

## **“NATIONAL MISSION ON EDUCATION THROUGH INFORMATION AND COMMUNICATION TECHNOLOGY (NMEICT) - AN OPPORTUNITY FOR SKILL DEVELOPMENT AND A STEP TOWARDS ECONOMIC PROSPERITY”**

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**Abstract** :Using ICT for imparting education is a disruptive innovation with a great potential for changing the education and learning scenario in our country. To create a framework to harness and manage this innovation, the Government of India has started the project called National Mission on Education through Information and Communication Technology. This paper discusses its features and implementations. This mission gives vast opportunities for skill development and which can lead to economic growth and development.

**Key words:**ICT, NMEICT, Skill Development, Higher Education.

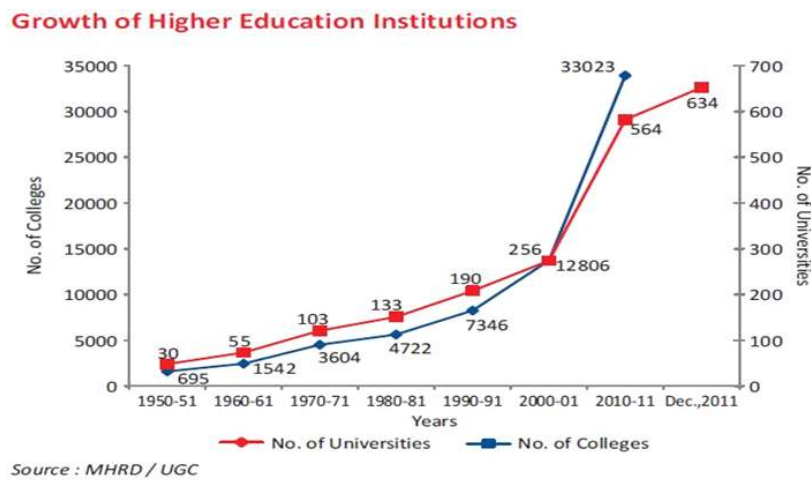
### **INTRODUCTION**

Dr B E Nzimande MP, Minister of Higher Education and Training of South Africa (2012) states that “For our country to achieve high levels of economic growth and address our social challenges of poverty and inequality, we must work together to invest in education and training and skills development to achieve our vision of a skilled and capable workforce to support an inclusive growth path”. All most every country believes or follows the same way. For any economy to grow and prosper Education & Training and Skill Development are one of the most essential elements. India has also recognized its importance and government has taken various steps towards it. In this research paper I tried to analysis one such step of Indian government- National Mission of Education through Information and Communication Technology (NMEICT). Here I have tried to focus that entire learning community can gain through this initiative of the government in different and many ways.

### **HIGHER EDUCATION SCENARIO OF INDIA:**

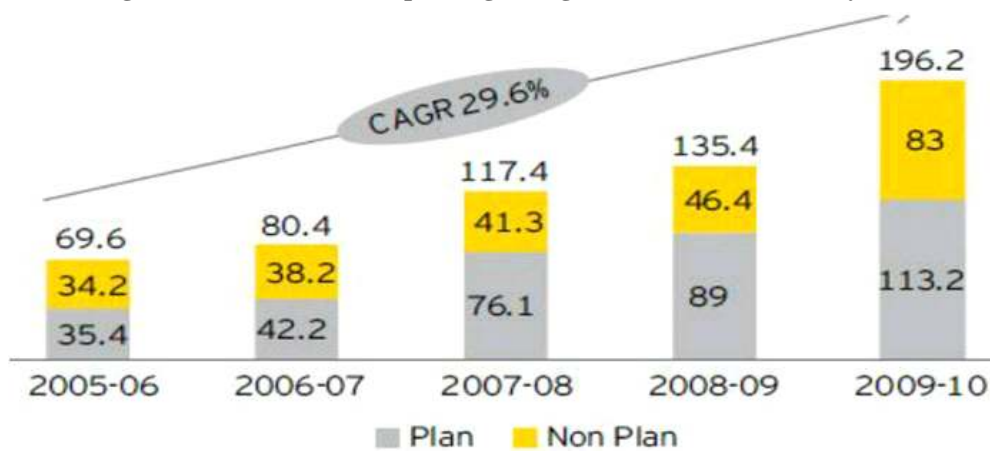
According to MHRD Ministry of India, in the year 1950-51 there were just 28 Universities in India, which increased to 659 in the year 2011-12. In same way, number of colleges increased from 578 in 1950-51 to 33023 in the year 2011-12. The current higher education system in India is massive with over 30 million students enrolled across 45000 institutions.

**Figure 1.1 Statistics of Higher Education in India:**



According to India’s Planning Commission “India is expected to become the most populous country by 2030 and its population, age between 18-13 years is expected to reach 142 million”. With this increasing trend, the government on its part, has increased the higher education budget and implemented several technology initiatives to improve the quality of higher education. From 2005-06 to 2009-10 the Central government expenditure on the Higher education sector has grown at 30% Compound Annual Growth Rate.

**Figure 1.2 The Growth of spending in Higher Education in recent years**



**NMEICT:** According to the report of Knowledge Commission of India (2006) Chaired by Mr. Sam Pitroda, “Higher education has made a significant contribution to economic development, social progress and political democracy in Independent India. But there is serious cause for concern at this juncture. The opportunities for higher education in terms of the number of places in universities are simply not adequate in relation to our needs. Large segments of our population just do not have access to higher education. The quality of higher education in most of our universities leaves much to be desired. Higher education must provide accountability to society and create accountability within. There must be a focusing on upgrading infrastructure, improving the training of teachers and continuous assessment of the syllabi. It is particularly important to enhance the ICT infrastructure. Websites and web based services would improve transparency and accountability. A portal on higher education and research would increase interaction and accessibility. A knowledge network would connect all universities and colleges for online open resources.” To cater the vast population Indian Government has taken various steps to improve the quality and quantity of Higher Education Institutions (HEIs). One such step is Government of India through its Union Ministry of Human Resource Development (MHRD) in February 2009 during 11th Five Year Plan had launched a Mission

titled National Mission on Education through Information and Communication Technology (NMEICT) with a budgetary allocation of Rs 4612 crores. It is endeavor through which MHRD is synergizing the efforts taken by the educational institutions vis. IITs, UGC, NITs, CEC, IGNOU and other higher education institutions in the country.

**The main objectives out of 48 objectives of the Mission are:**

- Empowering and enabling students by ensuring equity and access to education through the use of ICT.
- Connecting over 400 Universities and 22,000 Colleges all over India through high-speed data networks.
- Improving faculty quality by using a unique synchronous training methodology.
- Ensuring equity by providing access to expensive equipment to students even in remote corners through innovative use of ICT.
- Making available e-content and educational videos created by the best teachers across all disciplines for UG and PG classes.

**MAIN FEATURES AND INITIATIVES OF THE MISSION:**

**1.SAKSHAT Portal:** “One Stop Education Portal” SAKSHAT , with intelligent navigation techniques is to take care of all needs of the entire learning community by extensively utilizing e-learning concepts and ICT based methodology free of cost. INFLIBNET has taken up the initiative to create integrated e-content portal for easy access to all the contents developed under the Mission. There are more than hundred projects ongoing under the NMEICT ranging from e-content development, access to e-resources, development of software tools etc.

**Figure 1.3 Sakshat Portal screenshot Courtesy <http://archive.sakshat.ac.in/>**



**2.Broadband Connectivity to Colleges and Universities:** Providing connectivity to the HEIs is a key component of the NMEICT. The Mission provides this connectivity at highly subsidized rates. The State Government educational institutions and private educational institutions are expected to contribute 50% of the cost of hardware & 25% of the cost of bandwidth charges. Around 400 Universities and 26000 colleges have been connected. Further references visit BSNL-NMEICT portal at <http://nme.bsnl.co.in/>

**Table 1.1 Connectivity Budget Estimate (all figures in crores)**

Activity	Provision under the Mission from central Government	Contribution of the State Government or Private institutions	Total availability
Hardware	700	700	1400
Connectivity	1000	300	1300

3.Low Cost Access Device - Aakash Tablet: To reach the vast majority of the learners with ease with the best e- content, the Mission has funded the development of Ultra Low Cost Devices – Aakash tablet. The advanced version of Aakash- 2 was launched on 11th Nov 2012 with 3times faster processor, memory twice large and capacitive touch compared to first version. IIT Bombay has built multiple useful educational applications and content on Aakash-2.

4.E-content Development –NPTEL: National Program on Technology Enhance Learning (NPTEL) is a joint initiative of IITs and IISc funded by this Mission provides e – learning through online FREE Web and Video based courses in engineering, science and humanities streams. The main aim is to avoid reinventing the wheel, the already available content to be digitized and indexed in accordance with subjects and the disciplines. Over 329 courses are completed and nearly 990 courses are getting generated in phase II of NPTEL. Nearly 5000 hours of lectures have been recorded by the IITs. Through Doordarshan’s Eklavya channel many video courses have been telecasted. Within two years of its lunch NPTEL website <http://nptel.ac.in> has been accessed by working professionals, students and instructors from 140 different nations. (S Deepti Pillai and Dr S Kevin). It gives vast opportunities for skill development and enhancing knowledge.

**Figure 1.4 NPTEL Portal, Screenshot Courtesy: <http://nptel.ac.in>**



**5. Consortium of Educational Communication (CEC):** The main objective of CEC is to use effective modern media television and ICT for Under Graduate and Post Graduate courses. It is one of the Inter University Centres set up by UGC. E –content for nearly 87 subjects for UG and 71 subjects for PG are being generated by CEC along with its 21 media centers. The Digital Media Library houses at CEC has a total collection of about 20000 Educational video Programmes on various formats like Cassettes, CD’s, DVD’s, PD’s/OD’s. Every year it adds more than 2000 video programmes and E-Content in Hindi and English on various subjects.

Figure 1.5 CEC Screenshot courtesy <http://cec.nic.in/Pages/Home.aspx>





Figure 1.6 CEC Screenshot courtesy <http://cec.nic.in/Pages/Home.aspx>



High quality, curriculum-based, interactive content in different subjects across all disciplines is being developed under this initiative e-PG Pathshala. A gateway to all PG courses <http://epgp.inflibnet.ac.in/about.php>

6Teacher's Training: The "Train 1000 Teachers' programme was initiated by IIT Bombay in 2009. This project envisions empowerment of teachers, through workshops conducted for thousands of teachers at one go, using a unique blend of technology and an innovative pedagogy. The main objective is to work with Engineering Colleges to enhance the teaching skills of faculties. With 42 such workshops more than 36000 teachers have been trained so far. [http://www.it.iitb.ac.in/nmeict/About\\_T10kT.html](http://www.it.iitb.ac.in/nmeict/About_T10kT.html)

7Spoken Tutorial: A spoken Tutorial is a ten minute audio video tutorial on open software developed by IIT Bombay to train students on important IT topics. The spoken part of the tutorials is also dubbed in many Indian languages. Using a series of such tutorials, one can learn even a complicated IT topic easily. The main aim of this project is to improve the employment potential of students. At present there are about 500 spoken tutorials in English and 2000 dubbed tutorials in Indian languages.

Figure 1.7 Spoken tutorial Video's screenshot

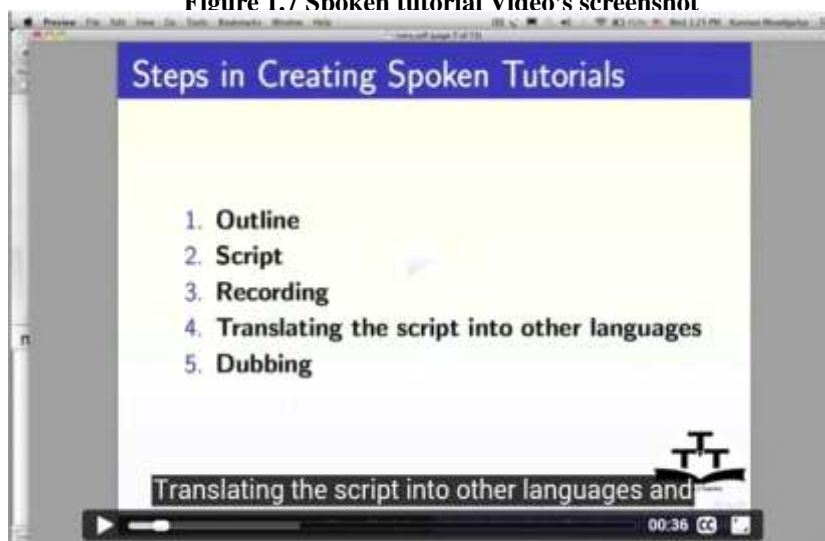
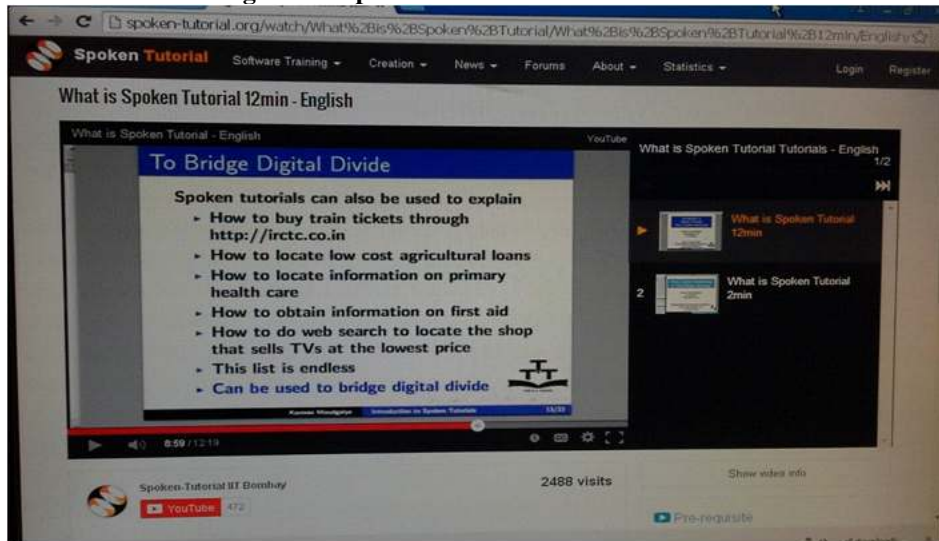


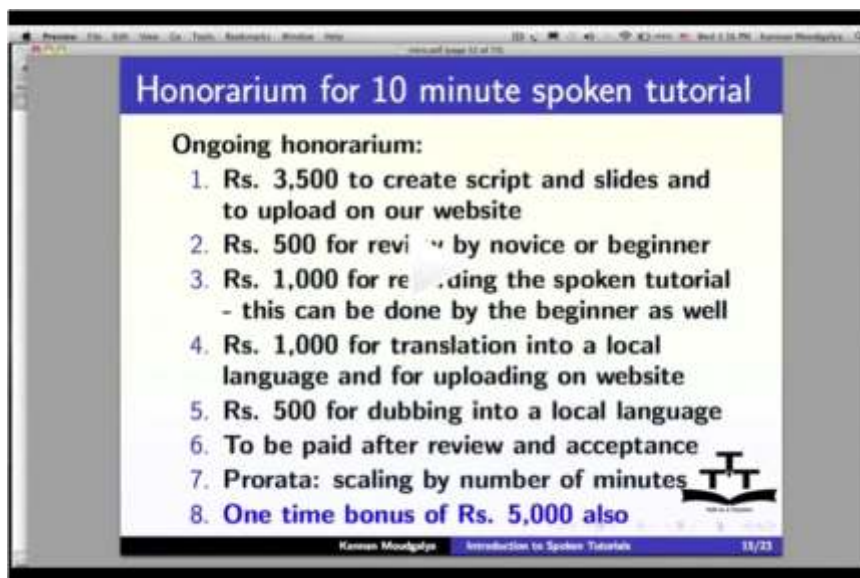
Figure 1.8 Spoken tutorial Video’s screenshot



The spoken Tutorial team also conducts workshops using spoken tutorials. Any student or a faculty from any college can conduct SELF workshops free of cost with help as mentioned in [http://process.spoken-tutorial.org/index.php/Software-Training#About\\_SELF\\_Workshops](http://process.spoken-tutorial.org/index.php/Software-Training#About_SELF_Workshops)

Nearly four lakh students have been trained through SELF workshops by the Spoken Tutorial team. These workshops have been conducted in LaTeX, Scilab, PHP, Python, ORCA, Linux, LibreOffice, Blender, Java, C, C++, GIMP, GeoGebra, OpenFOAM and OScad. It also conducts online tests and gives certificates to those who pass the test free of cost. Not only this project promotes skill development but it also generates remunerations which are shown in figure below.

Figure 1.9 Spoken tutorial Video’s screenshot



**Few other initiatives by the Mission:**

8. Free and Open Source Software for Education – FOSSE: this project provides free support on FOSS to eliminate the use of commercial software in education. Students and teachers from many colleges across India are participating in, and benefiting from these activities. <http://fossee.in>

9. E-Yanta Robotics in Higher Education: the goal of e-Yanta is to enable effective embedded systems and Robotics education across engineering colleges in India.

10. Virtual Lab: To complement the NPTEL, this project is to design and develop Virtual Lab in various areas of Science and Engineering in order to benefit maximum students. Around 50,000 students have used this and have provided feedback.

<http://vlab.co.in>

#### **DISCUSSION AND CONCLUSION:**

- ❖ To evaluate the overall efficiency and effectiveness of the Mission a committee was formed under the chairmanship of Prof. Goverdhan Mehta in June 2011 by the Central Government. In its report Evaluation Committee (2012) states that the awareness level of the Mission and the utilization of the SAKSHAT portal appear to be low. In the long run, portal should be positioned as a National Repository for all scholarly and creative output from the country. The vast body of scholars who are outside the formal system of education should be involved for enriching the contents on portal.
- ❖ According to S Deepti Pillai and Dr S Kevin,” the need for more projects like NPTEL arises because technology alone is not sufficient when it comes to quality education. Along with technology enhanced learning students should get pedagogical skills and quality content that does justice to the technology used to deliver it. Apart from good technology and quality content, an important consideration that educational institutes face is how to make these accessible to students and faculty on-campus and off-campus. All the phases of the NPTEL address these concerns. Apart from engineering graduates who know the general concepts of engineering & management, the programme also has the potential to educate students in a specific skill set. Specific skill sets are usually needed for industry placements. In India, the IT industry has a very strong growth potentiality and the remuneration offered is already attracting the Indian student population. A project like NPTEL therefore targets to offer well-educated and conceptually sound workforce for the IT & other technical Industry.”
- ❖ According to Evaluation Committee avenues of partnership with private and foreign entities involved digital learning needs to be explored.
- ❖ It further states that digital outreach will be an enabler for self employment, skill development, women empowerment. The future agenda should be to provide a completely seamless ICT infrastructure for anytime-anywhere-anything educational resource across the vast geographic areas. This ICT based knowledge revolution would reflect in terms of socio-economic dividends and enable India to emerge as a super power.

Thus with widening the awareness and more participation at all levels this Mission will certainly do wonders.

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