Study on Government initiatives of promoting MOOCs in India

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Abstract: The importance of digital education is well understood by the government of India like any other states and accorded fair share to massive online open access courses and other digital academic initiatives in one of its flagship programmes called digital India initiative. There are thirty-two digital platforms created by Indian government in collaboration with premier research institutions and UGC, of which very few initiatives like SWAYAM have acquired wide spread popularity in the recent past and many other initiatives are in either dormant stage or hardly used by any stakeholders despite allocating huge financial and infrastructure resources. Therefore, this paper makes an attempt to study the prospects of digital education and analysed the performance of select digital education programmes.

Key Words: Digital education, MOOCs, Government initiative

Introduction: The concept of digital education is not a new initiative of the government, indeed, Indira Gandhi National Open University and University Grants Commission have started offering pre recorded lectures through Doordarshan a state own television channel in fixed intervals of time and these efforts were enhanced on 20th September 2004 when government of India has launched EDUCAT, a dedicated satellite for conducting live lectures which would broadcast through various channels owned by educational institutes like Indian Institute of Science and Indian Institute of Technology **(Bhardwaj 2020)[1].** These institutes hardly took any time to design the digital lectures and delivered the same to the learners of various nooks and corners **(Ramnath & Tessie 2020)[2]**. The increase of digital lectures and wide communication of the same among secondary and territory institutions have led to the birth of many complementary

digital academic initiatives like digitalization of libraries, adoption of smart boards, development of e-content and integration of teaching resources which are knitted together by government of India through a one stop digital academic platform called SAKSHAAT in the year 2006 **(Rohith Kumar 2020)[3].** But SAKSHAAT did not receive separate financial aid or any grant from the state, rather it acted as a mere repository of information on digital education leading to a very tender result**(Neeraja.k & Srinivas 2020)[4]**. The journey of digital education did not stop with mere integration of academic initiatives in the first half of twenty first century, they continued to imbue among the stake holders of higher education who were proactive in converting digital efforts of the state into academic synergies **(Das & Srujonoy 2021)[5].** The real spark of digital education that has changed the way it connects with masses took place in the year 2016 when the Ministry of Human Resource development has launched the first ever Massive Open Online Courses in the name of Study Webs of Active Learning for Young Aspiring Minds (SWAYAM) which is designed to achieve the three cardinal principles of education policy namely access, equality and quality. SWAYAM is not confined to the sphere of Higher Education alone; it has spread its wings from school education to that of advanced research carried by the institutes of national importance. The government of India has empowered the ministry of Human resource development and UGC to work in tandem with IITs and IIMs to offer value added courses in the domains of technology and humanities with equal importance (**Nithyanand 2021)[6].** Accordingly, SWAYAM has partnered with twenty six institutions and completed 3,496 courses with the total enrollment of 16,00,817 as on 11th January,2022. The 1.6 odd million enrollments in SWAYAM which offers all the course at absolute free of cost is too small a figure comparing to the Gross Enrollments of the country at all the levels paving a way for clear introspection and furthering the research on the prospects of digital education initiatives of the state(**Piyush Agarwal 2021)[7]**. It is found from many studies that the inherent limitations of virtual education like the absence of lab demonstration, missing haptics of the teachers and weak interaction between the learners have caused lesser rate of enrollments into the courses offered by the portal of SWAYAM. Government duly understood such inherent limitations and attempted to fix them through other digital education initiatives like SWAYAM PRABHA,INFLIBNET,NAD,E-SODH SINDU etc.

The initiative of SWAYAM PRABHA is very unique that integrates thirty two different channels of G-SAT -15 transmission and telecasts academic programmes in 24/7 mode through BISANG of Gandhi Nagar. The programmes taught through SWAYAM PRABHA are designed with a

duration of four hours which are repeated five times a day to enable the student adopting flexible timings. However, the critics have been questioning the efficacy of the short duration programmes with no internal gap in the form of assignments and other formative assessment techniques **(Prathikha Jain 2021)**[8]. Criticism apart, this initiative has enabled the students to learn a single concept in depth as its spans over four hours of continuous duration. It is equally important to add haptics to the virtual learning platforms in order to generate interest among the students and enable them to think out of box and make the effective use of course inputs. Therefore, government has initiated another programme called E-YANTRA in collaboration with IIT Bombay that uses Robotics and Embedded system to track the tangible gestures of the teachers and simulate the same through learning interfaces like mobile phones and laptops. This initiative arises the feeling of intangible learning to a considerable extent **(Manoranjan 2021)**[9]. Twenty-two course of SWAYAM PRABHA are linked to E-YANTRA to generate a feeling of virtual reality. It is thus implied that state initiative to connect digital education with the masses are effective beyond any suspicion. There are many such other digital education programmes like national Academic depository, Virtual labs and E-ACHARYA providing better connectivity between the tutors and tutees but how effectively they have been delivering the output is to be studied in order to form a rational opinion on the prospects of digital education efforts of the state for which the following objectives are considered to construct this paper.

Objectives of the study:

1.Studying the prospects of select digital education programmes of the state.

2.Analyzing the perceptions of students on digital education programmes of the state.

3. Assessing the effectiveness of SWAYAM on the learning outcomes of the courses.

Methodology:

The first objective of this paper considers various digital education initiatives of the state viz. SWAYAM, SWAYAM PRABHA, INFLIBNET, E-ACHARYA, & VIDWAAN etc to study the prospects of each programme. The second objective is accomplished with the help of primary data collected by administering a close-end questionnaire. On the other hand, the third objective requiring the establishment of association between participation in MOOCs like SWAYAM and

the effectiveness of such participation on the learning outcome is done with the help of the following hypothesis which is tested with Chi Square at 95 % of confidence levels.

H_0: There is no significant association between the active participation in SWAYAM and learning outcomes of the course.

Sample Size:

This paper proposes a sample size of one hundred respondents randomly selected from the higher education institutions on the premise that they have participated in at least one course offered through SWAYAM.

Prospects of Digital Education Programmes:

India is making a rapid progress towards digital education, supported by the enhanced adoption of digitisation by universities and and other higher education institutions, increasing internet usage and raising demand from students. The online education market (higher education and lifelong learning market) in India is predicted to cross US$ 5 billion by 2025, navigated by the government's focus on designing online education programmes, strengthening digital infrastructure throughout the nation and catering to the rising demand for skilling among students.

Digital education is being substantially driven by the government's commitment on strengthening digital infrastructure in the country, which includes providing internet connectivity in the remote localities. The active internet users in India is predicted to cross 900 million by 2025, which is 41% more compared with the existing 622 million active internet users in 2020. Similarly, internet penetration in India is expected to cross 50% by 2025. The government has also launched the 'Digital India' initiative in July 2015, to support online infrastructure and increase internet accessibility among the people. The government also started e-Education measures to provide online education in remote and urban areas using smart phones, apps and internet services. the pandemic has motivated, the Indian government to take several initiatives (e.g., PM eVIDYA programme, DIKSHA, etc.) to make it at par with some global online education best practices and amended regulations for universities and colleges to offer extended online and distance learning opportunities to students. Few of such initiatives are,National

Digital Educational Architecture (NDEAR) under which the Indian government established the National Digital Educational Architecture (NDEAR) to strengthen digital infrastructure and support activities related to education planning. The NDEAR aims to offer distinct education ecosystem architecture for advancement of digital infrastructure in the country and guarantee autonomy of stakeholders, especially states and UTs, PM eVIDYA Programme in which the government attempts to make e-learning more accessible for Indian students and teachers and strengthen digital education in the country. The programme aims to conver all activities related to online/digital education and is expected to benefit ~25 crore school students. This programme also encompasses designing unique e-content for hearing and visually impaired students and offering radio/podcasts and QR-coded digital textbooks to school students (Classes 1 to 12) on the DIKSHA portal. Under this, top 100 universities were permitted to begin online courses, provide better learning prospects to 3.7 crore higher education students and enhance e-learning by relaxing regulatory framework for distance/open/online education.

In September 2017, the government came up DIKSHA (Digital Infrastructure for Knowledge Sharing), a national portal for school education, to offer school curriculum-based engaging learning materials to students, teachers, and parents. The portal supports more than 18 Indian languages and has been implemented by all the states and union territories. In the same year, the government launched Study Webs of Active Learning for Young Aspiring Minds (SWAYAM) to offer an integrated platform for online courses at affordable costs to all citizens, especially the underprivileged section in the country. The portal hosts Massive Open Online Courses (MOOCs) to offer quality education on various subjects for students ranging from high school to post graduation courses. The efforts of SWAYAM are furthered by an another initiative called SWAYAM PRABHA which also got shaped in the year 2017, SWAYAM PRABHA, a group of 34 DTH (Direct-to-Home) channels dedicated to broadcasting educational programmes 24x7, is aimed to provide recorded lecturers of the teachers from various institutions. These channels broadcast new content for a minimum of four hours every day, and this is repeated five times in the same day for students to select a convenient slot.

The Government of India has thought of training the human resources of school education through digital mode, for which an another unique programme called NISHTHA (National Initiative for School Heads and Teachers' Holistic Advancement) was launched in 2021 at the

secondary level to tailor the modules for online education. As per the Union Budget 2021-22, 5.6 million teachers will be trained under the NISHTHA training programme in FY22.

Perceptions of Students on Digital Education Initiatives of the State:

S.No	Statement	yes	No
1	Have you participated in any Prgramme through SWAYAM	67	33
2	Participation in MOOCs improves learning outcomes	25	75
3	SWAYAM is cost effective comparing to other MOOCs	72	28
4	SWAYAM is more flexible in choosing the courses	52	48
5	Virtual labs are beneficial than the online simulations	30	70
6	SWAYAMPRABHA helps understanding the revision of lectures	71	29
7	The online queries are duly addressed in SWAYAM	28	72
8	The existing infrastructure properly enables the implementation of MOOCs at your institution	64	36
9	SWAYAM is more effective than other MOOCs	33	67
10	Digital Education initiatives have brought a radical change the way you are taught in class	31	69

It can be seen from the table that all the humdred respondents selected from different higher education institutions have expressed a mixed view on the effectiveness of the digital education initiatives of the government, especially its prestigious programmes like SWAYAM. These perceptions are used to test the hypothesis which establishes an association between participation in MOOCs and learning outcomes.

Testing Hypothesis

The participants and non participants are grouped to see the association between the learning outcomes and participation in MOOCs which is tested with Chi square at significance level of α at 0.05 using Phython as shown below.

```
1. from scipy.stats import chi2_contingency
2. data = [[24,51], [9,16]]
stat, p, dof, expected = chi2_contingency(data)
3. alpha = 0.05
print("p value is " + str(p))
if p <= alpha:
```

```
    print('Dependent (reject H0)')
else:
    print('Independent (H0 holds true)')
Conclusion : p value is 0.9022774227639881
Independent (H0 holds true)
No association
```

Therefore, it is evident from the residual values that there is no association between the participation of Students in MOOCs and learning outcomes.

Conclusion

The statistical residuals of this paper enables to draw a conclusion that the mere participation in MOOCs doesn't help improving the learning outcomes, rather, it has to be coupled with holistic pedagogy in all the digital education initiatives of the Government of India to make transformation in the way modern education could reap the benefits at large to society.

References

1. Bhardwaj. K.N(2020), Study on Academic Leadership of Select National Institutions of India, International Journal of Education, Vol 3, issue 1, p1-9.

2. Ramnath & Tessie (2020), Spreading Digital Education in India, Darpan, Vol 2, Issue 1, p24-29.

3. Rohith Kumar. N(2020), Study on the New Horizons of Higher Education in india, Journal of Social Science Research, Vol 1, issue 1, p41-46.

4. Neeraja. K & K. Srinivas (2020), Review on the Performance nof Digital Education Schemes in India, Journal of Advanced Learning, Vol 4, issue1, p12-18.

5. Das. M.K & Srujonoy (2021), Prospects and Problems of Digital Education- a Study of West Bengal, The Thinkers, Vol 2, issue1 p28-37.

6. Nithyanand.A.V (2021), Study on the Future of Humanities in Digital Era, Viadhya Bharathi Journal of Human Studies, Vol2, issue2, p19-30.

7. Piyush Agarwal(2021), Critical Analysis of Digital IOnitiatives of India Towards New Education Policy, The Radix Journal of Social Science, Vol22, issue1, p48-59.

8. Prathiksha Jain (2021), Review of New Age Education in India, with Reference to Engineering Studies, Multi Disciplinary Journal of Education and Philosophy, Vol28, issue 4, p30-42

9. Manoranjan(2021), Virtual Learning and Class Room Haptics, International Psycology Review, vol14, issue2, p14-24.