Impact on Education
A Talk at Avinashilingam University, 19 June 2023

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NOTES FROM THE ORGANISERS

• Education in the 21st Century is different
  • Brick and mortar to Ubiquitous contexts; Less didactic and more self-driven; New pedagogical methods
• Technology-enabled learning adds new dimension
  • Augmented, Virtual, Extended Realities; New Instructional Design
• Artificial Intelligence adds to the differences
  • Intelligent tutoring systems; Teaching Robots; Learning Analytics and Dashboards; Adaptive Learning Systems; Human-Computer Interactions

• AIU-AI-AADC and CMLI Short-term Programme
  • Theoretical, pedagogical and computational aspects of AI; Use of AI techniques in learning and instructions; Future AI practice, research and development

• Learner-centeredness, human agency, lifelong learning in innovation-driven knowledge age
### OBJECTIVES OF THE PROGRAMME

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<th><strong>INTRODUCTION TO MAJOR PARADIGMS</strong></th>
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<td>Evolution, Theoretical Foundations, Conceptual Research, Implementation</td>
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<th><strong>02.</strong></th>
<th><strong>ORIENTATION TO PARTICIPANTS</strong></th>
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<td>AI as a component of Teaching, Learning and Evaluation process</td>
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<th><strong>03.</strong></th>
<th><strong>DISCUSSION ON IMPACT</strong></th>
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<td>Direct cognitive learning among learners</td>
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<th><strong>05.</strong></th>
<th><strong>INculcate COLLABORATION</strong></th>
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<td>Iterative, learner-centered, data-driven, personalised</td>
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<th><strong>06.</strong></th>
<th><strong>BUILD FACULTY CAPACITY</strong></th>
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<td>Facilitate value-based tradition towards changes in higher education</td>
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ACKNOWLEDGEMENT

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Dr Amarendra Pani

Dr Venkataraman Balaji
COL’s mission is to help governments, institutions and organisations expand the scale, efficiency and quality of learning by using appropriate open, distance and technology-based approaches. COL aims to

- build on its expertise in ODL, OER and TEL to play a more influential role in national policy development and implementation;
- invest in innovations and research;
- support the digital transformation of institutions and organisations;
- promote gender equality; and
- implement a rigorous monitoring and evaluation plan.
01. MAJOR PARADIGMS OF AI

Evolution, Theoretical Foundations, Conceptual Research, Implementation
Eras:
- 1950-70: Mimic era
- 1970-90: Two winters
- 1990-2010: Resurgent era
- 2010+: Present era

Stages:
- Reactive AI
- Limited Memory AI
- Theory of Mind AI
- Self-awareness AI
- General Intelligence AI

Foundation:
- Logic
- Probability
- Machine Learning
- Data Mining
CONCEPTUAL FRAMEWORK

Rule-based System
Expert System
Neural Network
Genetic Algorithm

IMPLEMENTATION
Define
Gather Data
Choose Algorithm
Train and Test System
Deploy
02. ORIENTATION TO AI

As a component of Teaching, Learning and Evaluation process
PROBLEM VS. SOLUTION

PROBLEM

In Teaching/Learning?
In Assessment?
In Outcome-based Education?
To Teachers?

SOLUTION

In Teaching/Learning?
In Assessment?
In Outcome-based Education?
To Teachers?
03.

IMPACT OF AI

As a component of Teaching, Learning and Evaluation process
ORIENTATION TO AI IN EDUCATION

PERCEPTION
- Panacea
- Threat
- Divide

REAL
- Ethics and Bias
- Inflexible
- No creativity
- Vulnerable

POSSIBILITIES
- Work and impact
- Weaponization
- Weakening of institutions
- Challenge to basic rights
TEACHING/LEARNING

- Personalisation
- Diversity, Equity and Inclusion
- New Experiences - Virtual Tutors, Chatbots, Gamification
- Information and Media Literacy

ASSESSMENT/EVALUATION

- AI powered grading
- AI as a buddy for feedback
- AI powered assessments
- Adaptive Assessments
04. AI TECHNOLOGIES

For intended educational outcomes
AI GEOGRAPHIES

North America

India

China
MARKET SHARE

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<th>Industry</th>
<th>Market Share</th>
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<td>Health care</td>
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<td>Manufacturing</td>
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<td>Retail</td>
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<td>Finance</td>
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Global AI in Education Market Size, By Region, 2016-2027 (USD Million)

- North America
- Europe
- Asia Pacific
- Latin America
- MEA

Gminsights.com
AI FOR COLLABORATION

For Iterative, learner-centered, data-driven, personalized learning approaches
STEER FOR AI IN EDUCATION

- **DATA**: Incomparable resource
- **COST**: Moore’s Law working?
- **POWER**: Again, Moore is alive?
- **PERSONALISATION**: Learners’ demand for experience
- **EFFICIENCY**: Improving outcomes
- **PRODUCTIVITY**: Scaling and widening, and narrowing
AI applications and benefits in education industry

- Personalized learning
- Task automation
- Smart content creation
- Adaptable access
- Determining classroom vulnerabilities
- Closing skill gap
- Customized data-based feedback
- 24*7 assistance with conversational AI
- Secure and decentralized learning systems
- AI in examinations
EDUCATIONISTS
Who wish to shape-up the AI world

TECHNOLOGISTS
Who are bent upon changing the world

MARKET
Tunes itself to 21st Century culture and practices

LEARNERS
Who will require to be adaptive, creative
"Artificial intelligence is the future of education." - Sugata Mitra

"AI has the potential to revolutionize education by providing personalized learning experiences, making it more engaging and effective." - Sal Khan

"AI can help to prepare students for the jobs of the future by teaching them the skills they need to be successful in a rapidly changing world." - Andrew Ng
EDUCATION AT THE DOORSTEPS – WITH A DIFFERENCE?
THANKS

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