

# NALLAMUTHU GOUNDER MAHALINGAM COLLEGE

(AUTONOMOUS)  
POLLACHI, TAMILNADU

Accredited with A++ by NAAC  
NIRF Ranking 101-150 & ISO 9001:2015 Certified  
Affiliated to Bharathiar University, Coimbatore, Tamilnadu



## VISION VIKSIT BHARAT 2047

# EDUCATION 4.0

Enhancing India's Workforce for the AI-Powered Future

Editor in Chief  
**Dr.M.AKILANAYAKI**

*Editors*

Ms.V.POORNIMA | Ms.M.SHANMUGAPRIYA | Dr.P.GURUSAMY | Dr.R.SIVARAJAN

Funded by

INDIAN COUNCIL OF SOCIAL SCIENCE RESEARCH - SOUTHERN REGIONAL CENTRE  
MINISTRY OF EDUCATION, GOVERNMENT OF INDIA  
HYDERABAD

**VISION VIKSIT BHARAT 2047  
EDUCATION 4.0**

**ENHANCING INDIA'S WORKFORCE FOR THE  
AI-POWERED FUTURE**

**VOLUME - II**

**Editor In Chief**

**Dr. M. Akilanayaki**

*Assistant Professor & Head*

*Department of Commerce with Business Process Services  
Nallamuthu Gounder Mahalingam College  
Pollachi, Tamil Nadu*

**Editors**

**Ms. V. Poornima**

*Assistant Professor,*

*Department of Commerce with Business Process Services*

**Ms. M. Shanmugapriya**

*Assistant Professor,*

*Department of Commerce with Business Process Services*

**Dr. P. Gurusamy**

*Assistant Professor,*

*Department of Commerce with Business Process Services*

**Dr. R. Sivarajan**

*Assistant Professor,*

*Department of Commerce with Business Process Services*

# ENHANCING INDIA'S WORKFORCE FOR THE AI-POWERED FUTURE

© **Dr. M. Akilanayaki**  
**Ms. V.Poornima**  
**Ms. M. Shanmugapriya**  
**Dr. P. Gurusamy**  
**Dr. R. Sivarajan**

**First Edition: 2025**

**Volume: II**

**ISBN: 978-93-94004-64-1**

**Price: ₹ 600**

## **Copyright**

All rights reserved. No part of this book may be reproduced, stored in a retrieval system or transmitted, in any form or by any means, mechanical, photocopying, recording or otherwise, without prior written permission of the author.

## ***Printed at***

**SHANLAXPUBLICATIONS**  
61, 66 T.P.K. Main Road  
Vasantha Nagar  
Madurai – 625003  
Tamil Nadu, India

*Ph: 0452-4208765,  
Mobile: 7639303383  
[email:publisher@shanlaxpublications.com](mailto:publisher@shanlaxpublications.com)  
[web: www.shanlaxpublications.com](http://www.shanlaxpublications.com)*

54	Learning Reimagined: The Future of Education in an AI-Powered World <b>Dr. C. Antony Mary Vinothini &amp; A. Shakhil Reginald</b>	311
55	A Study on Customer Perception and Satisfaction Towards The Adoption Of Ai-Powered Personalized Learning AndVirtual Tutoring <b>Dr. K. Bagavathi &amp; S. Suriyaprakash</b>	317
56	Skilling India for An AI-Driven Future: The Path to Viksit Bharat <b>Mr. A. Sivabalan</b>	325
57	Impact on Future-Proofing India: The Intersection of AI, Innovation, and Education 4.0 <b>Mr. M. Mohammed Shansha Sunfar, Dr. M.V. Sathiyabama &amp; Ms. S. Midunarakavi</b>	330
58	Revolutionizing Primary Education in Rural India: The Role of AI <b>Dr. G. Nithya</b>	335
59	Navigating the AI Revolution: Upskilling India for Tomorrow's Jobs <b>Mr. Prakalathan A &amp; Dr. M. Kalimuthu</b>	339
60	Integrating Programming Into Primary Education: Coding the Future <b>Mr. S. Praveen Kumar</b>	342
61	The Role of Artificial Intelligence in Healthcare: Focusing on Lung Cancer Diagnosis and Treatment <b>Dr. R. Malathi Ravindran</b>	347
62	Benefits and Challenges of AI Mentorship in Higher Education <b>Dr. E. Rajeswari, Dhabasvi M &amp; Dhanushiya .M</b>	351
63	Impact AI in Physics Education - A Futuristic Perspective <b>Dr.V.Saravanan, Dr.R.Venkatesan &amp; Dr.M.Selladurai</b>	356
64	Roadmap for Scaling Education 4.0 in India <b>Dr.P.Archanaa</b>	361
65	Reskilling and Upskilling India's workforce for the AI Revolution <b>Dr.M.Jeeva</b>	364
66	A Data Science Approach to Unlock Business Intelligence <b>Dr. E. Rama Devi, Ms. K G Manasvini &amp; Ms. D Hema Sri</b>	370
67	Vision Viksit Bharat 2047 In Chemistry Education 4.0: Enhancing South India's Workforce for an Ai-Powered Future <b>Dr. M. Selladurai, Dr. R. Venkatesan &amp; Dr. V. Saravanan</b>	377
68	The Impact of Ai on the Skills and Competencies Requiredpp for Key Industries in India <b>O Arulruby &amp; Dr S Mohamed Hussian</b>	381
69	Redefining the Teacher's Role: Human - Ai Collaboration in Future Learning Environments <b>Dr.L.Kesavan &amp; Dr.P.Nirmala</b>	385
70	Empowering india's future: using education 4.0 and the rise of Ai. <b>Dr. A.Arthi &amp; Mrs R.Kiruthika</b>	391

# ROADMAP FOR SCALING EDUCATION 4.0 IN INDIA

Dr.P.Archanaa

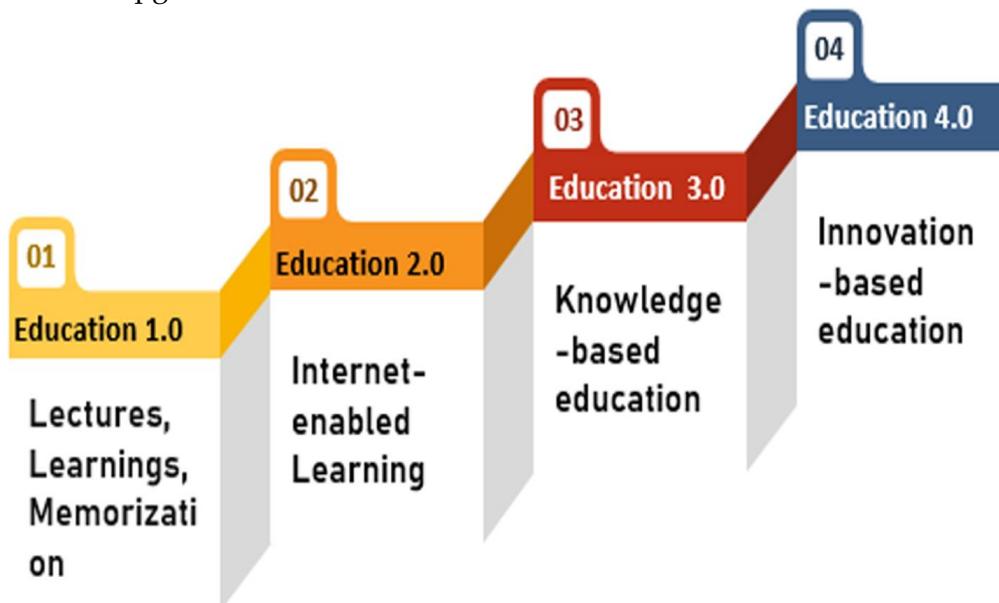
Asst. Professor & Head - UG Department of Commerce CA  
Nallamuthu Gounder Mahalingam College, Pollachi

## Introduction

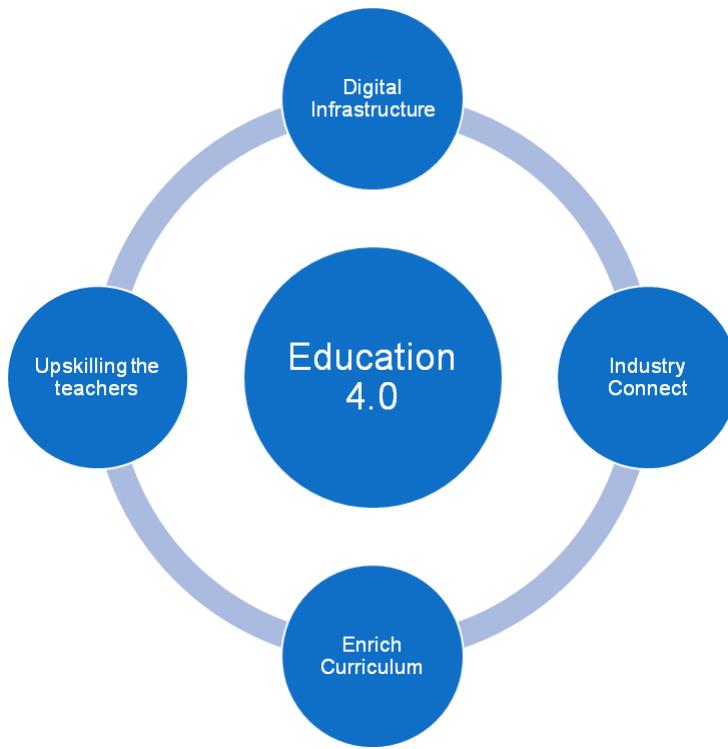
"Education 4.0" in India is a boon that focuses on leveraging technology to make education more accessible, personalized, and skill-oriented, with key elements of strengthening digital infrastructure, integrating emerging technologies like AI and VR, upskilling teachers, curriculum with industry connect, addressing digital divide, and promoting lifelong learning through initiatives, while prioritizing foundational literacy and numeracy skills across different demographics.

## Road Map for Scaling Education 4.0

The Sustainable Developmental Goal (SDG) 04 – Quality Education plays a vital role in the education development in India. Education in India at an early stage was gurukula which in turn slowly turned into lectures, internet enabled learning, knowledge based education. The upgraded version of the education is the innovation based education.



The following are the key components for the quality education, which paves a roadmap for scaling the education in India.



#### i) Enhancement of Digital Infrastructure

The broadband connectivity to be expanded in rural areas, as majority of the population in India is in rural area. Affordable devices and access to digital learning platforms are to be provided. Robust cloud computing infrastructure for educational institutions may be implemented.

#### ii) Industry Connect through the reformation of Curriculum

Establish industry-academia collaborations for curriculum development and research. Partner with businesses to develop industry-relevant skillsets and internship opportunities. Integrate STEM subjects and future-oriented skills like critical thinking, problem-solving, and adaptability into the curriculum. Develop competency-based learning frameworks aligned with industry requirements. Incorporate project-based learning and experiential learning approaches.

#### iii) Upskilling the Teachers

Ongoing professional development for teachers on integrating technology in the classroom can be provided to upgrade them. Teachers can be trained on personalized learning strategies and effective use of educational technology tools.

#### iv) Awareness on Technologies through Personalized learning

Exploration of applications of AI, AR/VR, and machine learning for interactive learning experiences. Utilizing intelligent tutoring systems for personalized feedback and support. An adaptive learning platforms to cater to individual student needs and pace to be utilized and implementation of data-driven insights to personalize learning pathways.

v) **Connecting the Digital Divide**

Initiating of digital literacy training for marginalized communities and creating a community learning centres with access to technology and support. Strong government policies and funding are essential to drive the implementation of Education 4.0 initiatives.

## Conclusion

The personal demand principle, created because of technology's ability to serve personalised data to users, means that students and staff in higher ed are moving to a model where they access information when it is relevant to them, whether it's on their phone out and about on campus or on their laptop. This impacts on not only the courses offered to students, with a greater level of personalisation than previously required, but also creates an expectation shift that goes beyond education delivery. Students and staff expect to be able to access the information they need, when they need it. This has implications for data access behind the scenes.

## References

1. <https://b-u.ac.in/sites/b-u.ac.in/files/iE4/Curriculum%204.0.pdf>
2. <https://www.slideshare.net/slideshow/education40-how-industry-40-is-going-to-change-the-education-system/121155805>
3. <https://link.springer.com/book/10.1007/978-3-030-14544-6>