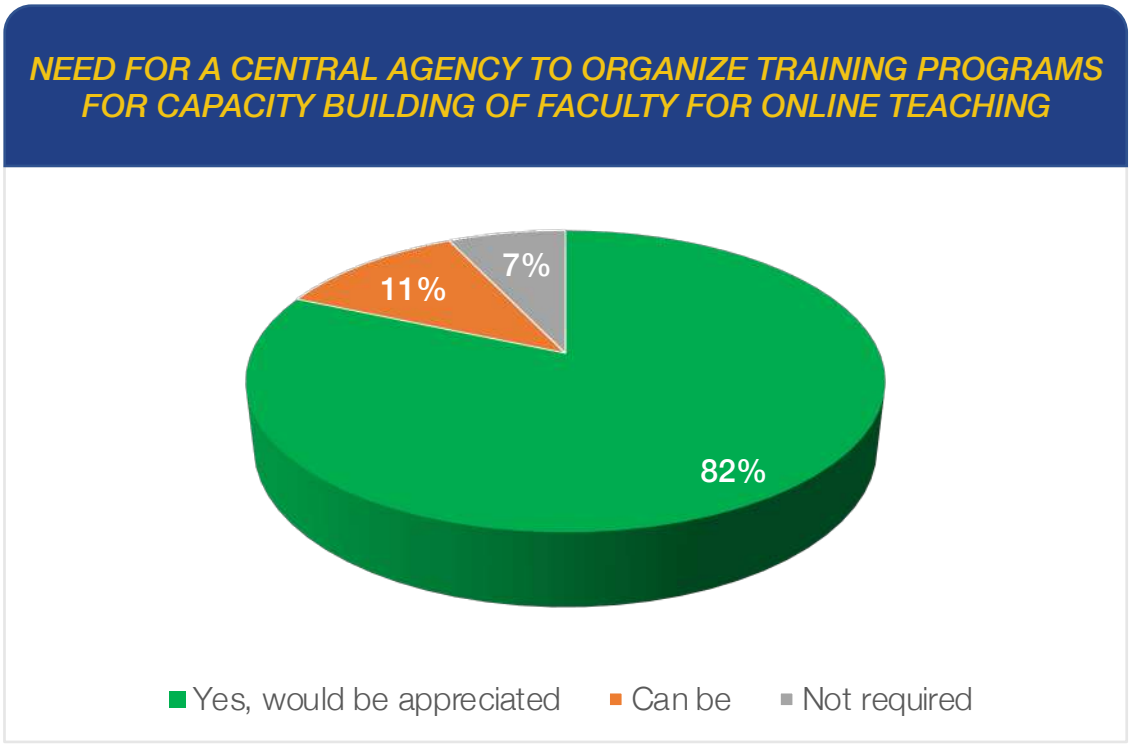
FACULTY TRAINING PROGRAMS ON ONLINE LEARNING



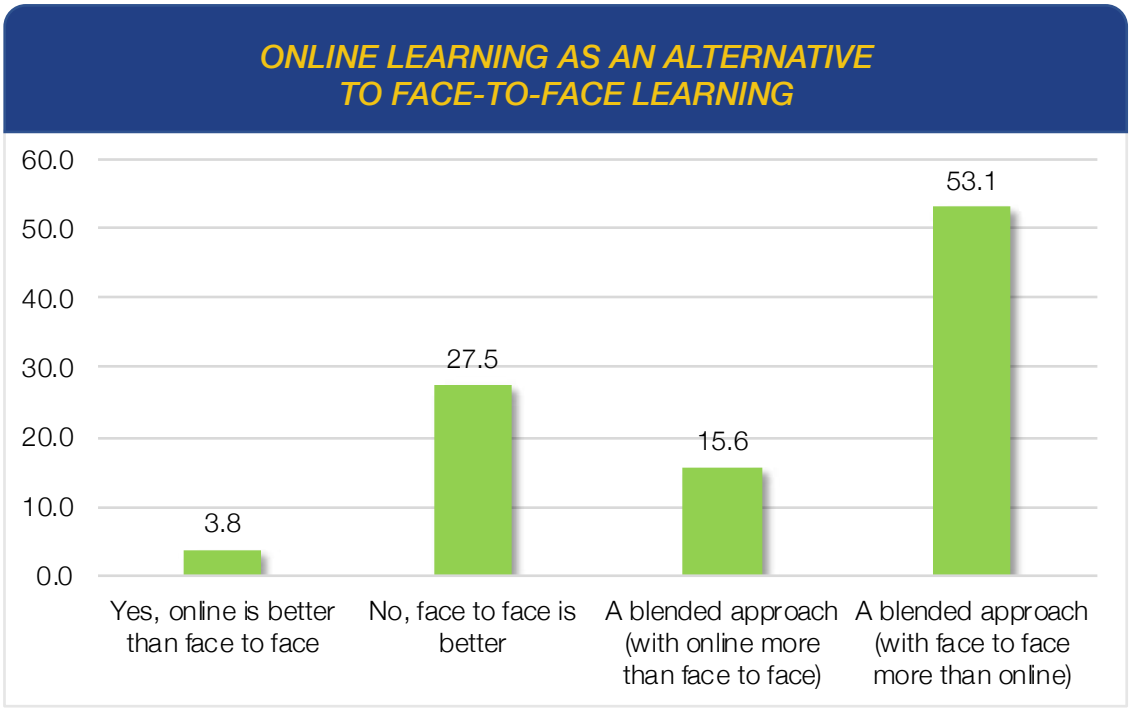
The teachers require online training in high-quality content as well as pedagogy, teacher education will gradually be moved, by 2030, into multidisciplinary colleges and universities.

- ***In 33.2% institutions, 50% or fewer faculty have undergone training programs, especially on online learning.***

NEED FOR A CENTRAL AGENCY TO ORGANIZE TRAINING PROGRAMS FOR CAPACITY BUILDING OF FACULTY FOR ONLINE TEACHING



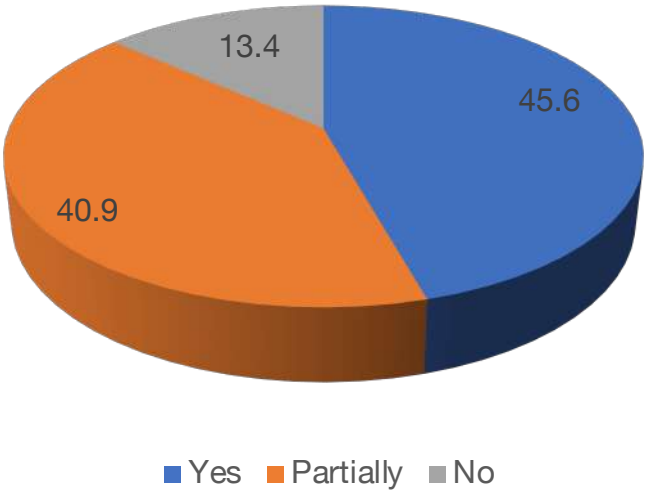
Faculty should have the capacity and training to be able to approach students not just as teachers, but also as mentors and guides. This will only be possible when or teachers are well trained. Survey findings reveal that ***more than 80% of institutions favour that a Central Agency should be engaged for capacity building and training of faculty for online teaching.***



Online teaching practices provides scope to the teachers to design and develop course materials and teaching notes once and share with as many students as required, and without limitation. Appropriate existing e-learning platforms such as SWAYAM, DIKSHA, should be extended to provide teachers with a structured, user-friendly, rich set of assistive tools for monitoring the progress of learners.

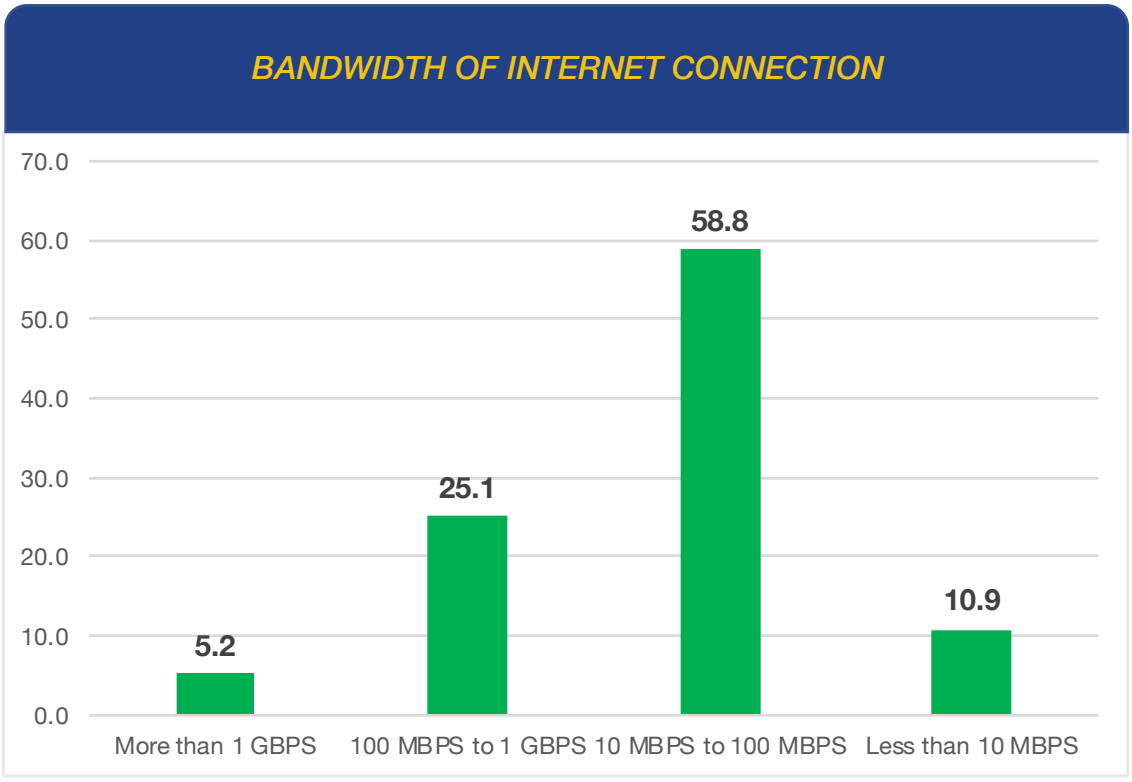
- ***The analysis demonstrates that 68.7% of institutions are progressing with a blended approach as an alternative to face to face learning.***

PROVIDING ONLINE VALUE-ADDED SERVICES SUCH AS INTERNSHIPS AND LIVE PROJECTS ALONG WITH ONLINE EDUCATION



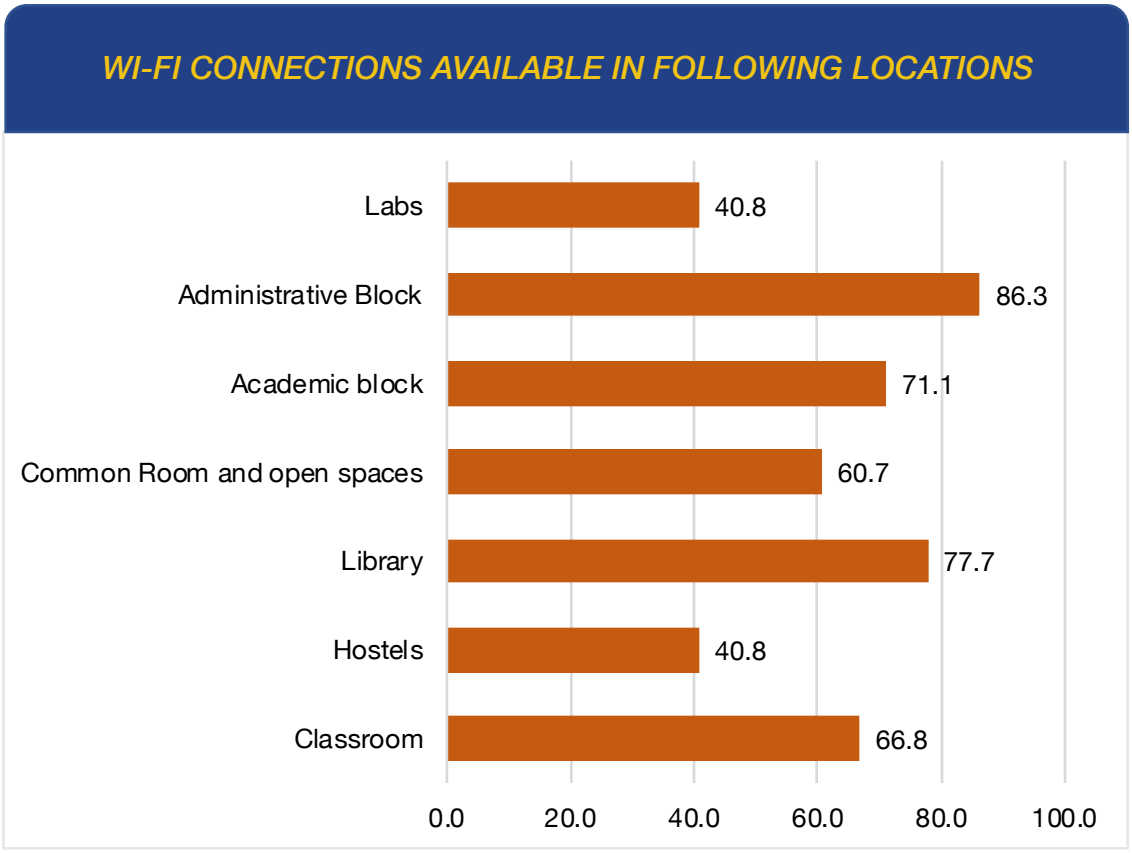
As part of online education, students at all HEIs should be provided with opportunities for online internships with local industry, businesses, artists, craftspersons, etc. They should also gain research internships with faculty and researchers at their own or other HEIs/research institutions, so that students may actively engage with the practical side of their learning.

- ***The fact of the matter is that more than half of the institutions are not providing fully online value-added services like internships or projects.***



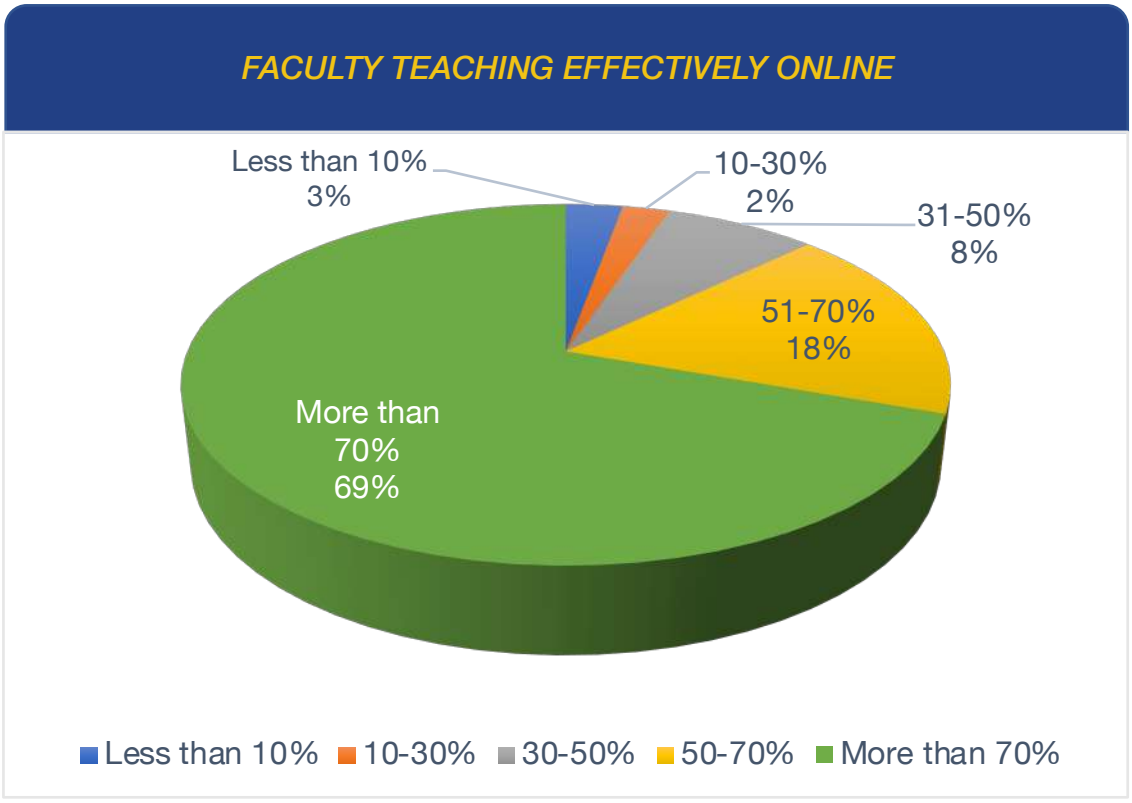
Once internet-connected smartphones or tablets are available in all institutions, online apps with quizzes, competitions, assessments, enrichment materials, and online communities for shared interests will be developed and will work to enhance all the aforementioned initiatives, as group activities for students.

- ***The survey points out that around 95% of responding colleges are working with less than 1 GBPS bandwidth of internet connection in which 10.9 % facing a very narrow bandwidth problem.***



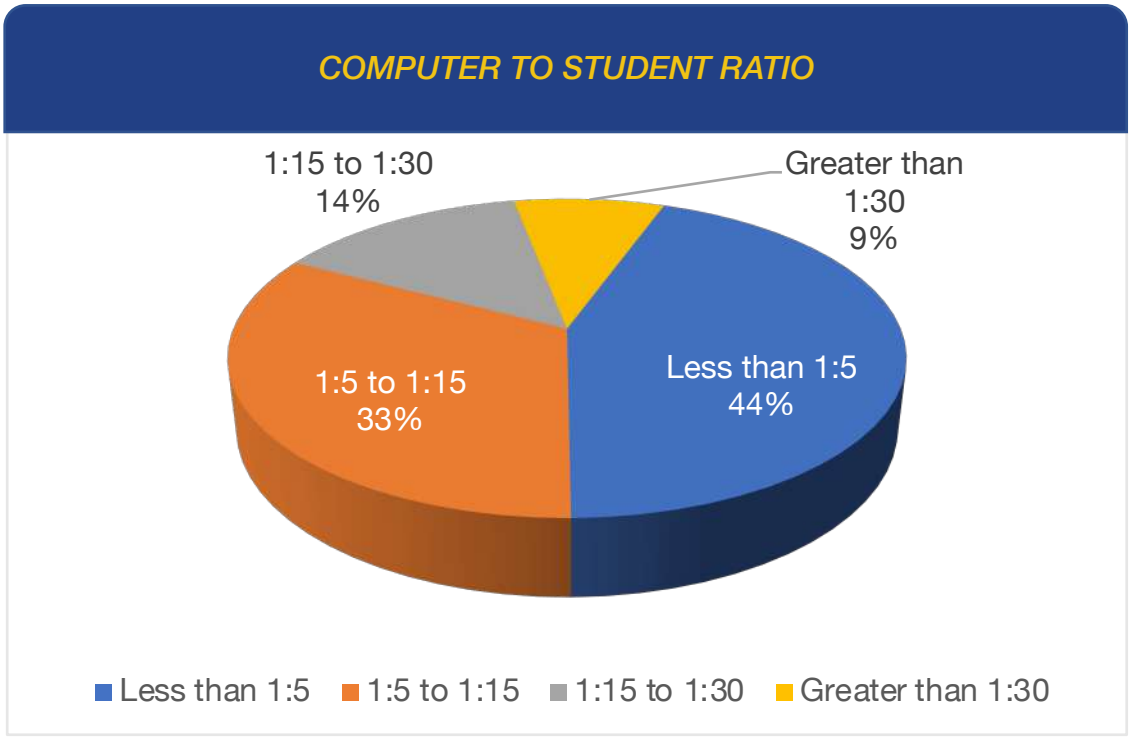
Internet connectivity on the campuses is the minimum basic requirement for online education. In a large country like India where geographical diversity often proves to be a major stumbling block for equitable distribution of facilities, network and connectivity issues are often faced too.

- ***Even after a lot of stimulus packages from the government in the form of different initiatives and schemes, unfortunately, around 60% of sampled institutions face Wi-Fi connections problems. Hostels and Laboratories of 40.8% of colleges do not have the availability of Wi-Fi facility.***



Online education provides a natural path to increase access to higher education. Especially during such a time of pandemic online teaching and learning is the only alternative which can be tapped and the academic loss of the students can be minimised. To leverage the potential of online education and ensure the quality and effectiveness of teaching, faculty preparation and training is necessary.

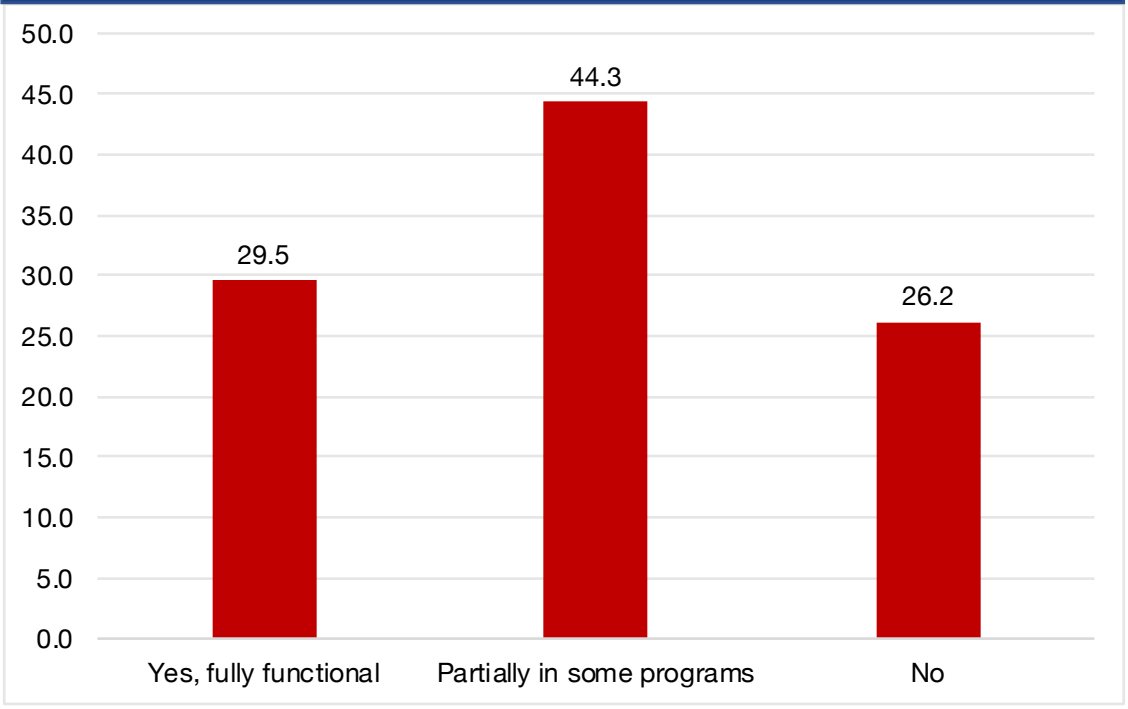
- ***In 13% of institutions surveyed, 50% or fewer faculty can effectively teach through online medium. This data indicates that a large chunk of faculty members is not fully prepared for effective online teaching.***



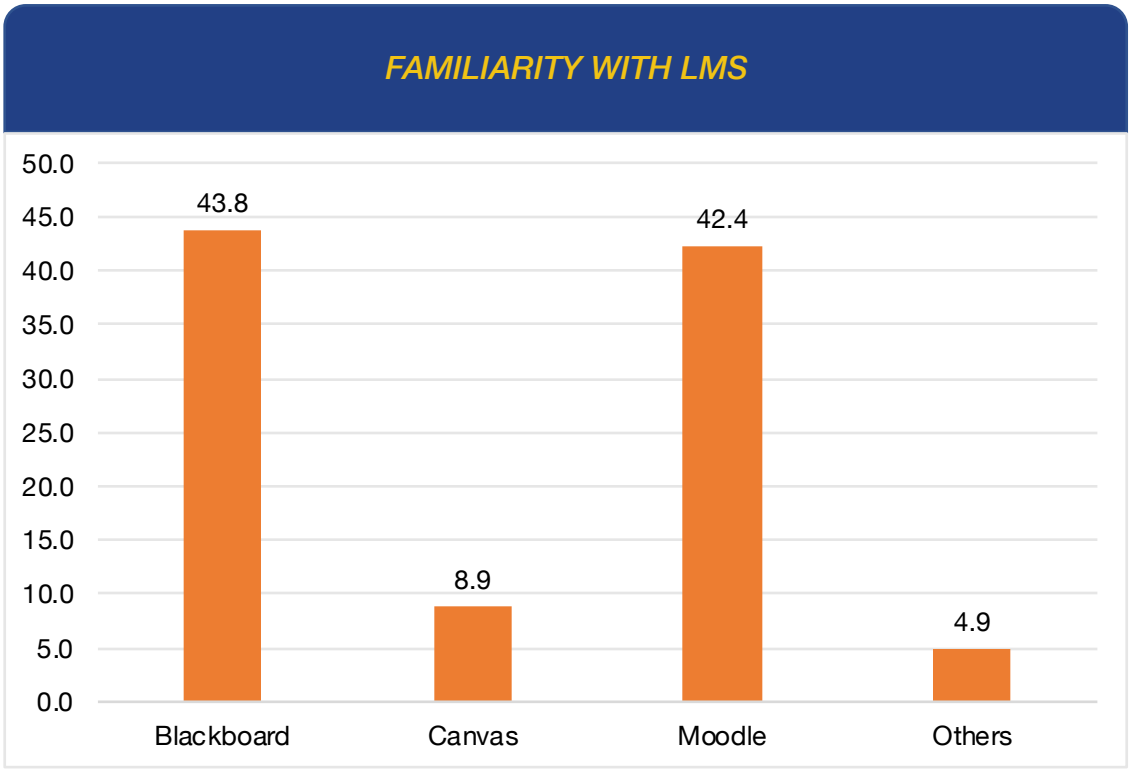
In a modern education system, computers are essential tools without which no online activity can be accomplished. Computers have largely surpassed humans in leveraging factual and procedural knowledge, but our institutions are not fully equipped with computers.

- ***The survey data shows that 23% of sampled institutions are facing problems accessing computers, registering a 1:15 or greater computer to student ratio.***

USE LEARNING MANAGEMENT SYSTEM (LMS) FOR TEACHING

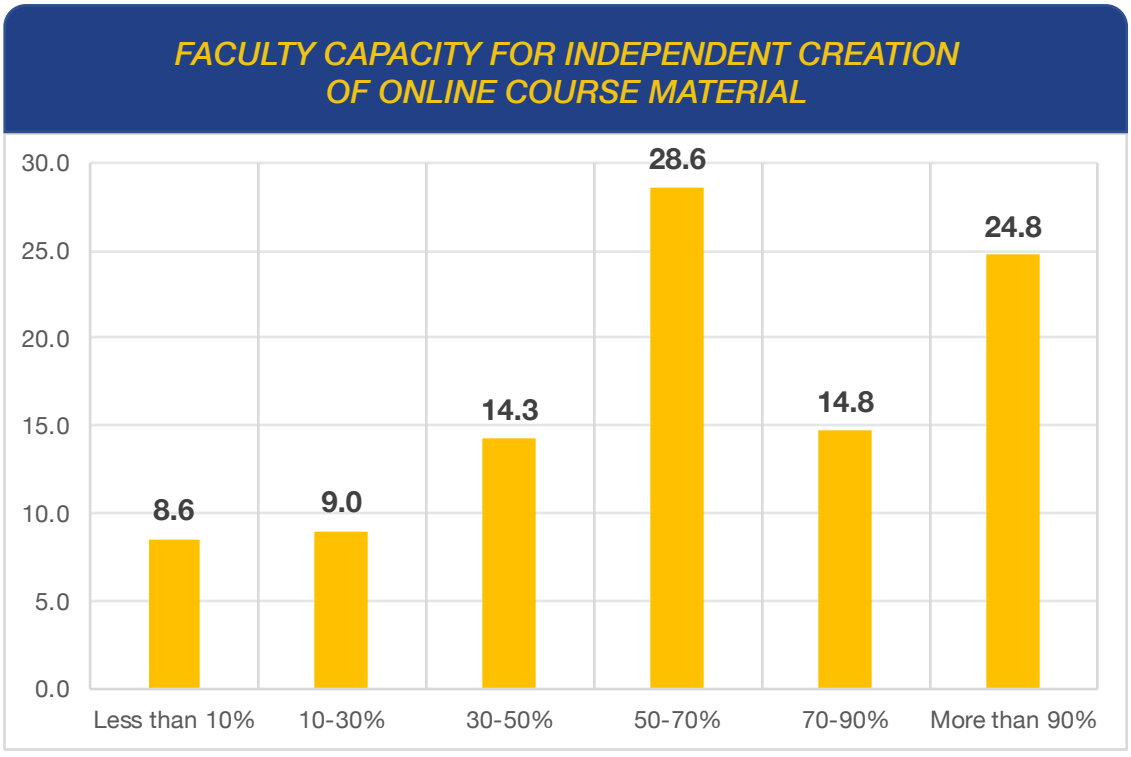


An LMS makes the classroom experience much more robust because in this advanced digitized era, educational methodologies have been transformed to simpler, more personalized, interactive and experiential but our universities need to work hard to fully implement LMS in the education system. The survey findings bring the fact that in **70.5% of colleges, the LMS is either partially used or not used. Furthermore, in these institutions, the LMS is used only in some programs.**



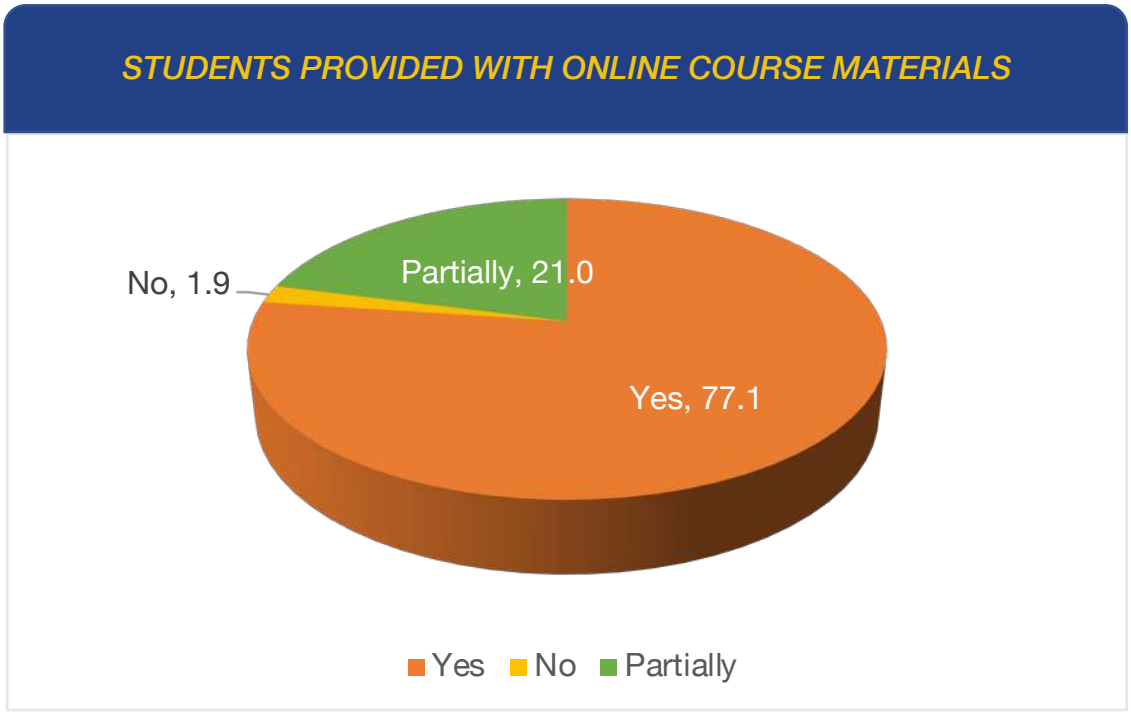
Familiarity with various Learning Management System reflects the faculty readiness to deal with the ICT enabled teaching-learning process, especially during a situation when shifting to online has become essential.

- ***The majority of colleges (43.8%) are familiar with Blackboard or Moodle LMS. The faculty members in less than 10% of sampled institutions are familiar with Canvas or any Other LMS.***

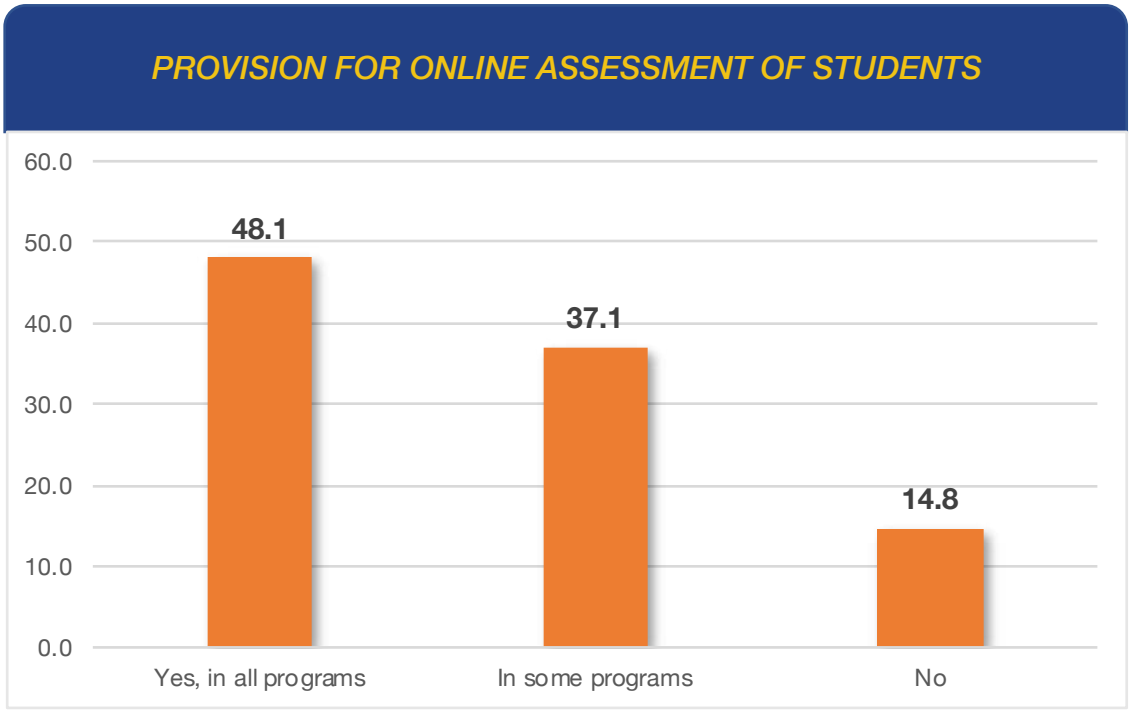


Institutions are not fully prepared as the majority of teaching staff are not capable of independent creation of online course material. The survey findings tell the actual truth of the current situation.

- ***Around 32% of institutions have half or less faculty capable of independent creation of online course material.***

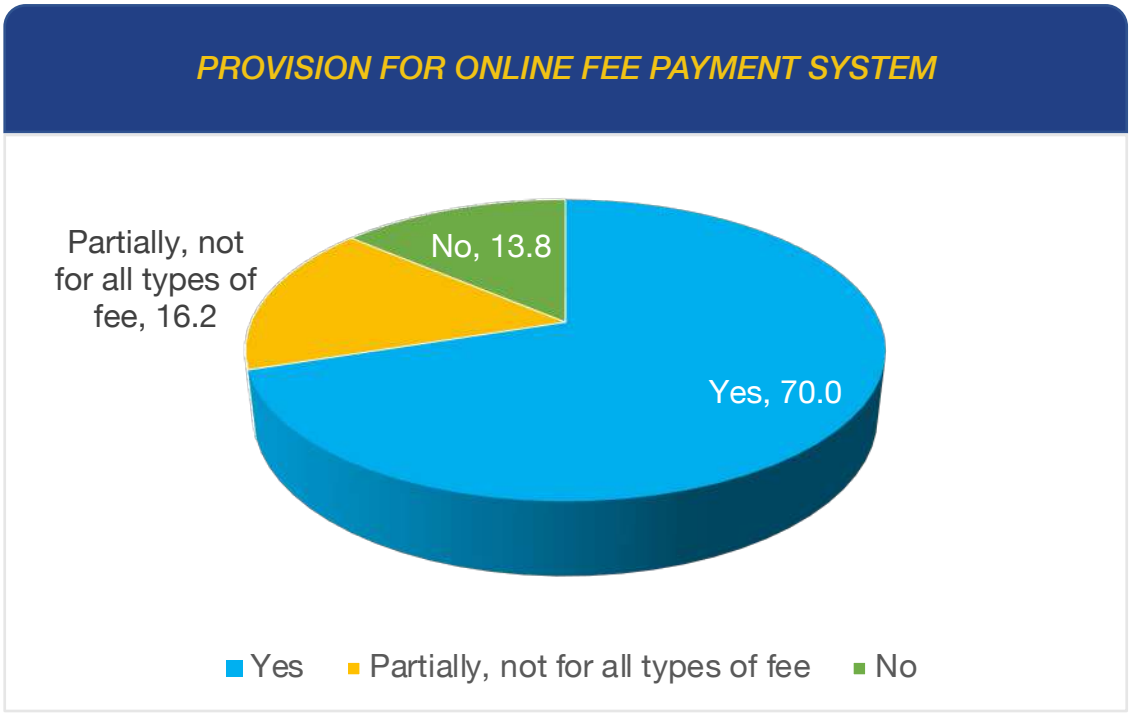


Once the technology has attained a level of maturity, the HEIs with higher student enrollment should be ideally placed to scale online course materials but the survey data reveals that ***around 23% of institutions are not providing most of the course materials online.***



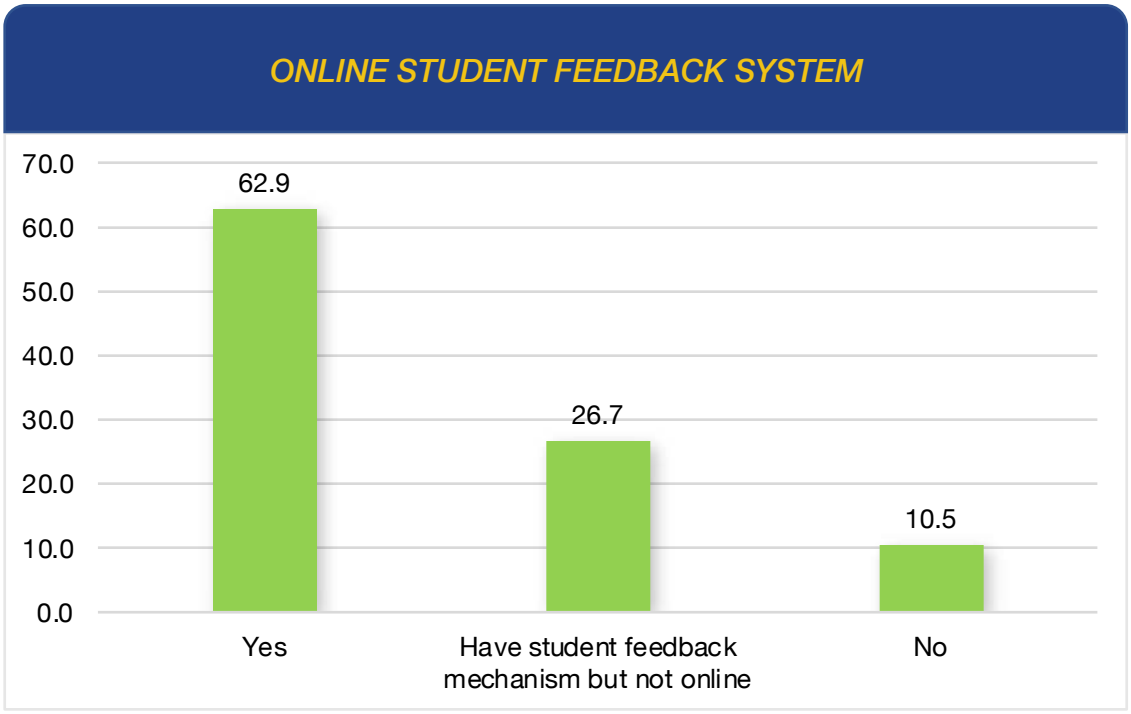
Managing examinations at scale in higher education institutions certainly requires the application of ICT. Online Assessment has been introduced in the HEI sector to enable efficiency and transparency to the assessment process. This requirement has increased during the pandemic, especially to avoid the loss of opportunity for students to evidence academic achievement.

- ***The survey indicates that around 51.9% of universities are not utilising online assessment in all programs including 14.8% with no online assessment.***



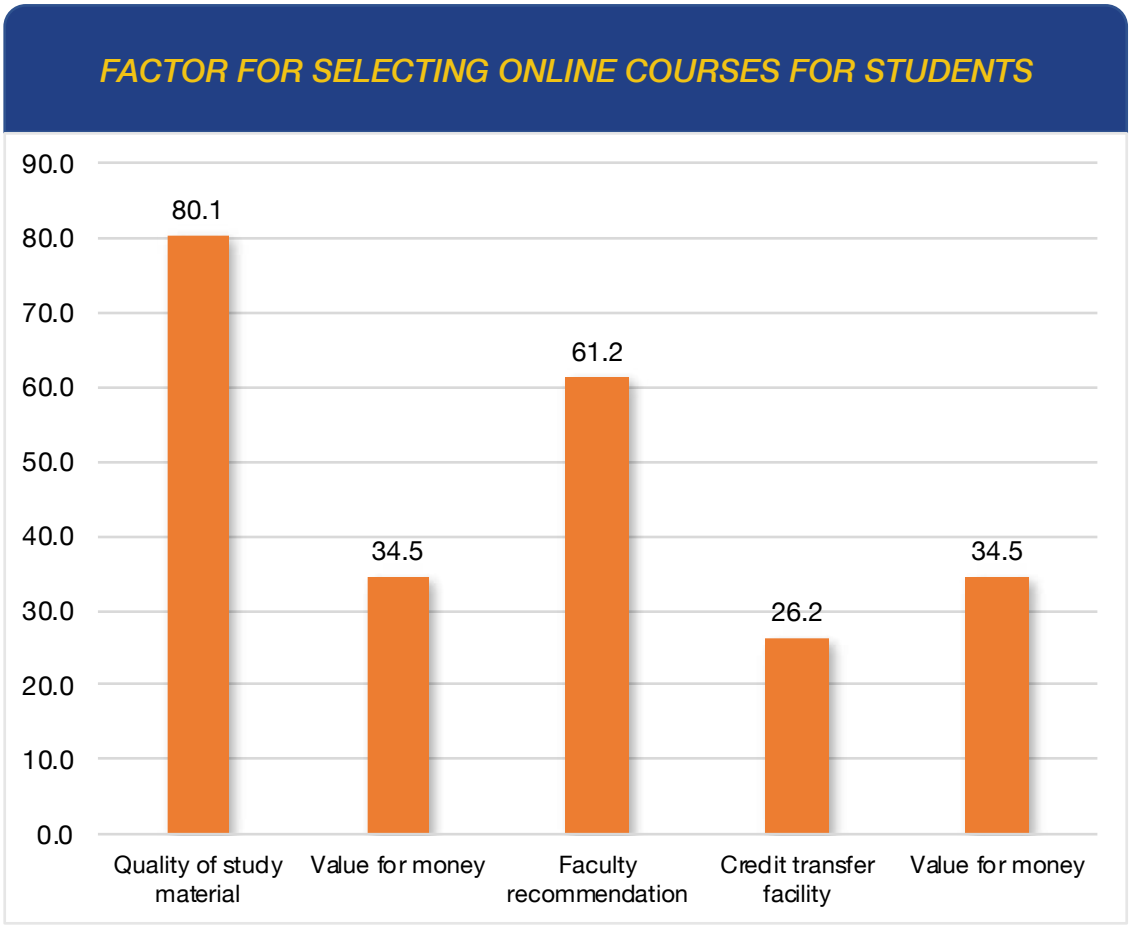
With the emergence of various technology platforms, payments or any form of financial transaction through online has become easier. Colleges and other higher learning institutions have largely adopted the online fee payment system for the convenience of the students and parents.

- ***More than 85% of colleges have an online fee payment system either partially or fully but 13.8% of universities still do not have an online payment system.***

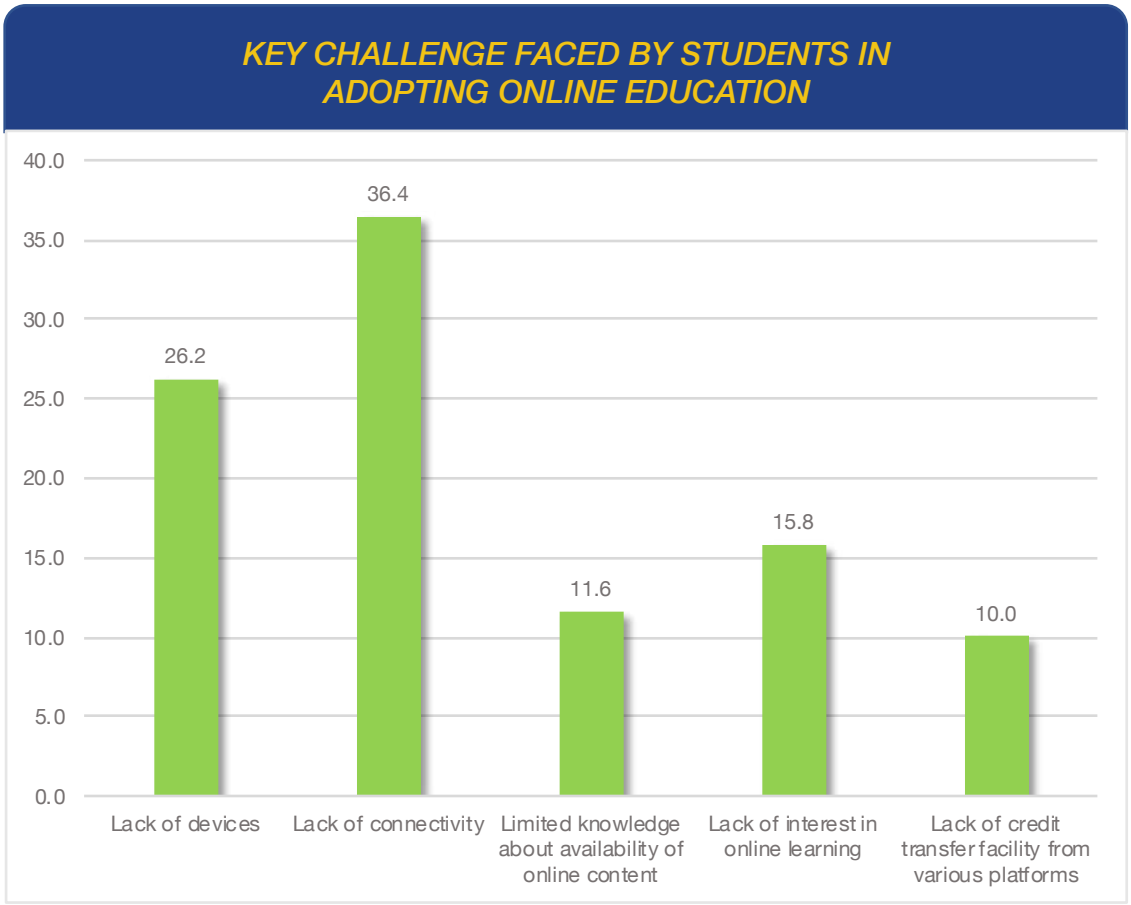


For the implementation of online education, the need for structured feedback is important. The lack of a meaningful feedback mechanism possesses the biggest challenges for online learners. Ever since the introduction of online student feedback, universities have been taking initiatives to put a structured feedback mechanism in place.

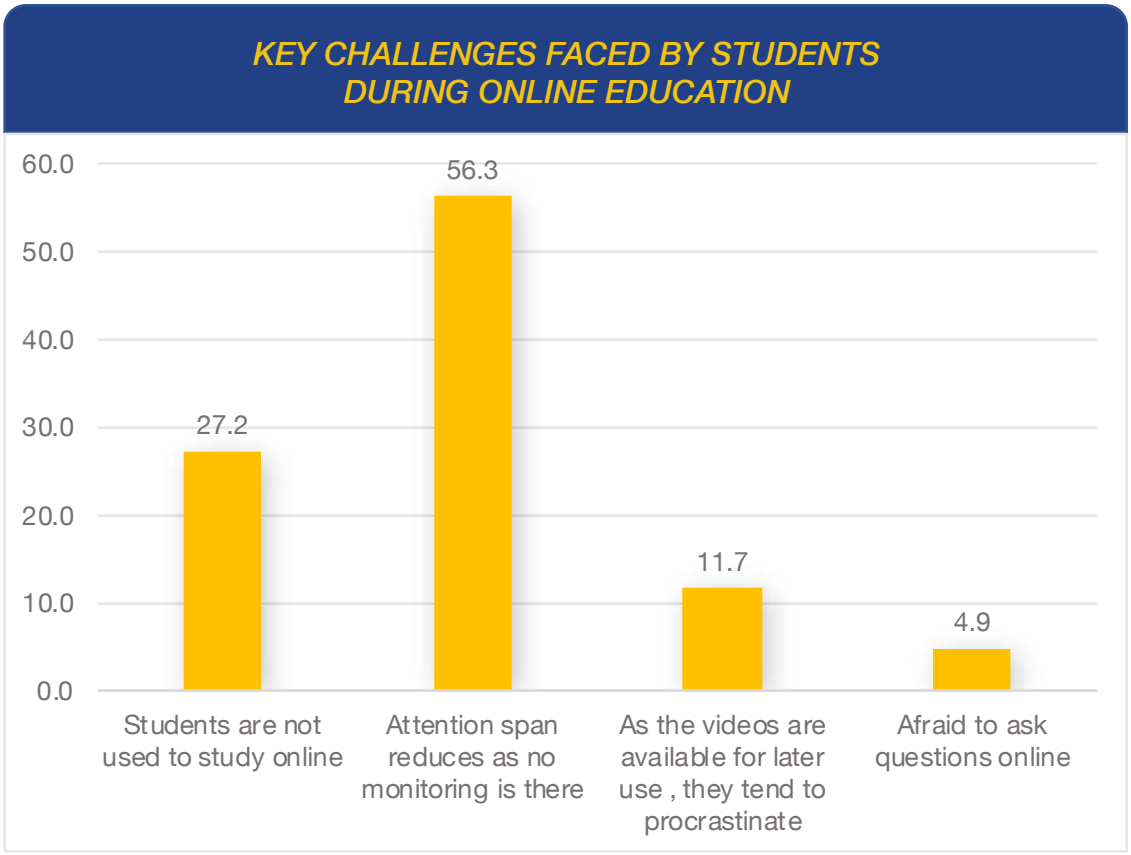
- ***Surprisingly, 37.2% of the colleges do not have an online student feedback system and 10.5 % sampled colleges do not have any mode of a student feedback system.***



Majority of institutions select online courses for students based on the quality of the study material. Faculty recommendation comes second as the most important factor in selecting online courses for students.



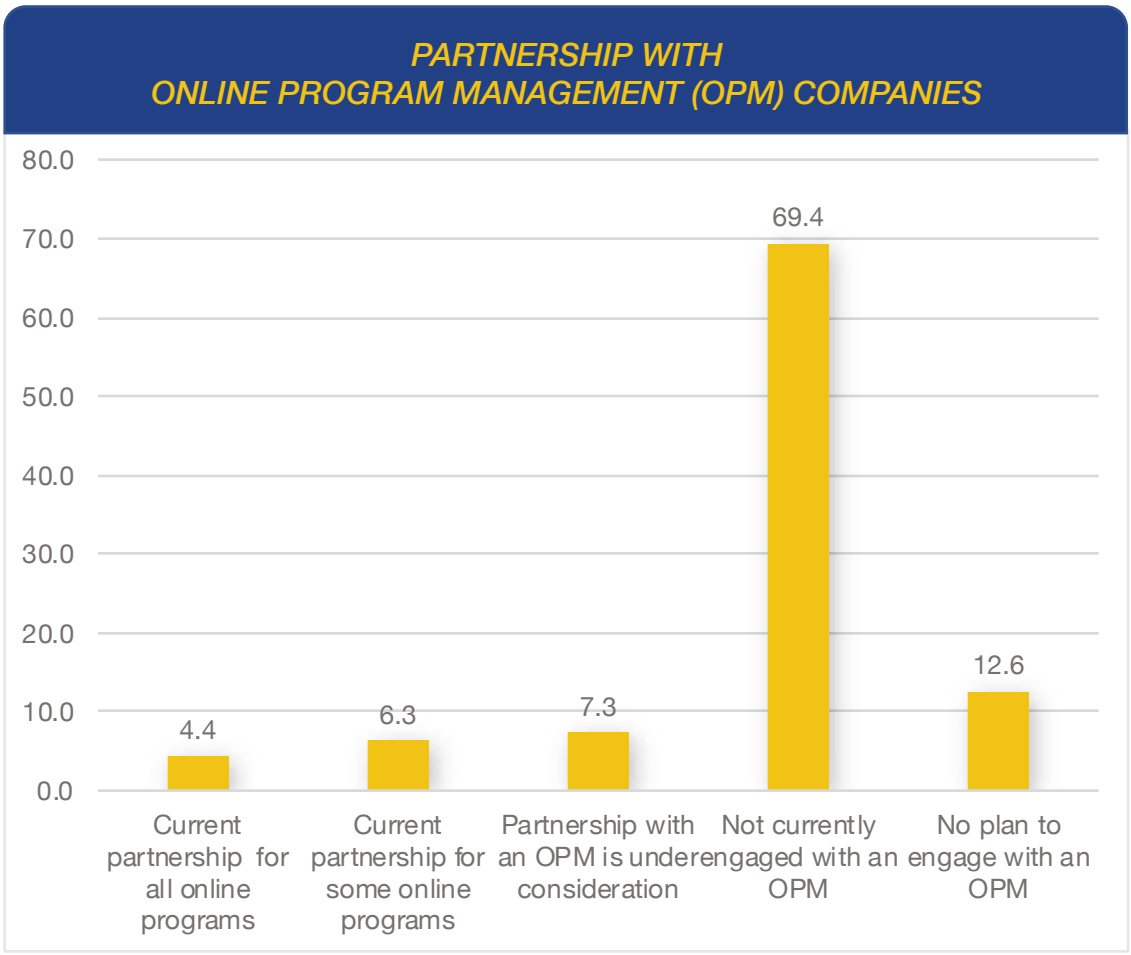
Lack of connectivity, non-availability of devices, lack of interest in online learning, and the absence of a structured credit transfer system were attributed as the key challenges faced by students in adopting online education.



In the majority of institutions surveyed, two major challenges faced by students during online education.

These were:

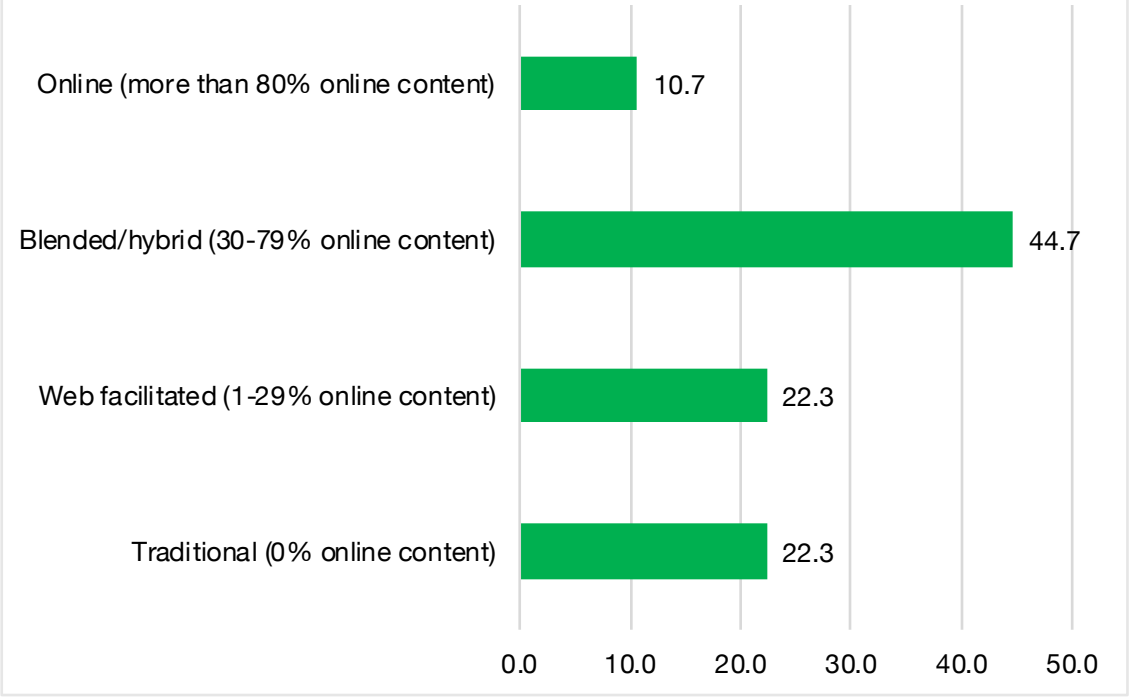
1. ***Reduced attention span (56.3%) and***
2. ***Students are not used to studying online.***



To bring efficiency and dynamism in managing various programmes the higher learning institutions have been partnering with different Online Programme Management Companies (OPM). These companies have developed various models and strategies for managing online learning.

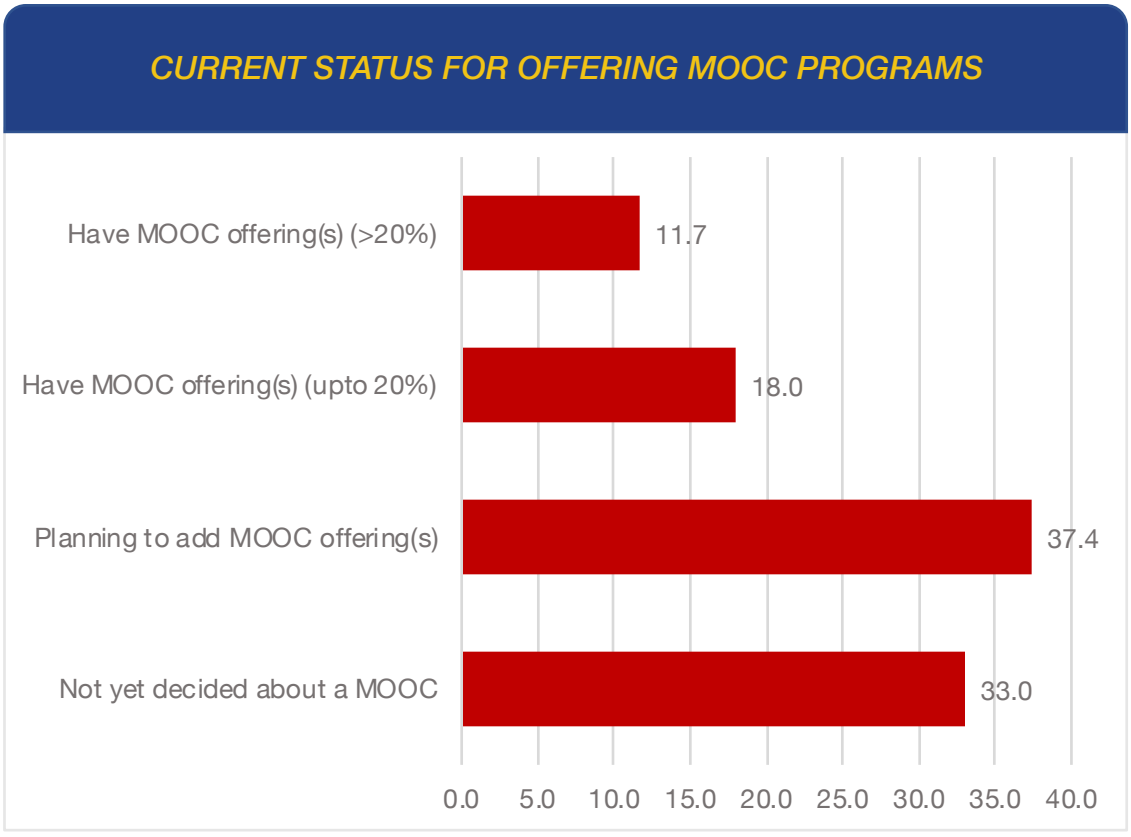
- ***The Survey reveals that around 90 % of college institutions currently have no partnership with OPM companies for any courses.***

TYPE OF COURSE DELIVERY MODELS



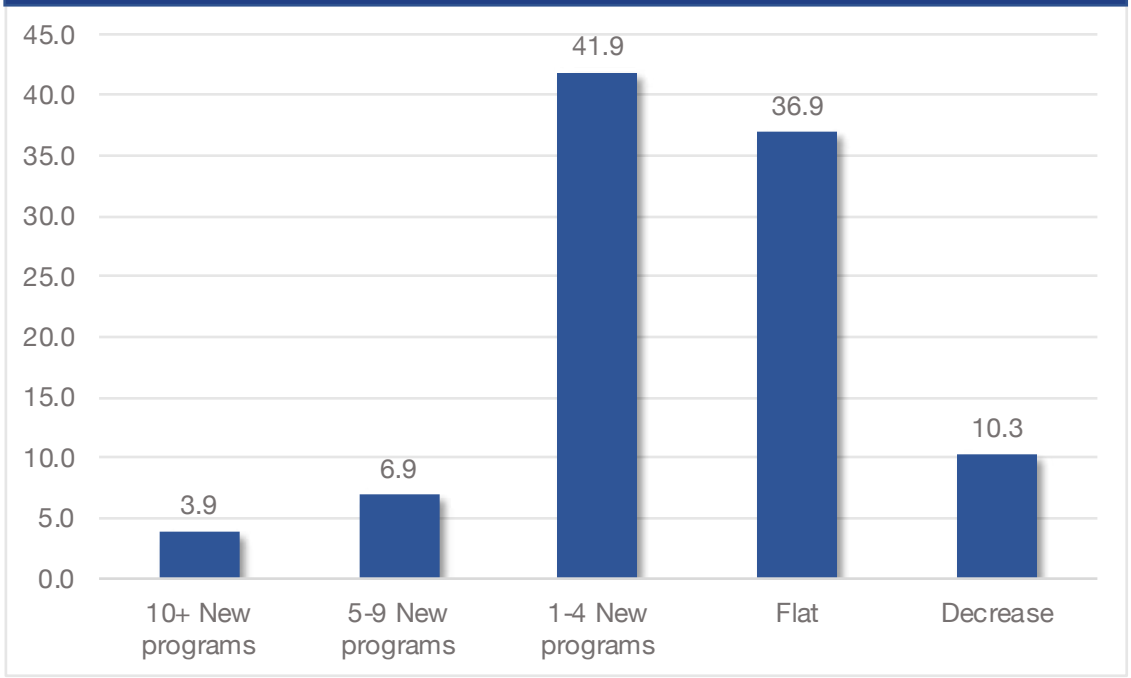
Among the types of course delivery models Blended/Hybrid model is the preferred choice in majority (44.7) colleges.

- ***Approximately 90% of institutions using less than 80% online content including 22.3% institutions are still not using any online content.***

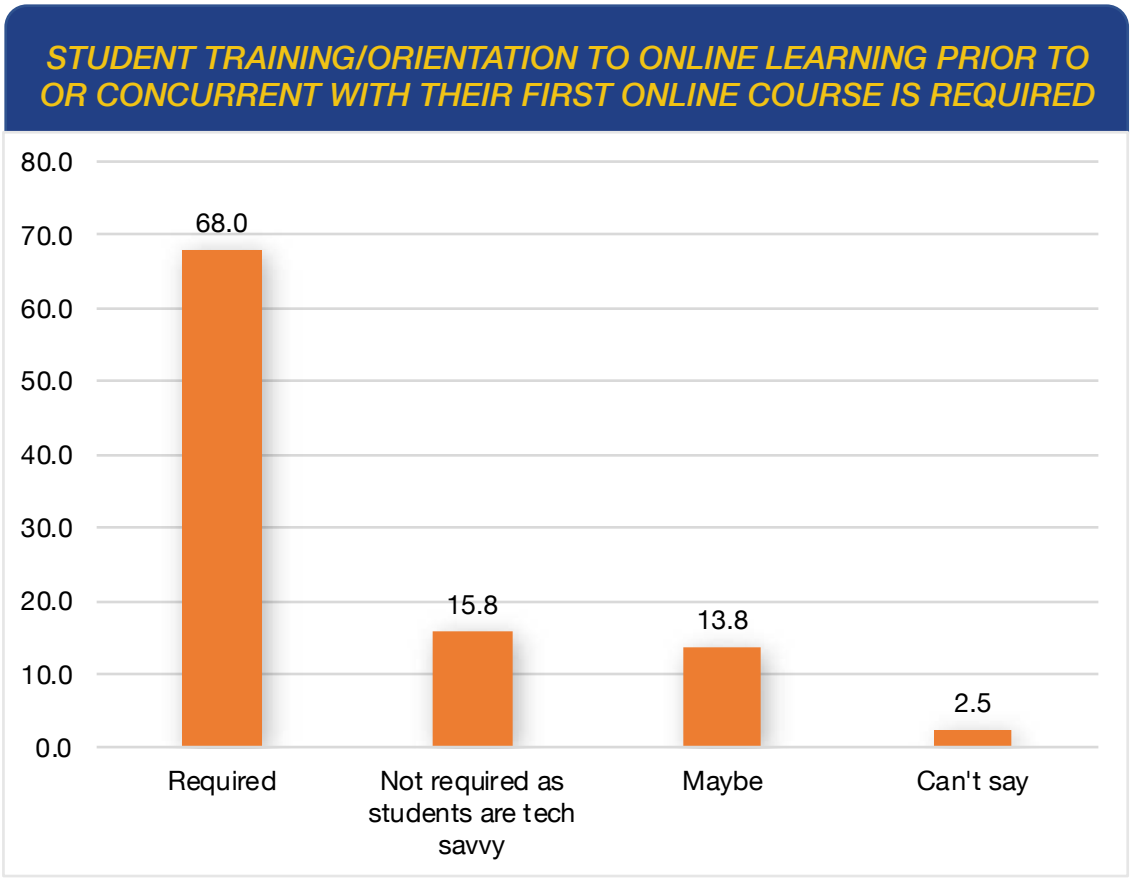


70.4% of sampled college institutions are not offering MOOCs programs. 37.4% are planning to add MOOC Programs.

IN THE NEXT 1-3 YEARS, INSTITUTE EXPECTING THE NUMBER OF FULL ONLINE DEGREE PROGRAMS GOING TO INCREASE

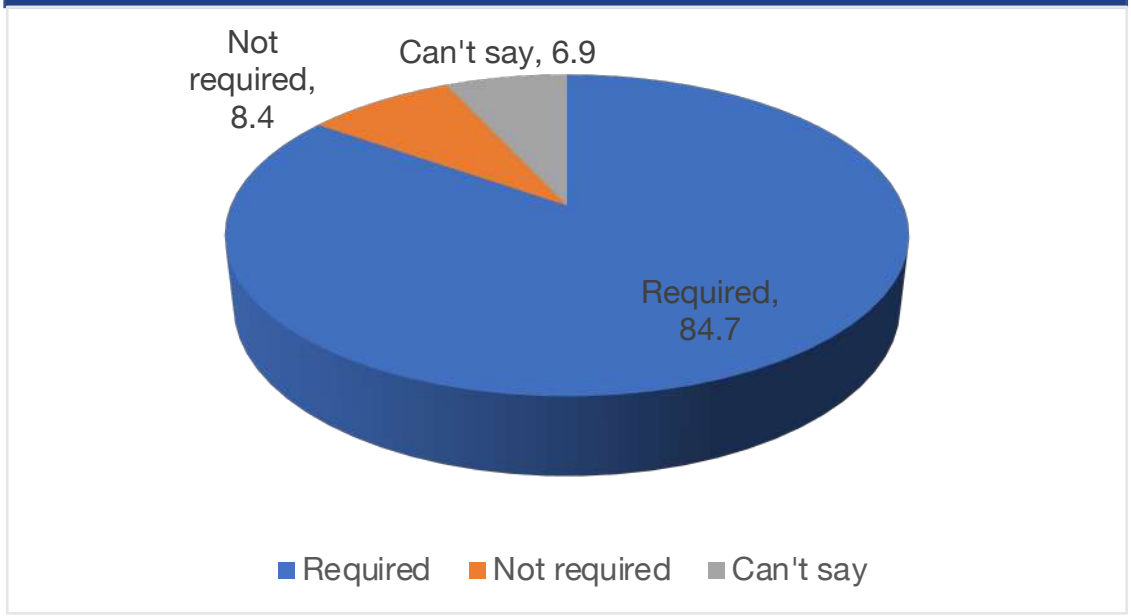


In the next 1-3 years, 52.7% of institutions are expecting the number of fully online degree programs at their institution going to increase.



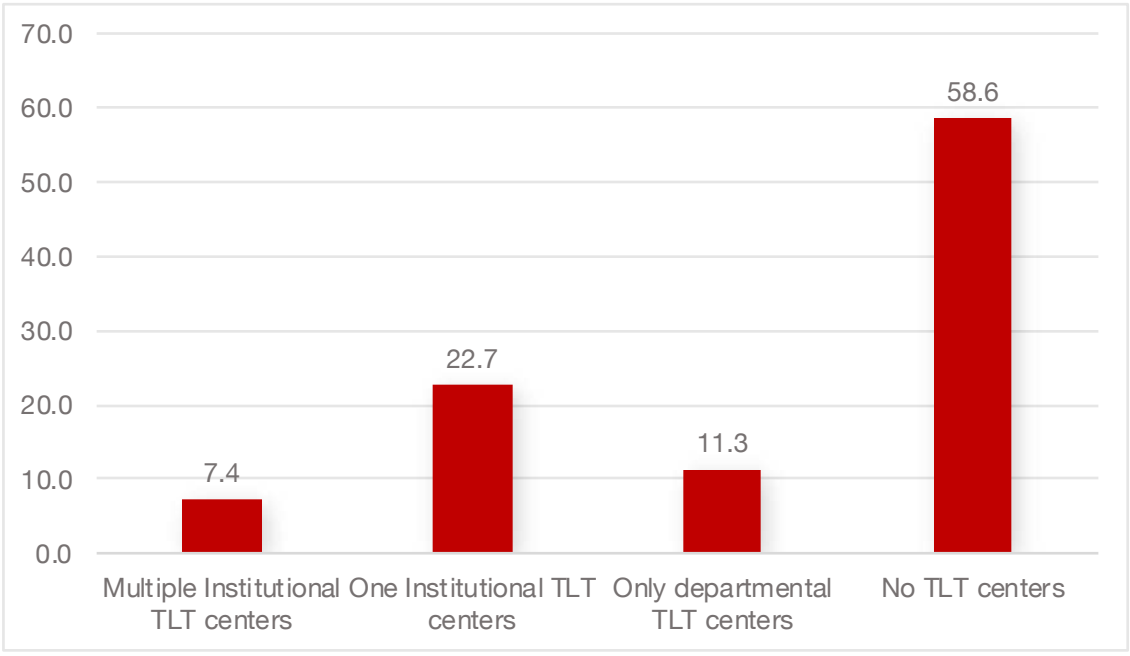
81.8 % of sampled institutions' students required training/orientation to online learning before or concurrent with their first online course.

FACULTY TRAINING/ORIENTATION TO ONLINE LEARNING PRIOR TO OR CONCURRENT WITH THEIR FIRST ONLINE COURSE IS REQUIRE



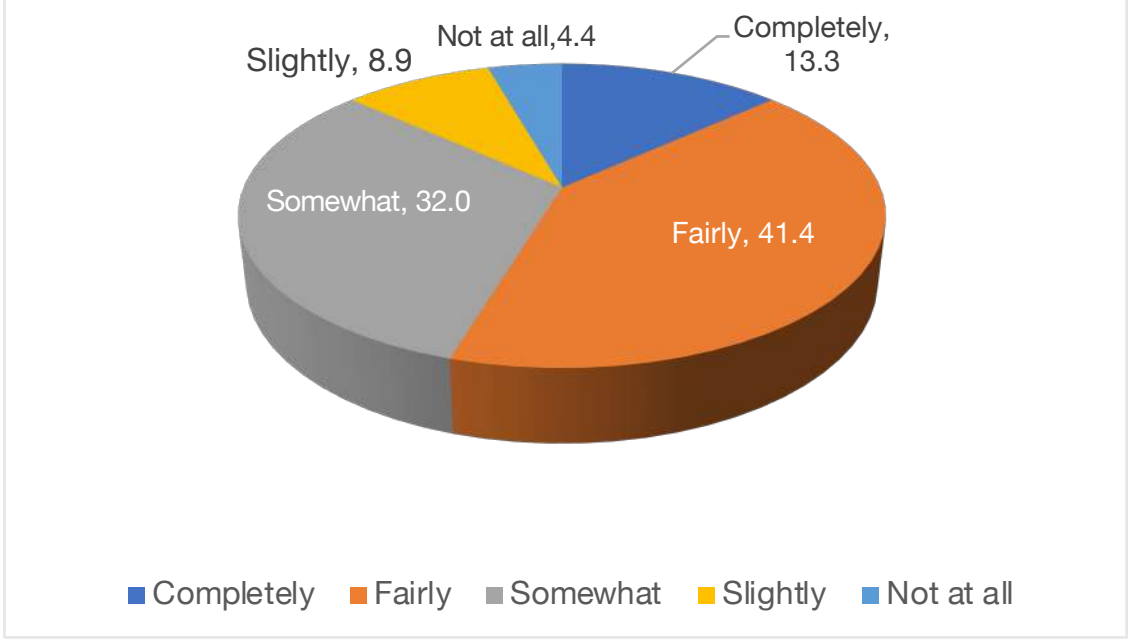
More than 80% of college faculty required training in online learning before or concurrent with their first online course. Standardized training programmes should be organised through which a large number of teachers can be trained within a short period so that online education may be fully implemented as early as possible.

AVAILABILITY TEACHING/LEARNING/TECHNOLOGY INNOVATION CENTER, OR ITS EQUIVALENT

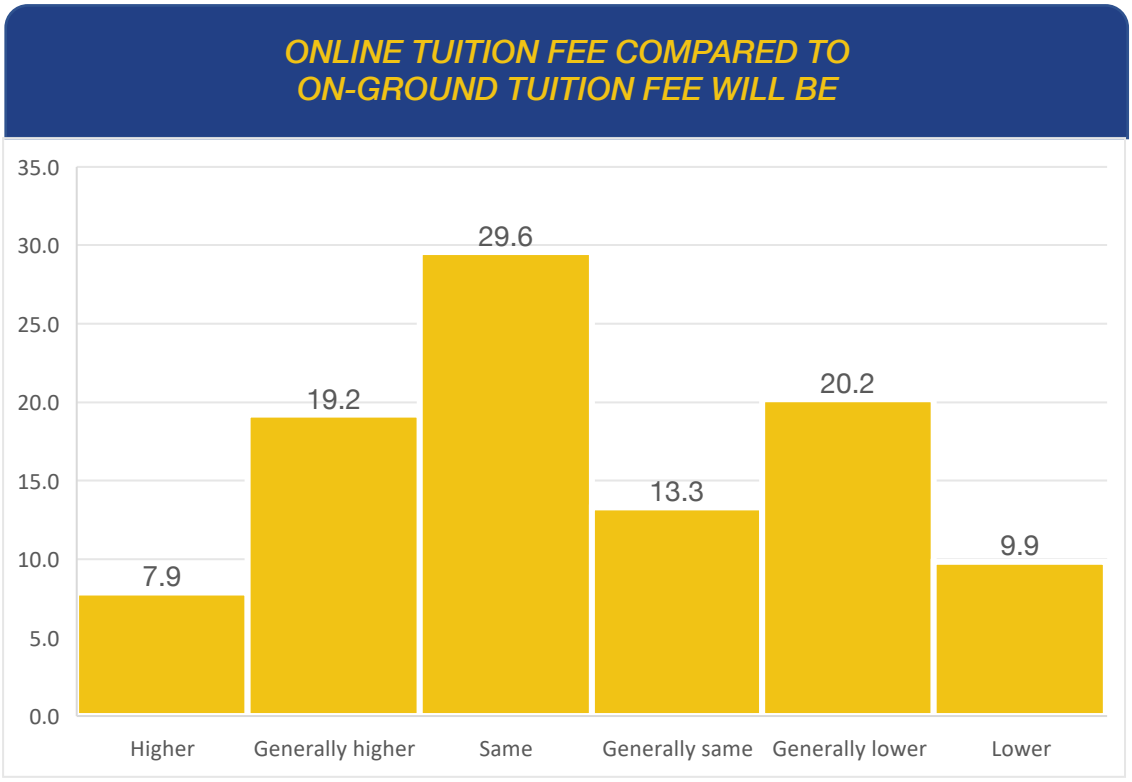


In an era of innovation and entrepreneurship, the higher learning institutions are expected to play a key role in encouraging and promoting innovations. The Higher Education Institutions have a bigger role in nurturing the talents by providing them with a sound platform. The findings of the survey are somewhat encouraging as ***41.4% of college institutions have at least one Teaching/Learning/Technology Innovation Centre or its Equivalent.***

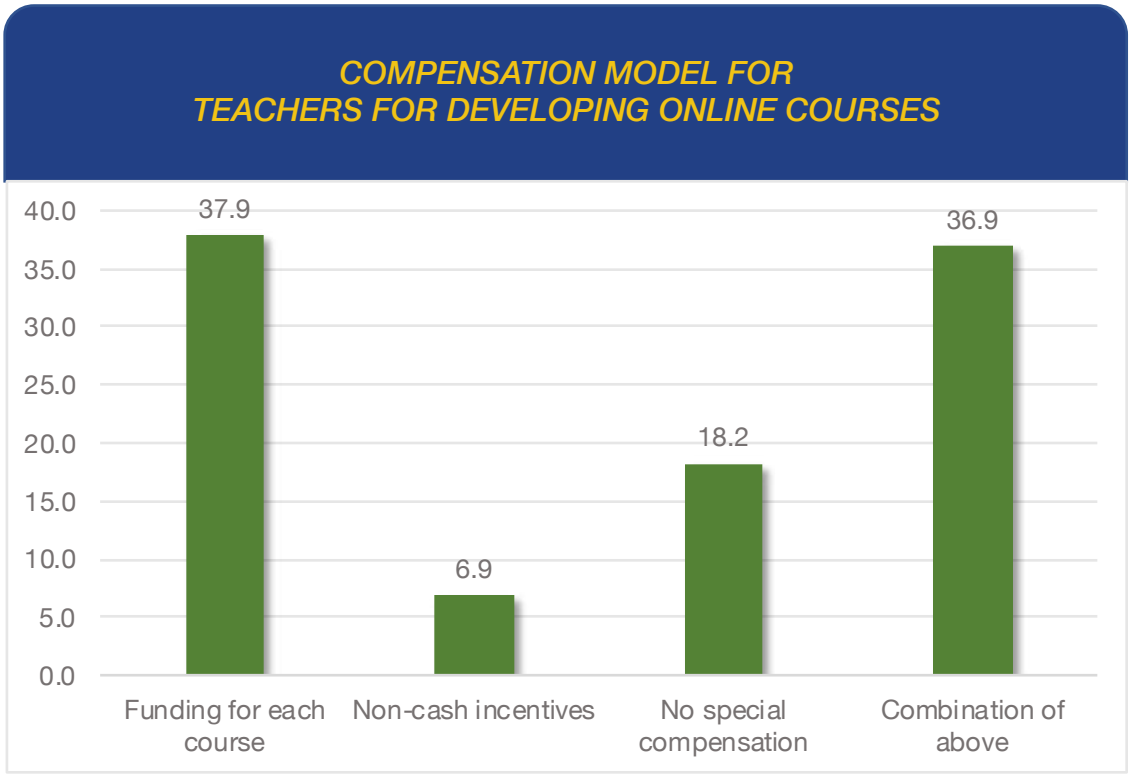
UNDERSTANDING ABOUT THE COST DETAILS OF DEVELOPING, DELIVERING, AND MAINTAINING ONLINE PROGRAMS



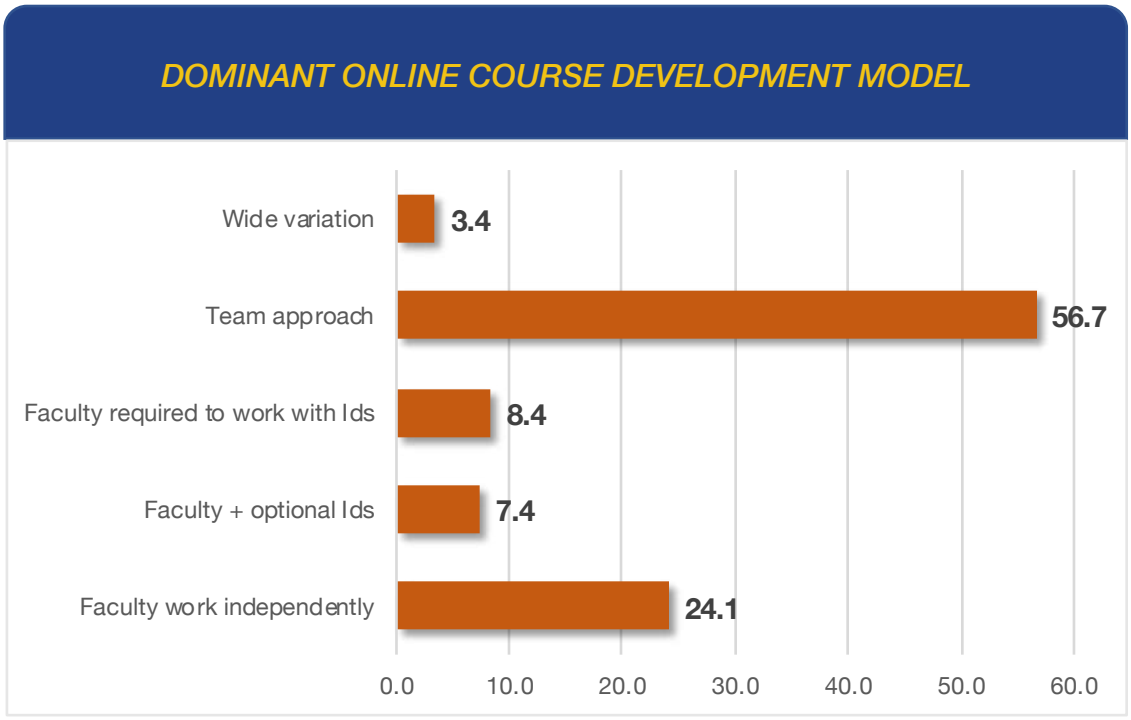
More than 95% of the sampled institutions have some level of confidence in understanding the cost details of developing, delivering, and maintaining the institution's online programs.



Survey reveals that ***72.9% of the sampled institutions considering that online tuition fee is the same or lower compared to the on-ground tuition fee***. More than a quarter of institutions feel that the online tuition fee compared to on-ground tuition fee is higher in some manner.

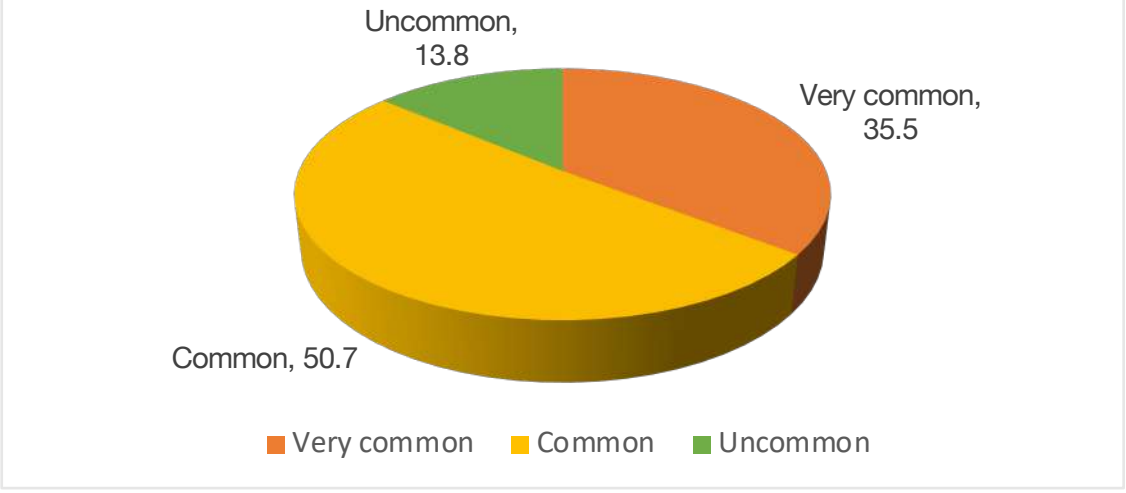


74.8% of college institutions consider that some form of funding compensation model is required for teachers for developing online courses.

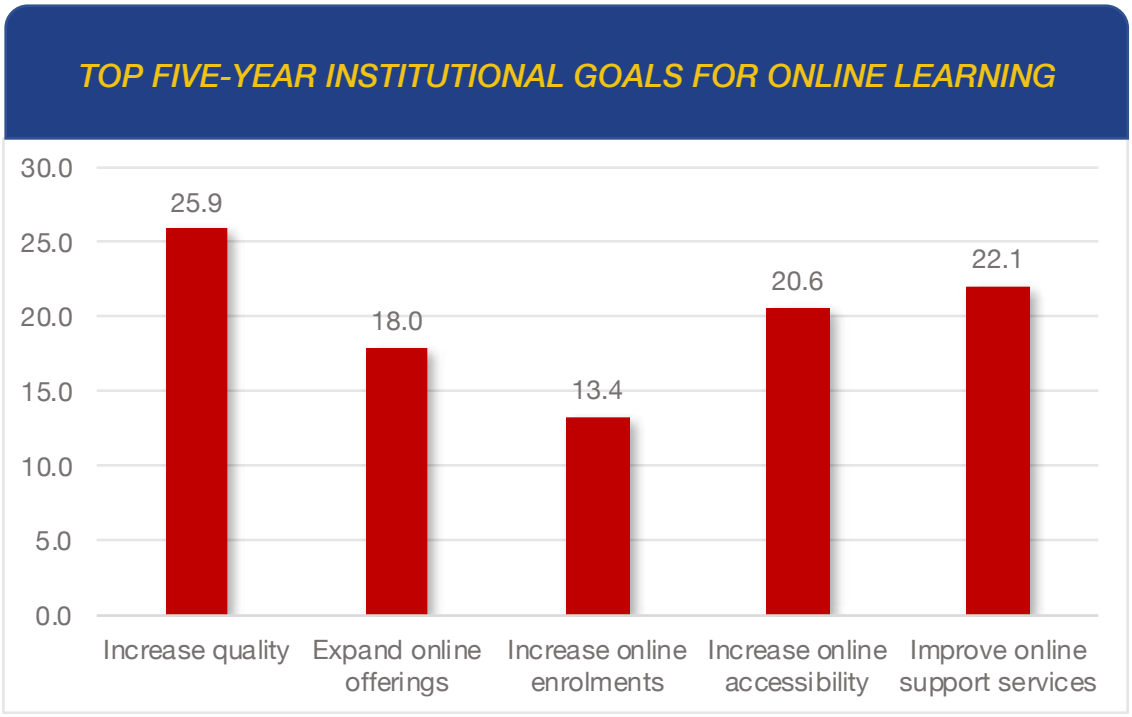


In survey analysis, shows that more than ***75% of the college institutions' faculty are not in a position to develop primary or dominant online development models independently.*** Majority of institutions required a team approach to develop primary or popular online development models

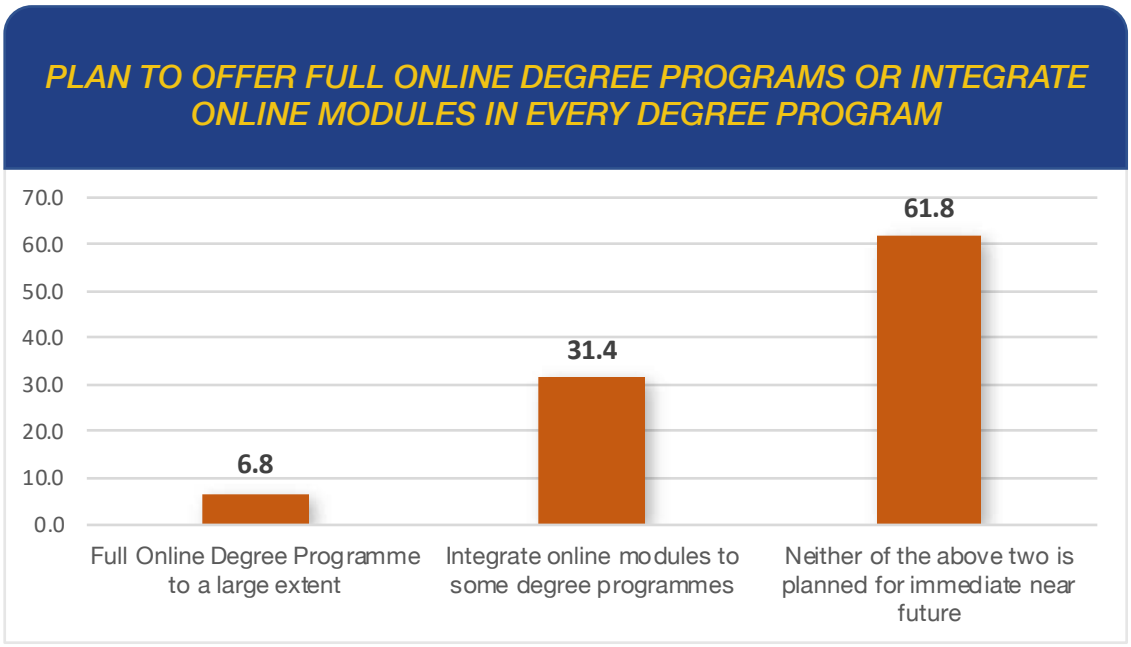
PREVALENCE OF CHEATING IN ONLINE EXAMINATIONS



Cheating in Examinations is a perennial issue. Contrary to the general perception that cheating is common in physical/traditional examination model and the online model of examination has less scope of cheating, the ***Survey shows that in 86.2 % cases cheating in online examinations is common. There is a dire need to strengthen the overall mechanism to resolve this issue and make the examination fool proof.***

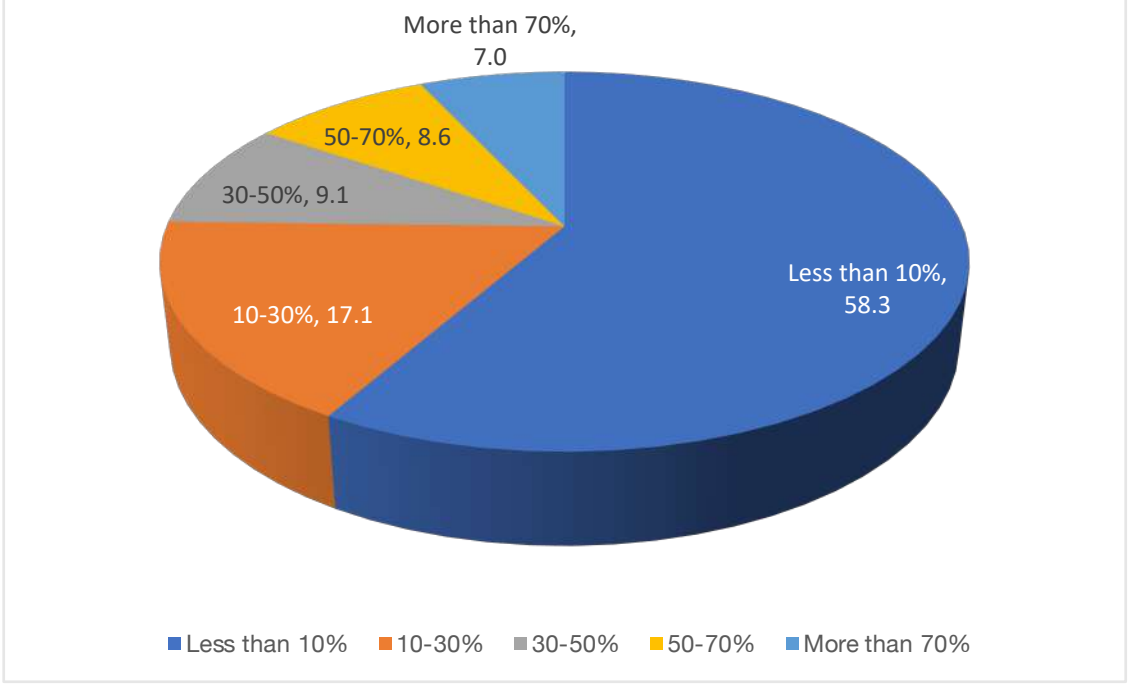


Every institution fixes its goals on priority. In the survey, the majority of colleges reported having a focus on improving quality as the key priority goal, followed by improving online support services and increasing online enrolments in the next five years.

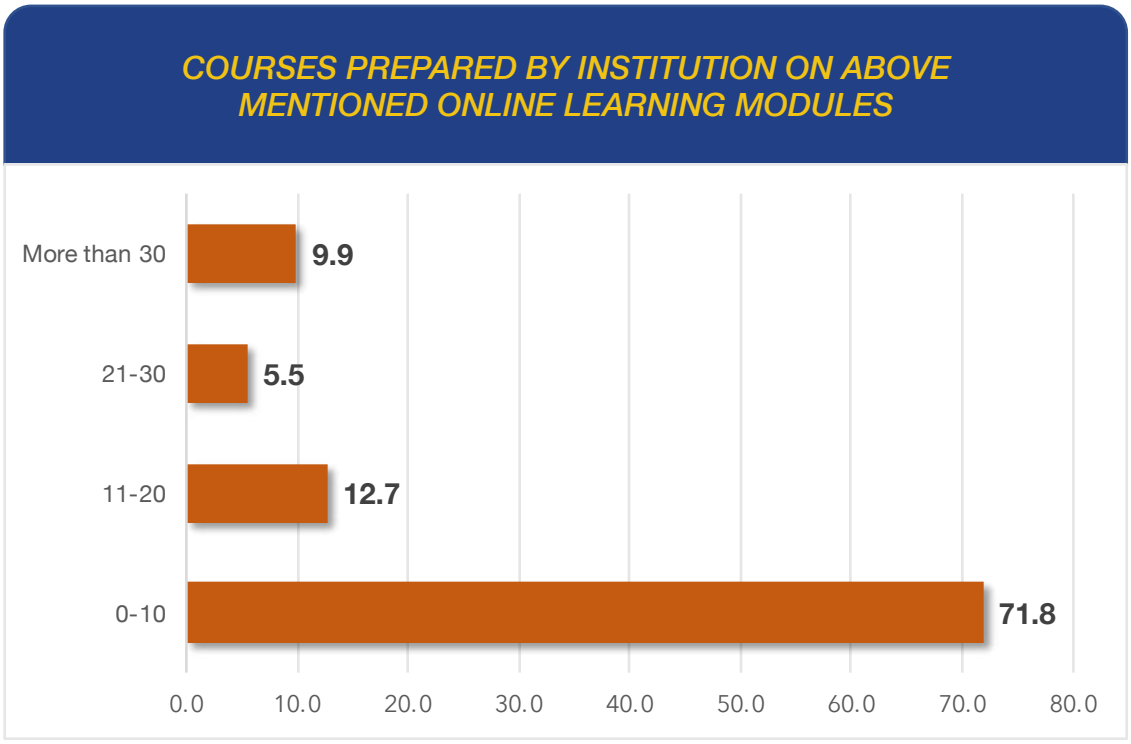


61.8% of the responding institutions reported that they do not have any plan to go for a fully online degree programme or integrating online modules to some programmes in the near future***. Around 38.2% of sampled institutions are in favour of online modules in every program in a full or integrated manner.*** The findings do not depict an encouraging picture as shifting to online mode has become a pressing demand because of the situational crisis

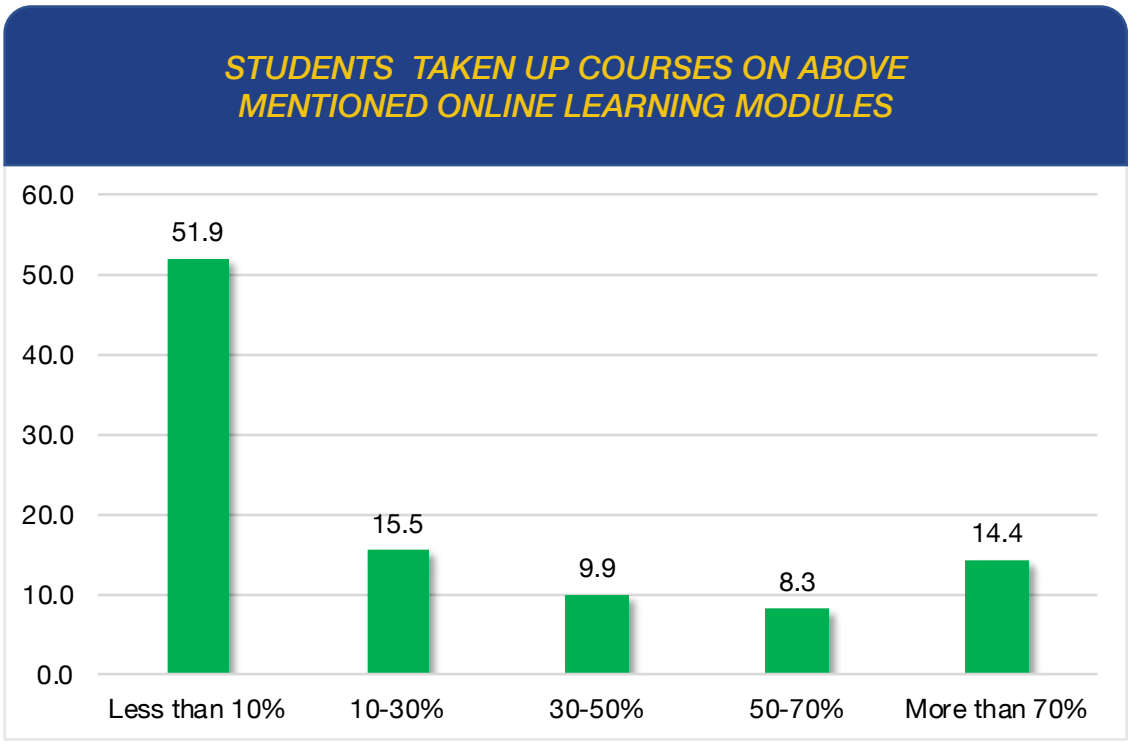
FACULTY CONTRIBUTION IN CREATING CONTENT FOR LEARNING MODULES LIKE MOOCS / SWAYAM / NPTEL / EPATHSHALA / SWAYAMPRABHA ETC.



In 84.5 % sampled institutions half or less faculty has contributed to creating content for online learning modules.

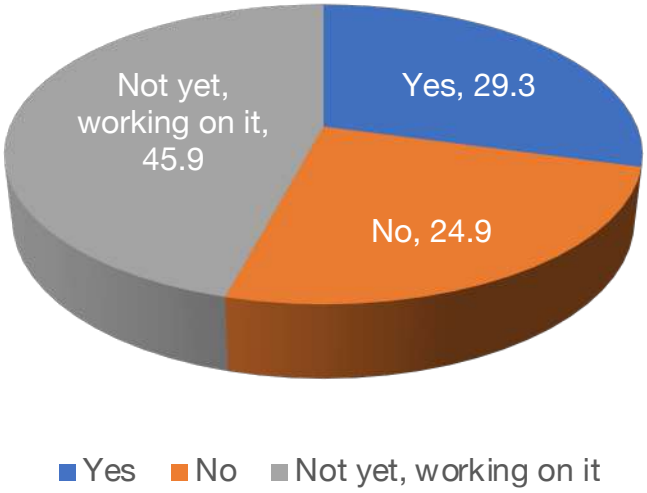


More than 80% of institutions prepared 20 or fewer courses for online learning modules.

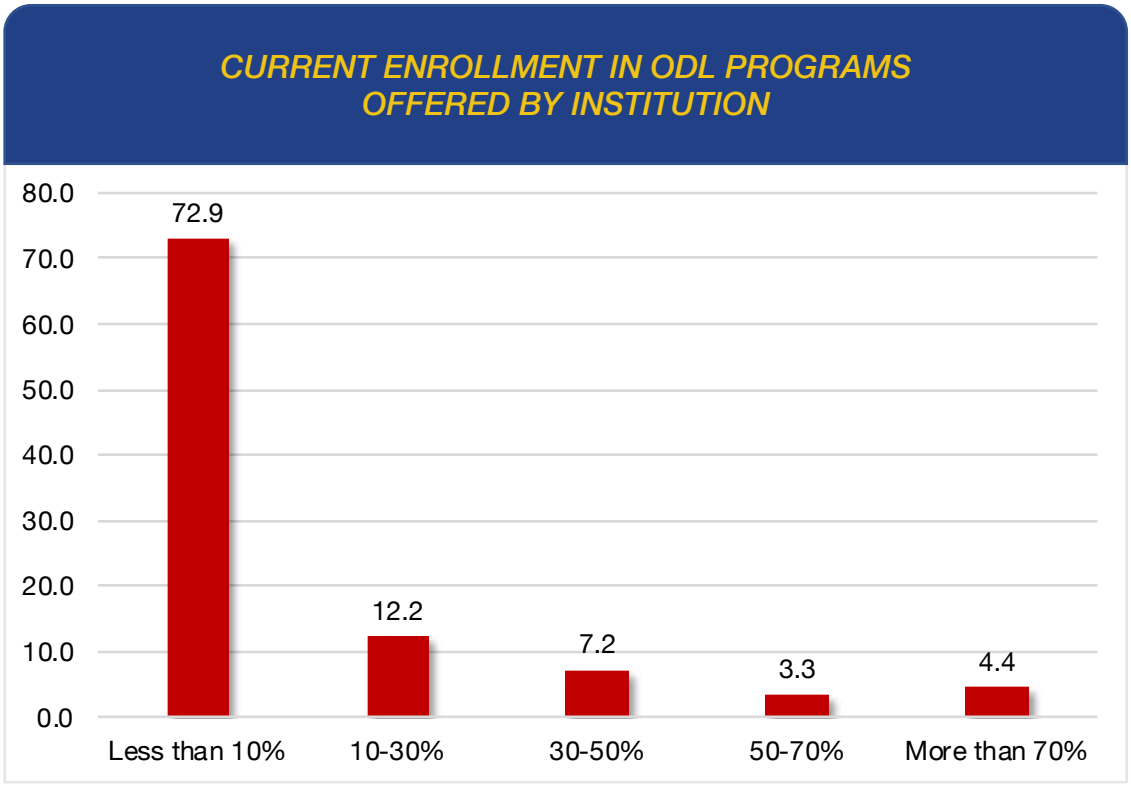


85.6% of college institutions have 70% or fewer students taking courses as online learning modules.

RECOGNISING CREDITS EARNED ON ABOVE MENTIONED ONLINE LEARNING MODULES

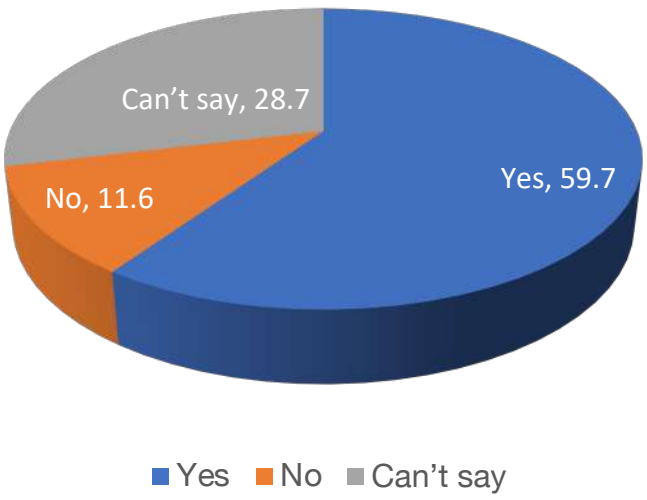


Credit transfer and recognition are gaining popularity in higher education institutions world over because it helps the students to minimise their academic loss in terms of efforts and time, broadening the choices with ease in entry and exit from the system. ***Astonishingly, the survey reveals that 70% of institutions need to work on credit recognition system for online learning modules.***



In 92.3% of the sampled institutions, half or fewer students are currently enrolled in ODL programs offered by the institution.

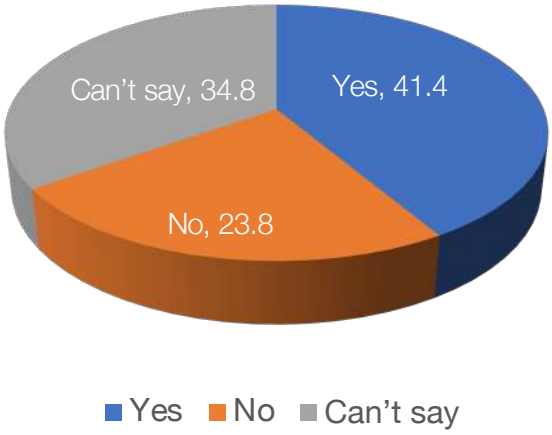
E-LEARNING PLATFORM LIKE SWAYAM PROVIDES ALTERNATIVE OPPORTUNITIES FOR HIGHER STUDIES TO UNIVERSITY STUDENTS



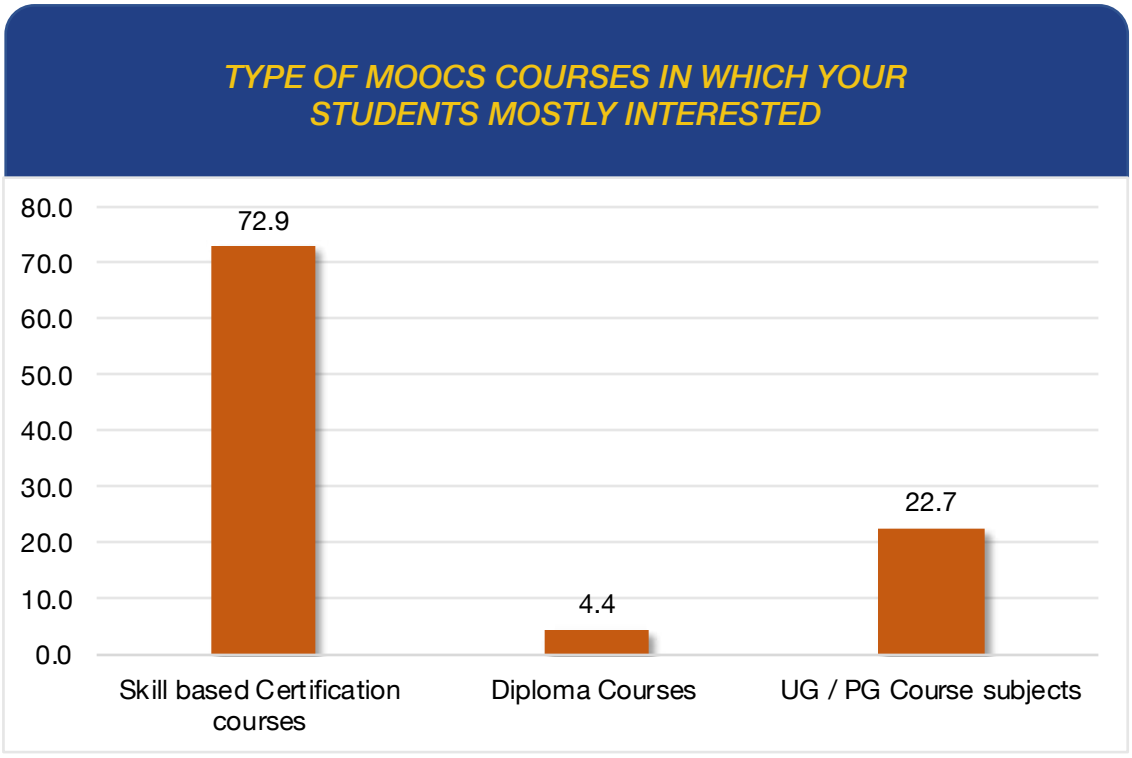
E-learning as an alternative to conventional education to students only be possible through suitable digital devices, such as tablets with pre-loaded content developed and provided to students and at present, our situation is alarming as ***around 60 % sampled institutions do not consider e-learning platforms like SWAYAM provides alternative opportunities for higher studies.***

Importance of SAWAYAM platform should be ensured.

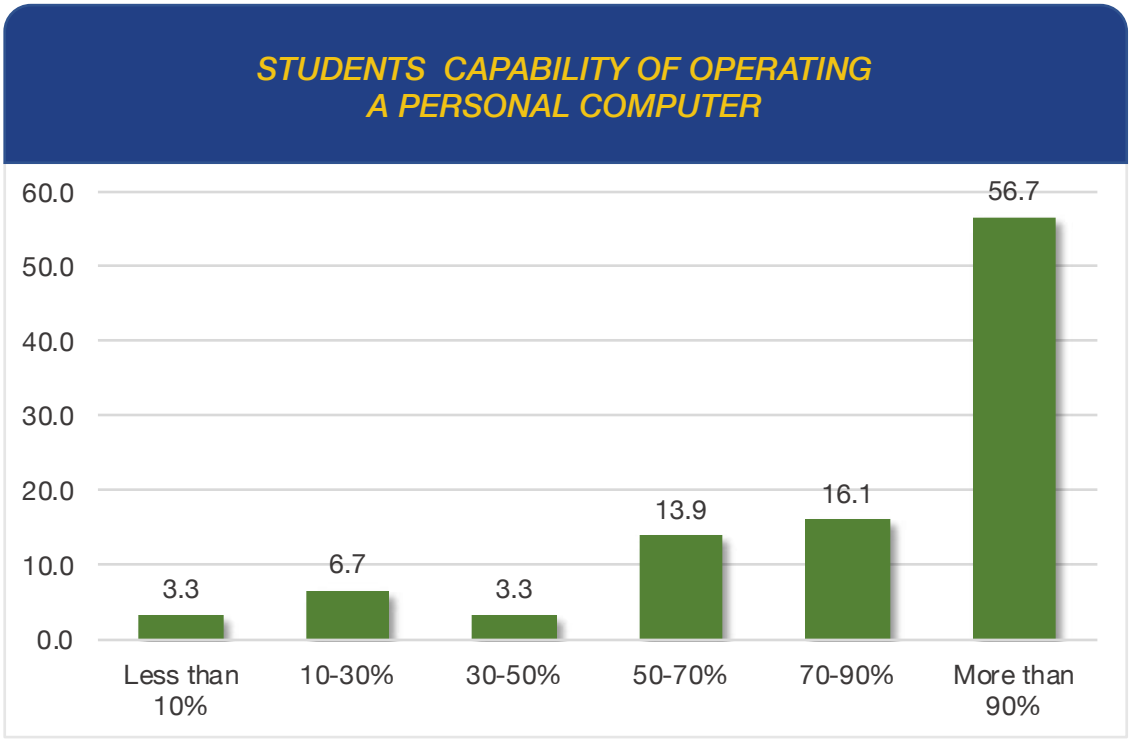
STUDENTS ARE SELF MOTIVATED TO USE SWAYAM PLATFORM



In more than half of the institutions sampled, the data showed that students are not self-motivated to use SAWAYAM platform.

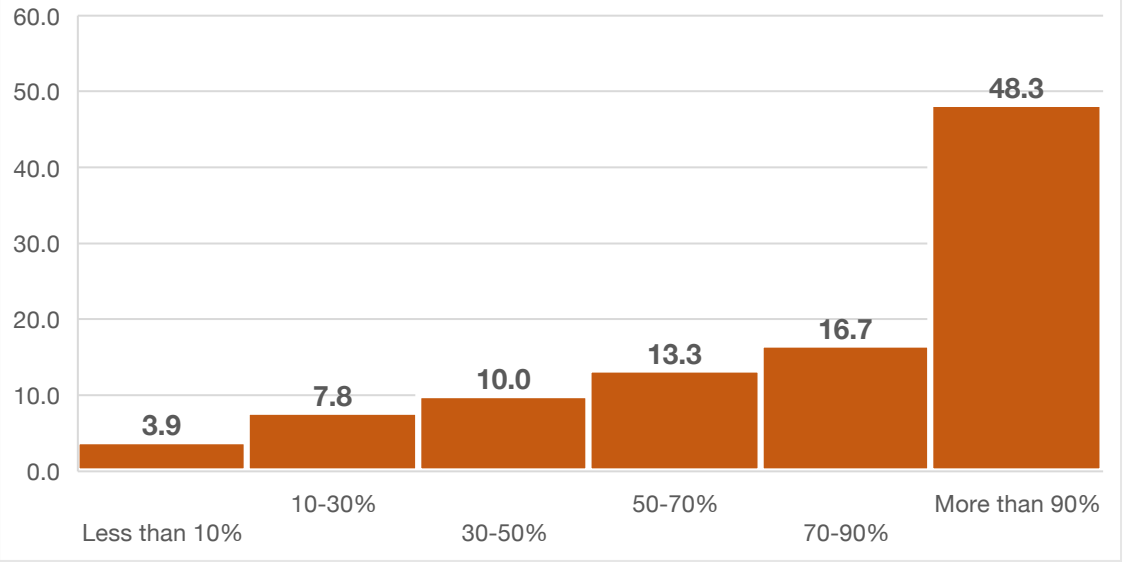


In the survey, the ***majority (72.9%) of students preferred skill-based courses on the MOOC platforms.*** Around a quarter of the students showed an interest in MOOCs that were curriculum-based courses.



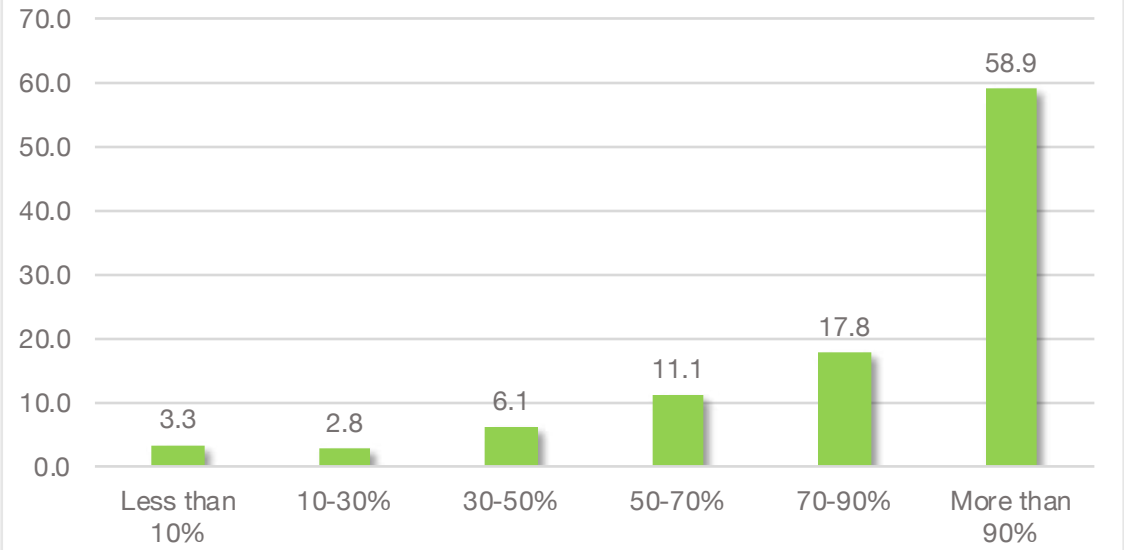
In 13.3% of sampled institutions half or more students are still not capable of operating a personal computer.

STUDENTS CAPABILITY OF SMOOTH OPERATION OF MS OFFICE APPLICATIONS (E.G. WORD, POWERPOINT, EXCEL ETC)

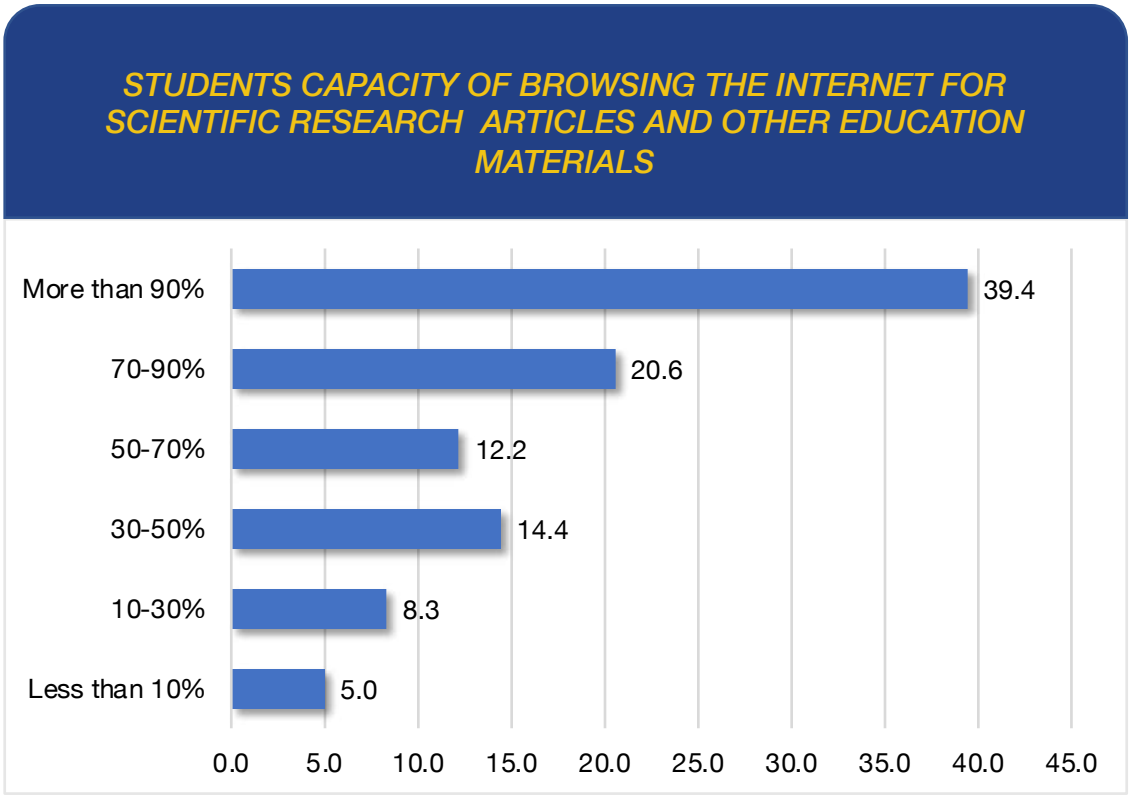


In 21.1% of sampled colleges, half or more students are not capable of the smooth operation of MS office.

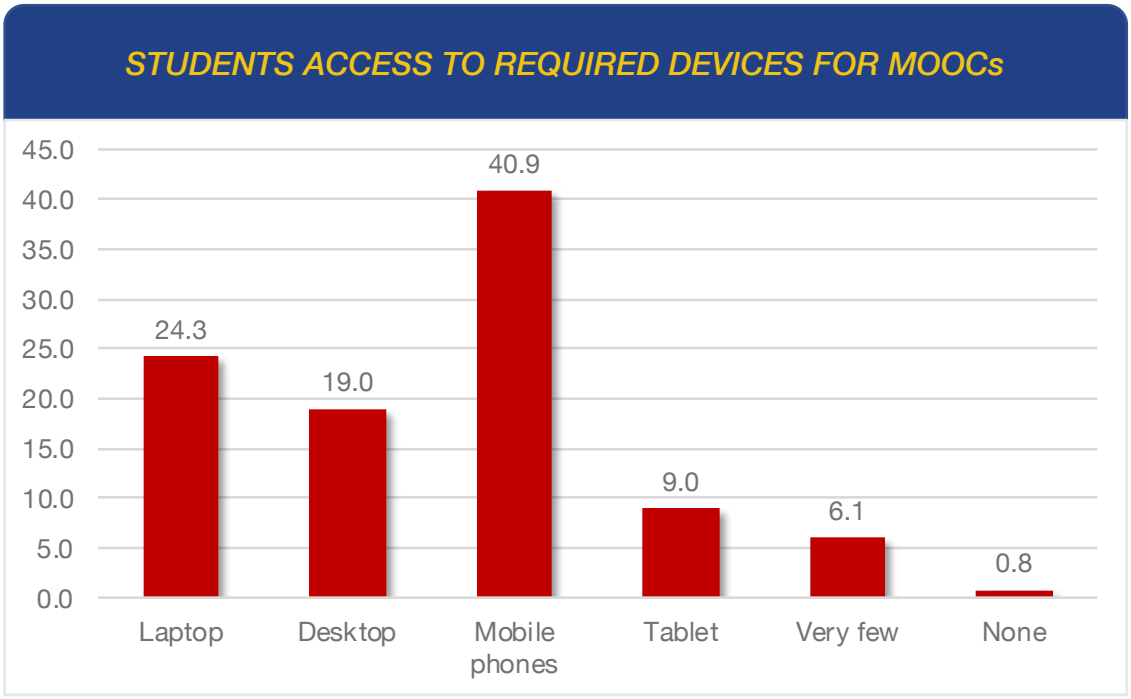
STUDENTS' CAPACITY OF CONDUCTING AND MAINTAINING ONLINE COMMUNICATION (E.G. CHAT, EMAIL ETC)



In 12.2% of sampled institutions, half or more students are not capable of conducting and maintaining online communication.

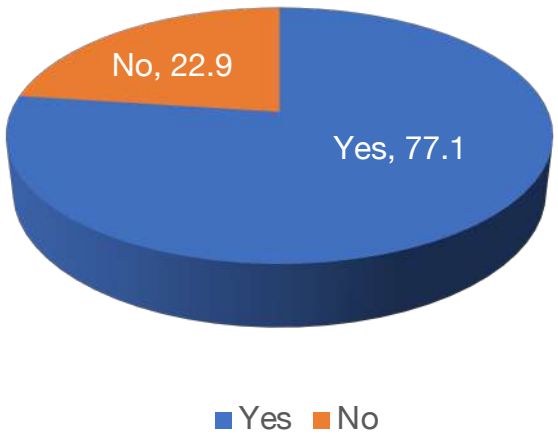


In 27.7% of sampled institutions half or more students are not capable of browsing the internet for scientific research articles and other educational material. In 13.3% of institutions, the situation is alarming since the internet is rarely available for scientific research articles and other educational materials.

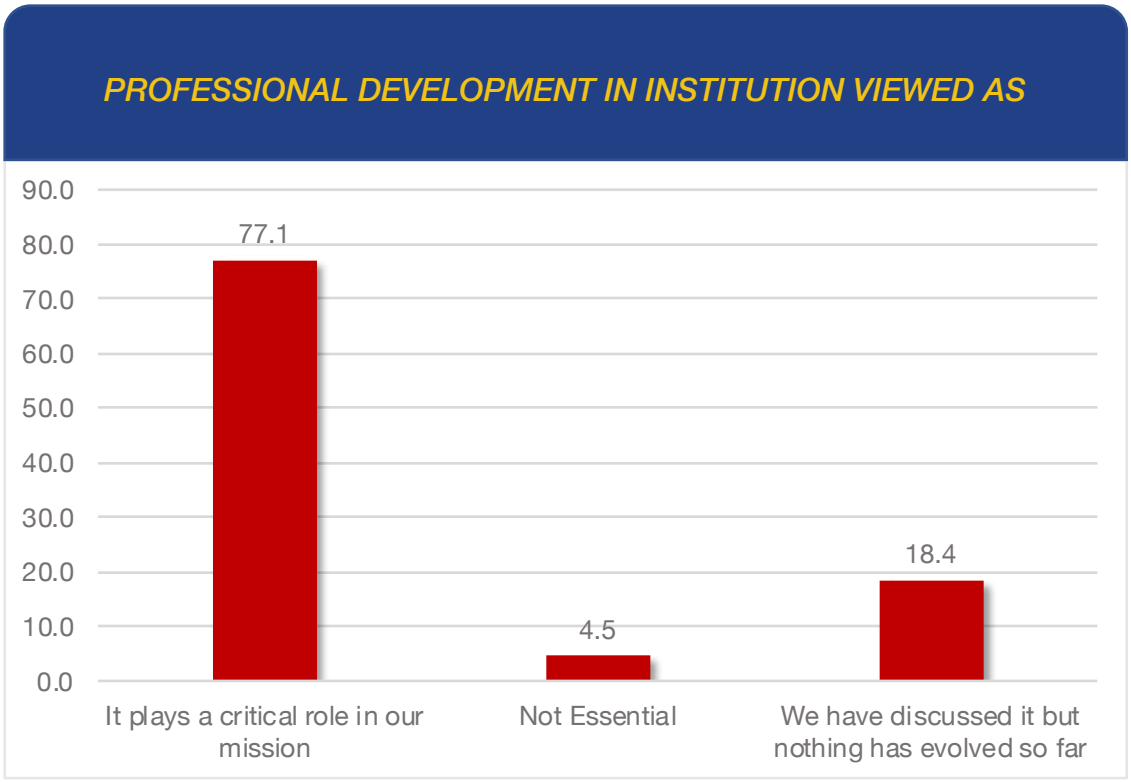


In the survey, ***around 7% of the institution's students have very few or none facilities of devices required for MOOCs programs***. Mobile phones and laptops are mostly used by students to access MOOCs. The use of tablets is still very low.

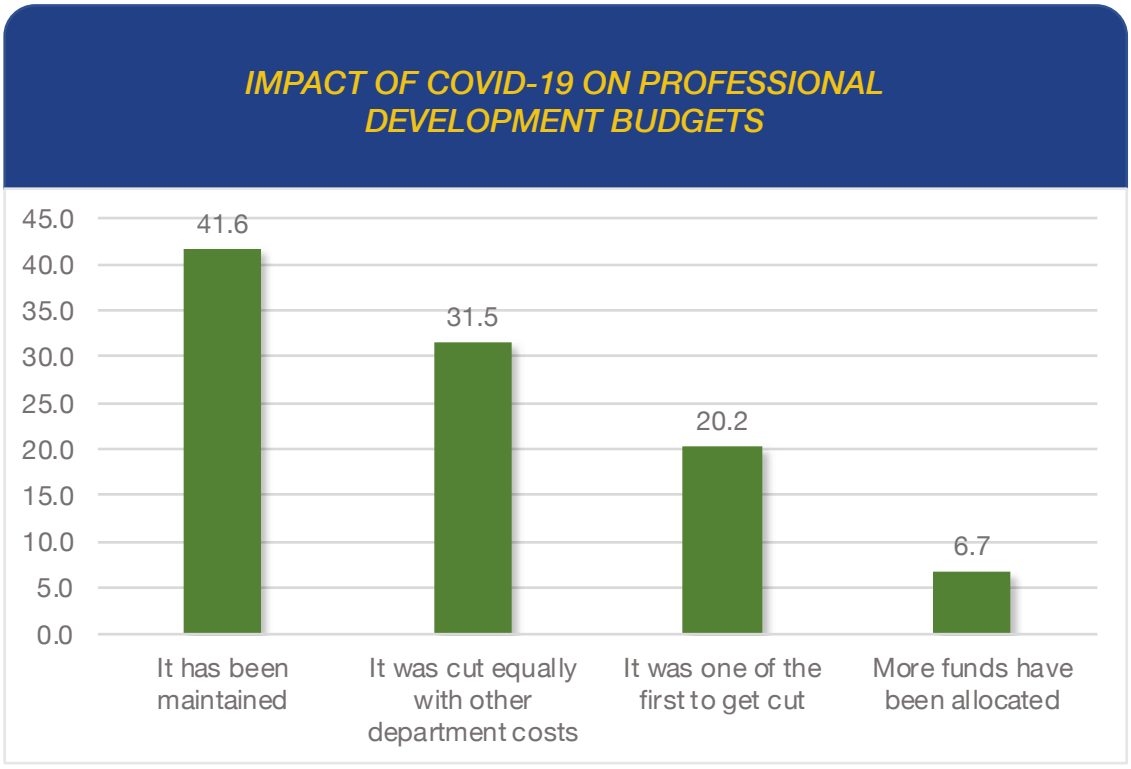
FRAMEWORK FOR PROFESSIONAL DEVELOPMENT FOR ALL FACULTY AND STAFF



Around 23% of sampled institutions need to work on a framework for professional development for all faculty and staff.

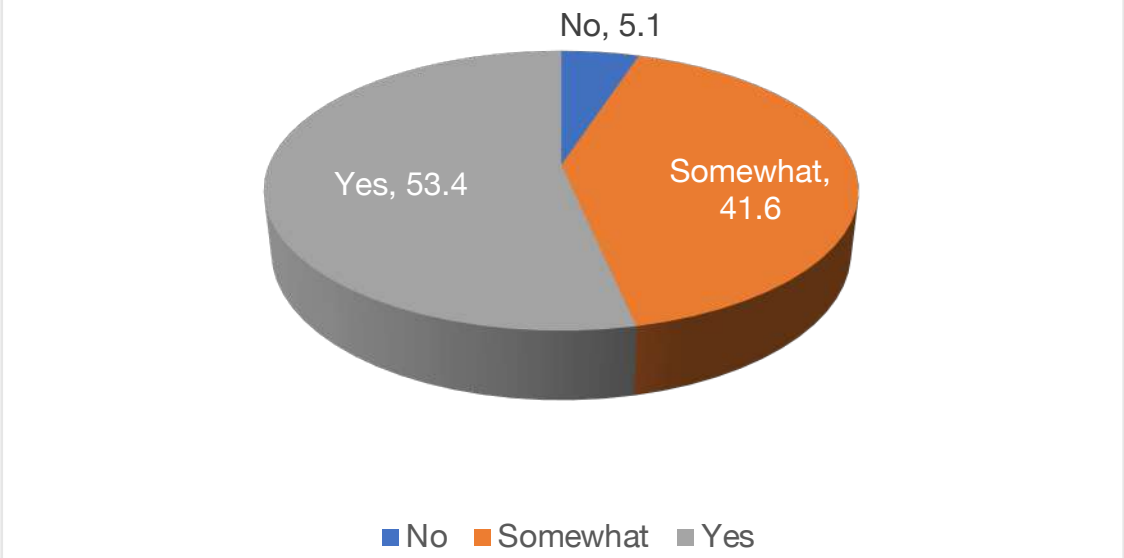


Around 23% of sampled institutions are not considering the importance of professional development critically.

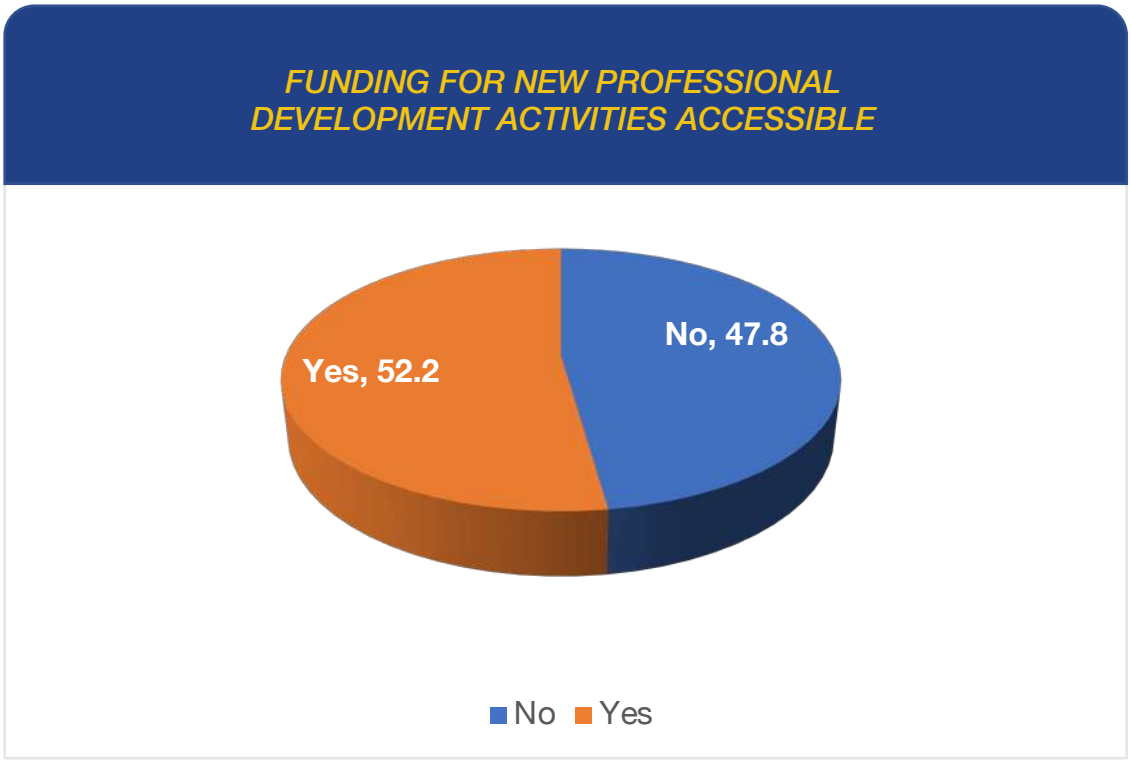


In 51.7 % of sampled institutions, the funds for professional development has been cut as an impact of Covid-19.

PROFESSIONAL DEVELOPMENT GOALS OF INSTITUTION ALIGNED TO DEPARTMENT OR DIVISION

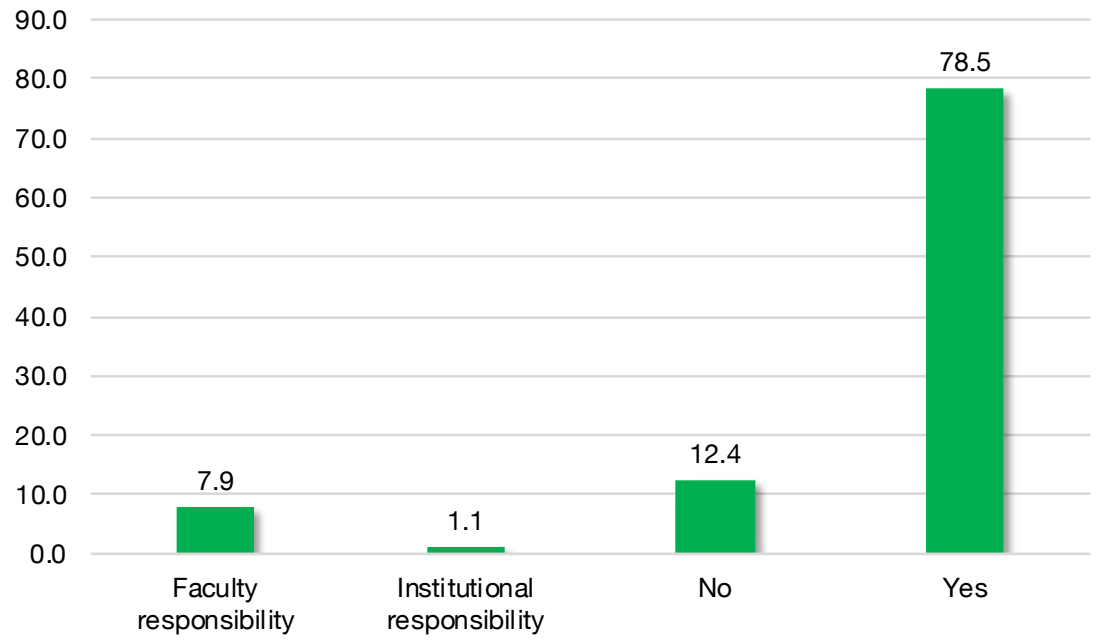


In around half of the sampled institutions, professional development goals have been aligned somewhat or null with department or division goals.



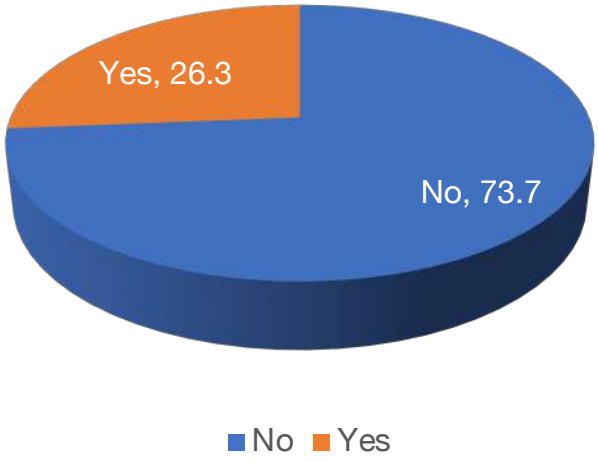
Approximately in half of sampled institutions funds are not accessible for new professional development activities.

PROFESSIONAL PLANS FOR INSTITUTION, DEPARTMENTS OR DIVISION

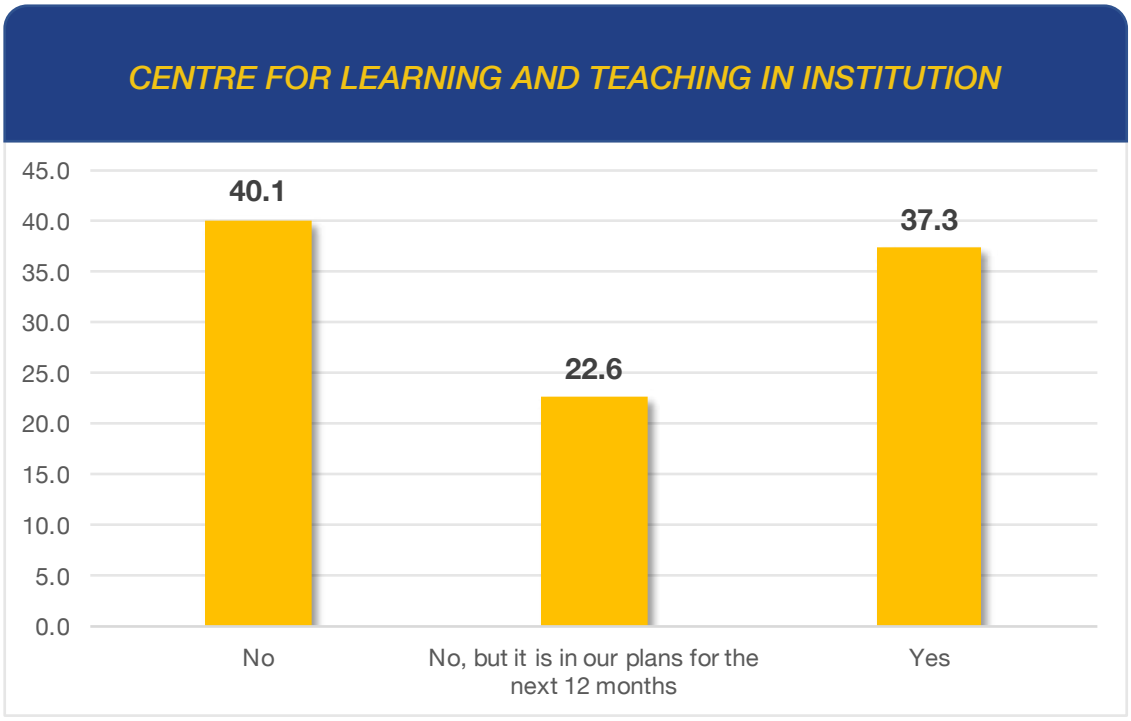


The 21.4% of sampled institutions considering professional development activities are not important or others responsibility.

FACULTY AND STAFF RESISTANT TO DEVELOPING PROFESSIONAL DEVELOPMENT PLANS



More than a quarter of the institution's faculty and staff are resistant to developing Professional Development Plans.



In the survey, more than 60% of the sampled institutions are not equipped with a centre for learning and teaching including those planning to set one up in the next 12 months.

Summary and Conclusion

The education systems in the entire world are reeling under tremendous pressure and passing through turbulent times. In the COVID era online education can be a viable alternative for continuing with teaching and learning activities. As such, the adoption of IT has heralded massive reforms in the higher education sector in India. The recently launched NEP 2020 has also emphasized the growing need for online education in India. The Policy has strongly advocated for providing access to lifelong quality education at affordable price, and also emphasized that education should meet the needs of a variety of learners while leveraging the benefits of technology in this technologically advanced world. Modern society requires that individuals should possess technological literacy skills. India as an egalitarian country can't afford to be slow in the adoption of advanced IT technologies in the higher education sector. Improvement in internet connectivity and adoption of digital technologies have significantly aided in the growth of online education in India. But we are not fully prepared to shift to online mode completely. The target can be achieved gradually and the task of online shift can be accomplished in the next few years. At present, the blended and hybrid models appear to be the preferred choice for educational institutions for delivering education.

Infrastructure Availability / Internet Connectivity and Bandwidth: The analysis from the survey demonstrates the potential of Indian institutions, including colleges and universities, to have strategies and resources to transform into online education. There is also a dire need for sensitising the university leaders about the potential of emerging technology and their adoption for improving the online classroom process. The full engagement of students in online classes is also a major concern in e-learning. The majority of faculty members of Indian universities need to undergo professional training to deal with online teaching-learning. The issue of the bandwidth of internet connection continues to hinder the full implementation of online education and approximately one-fifth of sampled universities have no LMS facility. Many universities are offering their online content for free now and students, who are sitting at home, can make full use of this learning material but for full implementation of this, more focus is required to address the issue of bandwidth and LMS.

Student Readiness and acceptance / Faculty orientation readiness and training: Universities need to ensure online assessment in all programs. Still, many institutions Universities need to ensure online assessment in all programs. Still, many institutions are not considering the importance of having a structured student feedback system. Quality of online courses is also a major issue in Indian higher education system. Lack of connectivity and lack of devices are the key challenges faced by students in adopting online education covering the majority of university students. The MOOCs programmes are still not offered in many universities. ***Majority of students required training /orientation to online learning before or in parallel with their first online course. The situation is same in the case of teachers. Majority of faculty members of Indian Universities have not undergone any professional training to deal with online teaching-learning.*** Some form of funding compensation model is also required for teachers for developing online courses. There is a need to work on credit recognition system for online learning modules. The teachers require online training in high-quality content as well as pedagogy for achieving the target of converting universities and colleges into multidisciplinary institutions by 2030,.

In 33.2% institutions, 50% or fewer faculty have undergone training programs, especially on online learning.

Present Practice and Student Engagement in Online Education: Existing e-learning platforms such as SWAYAM, DIKSHA, etc. should be extended to provide teachers with a structured, user-friendly, rich set of assistive tools for monitoring the progress of learners. ***The analysis demonstrates that 68.7% of institutions are progressing with a blended approach as an alternative to face-to-face learning.*** As per the data received from responding colleges only in ***23.2% of institutions, less than 70% of students are engaged online.***

Goals for Online Learning: ***Goals for Online Learning:*** Almost three-quarters of sampled universities are expecting that in the next 1-3 years, the number of fully online degree programs at their institution will increase. The majority of institutions have at least one Teaching/Learning/Technology Innovation Centre or its equivalent in the campus. The majority of higher education institutions are in favour to increase quality and support services for online learning systems in the next five years. The majority of the institutions prepared 20 or fewer courses for online learning modules.
A large number of sampled institutions have some level of confidence in understanding the cost details of developing, delivering, and maintaining the institution's online programs.

Online value-added services: To continue their regular activities during the COVID pandemic many higher educational institutions and students have offered internships and projects in online mode. Online internship systems need to strengthen to reach all institutions. ***More than half of the universities are not providing fully online value-added services like internships or projects.***

Feedback Mechanisms: Lack of a meaningful and structured feedback mechanism poses the biggest challenge for online learners.

Ever since the introduction of online student feedback mechanisms the universities have been taking initiatives to put a feedback mechanism in place. It was observed that the ***majority (75.0 %)*** of the responding universities have a functional online student feedback mechanism. ***A quarter of the universities did not have an online student feedback system and 5.4% of sampled universities have no feedback system at all.***

E-learning platform as alternative/Students self-motivation: More than 70% of universities consider e-learning platforms like SWAYAM as an alternative opportunity for higher studies. In more than half of universities, students are not self-motivated to use the SAWAYAM platform. This needs to be rectified by increasing the awareness and opportunities for the students.

The survey data demonstrated that public sector institutions are not very different from the private sector institutions in terms of respondents' opinion about their readiness to deliver online education. The study has concluded that Indian institutions of higher education have the potential to transform into online education. The role of government and institutions' management is vital to extend moral and logistic support in this direction.

Recommendations

Amongst the issues affecting the adoption of fully online education, the availability of the Internet and related infrastructure with good connectivity was found to be the most influential factor. The issues of infrastructure is certainly and inevitably linked with the availability of financial resources in the institutions. Dedicated funds must be allocated to support the online education model to help the HEIs to overcome the difficulties in offering online education. The 'one machine, one student' programme will encourage the use of online resources in classrooms and the library. More students should be encouraged towards online distance learning (ODL) programs and be introduced to MOOCs platforms. Institutions must also achieve expertise to conduct an online assessment by acquiring the latest technologies including proctored examinations. Similarly, internet speed and accessibility need to be improved considerably especially in rural backward areas. Significant pedagogical reforms are also required for effective student engagement. Fee differences should be minimized, and emphasis must be given to the faculty training and students' orientation to online education. From the analysis of the responses of every section of the AIU and QASPIR survey, the following recommendations are suggested for different stakeholders.

Central Government

The federal government should draft new flexible guidelines for approval, affiliation and regular evaluation of online courses with transparent processes, based on clearly established principles with full public disclosure.

The government should bring accountability mechanism system for all expects of online education at each level of operation.

i. ***Online assessment and examinations:*** Studies may be undertaken at central level to explore new ways of assessment and examinations using education technologies focusing on 21st century skills which will cover Content, Design and Implement, Organise (CDIO) and assessment frameworks encompassing design of competencies, portfolio, rubrics, standardized assessments, and assessment analytics.

ii. ***Funding:*** The federal government should ensure a steady flow of funds through budgetary provisions for the equitable spread of online education in India which will go a long way in combating the issues. Proper and adequate budgetary allocation to the institutions will save time and energy of institutions which they engage in exploring the funding options from various sources.

iii. ***Issues and Challenges:*** Most of the online courses are limited to theoretical content only; adoption of the virtual classroom is recommended to bring courses with a high practical component onto the online platform.

iv. ***Present Practice and Student Engagement in Online Education:*** Majority of colleges and universities opted for a blended approach. This data indicates a need for devising policies for blended learning. For full implementation of online education, the availability of required devices is must for every student. Advanced technologies such as Virtual Reality, wearable devices and facial recognition must be included in present practice to enhance the online learning experience.

v. ***Faculty Orientation, Readiness and Training:*** The faculty members of Indian higher education institutions must be internationally trained for online teaching and learning. ***The Government should create a centralised agency for professional development and training of faculty members especially to deal with online education.***

State Government

The state level universities/colleges/ institutions accreditation/evaluation systems should be revamped in context of online education, and the quality institutions must be given greater freedom in terms of introducing new online courses.

i. ***Digital Limitation:*** There are various remote areas in India where digital access is highly limited. The existing mass media, such as television, radio, and community radio will be extensively used for telecast and broadcasts. Such educational programmes should be made available all time in different languages to cater to the varying needs of the student population.

ii. ***Infrastructure Availability / Internet Connectivity and Bandwidth:*** The adoption of high-speed Internet will raise access to online learning. Online education in India is expected to witness promising growth during the next decade as forecasted in NEP 2020, but expenditure on improving the digital infrastructure for remote learning needs to be ensured by the State Government.

iii. ***Goals for Online Learning:*** To achieve goals for online learning flexibility should be ensured in the system to accommodate for rapid-changes in technology. In India, the majority of students familiar with traditional higher education courses have created restrictions on the adoption of online courses. There is a need to promote university online learning experience for students at an affordable cost.

Apex Bodies *(AIU, UGC, AICTE etc.):*

i. ***Lifelong learning*** must be encouraged by apex bodies through online mode. The rigidity of the system should be eliminated and flexibility be provided to create more space and convenience for learning.

ii. ***Certification of Standards & Quality:*** Apex Bodies should also ensure standards & quality of online courses by providing accreditation based on certain Standard Operating Procedures (SOPs) and parameters drafted by eminent educationist.

iii. ***Outcomes Measures and Accountability:*** Apex Bodies should also focus on outcome-based approach to online programs and monitor whether institutions are positioning themselves to achieve these outcomes.

iv. ***Course Development Practices:*** Apex bodies may also monitor trends and best practices in providing faculty with instructional design support.

Institutional level

i. ***Institutional Policy:*** The policies at institutional level is considered as the principal driver for adopting and accommodating the changes. Institutions should adopt a multipronged approach to ensure the quality of online courses, and must devise strategy, policy and infrastructure for leveraging the institutions to come up with a holistic quality online course. Evolving policy framework should be broad-based resulting in many online learning platforms in the next few years.

ii. ***Student Readiness and Acceptance:*** Online learning has been increasingly gaining acceptance by higher education students in India. However, there is a need to train our students to adapt to new transitional change and provide them quality online content a wide area of disciplines including soft skills, communication skill-based education.

iii. ***Networking and Collaboration:*** To achieve the goal, full access to online education networking and collaboration is recommended. Networking and collaboration with exclusive educators can help in student progression and retention. Online platforms could offer internship activities to students. These internships could be arranged along with the industry experts who can design live projects for students and assign short term projects to to enhance the overall learning experience including required practical training. Collaboration with the appropriate industry and institutions is something which will build a robust online education system in India. Also, there should be a focus on both live streaming as well as asynchronous classes for sustained interest.

iv. ***Online Value-added Services:*** Value-added services such as online career counselling and soft skills development will be a game-changer in online teaching and learning. Neural Networks and Artificial Intelligence could gather data from user search queries and derive insights to constantly improve online offerings. Virtual labs must be extended to widen online offerings to include courses involving a high practical component. To enhance the quality of online education and to ensure transparency in assessmentt the use of premium software and other necessary technological tools to detect cheating and plagiarism should be used.

v. ***Digital repository and advanced reality features:*** Use of digital repository of content including creation of curriculum, learning with simulation, Augmented Reality and Virtual Reality should be expanded with a transparent system for ratings by students on effectiveness and quality.

vi. ***Miscellaneous:*** It is also recommended that the study material may be made available at students' doorsteps to ensure inclusive learning in remote areas where the availability of internet connectivity and electricity is poor.