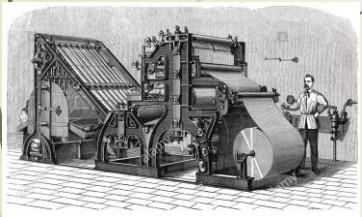# 'Virtual Education' Solving Educational Challenges with Technology

Imran Qureshi

Technology Driven Education

Printing Press

Type writer

Personal Computer

Internet

Word Wide Web

Digital Economy

1450   1868   1980   1983   1990   2021

What is Virtual Education

Virtual Education

- Teaches students entirely or primarily online or through the Internet.

- The Education ecosystem (Enrolment, Content, Delivery, Evaluations, Assessments, research, interactions) delivered digitally using the Internet.

- Instructional models vary:

  - Independent self-paced study

  - Live, interactive classes where students communicate with a teacher in a group lesson (School / College / University Class or Webinar)

- Class sizes range widely from a small group to hundreds (MOOC)

Why Virtual Education

- Enhances
  - Research Skills
  - Digital Skills
  - New Environment Adaptability
- Accessible instruction
  - Remote Students / Physically Challenged / Travel
- Learning Capabilities
  - Self paced
  - Virtual Instructor Led
  - Hybrid (Self Paced / Instructor Led)

Virtual Education History

- Stanford instructional Television Network (SITN)
  - Started in 1969
  - Solved the off campus student participation challenges
  - Target audience was expanded to include corporate graduate students
  - Used Microwave channels to reach out to the Students in a 50 mile radius
  - Studios and audio visual class rooms were built
  - Exams conducted using paper and submitted for instructor Grading
  - Results were sent to the students using post
  - Enrollments / Admissions were done through the post or in person.

Virtual Education Today

- Formal Education
    - Graduate Degree Programs
    - Undergraduate Blended Programs
- Informal Education
    - MOOC
    - Skill based Training
    - Webinars
    - Virtual Meetings
    - Just in Time learning
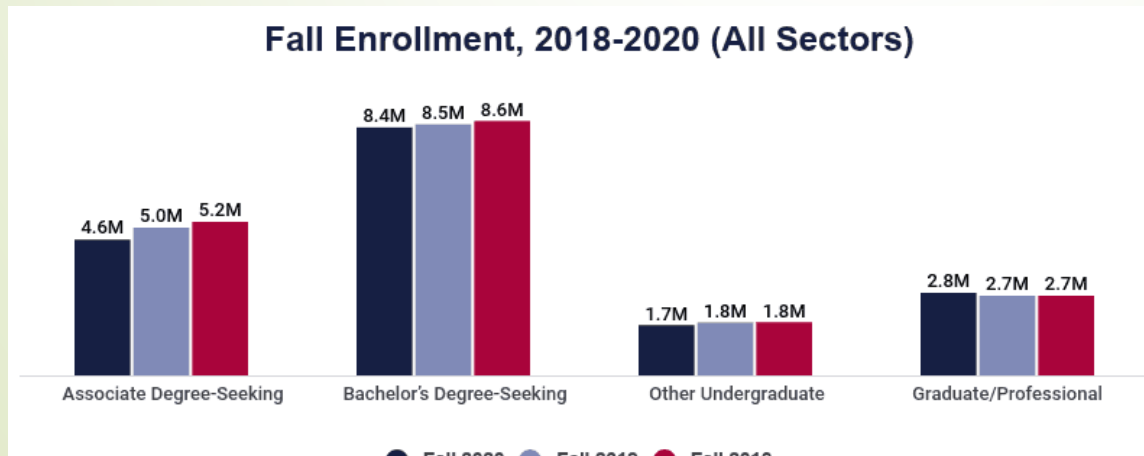- Comprehensive virtual education administration systems available

Virtual/Online Education Statistics (Fall 2020)

- Among nearly 3000 colleges in the United States, only 10% had plans to offer their instruction completely online for Fall 2020, with the remaining 34% of institutions intending to run classes primarily online, 21% in hybrid format, 23% primarily in person, and 4% fully in-person.

- The online learning industry is projected to pass $370 billion by 2026

- 20% of college students whose classes were moved online during the pandemic indicated it was a major challenge to find a quiet place for online instruction

- 33% of post-secondary school administrators indicate they will continue to offer both remote and online course options even after their campuses have reopened and normal operations resume

Pandemic Impact on Virtual Education

- Fall 2020's approximate national enrollment in degree-granting institutions at approximately 17.7 million students, a decline of -2.5% in Fall 2020, which was nearly twice the rate of decline in Fall 2019 (-1.3%).
  - *The decline of first-time student enrollment was -13.1%*
  - *Public 2-year institutions, usually community colleges, saw a -10% loss in enrollment from Fall 2019*

Fall Enrollment, 2018-2020 (All Sectors)

	Fall 2020	Fall 2019	Fall 2018
Associate Degree-Seeking	4.6M	5.0M	5.2M
Bachelor's Degree-Seeking	8.4M	8.5M	8.6M
Other Undergraduate	1.7M	1.8M	1.8M
Graduate/Professional	2.8M	2.7M	2.7M

Pandemic Impact on Virtual Education (Spring 2021 / Undergraduate)

As of mid-February 2021, enrollments have significantly changed compared to pre-pandemic levels in 2019. Because most universities are still conducting classes in at least a hybrid or partially online format, the data is not available for the percentages of instruction occurring online vs. in-person.

Spring 2021's **undergraduate** enrollment indicated an overall average decline of -4.5% compared to 2020's -0.9% decline.

- *Public 4-year institutions had declined by -3.3%*

- *Private non-profit 4-year institutions had declined by -2.0%*

- *Private for-profit 4-year institutions had **increased** by 3.9%*

- *Public 2-year institutions had decreased by -9.5%*

Pandemic Impact on Virtual Education (Spring 2021 / Graduate)

Spring 2021's **graduate** enrollment actually *increased* by nearly three times (+4.3%) the pre-pandemic levels.

- *Public 4-year institutions increased by 6.2%*
- *Private non-profit 4-institutions increased by 1.5%*
- *Private for-profit 4-year institutions increased by 4%*

Virtual Education in Pakistan

- Computer aided instruction training required for teachers
- Internet Bandwidth is spotty for video
- Most Urban centers have Fiber to the premises
- Laptops are expensive
- Virtual Education is a shift, introduce computers as a tool in primary classes
- Expand formal and informal programs at undergraduate and Graduate levels.
- Enhance / Expand some of the programs using Virtual Education