

Research Article

M-Learning and Open Educational Resources in Higher Education Are Significant to Women's Empowerment: An Insight from National Education Policy-2020

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Abstract

Education is the essential element for unleashing all of human potential. Since no nation can claim to be developed if half of its citizens are incapacitated in terms of education and skills, women's education is a perennial global concern. After 34 years, India's educational policy has changed with the implementation of the National Education Policy 2020 (NEP). In addition to aiming to achieve universal education in India with equal participation for women, this new strategy plans to reach 100% gross school enrolment by 2030. The provision calls for the creation of special education zones and a gender inclusion fund to support fair education for disadvantaged girls. The government is always trying to make its open educational resources (OER) initiatives better and more advanced. In order to support the empowerment of women in our country, the study aims to critically assess the importance of OERs, mobile learning, and associated policy concerns within the NEP framework. The use of OERs and the scope of the existing M-Learning system are examined through contextual analysis. The outcome supports the assertion that m-learning is one of the main and alternative teaching methods that students will have access to both now and in the future. The Indian government's OER initiatives are always being developed and improved. This study helps policymakers understand current trends in open educational resources (OERs) and mobile learning, provides some suggestions for improving the implementation of NEP, and identifies a few gaps in OERs and m-learning that should be addressed going forward. The present study is descriptive in nature and is based on a comprehensive investigation and use of secondary data retrieved from related research papers, books, websites, databases, etc. The findings of the study suggest that the transformation in the educational system with its emphasis on skilled education is the vital component of the New Education Policy in the context of global demands.

Keywords

Mobile Learning (M-learning), Women Empowerment, National Education Policy 2020 (NEP), Open Education Resources (OER), Gender Inclusion Fund

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1. Introduction

In higher education, the integration of Open Educational Resources (OER) and mobile learning is essential for promoting women's empowerment, especially in light of India's National Education Policy (NEP) 2020. In line with the revolutionary potential of open educational resources (OER) and mobile learning technologies, this policy prioritises fair access to high-quality education. OER is crucial to the implementation of NEP 2020 in all areas of Indian education since it guarantees that all students, irrespective of their socioeconomic status, have access to the same educational materials. This democratisation of knowledge also fosters a more inclusive learning environment [13]. The present study is delved into assessing the essential strategies for empowerment of women as propounded in NEP 2020 and the significance of OER and M-learning in the upliftment of the present status of women in India.

The National Education Policy (NEP) 2020 is a groundbreaking framework intended to fundamentally alter India's educational system, with a focus on promoting gender parity and women's empowerment. The significance of women's empowerment for social progress and national development is recognised by this strategy. NEP 2020 aims to promote gender-inclusive education and provide equal opportunity for boys and girls. The policy sets ambitious targets to have all girls enrolled in primary school by 2030 and hopes to dramatically increase girls' participation in higher education by 2035. This focus on enrolment and retention is crucial to addressing historical disparities that have prevented women from attending school.

To address discrimination and gender stereotypes, NEP 2020 encourages gender-sensitisation programs for educators and learners. Through raising awareness of gender-related issues, these initiatives aim to create a more hospitable and polite classroom. By addressing these issues in educational settings, the strategy seeks to foster an equitable culture that benefits all students. The requirements of Socio-Economically Disadvantaged Groups (SEDGs), which include women and transgender people, are the focus of NEP 2020. Gender. The Inclusion Fund (GIF) has been established with a view to improving educational access and quality for these groups and guaranteeing that no child is left behind because of socio-cultural barriers. The strategy also acknowledges the contribution that education makes to encouraging women to start their own businesses [16].

The National Education Policy (NEP) 2020 has the potential to significantly advance women's empowerment in India by promoting equitable access to education and eliminating systemic barriers that have historically limited women's opportunities. It will need consistent focus on gender-sensitive legislation and its effective implementation to accomplish these goals and foster an environment where women can thrive politically, socially, and economically. India's educational system is undergoing significant change as a result of

the National Education Policy (NEP) 2020, particularly in relation to women's empowerment. This plan aims to create an inclusive and equitable educational system by eliminating gender disparities and promoting female literacy and involvement at all educational levels. In light of NEP 2020, the current study aims to investigate how education can empower women and examine the significance of Open Educational Resources (OER) and M-learning for women's education. Make sure that the focus of the study is stated here. It must be in line with the objective of the study.

2. Literature Review

Nurutdinova et. al. [3] compared the effectiveness of M-learning with that of in-person and remote learning technologies. According to their research, m-learning can help establish a digital economy and improve education in an array of nations. The findings of a qualitative study that was carried out to assist teachers in evaluating OER on readability, design, usability, engagement, and content were presented by Bass [4].

They recommended training to enhance teachers' professional development. and incorporating open educational resources (OER) practices into curricular adjustments.

Mncube et. al. [2] examined a number of ethical concerns that the OER system presents with an objective to identify the ethical norms and peer-review procedure associated with the deployment and growth of the OER system. They determined that transactional OER purchases, noncompliance with openness rules, and an examination of the dearth of developer incentives were the three primary drivers of this OER ethical problem.

The importance, effects, and challenges of the NEP for women's education in Nagaland were studied by Zhimomi, J., & Kishorechand, N [4], who asserted that the state's female literacy rate would rise dramatically if the New Education Policy is successfully and strategically implemented. It is anticipated that the current generation will witness a revolution in education that will equip them to meet the difficulties of the twenty-first century, even though the execution of the new policy will present a number of challenges.

Condor-Herrera [5] carried out an interesting study on mobile learning to gain a better understanding of the preferences of students in higher education. 37% of the 16 pupils, ages 9 to 12, who took part in the trial were female, and 63% were male. As a result, students were more inclined to use mobile technologies to finish learning assignments.

Joshi, C. S., & Oppliger, R [12] has examined redefining and reimagining the role of mobile learning in order to support sustainable economic growth. A qualitative case study was conducted on the e-ICPON Globe Contest, an m-learning initiative. This study, which involved a large number of youths, ultimately recommended three areas for integrating

m-learning to guarantee sustainability.

3. Objectives

The study's specific objectives are as follows:

- 1) To explore the role of education in empowering women as propounded in NEP 2020.
- 2) To analyse the importance of M-learning and Open Educational Resources (OER) in women's education.

4. Methodology

The present study is descriptive in nature and is based on a detailed exploration of secondary sources that contained related books, websites, databases, and relevant research papers.

5. National Education Policy (NEP) -2020

The National Education Policy (NEP) 2020 was approved by the Indian government on July 29, 2020, to match the national educational goals and expectations, as the previous one has lost its relevance in many ways to accommodate the trending issues and innovations of the current educational scenario. The Kasturirangan Committee developed the New Education Policy (NEP) 2020 with a focus on the acquisition of critical 21st-century skills and a reduction in curricular content—a long-overdue mandate, the new policy that places an added emphasis on promoting the comprehensive, flexible, and diversified growth of students.

This policy has come up with four major sections that include preschool education, higher education, and other crucial areas of focus that are all included in the New Education Policy proposal. The problems faced in the context of the current educational system are addressed by NEP 2020 with ample emphasis on accountability, equity, affordability, quality, and access.

6. Result and Discussion

In order to make India—that is, Bharat—a global knowledge superpower and to sustainably transform it into an egalitarian and dynamic knowledge society, this National Education Policy 2020 seeks to establish an education system with roots in Indian culture that provides high-quality education to all. The policy states that the curriculum and pedagogy of our institutions should instill in students a deep respect for the fundamental duties and constitutional values, a sense of pride in the country, and an awareness of one's own tasks and responsibilities in a changing global environment.

This policy recommends updating and rebuilding all aspects of the educational system, including governance and regulations, while maintaining India's traditions and value systems in order to create a new system that is in accordance with the aspirational goals of 21st-century education, includ-

ing SDG-4. In addition to cognitive capabilities—both the "foundational capacities" of literacy and numeracy and "higher-order" cognitive skills like critical thinking and problem solving—it is based on the notion that education must cultivate social, ethical, and emotional skills and dispositions [4]. In the framework of current trends as envisioned in the National Education Policy 2020, the current study focuses on examining the significance and interdependence of M-learning and OER.

6.1. NEP 2020 and Women's Education

"If you educate a man, you educate an individual, but if you educate a woman, you educate a whole family," as Pandit Jawaharlal Nehru famously stated. The NEP 2020 has exclusively put emphasis on women's education and empowerment by fostering the potentialities of women to make them more relevant in the socio-economic and entrepreneurial aspects.

In an attempt to make India "a worldwide knowledge superpower" and to make education universal, the country's educational strategy has changed after 34 long years. With the support of local community organisations and governments, the strategy called for a cross-cutting approach to gender in order to improve gender equality in education. This more general goal has been broken down and graphically represented as ensuring that girls are enrolled in school at a rate of 100% by 2030 and 50% in higher education by 2035, reducing gender disparities at all levels, promoting gender equity and inclusion in society, and fostering girls' leadership skills through constructive, polite dialogue.

A gender inclusion fund, formula-based and discretionary funding of gender-inclusive projects at the school level, the establishment of a special education zone, targeted scholarships, and other measures are among the measures suggested by the policy to increase women's access to education. In order to provide access to childcare for female educators, the updated Maternity Benefit Act is also an important measure adopted in this context. To lessen the gender gap among the teachers, other routes would be implemented for the recruitment of female teachers without sacrificing qualifications or quality, particularly in some rural places. The safety and security of female students, both within and outside the school, were given first priority in the policy. Additionally, all educational institutions will be required to hold gender awareness activities to teach students about their legal rights and protections as women and girls, promote gender equality, fight outdated gender stereotypes, and provide a harassment-free environment.

To improve understanding of gender-sensitive and inclusive classroom management, laws such as the Child Marriage Act, Maternity Benefit Act, Protection of Children from Sexual Offences Act (POCSO), and Sexual Harassment of Women at Workplace Act must be included. The initiative would also prioritise gender-neutral education. Along with

enhancing women's access to higher education and encouraging opportunities for lifelong learning that give them the skills they need, the NEP also seeks to provide high-quality education that empowers women to make prudent decisions, achieve their objectives, and actively contribute to society.

6.2. Importance of M-Learning and Open Educational Resources (OER) in the Context of NEP

Digital learning has grown in importance as a means of guaranteeing that education is accessible everywhere. E-learning and other digital technologies are essential to the global spread of knowledge. E-learning is no longer relevant in the current environment. Tablets, computers, smartphones, and other more portable devices are among the growing number of mobile devices being used for learning these days [6]. M-learning is a technology used in contemporary education because of its price, usability, and compatibility with contemporary apps [1].

Students, especially those who live in rural and isolated places, have improved access to educational resources and services because of m-learning. Mobile learning allows students to create, access, and validate content whenever it is convenient for them using their electronic devices. It offers free and self-directed learning opportunities [19].

Open Educational Resources (OER) and mobile learning are crucial for promoting women's empowerment in the framework of India's National Education Policy (NEP) 2020. To guarantee equal opportunity for all students, NEP 2020 places a strong emphasis on gender-inclusive education, paying special attention to women and girls who have historically experienced educational inequalities.

The integration of OER and mobile learning within the framework of NEP 2020 significantly contributes to women's empowerment by resolving gender disparities, promoting active involvement in learning processes, and expanding access to education. By employing these strategies, NEP 2020 seeks to improve educational outcomes while also empowering women as active members of society.

6.3. Mobile Learning and Women's Empowerment

In the context of India's National Education Policy (NEP) 2020, mobile learning and Open Educational Resources (OER) are indispensable for advancing women's empowerment. NEP 2020 places a strong emphasis on gender-inclusive education as a way to guarantee equitable opportunity for all students, with particular attention on women and girls who have historically experienced educational disadvantages. By eliminating gender discrimination, encouraging active participation in learning processes, and increasing access to education, the integration of OER and mobile learning within the framework of NEP 2020 greatly contributes to

women's empowerment [8]. NEP 2020 aims to empower women as engaged members of society and enhance educational achievements by implementing these measures.

Research indicates that mobile learning can significantly enhance academic achievement in nearly every situation when compared to more traditional methods. Students who utilise mobile applications report higher levels of enthusiasm and engagement, which is important for women who can face more barriers to school if they don't use these devices [6]. Through collaborative learning and instant access to knowledge, mobile technologies empower female students to take charge of their education.

6.4. Open Educational Resources (OER) and Women's Empowerment

"Open Educational Resources (OER) are learning, teaching, and research materials in any format and medium that reside in the public domain or are under copyright that have been released under an open license, which permits no-cost access, re-use, re-purpose, adaptation, and redistribution by others," according to UNESCO's 2020 definition of the term [18]. "Open license refers to a license that respects the intellectual property rights of the copyright owner and provides permissions granting the public the rights to access, reuse, repurpose, adapt, and redistribute educational materials".

The OER permission provided here can be granted in five different ways and is commonly known as David Wiley's 5Rs approach for free licensing by way of Retain, Reuse, Revision, Remix, and Redistribute.

OER, which stands for openly available, reusable, and adaptive educational resources, eliminates the price barriers to traditional textbooks and resources and enhances women's education [10, 11]. Open educational resources (OER) encourage an inclusive classroom that encourages women to pursue a range of academic interests by providing free access to high-quality educational materials.

Teachers can adapt resources to meet the specific needs of their students, particularly female students, thanks to open educational resources (OER). This customisation supports a range of learning styles and promotes an engaging learning environment. The collaborative nature of OER development, which ensures that resources are regularly updated and relevant, further raises the standard of education available to women.

6.5. Advantages of M-Learning in HEIs for Women

Mobile learning offers several significant benefits for women in higher education, particularly in terms of enhancing accessibility, involvement, and empowerment. Here are a few noteworthy advantages:

- 1) *Flexible Learning Opportunities*: Mobile learning allows women to learn at their own pace and on their

own schedule. By making courses and resources available at any time and from any location, mobile learning accommodates a range of lifestyles and encourages life-long learning.

- 2) *Increased Accessibility to Educational Resources:* Without being constrained by traditional classroom settings, women can use mobile devices to access a range of educational platforms and resources. Online courses, e-books, and educational software are especially useful in places where there is little physical access to educational institutions.
- 3) *Enhanced Engagement and Motivation:* According to research, mobile learning can significantly raise student engagement levels. For women, who may face social barriers in the traditional educational system, mobile platforms may provide a more comfortable environment for participation and engagement.
- 4) *Improved Communication and Collaboration:* Mobile learning facilitates more efficient communication between teachers and students through immediate messaging and collaboration platforms. This enhanced contact often benefits women since it allows them to ask for help, participate in group activities, and engage in dialogue without feeling intimidated as they might in person [20].
- 5) *Support for Self-Directed Learning:* Mobile learning encourages self-directed learning by giving women the opportunity to study subjects that interest them outside of the prescribed curriculum. Because of this autonomy, they could feel more in charge of their education and more assured of their abilities.
- 6) *Cost-Effectiveness:* Because mobile learning reduces the cost of textbooks and course materials, women from a range of economic backgrounds can now more easily enrol in higher education.

Mobile learning is a powerful tool for enhancing women's educational experiences in higher education because of its adaptability, accessibility, engagement, improved communication, self-directed learning opportunities, and affordability. When combined, these factors help women overcome historical barriers to education, thereby promoting their academic and professional empowerment.

6.6. OER Initiatives in India

The use of open educational resources (OER), a new movement that aims to give free access to a variety of online learning tools, has increased dramatically in recent years. In India, where several national universities have set up OER portals to make their course materials freely available, the use of open educational resources has expanded gradually but consistently [14, 15]. Open educational resources first appeared in India in 2003 with the launch of the National Programme on Technology Enhanced Learning (NPTEL). The following are the initiatives adopted by the Government of

India:

- 1) A collection of various text and study materials from all of the courses it offers is available to the public through the IGNOU E-GYANKOSH. The YouTube video also provides a range of open educational videos created for Gyan Darshan's educational channels at the IGNOU studio.
- 2) The SWAYAM program was started by the Indian government with the goal of achieving the three pillars of education. policy: quality, equity, and access.
- 3) Sakshat is intended to be a one-stop educational resource that promotes free lifelong learning for students, instructors, and everyone else who looks for knowledge or work.
- 4) The GSAT-15 satellite is used by the 32 DTH channels that make up the SWAYAM PRABHA to continuously transmit high-end educational content.
- 5) E-PG, the gateway to all postgraduate programs, is PATHSALA. The UGC is carrying out the National Mission on Education via ICT (NME-ICT), which was created by the MHRD.
- 6) To create a single-window virtual repository of educational materials, the Ministry of Human Resource Development (MHRD) started the National Digital Library of India (NDL India) pilot project.

6.7. Key Findings

- 1) Owing to the poor state of women's education in India, NEP-2020 introduces a comprehensive education policy that helps strengthen the spirit of women in their ongoing fight against exploitation and societal evils. Without education, the concept of "women empowerment," which has quickly and widely entered the mainstream discourse, is essentially worthless.
- 2) NEP-2020 has emphasised improving women's education by narrowing the gap between male and female literacy rates, which was 17% (Census 2011).
- 3) NEP-2020 has stressed improving female participation in higher education, although the report of the All-India Survey on Higher Education (AISHE) 2018–19 states a positive sign that 48.6% of female students enrolled in higher education.
- 4) In order to ensure that female and transgender children have access to education, NEP 2020 calls for the creation of a Gender Inclusion Fund (GIF) to improve the country's capacity to provide fair, high-quality education for all girls and transgender pupils. All kids will receive high-quality training, safe and clean facilities, and restrooms thanks to the donations.
- 5) According to Statista, 6.65 million undergraduate degrees were awarded in India in 2019. During the academic year 2018-2019, almost 3.5 million female students received their undergraduate degrees (Statista 2019).

- 6) Many economists are of the opinion that India has developed a positive environment in case of women's higher education and women empowerment that will benefit the nation's progress.
- 7) On introducing the 5G service in India, enhancement and expansion of m-learning demonstrate the evolution of digital learning, and it has become a more effective complementary solution to India's workforce shortage.
- 8) M-learning has been accepted as one of the most useful learning methods during the COVID-19 pandemic, as almost all the educational institutions adopted this method to promote learning for students, where instruction continued without much interruption between students and teachers in multiple stages [17].

According to UNESCO (2020), students will continue to advance their rights through continuing education, even if it is done remotely. M-learning is significantly contributing to sustaining the teaching and learning processes by emphasizing especially women's education and access to the quick information they need through their portable gadgets at any time and from any location [9, 10].

7. Conclusion

From the above discussion, it can be stated that NEP has emphasised strengthening women's education by introducing different policies that encompass the advancement of women's education and their empowerment. Education is the only means through which women can be empowered, as it gives them the ability to deal with any crisis situation and makes them aware of the steps to be followed for combating exploitation and legal rights so that they can be safe and help other women to be as well. The importance of women's empowerment for social advancement and national development, as acknowledged in different studies, has been analysed in accommodating the objectives of the study. NEP 2020 has come up with an approach to address the issues of the traditional education system at all levels of education, including an added emphasis on higher education by way of M-learning and OER policies. This strategy has placed a strong emphasis on making education egalitarian, accessible, and inclusive; NEP would radically transform the country's current educational system. In order to provide students with essential 21st-century abilities, the New Education Policy aims to reform and improve the educational system by removing its obstacles and creating a dynamic system. [7]

The goal of NEP 2020 has been studied to find the relevance of empowering women and establishing an equal and just society by highlighting the need for gender-inclusive education. The strategy of NEP 2020 has significantly initiated to expand girls' involvement in higher education by 2035. The goal of the policy is to be achieved if an egalitarian culture is promoted that benefits all students by tackling these problems in educational environments.

Abbreviation

NEP	National Education Policy
OER	Open Education Resources
UNESCO	United Nations Educational Scientific and Cultural Organisation
SEDGs	Socio-Economically Disadvantaged Groups
GIF	Gender Inclusion Fund
POCSO	Protection of Children from Sexual Offences Act
AISHE	All-India Survey on Higher Education

Author Contributions

Anowarul Islam: Conceptualization, Data curation, Formal Analysis, Investigation, Methodology, Resources, Supervision, Writing – original draft

Chhanda Saha Roy: Methodology, Resources, Supervision, Validation, Visualization, Writing – original draft, Writing – review & editing

Conflicts of Interest

The article is free from any conflicting interest.

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