

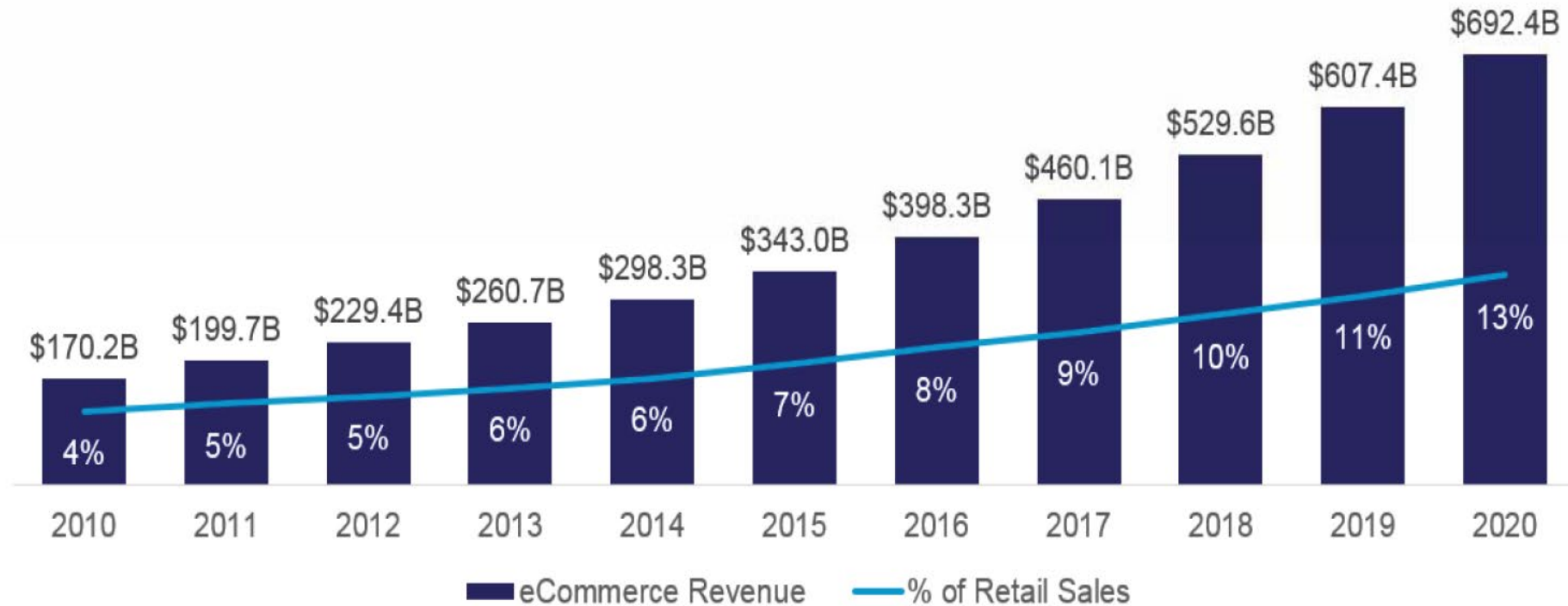
The Future of Work, Trends, and Careers in Technical Education



Work & Career Trends

eCommerce is the fastest growing segment of the retail sector, and as such B2C shipping has accounted for over half of shipping volume since 2014.

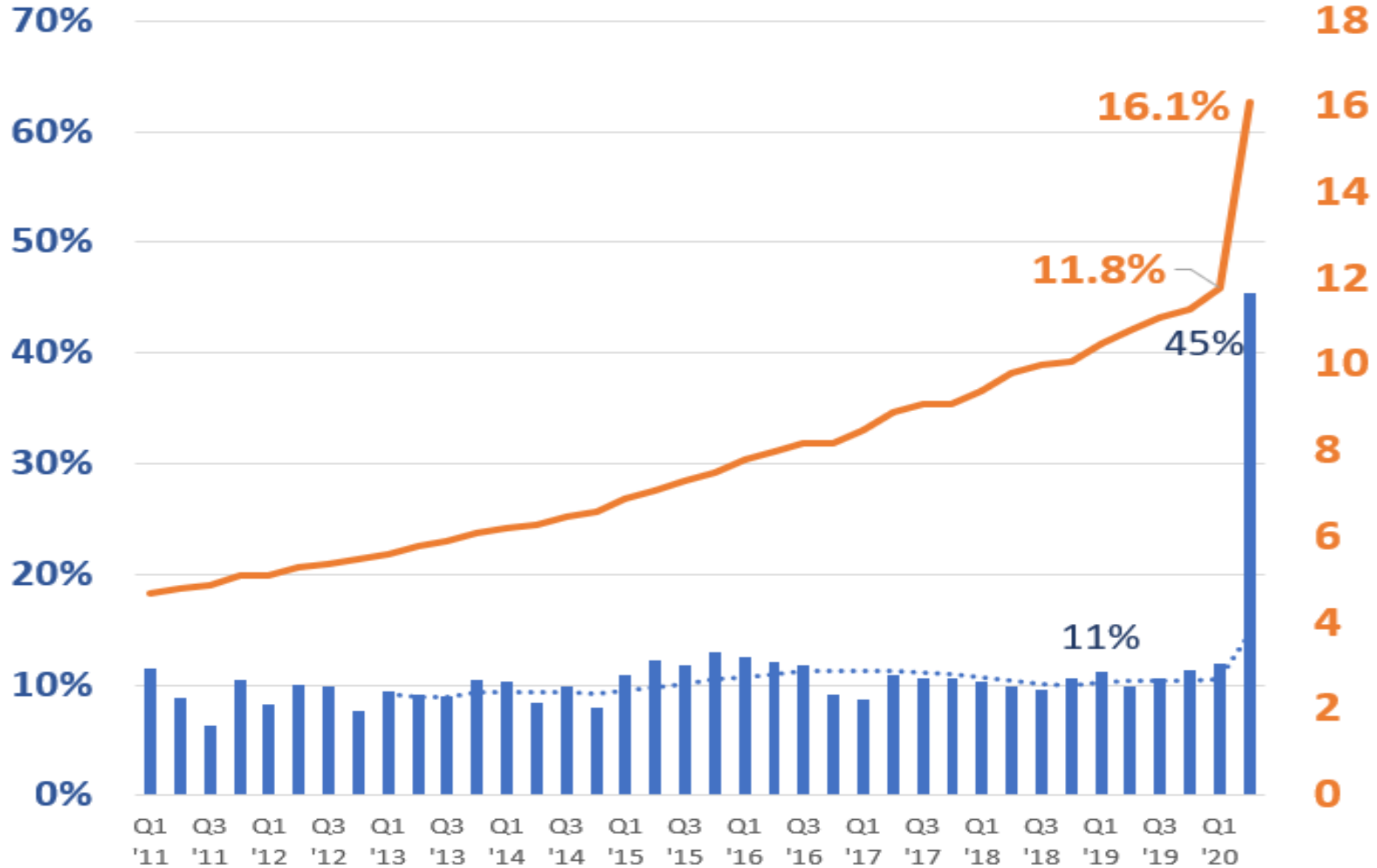
US eCommerce Revenue
\$Billions, % of Retail Sales



Trends Driving Online Sales Growth

- Increased returns
- Online grocery
- Online / mail-order prescriptions
- Ship-from-store growth
- Increased demand for small parts
- Increased B2B healthcare shipments

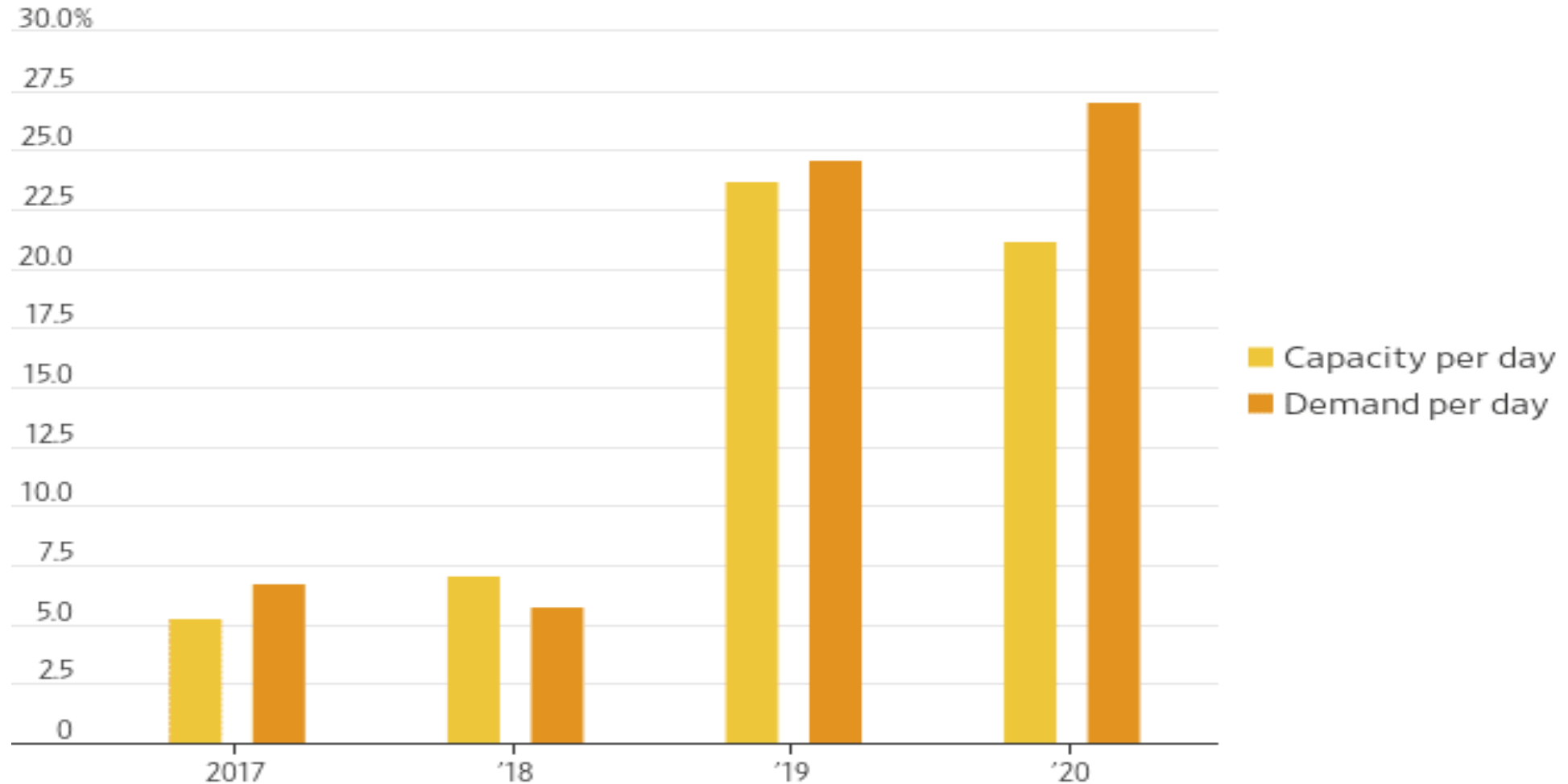
Ecommerce as a percent of retail 2011-2020 Q2 (census.org)



YOY Change: 2020 Holiday Season

Daily Demand=86.3M Packages- US Capacity=79.1M

Estimated package delivery capacity and demand, change from previous year



Note: 2020 capacity is based on FedEx Ground expanding delivery to 7 days a week and ShipMatrix's projection that UPS will do the same this peak season.

Source: ShipMatrix

HOW MUCH EXTRA WAREHOUSE SPACE DEMAND DOES E-COMMERCE GENERATE?



175M SQ FT Needed Annually

Trend= Accelerating Need for Skilled Technicians

Source: CBRE

According to a 2013 Oxford University study (Frey and Osborne) **almost half** of all jobs are likely to be eliminated in the next couple decades by technology.

Research by the University of Redlands (Moenius, 2019) based on Bureau of Labor statistics projections thru 2036 found that **56 percent** of current jobs in the United States can be automatable.



1985 60,000 ATMS
485,000 bank tellers

2002 352,000 ATMs
527,000 bank tellers
77,010 financial advisors
604,010 employees

2017 470,135 ATMs
449,000 bank tellers
200,920 financial advisors
649,920 employees

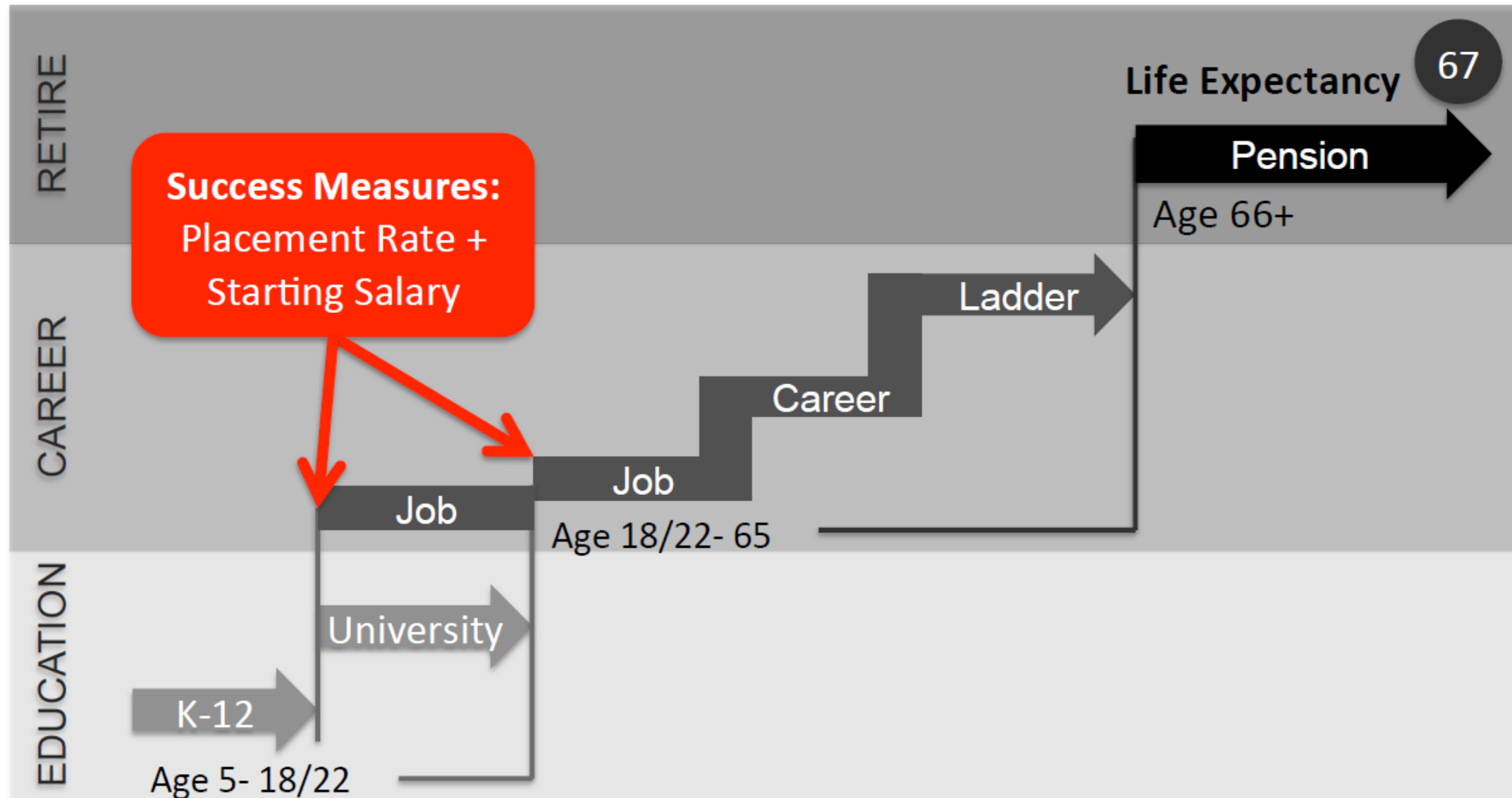
then



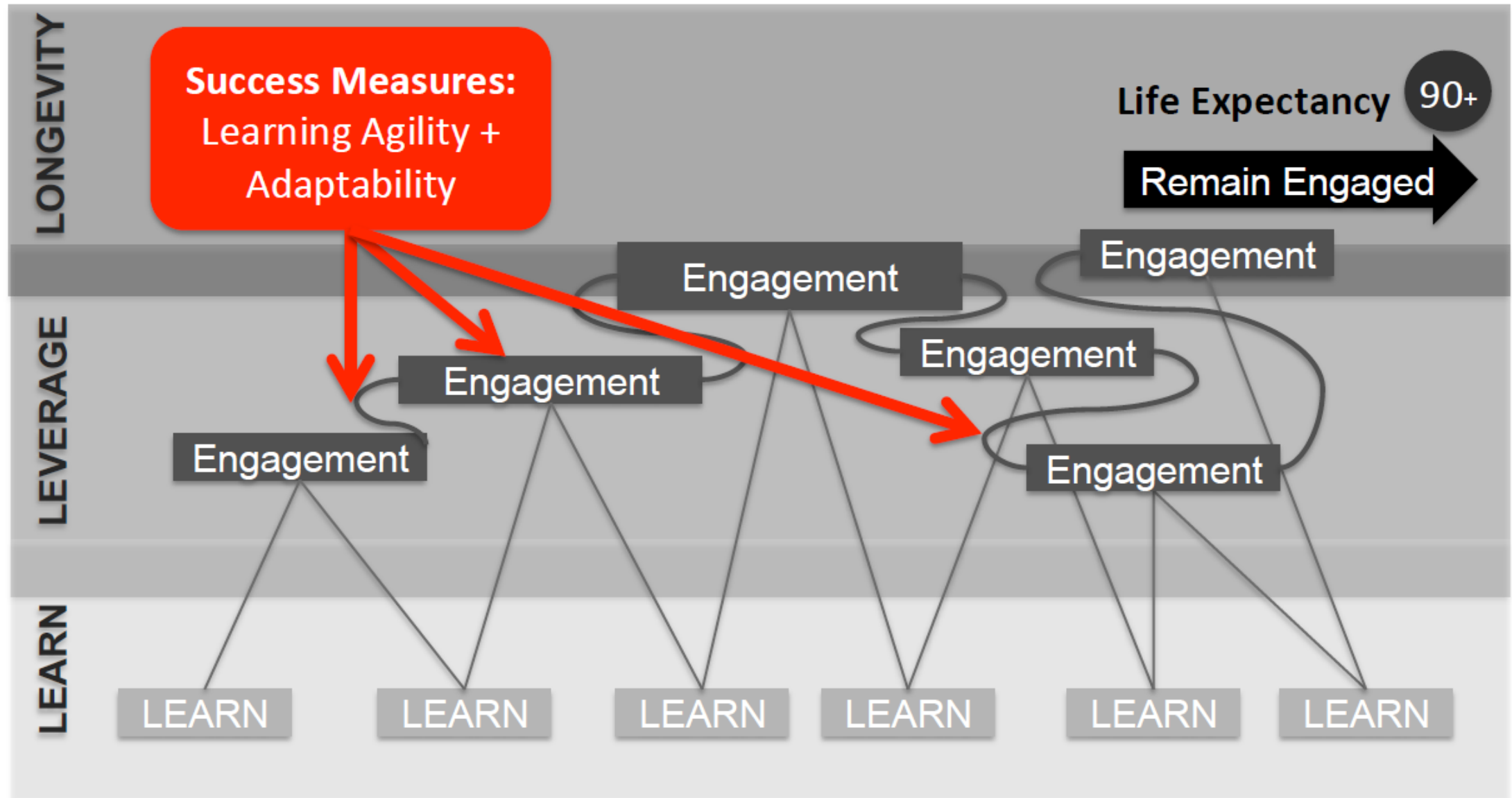
now



NATURE OF WORK: Old Economy Paradigm (Context)



NATURE OF WORK: New Reality Paradigm



Context: Talent Shifts in The Next Era

OUR MENTAL MODELS ARE HERE

TIME: WE ARE HERE

	Hunter – Gather Era	Agricultural Era	Industrial Era	Information Era	Augmented Era
TIMESPAN	1,000,000s	1,000s	100s	10s	
TALENT	Strength + Speed	Know How + Stamina	Efficiency + Optimization	Acquired Knowledge + Skill	Creativity, Agility + Adaptability
TOOLS	Labor Efficiency	Labor Augmentation	Labor Replacement	Cognitive Reduction	Cognitive Augmentation

We are shifting from
Driving Productivity to
Inspiring Human Potential

Education Trends

Poll Shows Nearly Half Of Parents Do Not Want Their Kids To Go To Four-Year Colleges

The Hechinger Report (Barshay) reports that “a national survey of parents finds that many prefer their children pursue alternatives to a traditional degree, such as vocational training that doesn’t take place at a college, or starting a business.” A Gallup survey, “commissioned by the Carnegie Corporation of New York, a philanthropic foundation, and released April 7, 2021, found that 46% of parents said they would prefer not to send their children to a four-year college after high school, even if there were no obstacles, financial or otherwise.” Only a slim majority of parents – 54 percent – “still prefer a four-year college for their children.”

A new national survey of U.S. teens indicates their likelihood of pursuing a four-year degree has decreased substantially over the past eight months, while a growing number believe they can achieve professional success with a postsecondary education attained in three years or less:

“Polled high school students ages 14 to 18 who say they are likely to attend a four-year school dropped to 53% from 71% eight months ago, according to a new ECMC Group survey. Meanwhile, **52% believe they can succeed in a career with postsecondary education other than a four-year degree**, and **one-quarter of high schoolers say they are more likely to attend a career and technical education (CTE) school due to the pandemic**. Plus, 16% believe a skill-based education, like trade skills or STEM, makes sense in today’s world.”

education → job
is no longer linear

Instead of *going to college to get a job*, students will increasingly be *going to a job to get a college degree*.

Job First, College Included

“When asked about a potential new pathway for their children to get a college degree, 74% of all parents of K-12 students would consider a route where their child would be hired directly out of high school by an employer that offers a college degree while working. (Nearly four-in-ten gave the strongest level of endorsement saying they would “definitely” consider this.) Remarkably, there are no meaningful differences in support for this new pathway by the parent’s education level, race, income or political affiliation - giving the concept broad appeal across the board. And parents not only see this path as a much more affordable route through college, but they also see it as a *better* pathway in preparing their child for ultimate success in work and life. Ninety-percent say “you can learn a lot from a job,” 89% say “work is important for personal growth,” and 85% say “work is important to one’s purpose.”

- Brandon Busteed (April 30, 2019) *This Will be the Biggest Disruption in Higher Education*, Forbes

Large employers are offering college degrees as an employee benefit to attract and retain better talent and up-skill their existing workforce. Examples include: JP Morgan Chase & Co., Walmart, Discover, Starbucks, Disney, Papa John’s, Amazon, etc.

Past: **We** **Learned** in order to **Work**

Future: We will **Work** in order to
(continuously) **Learn**.

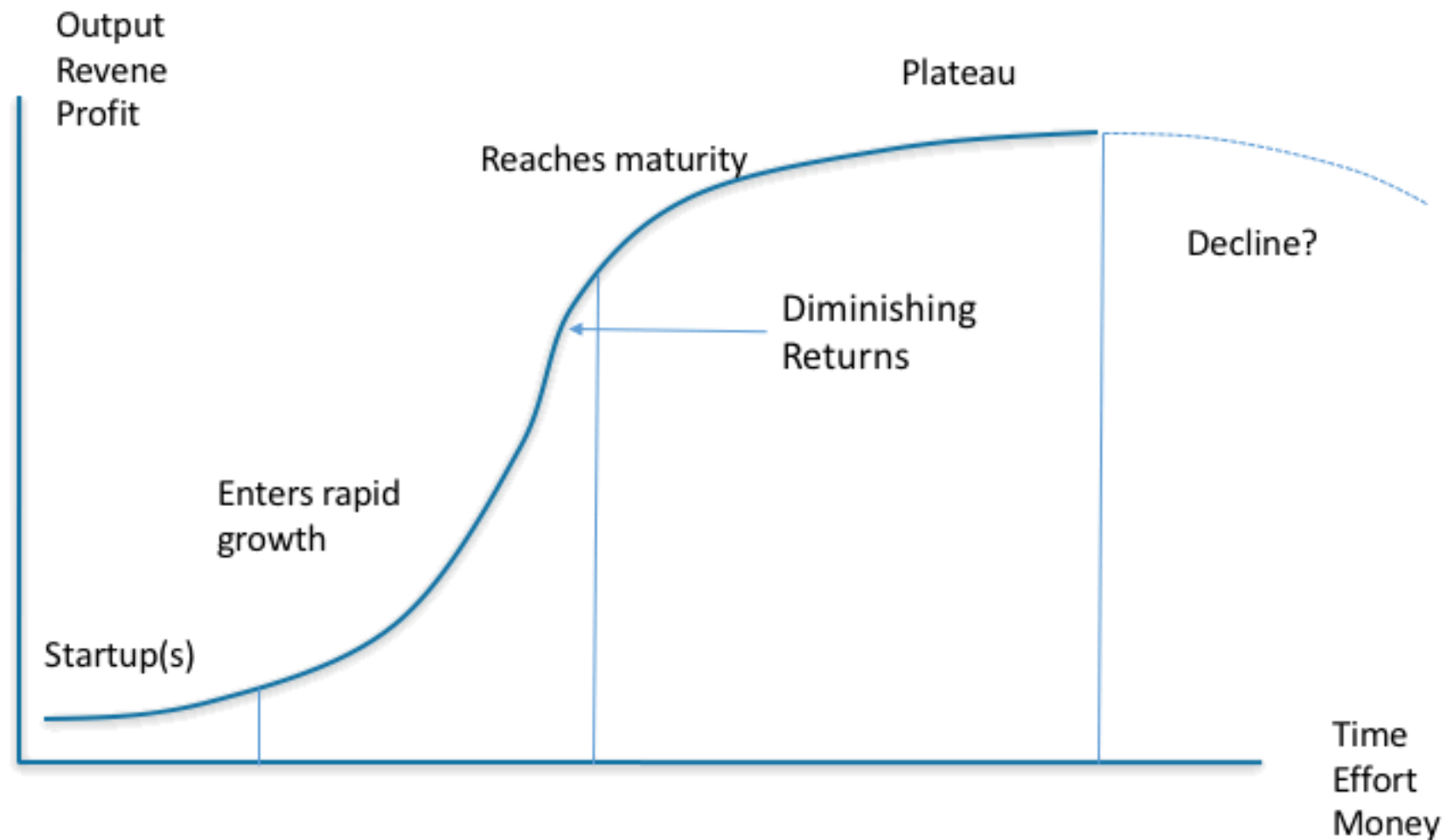
formal education
is an imperative,
but is insufficient when
unapplied or
disconnected

education counts

but adaptable skills count more

Technical Education Trends

Product/Market Life Cycle Phases



MULTIPLE S-CURVES

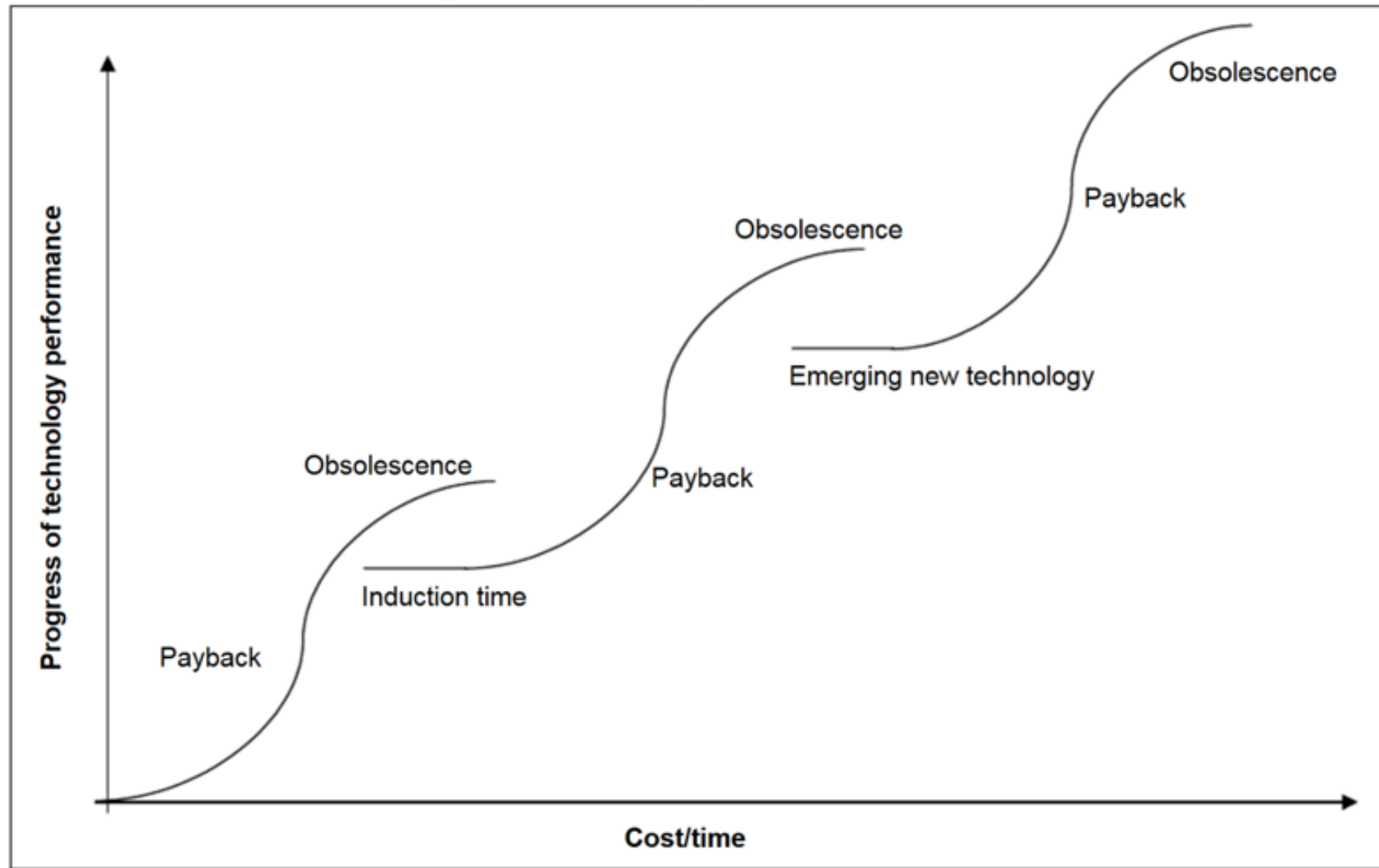
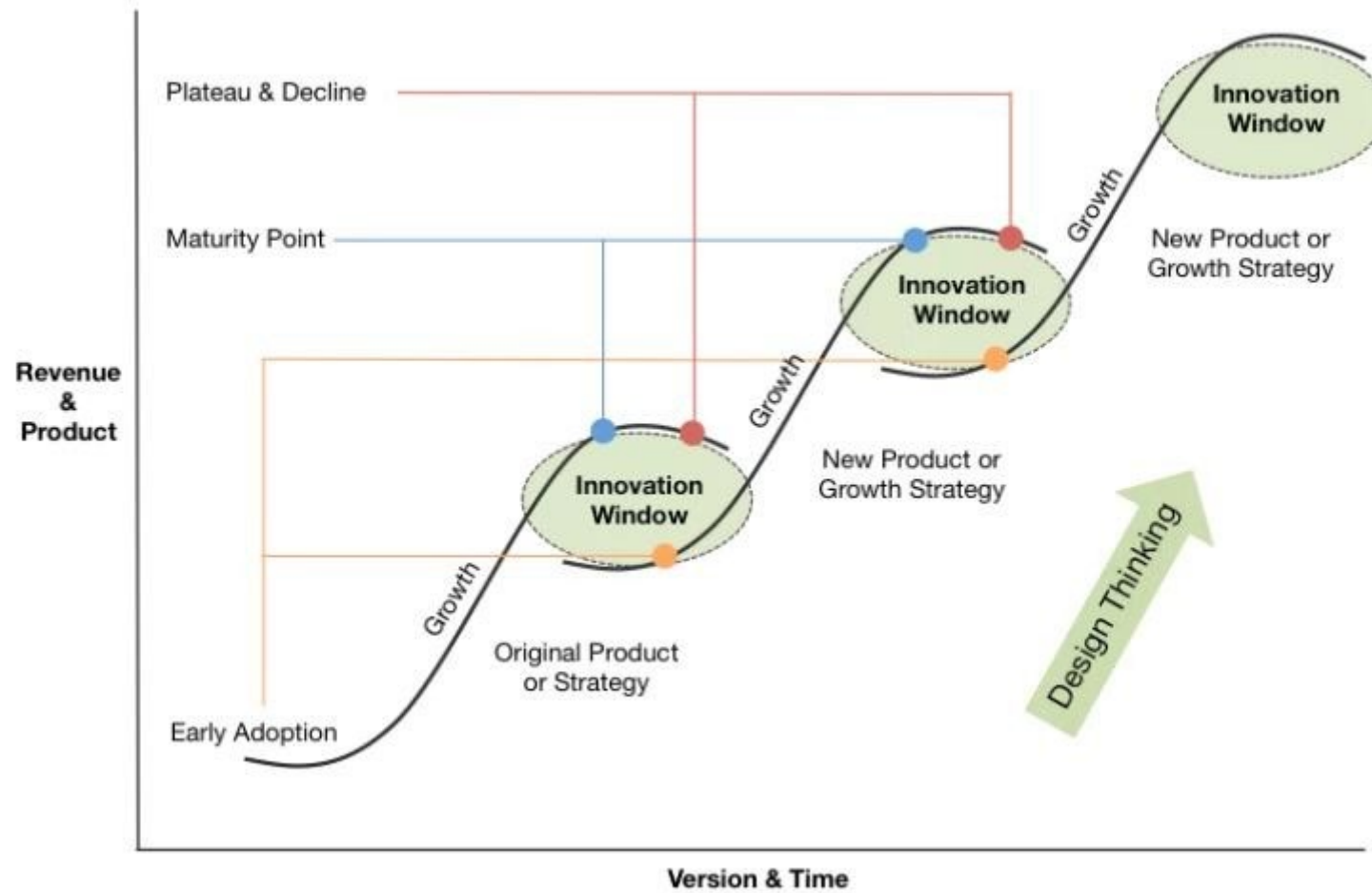


Figure 3: Waves of Technological Innovation S-curves (Brown, 2006)

CURRICULUM LIFESPAN



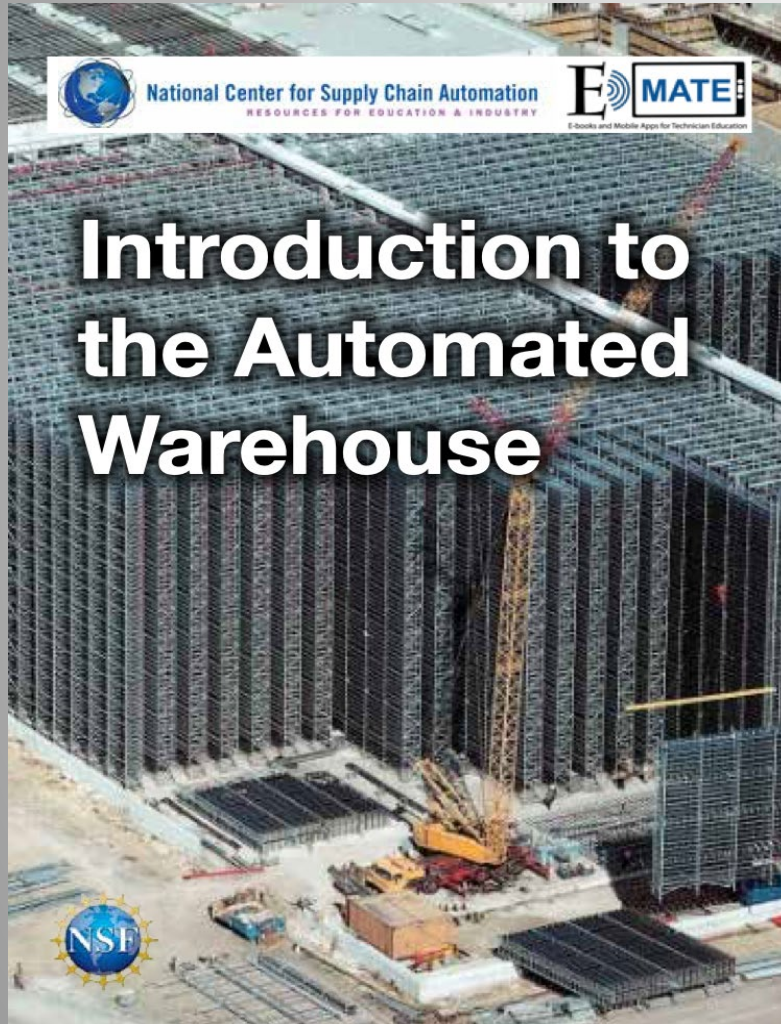
Technology-based curriculum must respond to S-curves

Our curriculum has a lifespan

Our lesson plans have a lifespan

Available in iBook and PDF

Download PDF by Chapter



Survey Course- HS or CC

Career Awareness Resource

Interactive Widgets

- Puzzles
- Games
- Videos

Instructor's Manual

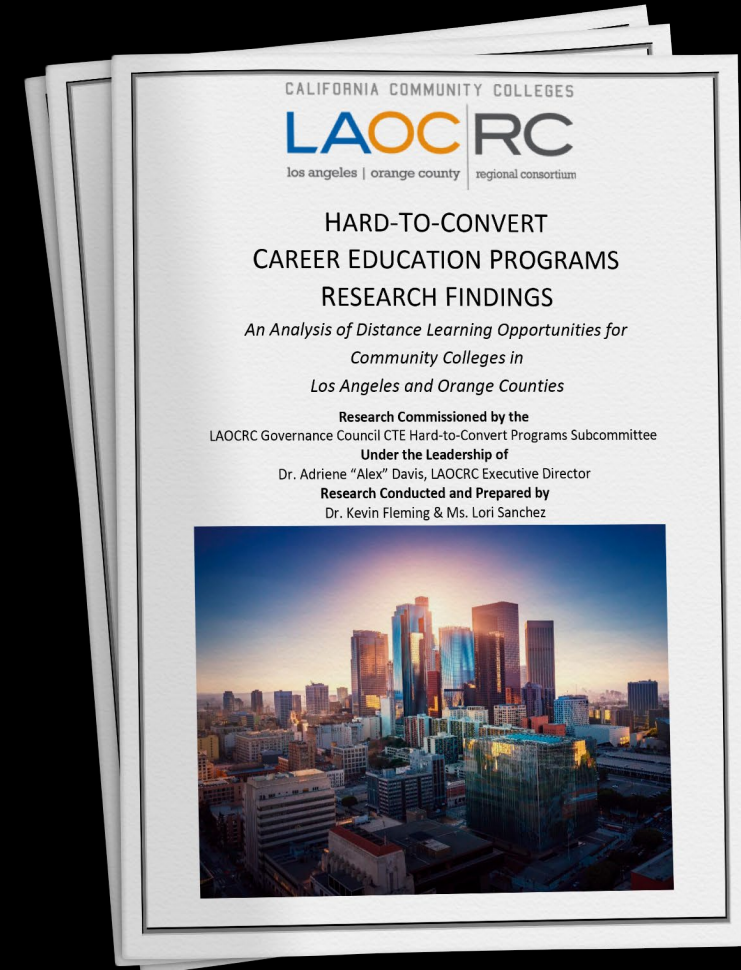
- Sample syllabi
- Textbook solutions
- Laboratory exercises

<https://supplychainautomation.com/resources/etextbook/>

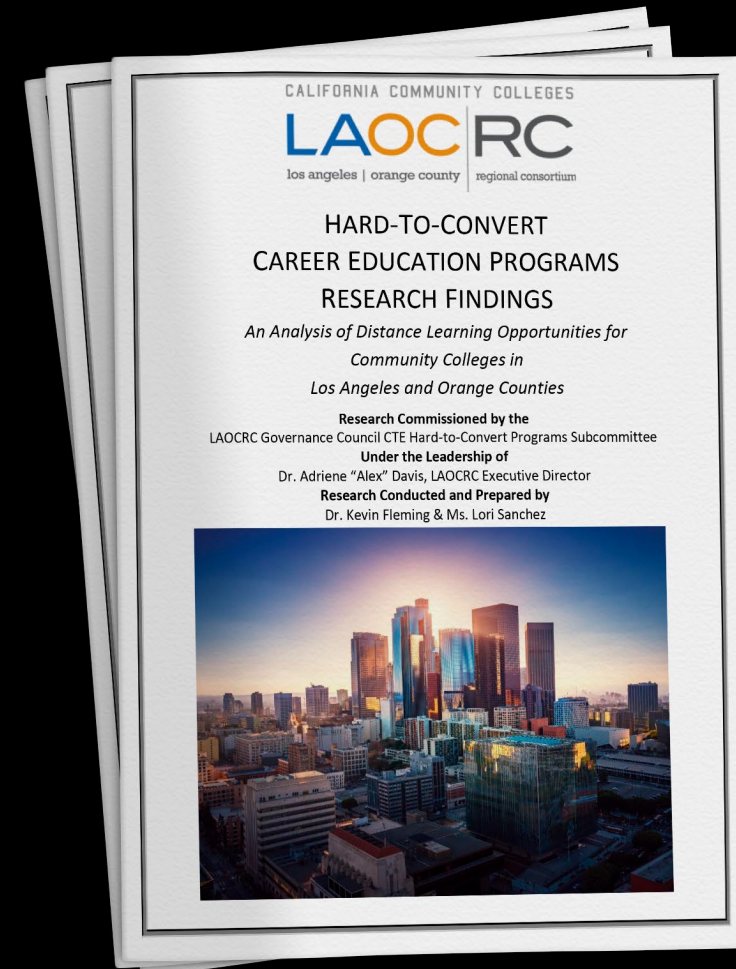
This study highlights 12 CTE program areas that pose challenges to distance learning and remote skill verification.

It recommends technology solutions and opportunities for successful online conversion.

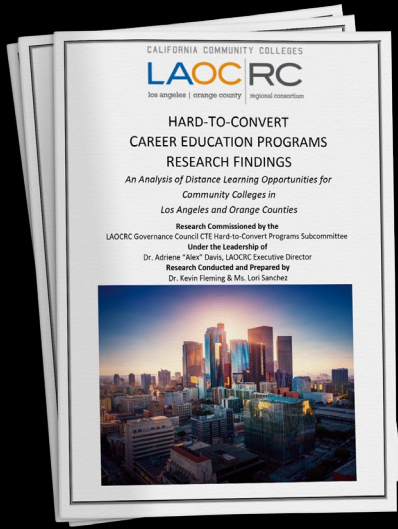
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- INTERNAL SCAN
 - Survey of 28 LA/OC community colleges
 - 57 respondents
- EXTERNAL SCAN
 - Primarily focused outside CA
 - 40+ interviews across 13 states
- LITERATURE REVIEW
 - 228 citations, references and links



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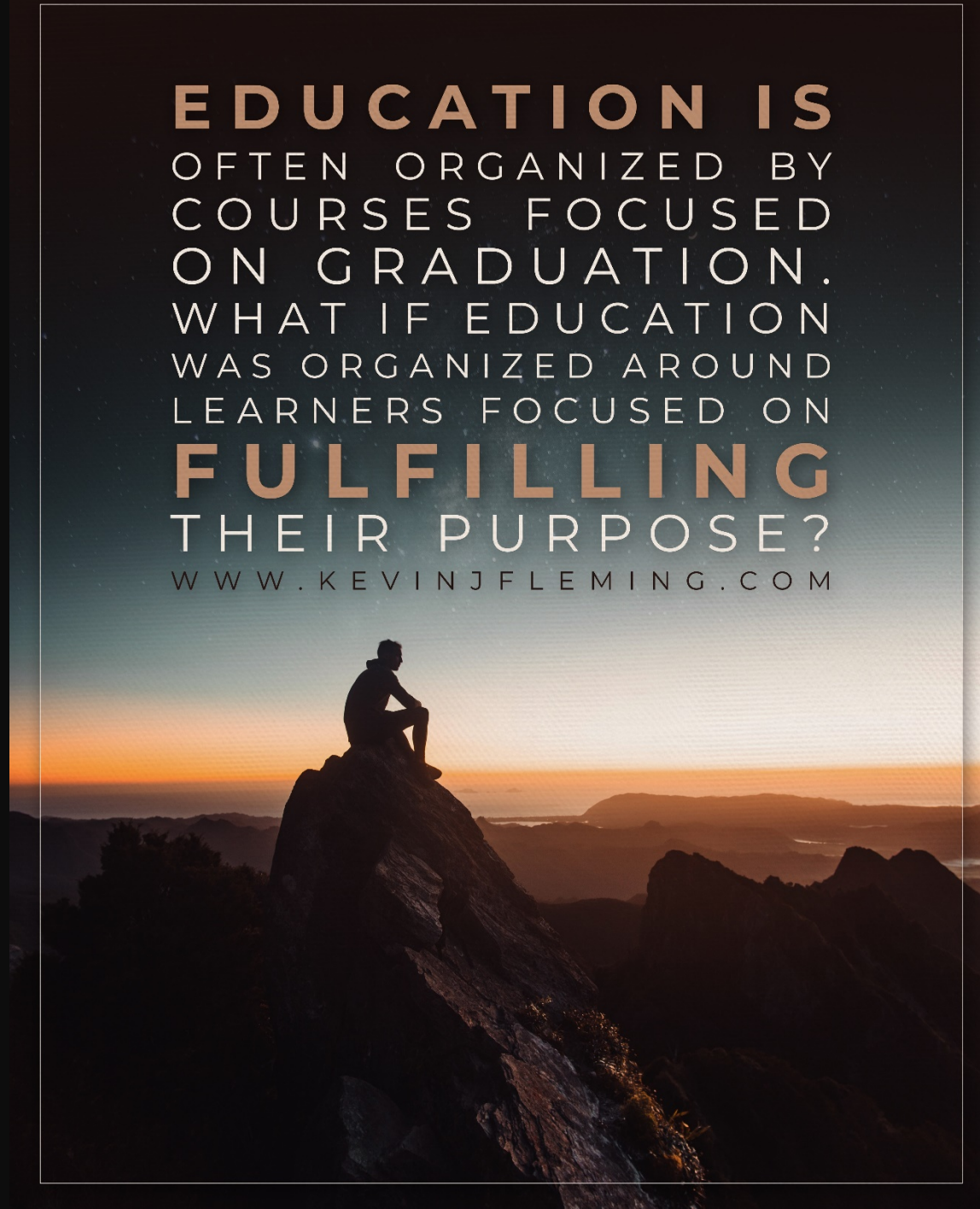
4 MAIN TAKEAWAYS

- MOST ARE PLANNING LONG TERM FOR THE NEW NORMAL
- THE CTE INSTRUCTOR ROLE IS SHIFTING. LEVERAGE CURRICULUM PORTABILITY, SHARE YOUR COURSE CONTENT, & ADOPT NATIONAL CERTIFICATION CURRICULUM
- EMBEDDING SIMULATIONS, AUGMENTED REALITY & VIRTUAL REALITY (AR/VR) WITHIN CTE PROGRAMS IS EXPONENTIALLY GROWING AND PROVING TO BE EFFECTIVE
- NO SILVER BULLET – CORE SUITE OF TOOLS/PLATFORMS (SPECIFIC PROGRAM RECOMMENDATIONS)



EDUCATION IS
OFTEN ORGANIZED BY
COURSES FOCUSED
ON GRADUATION.
WHAT IF EDUCATION
WAS ORGANIZED AROUND
LEARNERS FOCUSED ON
FULFILLING
THEIR PURPOSE?

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Thank You

