

**IMPACT AND EFFECTIVENESS OF MASSIVE OPEN ONLINE COURSES: A
STUDY WITH REFERENCE TO SPECIFIC NPTEL COURSE ON ENGINEERING STUDENTS.**

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ABSTRACT

With the advent of technology in education sector, there is immense popularity of online courses among schools and colleges across India. MOOCs or Massive open online courses have gained attention due to its varied subjects and convenience; NPTEL or National Program on Technology Enhanced Learning being one among them. In several Engineering colleges across India, students are encouraged to take the NPTEL courses along with their technical subjects to facilitate better learning. The current study analyses the effectiveness of the NPTEL course 'Enhancing Soft Skills and Personality development' course on engineering graduates. Accordingly, a sample size of 50 engineering students enrolled in the NPTEL course from different branches were asked to respond to a structured questionnaire. Responses were collected in the form of a structured questionnaire and descriptive statistics was used for analysis. Data collected were analyzed using Descriptive statistics, ANOVA through SPSS version-21. The study undertaken reveals that effectiveness of the identified course has brought in the required stimulus for a positive enhancement of self and personality traits. The study concludes that the identified online course does impart effective learning skills and respondents agreed to the effectiveness of the select course.

Keywords: MOOCs, NPTEL, soft skills, personality development

Introduction :

Indian government has taken initiatives to provide education at a large scale with the concept of open education. These initiatives are taken keeping in view its objectives. The objective is to provide open resources in terms of repositories, libraries, e-books etc. The educational technology improvement has demonstrated remarkable development with computers and mobile devices in the distance mode. National Assessment and Accreditation Council (NAAC) and MHRD have focused on the utilization of innovation as the main factor in education. The distance educational domain has been reoriented, overhauled, and re-established to be innovative, collective, and open through the MOOC (massive open online courses). India's advanced distance education with legitimate structure began with the presentation of SWAYAM in the MOOC PLATFORM

under which there are 9 coordinators including UGC, AICTE, and NPTEL. MOOC are the well-known methods of self-learning and quite popular among the students to substantiate their classroom learning. These digitalized learning platforms are utilized as individual learning instruments and furthermore simultaneously as a type of mixed learning. These courses are made with the point of helping the students and educators for Academic Development, Professional Development, Employability, competence and capacity building. Technology based education systems like NPTEL(National Program on Technology Enhanced Learning) proposed in 1999 by Professor M. S. Ananth, Director, IIT Madras and promoted by the MHRD, Government of India provide such opportunities for aspiring students. The program has been executed mutually by each of the seven Indian Institutes of

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Technology (Bombay, Delhi, Guwahati, Kanpur, Kharagpur, Madras and Roorkee) and the Indian Institute of Science, Bangalore. More than 350 employees from the above have partaken in the program to create content. It is composed by the IIT Madras. The NPTEL video/web course programs fill the gap between users and subjects experts. The present study explores the NPTEL course 'Enhancing Soft skills and Personality Development' and examines if the course has successfully meted out its objectives and served the purpose for the engineering aspirants.

The course 'Enhancing Soft Skills and Personality Development' aims to make the learners understand the significance of soft skills along with technical expertise for the professional graduates. The course aims to develop their interpersonal skills and personality traits. For the present study, this course was taken into consideration. The course was run for eight weeks from 24th February 2020 to 25th April 2020. At the end of the course, interested students take up an online exam and on successful completion, receive the certification. For this analysis, sample size of 50 BE students were taken who responded to the structured questionnaire. The main highlights of the course were topics related to personality development, developing growth mind sets, decision making, managing stress and time.

Review of literature on NPTEL online courses :

Boumarafi, Behdja, (2010), put forth an attempt to decide the present status of E-resources at the University of Sharjah Medical Library: An examination of students' information-seeking behaviour. It featured the significance of e-sources and utilization levels. Pillai S Deepti, Dr. Kevin Stephen (2013), traces how free course to quality improved and innovation encouraged web and video content in the Engineering and Science subjects has numerous clients like students, employees, and working representatives from the country and metropolitan parts of India, just as from 140 unique nations. M Tariq Bandaya, et al, (2014), Application of e-learning in engineering education: A case study, clarifies that outcomes are examined considering pertinent examination to propose suggestions for improving e-learning executions in engineering education. T. Abitha

Kumari, CH Hemalatha M, Subhashini Ali, R Naresh, (2020) "Survey on Impact and learning's of the Online Courses on the Present Era," describes the impact of online courses (NPTEL) on the learners and learning's' from the online courses.

Research Method :

The current study was conducted using a structured questionnaire based on the survey method. The questionnaire was validated and sent as Google form to engineering students who enrolled in the identified NPTEL course for data collection. The questionnaire contained two sections, section-A fifteen statements using the Likert scale (Strongly Disagree to Strongly Agree). Section-B has three statements five-point scale (very low to very high). The total number of 50 engineering students who enrolled for the NPTEL course that is 'Enhancing soft skills & Personality development' from different branches like CS, EE, BT, etc. from Ramaiah Institute of Technology (RIT), Bangalore were taken for this study. RIT introduces many NPTEL courses in the teaching learning process, including this course and therefore it is taken for analysis of the effectiveness of the identified course on students. The research methodology used is the Descriptive cum survey method and convenient sampling for data collection. Data collected were analyzed using Descriptive statistics, ANOVA through SPSS version-21.

Research Objectives :

1. Study the background of the NPTEL course 'Enhancing soft skills & Personality Development'.
2. Investigate the effectiveness of the identified 'Enhancing soft skills & Personality Development' course on selected engineering students.
3. Analyse the effectiveness of the teaching-learning process with an identified course in the classroom.

Hypothesis :

- H0: There is no significant difference between the effectiveness of the identified course 'Enhancing soft skills & Personality Development' on selected engineering students.
- H0: There is no significant effect of the teaching-learning process with the identified course in the

classroom.

H0: There is no significant difference between the effectiveness of the identified course 'Enhancing soft skills & Personality Development' on selected engineering students.

Results :

The effectiveness of the identified course on selected engineering students, assessed with the following variables is listed in the table below 1.1.

Table 1.1: Effectiveness of identified course 'Enhancing soft skills & Personality Development'

Enhancing soft skills & Personality Development	Programme	Mean Square	F	Sig.
Identified course enhanced awareness.	Between Groups	.495	1.210	.320
	Within Groups	.409		
Hard or technical skills.	Between Groups	.782	3.059	(.011)*
	Within Groups	.256		
Soft skills.	Between Groups	.360	1.554	.177
	Within Groups	.231		
I thoroughly understood soft skills.	Between Groups	.858	2.838	(.017)*
	Within Groups	.302		
Interpersonal and Management skills.	Between Groups	.950	2.918	(.014)*
	Within Groups	.326		
Soft skills required for job.	Between Groups	2.250	6.011	(.000)**
	Within Groups	.374		
Importance of soft skills for employees.	Between Groups	1.748	6.134	(.000)**
	Within Groups	.285		
Occupational success. - Soft skills.	Between Groups	.502	2.428	(.035)*
	Within Groups	.207		
Competencies.	Between Groups	1.931	5.466	(.000)**
	Within Groups	.353		
Skills.	Between Groups	3.417	11.593	(.000)**
	Within Groups	.295		
Knowledge.	Between Groups	2.005	5.356	(.000)**
	Within Groups	.374		
Motivation.	Between Groups	1.951	4.053	(.002)**
	Within Groups	.481		
Attitudes.	Between Groups	2.264	3.550	(.005)**
	Within Groups	.638		
Abilities.	Between Groups	2.037	4.145	(.002)**
	Within Groups	.491		
Traits.	Between Groups	1.063	1.765	.121
	Within Groups	.602		

Source: Primary data source

**sig @ 0.001 per cent level *sig @ 0.05 per cent level.

Table 1.1 depicts the effectiveness of the identified 'Enhancing soft skills & Personality Development' course on selected engineering students. The variables like Hard or technical skills, I thoroughly understood soft skills, interpersonal and management skills, Soft skills required for the job, Importance of soft skills for employees, occupational success.-Soft skills, Competencies, Skills, Knowledge, Motivation, Attitudes, Abilities and Traits are significant at 0.05 and 0.001 percent level. Hence (H1) alternative hypothesis is accepted. Therefore, it is concluded that there is a significant difference between the effectiveness of the identified 'Enhancing soft skills & Personality

Development' course on selected engineering students.

The effectiveness of the teaching-learning process in the classroom:

The effectiveness of the teaching-learning process with the identified course in the classroom from the following variables like online teaching-learning process through NPTEL course, learning soft skills and personality development course through MOOCs and Online teaching tools are supporting my learning speed is discussed in table 1.3.

H0: There is no significant effect of the teaching-learning process with the identified course in the classroom.

Table 1.2: Effectiveness of the teaching-learning process with the course 'Enhancing soft skills & Personality Development'

Teaching-learning process in the classroom with course ' Enhancing soft skills & Personality Development'.	Programme	Mean Square	F	Sig.
Online teaching-learning process through NPTEL course is.	Between Groups	27.697	3.724	(.033)*
	Within Groups	13.848		
Learning soft skills & personality development course through MOOCs.	Between Groups	16.000	4.303	(.044)*
	Within Groups	16.000		
Online teaching tools are supporting my learning speed.	Between Groups	12.638	1.699	.195
	Within Groups	6.319		
Source: Primary data source				
**sig @ 0.001 per cent level *sig @ 0.05 per cent level				

Table 1.2 represents the effectiveness of the teaching-learning process with the identified course in the classroom teaching. The variables like online teaching-learning process through NPTEL course, learning soft skills and personality development course through MOOCs are significant at 0.05 percent level. Hence (H1) alternative hypothesis is accepted. Therefore, it is concluded that there is a significant difference between the effectiveness of the teaching-learning process with the identified course in the classroom.

Findings :

- Most of the respondents agreed that there is an effect of identified course 'Enhancing soft skills & personality development' with respect to the variables like Hard or technical skills, I thoroughly

understood soft skills, interpersonal and management skills, Soft skills required for the job, the importance of soft skills for employees, occupational success. Soft skills, Competencies, Skills, Knowledge, Motivation, Attitudes, Abilities, and Traits.

- Most of the respondents agreed that there is an effect of the teaching-learning process in classroom discourse with respect to the variables like online teaching-learning process through NPTEL course, learning soft skills and personality development course through MOOCs.

Conclusion :

The effectiveness of the identified 'Enhancing soft skills & Personality Development' course on selected engineering students is focused on the variables:

technical skills, soft skills, interpersonal & management skills, Competencies, Skills, Knowledge, Motivation, Attitudes, Abilities, and Traits. It also focuses on the teaching-learning process with the identified course in the classroom in a view of enhancing soft skills & Personality Development by the help of the online teaching-learning process through NPTEL course. The variables like enhancement of awareness, soft skills, and online teaching tools support learning speed. The study clearly states that the impact and effectiveness of the identified course on engineering students is immense and colleges need to encourage such self-learning online courses for the betterment and overall growth of students. This research is therefore useful in understanding the impact of the course on students.

References :

1. Desai, D. (2013), "Usage of Online Educational Courses by Undergraduate Engineering Students in Karnataka", Technology for Education (T4E), IEEE Fifth International Conference on, pp200-203.
2. J. Ravi and H. J. Jani, (2011), "A Critical Study of NPTEL," IEEE International Conference on Technology for Education, Chennai.
3. Shah, (2016, Jul 8), MOOC Tracker- Never Miss a Course, Notification/Reminder service for MOOCs, Class Central. Accessed from <http://www.classcentral.com/report/mooc-tracker>
4. T. Abitha Kumari, CH Hemalatha M, Subhashini Ali, R Naresh, (2020), Survey on Impact and learning's of the Online Courses on the Present Era., *procedia Compute Science*. Pp82-91.
5. Tobin, P. (n.d.), "Soft skills: the hard facts", available at <http://barrierbreakers.co.uk/wp-content/uploads/2011/01/2008-Soft-skills-Hard-Facts.pdf?291f82>.
6. Wats, Meenu; Wats, Rakesh Kumar, (2009), Developing soft skills in students. *International Journal of Learning*, Vol.15 Issue 12, p1-10. 10p.
7. <http://nptel.ac.in>

