

Transforming higher education to create the future we want

ASU GSV Summit 2021

Michael M. Crow
San Diego, California
August 10, 2021



**“By failing to prepare,
you prepare to fail.”**

- Benjamin Franklin

Eighty-year event cycles prompted major design changes

1780



1860



1940



2020



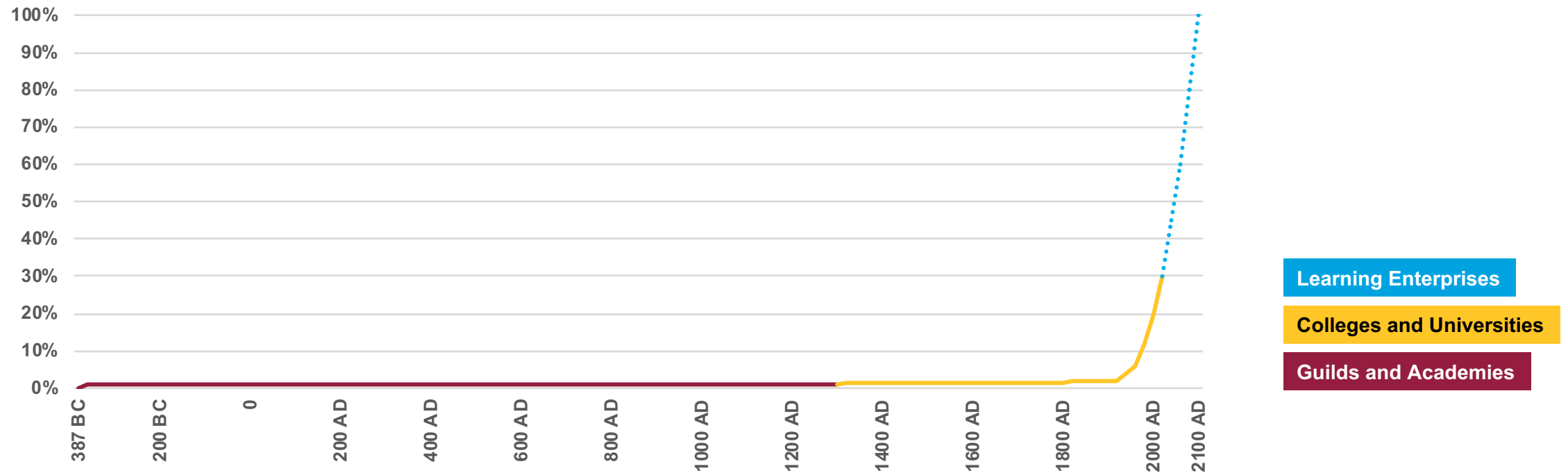
2100

?

**How do we seize this
moment to drive significant
and enduring human progress?**

**As part of a broader transformational
policy agenda, we propose the radical
democratization of higher education
through technology-enabled design.**

Global access to education and empowerment has been limited by organizational designs and instructional technologies



Learning enterprise designs would be transformed by the radical democratization of higher education



Faculty become a central asset of the university



Concept of “traditional student” changes



Pedagogical focus of learning-by-doing elevates students to faculty collaborators



Revenue sources diversify and include recurrent and subscription-based revenues across learner lifetimes



Boundaries between leadership and faculty provide greater flexibility



Main differentiator between universities becomes their capacity to develop and deploy educational technologies

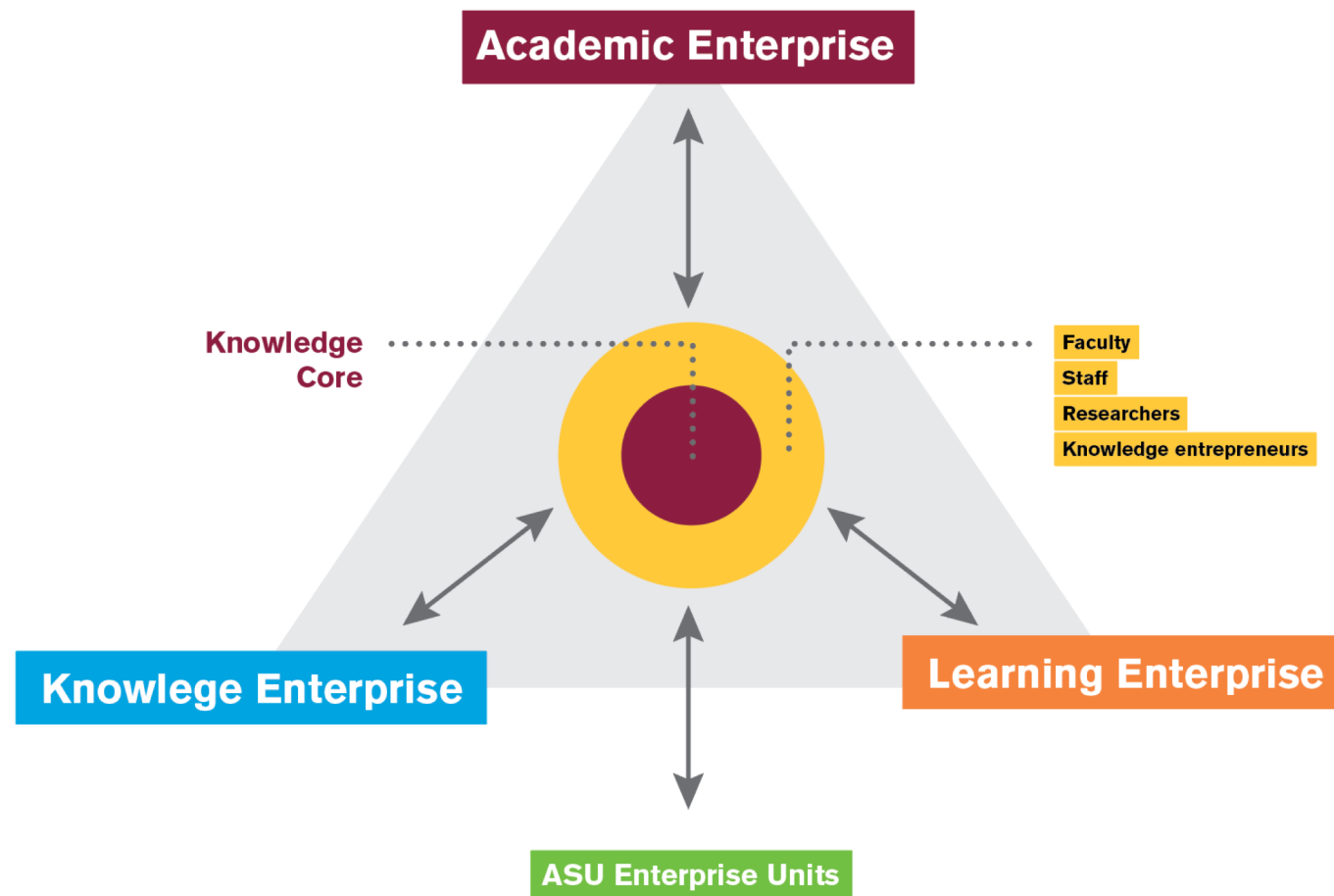
ASU Charter

ASU is a comprehensive public research university, measured not by whom it excludes, but by whom it **includes** and how they **succeed**; advancing research and discovery of **public value**; and assuming **fundamental responsibility** for the **economic, social, cultural and overall health** of the communities it serves.

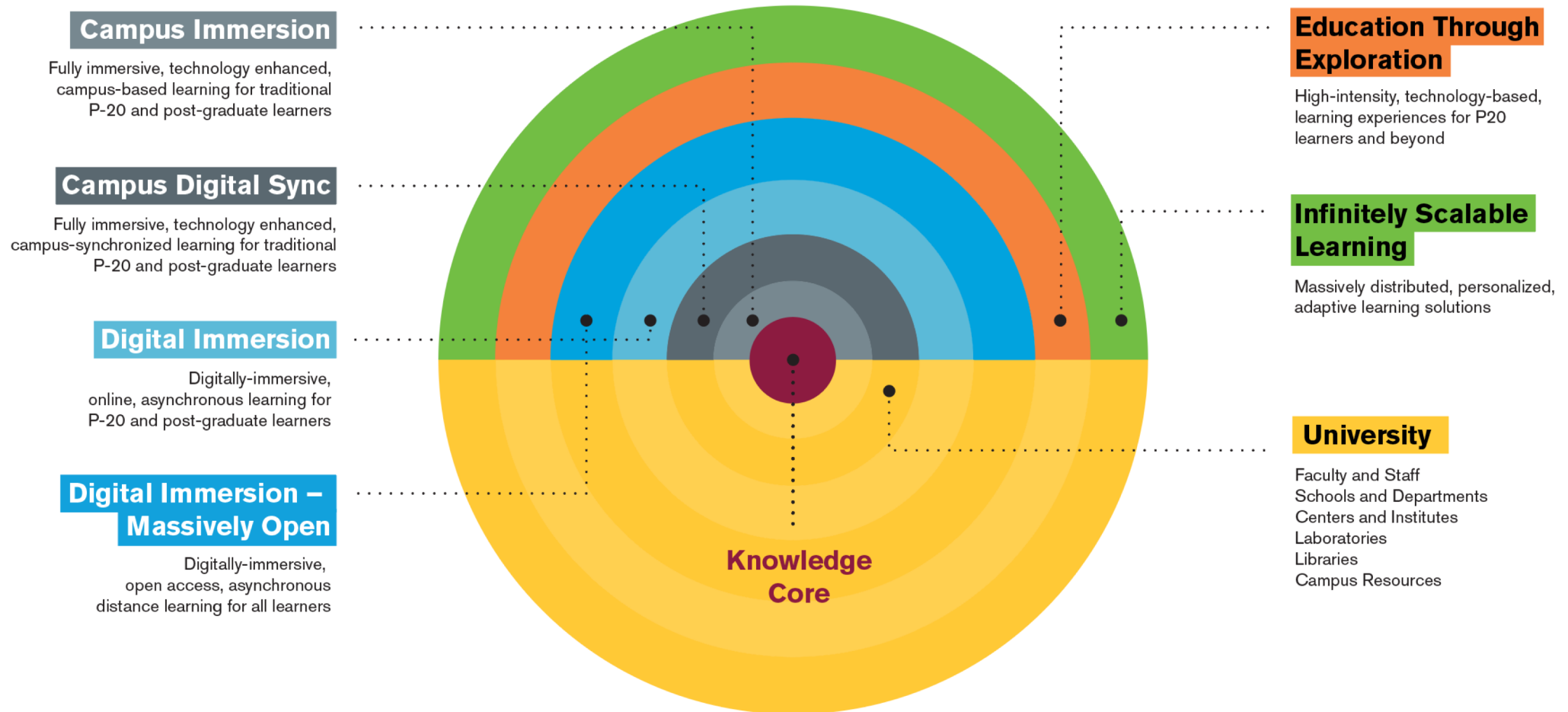
We are an emerging National Service University

National Service Universities aspire to accelerate positive social outcomes through the seamless integration of cutting-edge technological innovation and scalability with institutional cultures dedicated to the advancement of academic enterprise and public value.

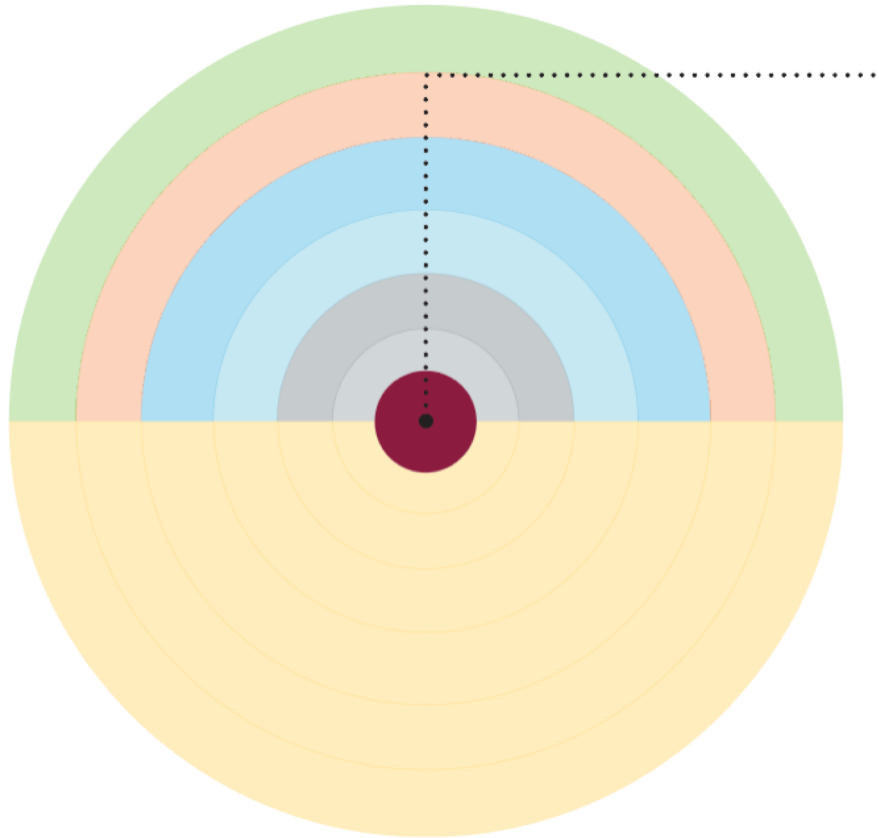
ASU Enterprise Structure: 2021 Forward



ASU teaching and learning realms



Knowledge is the purpose

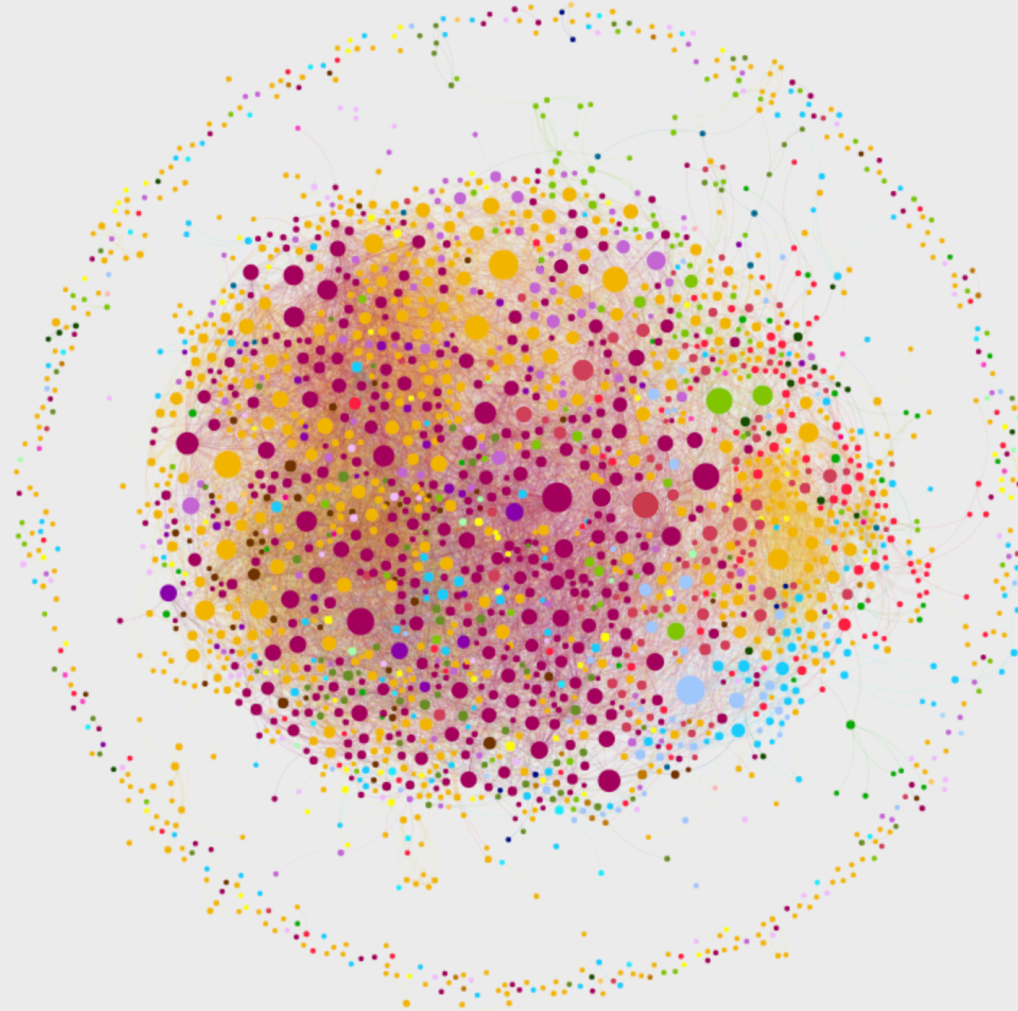


Knowledge Core

Advancing the pursuit, understanding and sanctity of knowledge, as well as the storage, synthesis, analysis, creation and transfer of knowledge.

Our faculty drives our knowledge creation and builds out our learning realms.

Our faculty is the driver



Our design enables our response under all conditions

Full Immersion: Sync-enabled classrooms | Active-adaptive classrooms |
Dreamscape Learn pods | Sunnybot | Financial Chatbot | Universal Library Access |
Orchard Quad | Inscribe | BioSpine | MathSpine | ASU @ Mesa City Center

Digital Immersion: Sync Studio | Innovation Week | Gradius | PASS | Earned Admission | MyPath2ASU |
PLuS Alliance | Visiting University Student | TEDI London

Digital Immersion – Massively Open: ASU Digital Backpack | Adobe Creative Campus |
Slack Faculty Innovation Hub | Inscribe | Universal Learner Courses | Upskilling | Mirabella |
ASU For You | Earned Admission | ASU Prep Digital + Universal Learner

Education Through Exploration: Alien Zoo | Dreamscape Learn | Creative Commons |
Work+Learn | Polar Explorer

Infinitely Scalable Learning: Pocket Portfolio | Badgr Digital Credentialing |
Study Hall Partnership | Axio

Math and Science Mastery for All: Operation Math



ASU faculty collaboration is creating the future of learning



Kenro Kusumi

- Professor, School of Life Sciences
- Dean, Natural Sciences, The College
- Burroughs Wellcome Fund Hitchins-Elion Postdoctoral Fellow, National Institute for Medical Research, Medical Research Council, U.K.
- PhD, Biology, Massachusetts Institute of Technology
- A.B. Harvard College, Harvard University



Anne Jones

- Professor, School of Molecular Sciences
- Vice Provost, Undergraduate Education
- D. Phil. Inorganic Chemistry, University of Oxford, U.K. (Rhodes Scholar)
- B.Sc. Chemistry and Mathematics (summa cum laude), University of the South



Michael Angilletta

- President's Professor, School of Life Sciences
- Founding Director, Center for Science Learning Innovation
- PhD, Ecology & Evolution, University of Pennsylvania
- BS, Biology, The College of New Jersey



Robert LiKamWa

- Assistant Professor, School of Arts, Media and Engineering
- and School of Electrical, Computer and Energy Engineering
- Director, Meteor Studio PhD, MS and BS
- Electrical and Computer Engineering, Rice University



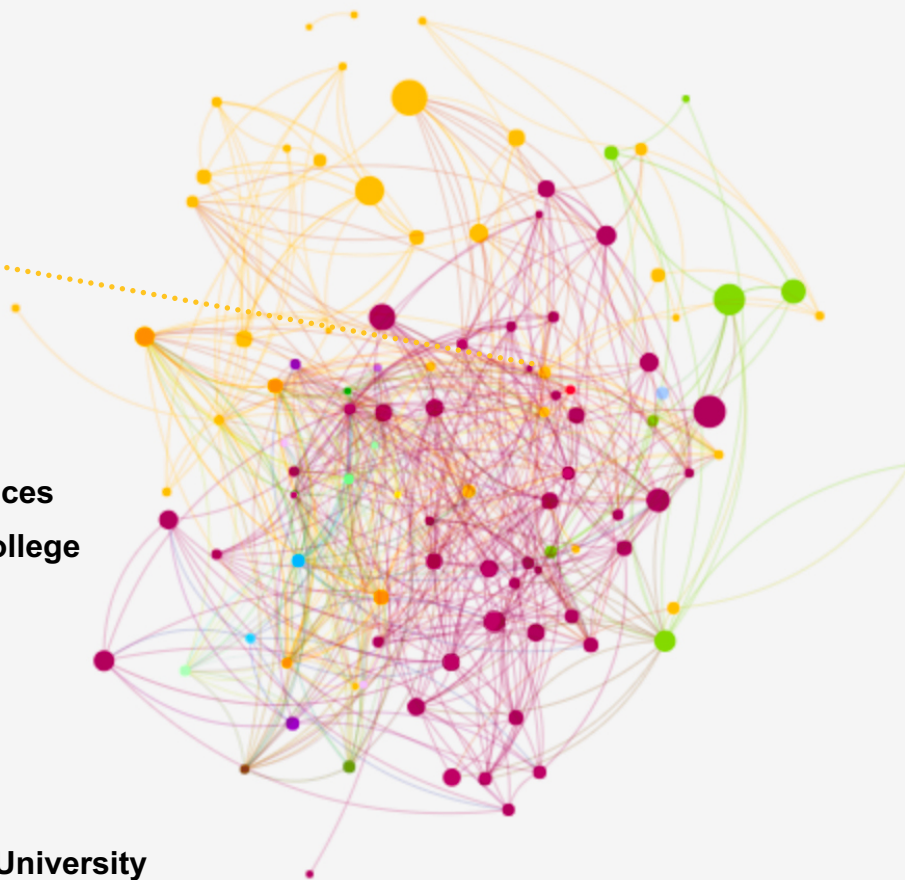
Ann McKenna

- Professor, Engineering, The Polytechnic School
- Vice Dean, Strategic Advancement Ira A. Fulton Schools of Engineering
- Ph.D. University of California-Berkeley M.S., BS
- Mechanical Engineering, Drexel University

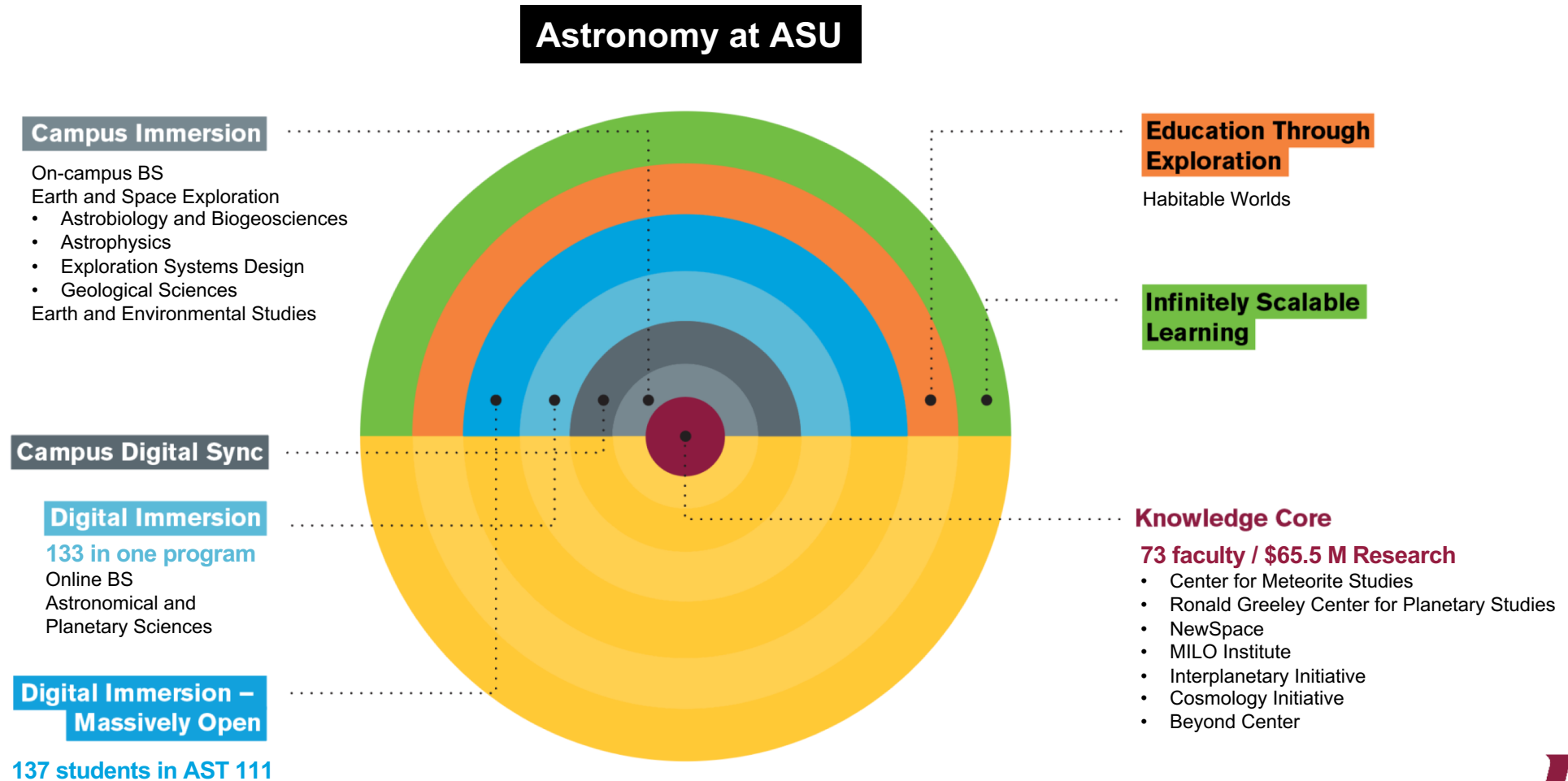
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Pathways across our realms fuel student creativity



ASU's diverse STEM online degree programs enable students to follow their interests

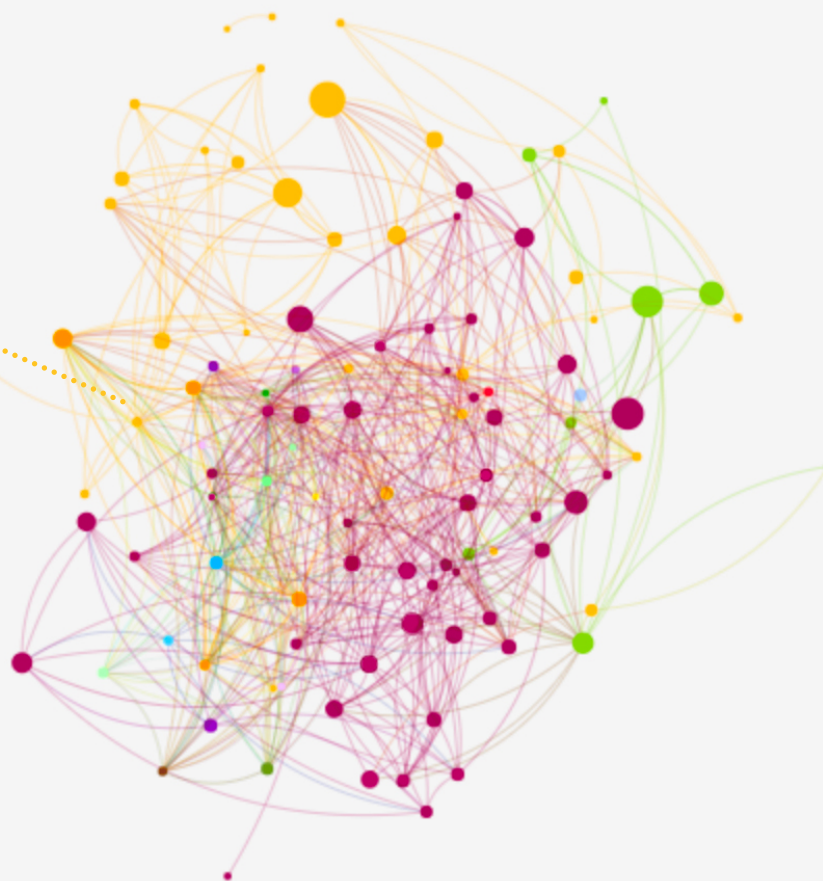
Applied Biological Sciences | Applied Leadership | Astronomical and Planetary Sciences | Biochemistry | Biological Sciences | Business Data Analytics | Chemistry | Community Health | Computer Information Systems | Data Science | Economics | Electrical Engineering | Engineering Management | Food and Nutrition Entrepreneurship | Geographic Information Science | Geography | Graphic Information Technology | Health Care Compliance and Regulation | Health Care Coordination | Health Education and Health Promotion | Health Entrepreneurship and Innovation | Health Sciences | Human Systems Engineering | Information Technology | Innovation in Society | Integrative Health | International Public Health | Internet & Web Development | Mechanical Engineering | Neuroscience | Nursing | Operations Management | Physics | Psychology | RN to BSN | Software Engineering | Speech and Hearing Science | Supply Chain Management | Sustainability | Sustainable Food Systems | Technical Communication | Technological Entrepreneurship and Management | Technological Leadership



Anne Jones



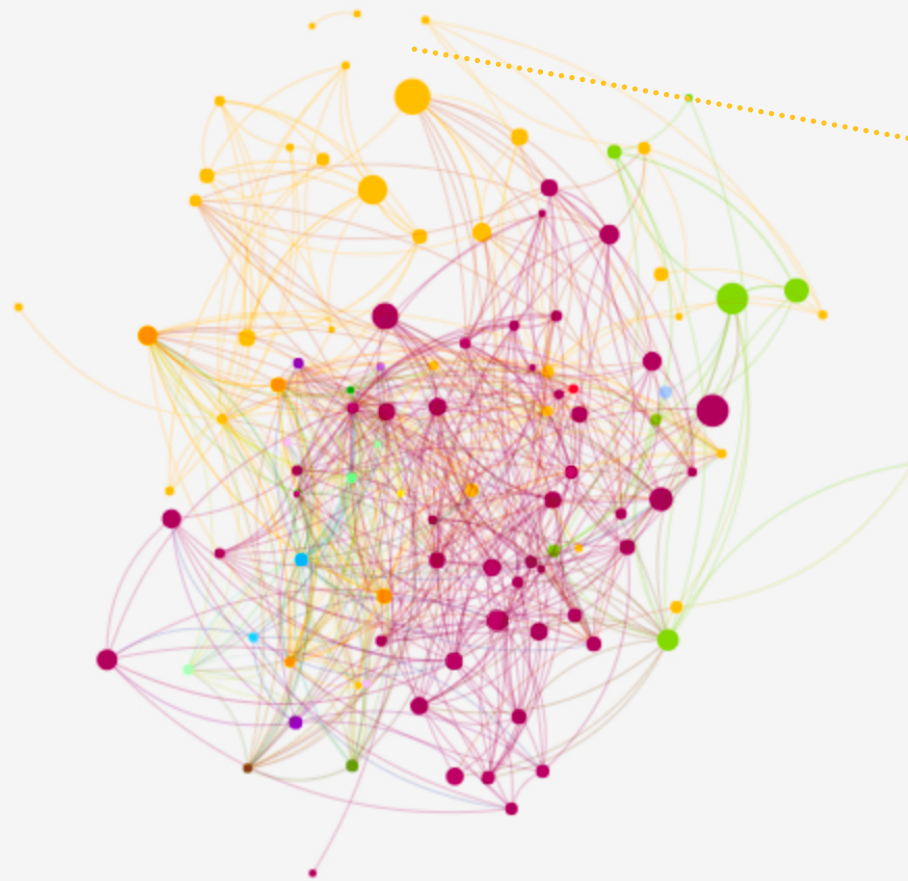
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**First online biochemistry program
expands access and opportunity**



Michael Angilletta

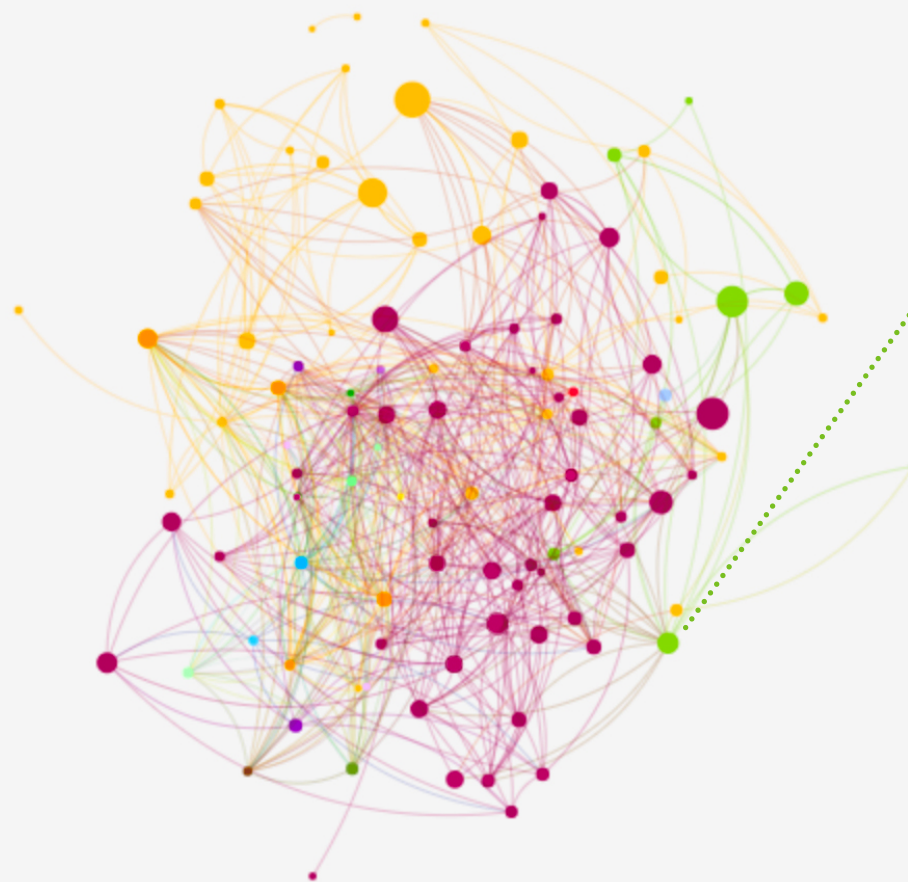


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Dreamscape Learn increases student engagement through game-changing learning methods



Robert LiKamWa



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- Director, Meteor Studio
- PhD, MS and BS Electrical and Computer Engineering, Rice University

Learning Futures Collaboratory: Immersive Creation Studio

students design and launch new launch digital learning tools

Guilds

- Cloud Infrastructure
- Virtual Reality Tooling
- Narrative/Gameful Learning
- Mobile Augmented Reality
- Data Visualization
- Immersive Web Design
- Modeling, Materials, Animation
- Media Production
- Project Management
- UI/UX Design
- Haptics and Physical Electronics

Projects

- Dreamscape Mars
- Creativity Commons Exploratorium
- ASU Digital Twin
- ASU Scavenger Hunt
- Collaboration 360 Huddle
- Career Arcade
- xr.asu.edu
- KER
- Gaia

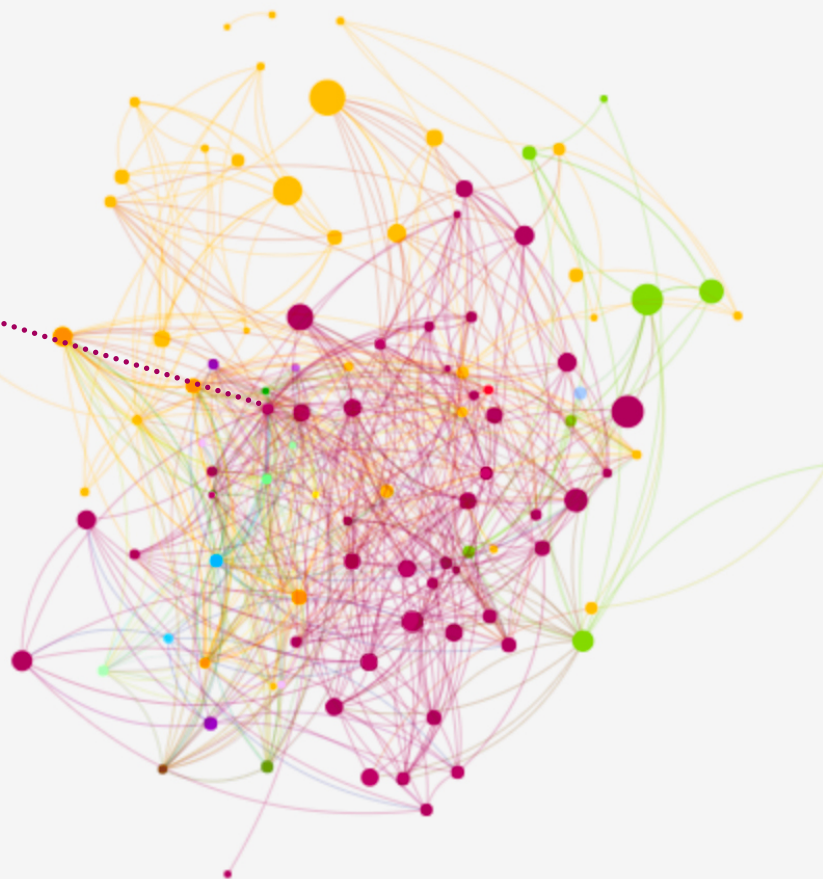
Available online examples



Ann McKenna



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- M.S., BS Mechanical Engineering, Drexel University



The Ira A. Fulton Schools of Engineering are leading new frontiers in online learning

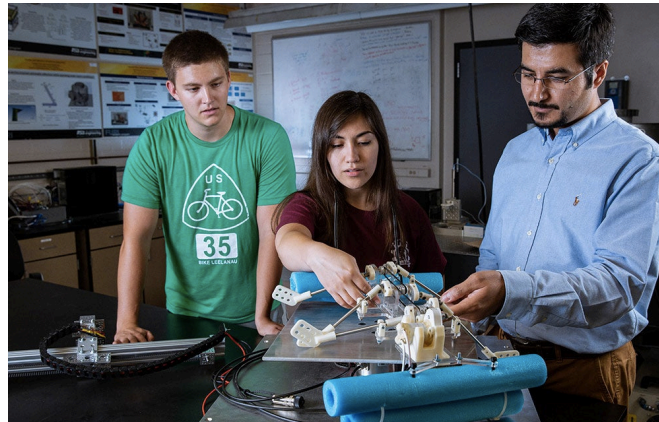
17 graduate online degree programs

5 online certificate programs

19 graduate online degree programs



Online MBA & MSE in Electrical Engineering



BS in Mechanical Engineering



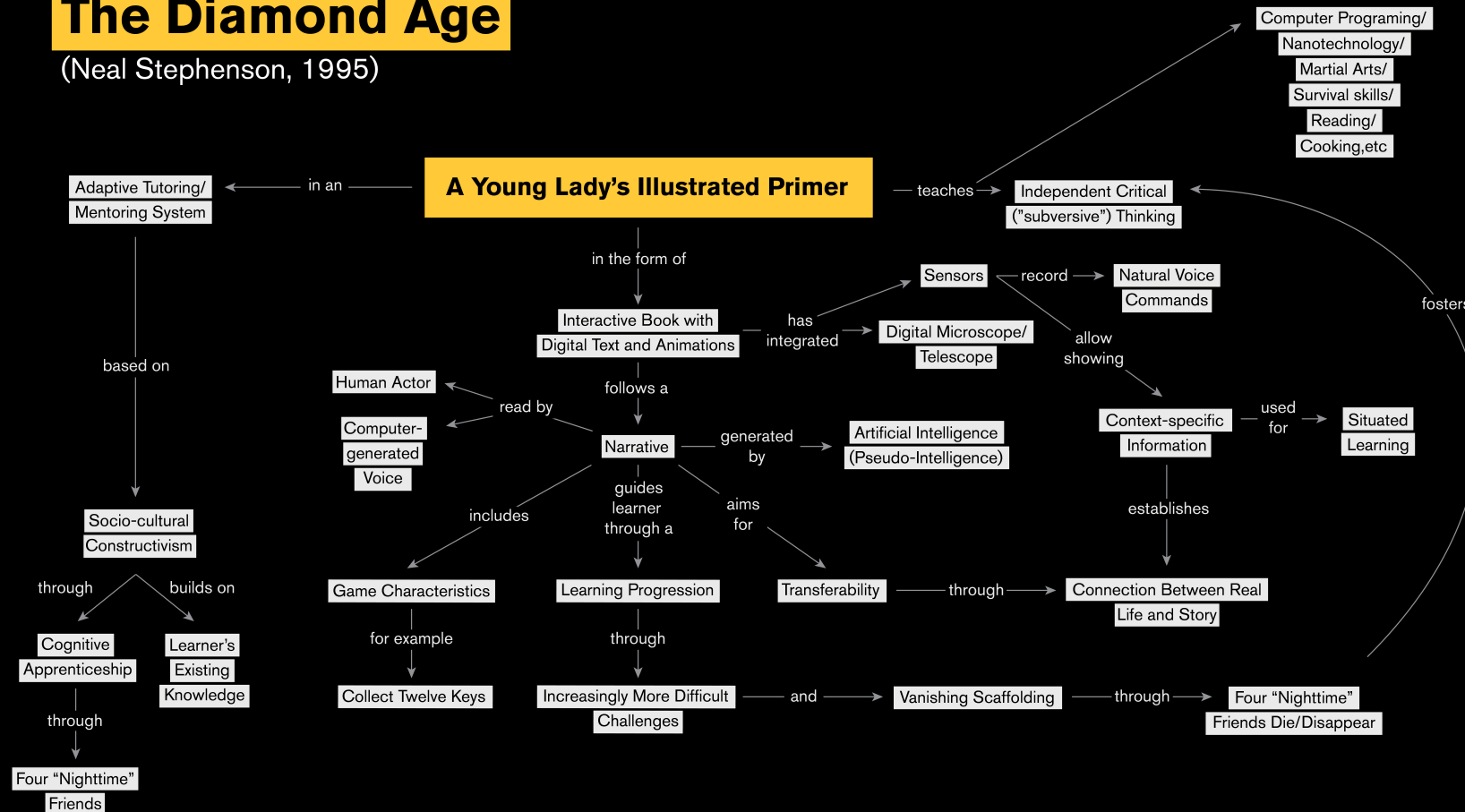
TEDI London

Looking to the future: AXIO Beta

An intelligent platform for personalized growth and lifelong learning developed by the ASU Luminosity Lab.

The Diamond Age

(Neal Stephenson, 1995)



Looking to the future: RealmSpark

Accelerating educational technology ideas and innovations for the world in support of universal, life-long learning developed by ASU Enterprise Partners.

Full Immersion: CogBooks | Muzzy Lane | Coursetune | Vibeffect | Yellowdig
Beagle Learning | Knack | K16 Solutions | ASL Inside | AstrumU | PowerNotes
DeepBench | Enightful | BioSpine | MathSpine

Digital Immersion: InStride | Cintana | CogBooks | Muzzy Lane | Coursetune | Vibeffect |
Yellowdig | Beagle Learning | Knack | Quinncia | ASL Inside | ESL Review | AstrumU |
Forage | EX-IQ | Ripen | PowerNotes | Enightful | Quad

Digital Immersion – Massively Open: CogBooks | Forage | EX-IQ | PowerNotes

Education Through Exploration: Dreamscape Learn | Forage

Infinitely Scalable Learning:



Capacities being developed to democratize higher education

Full Immersion

- 21st century digital learning spaces
- Artificial intelligence-based advising
- Ubiquitous content delivery tools
- Intelligent tutoring platform
- Personalized learning at scale

Digital Immersion

- Technology to support relationships and build organizational affinity
- “Integrated” human-tutor interface
- Real time assessment development-based assessment
- Multi-organizational pathway mapping

Digital Immersion -

Massively Open

- Technologies that derive value from scale
- Content and delivery for any life stage
- Multi-organizational pathway mapping

Education Through

Exploration

- Virtual augmented reality for learning
- Direct human cognition linkages
- Conversation-based AI tutoring
- Group learning tools

Infinitely Scalable

Learning

- Infinitely scalable teaching
- Seamless integration of individualized learning across life stages
- Lifelong intelligent tutoring

Math and science

Mastery for all



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 [@asuprescrow](https://www.instagram.com/asuprescrow)

 youtube.com/drmichaelmcrow