

# The Future of Work & Learning

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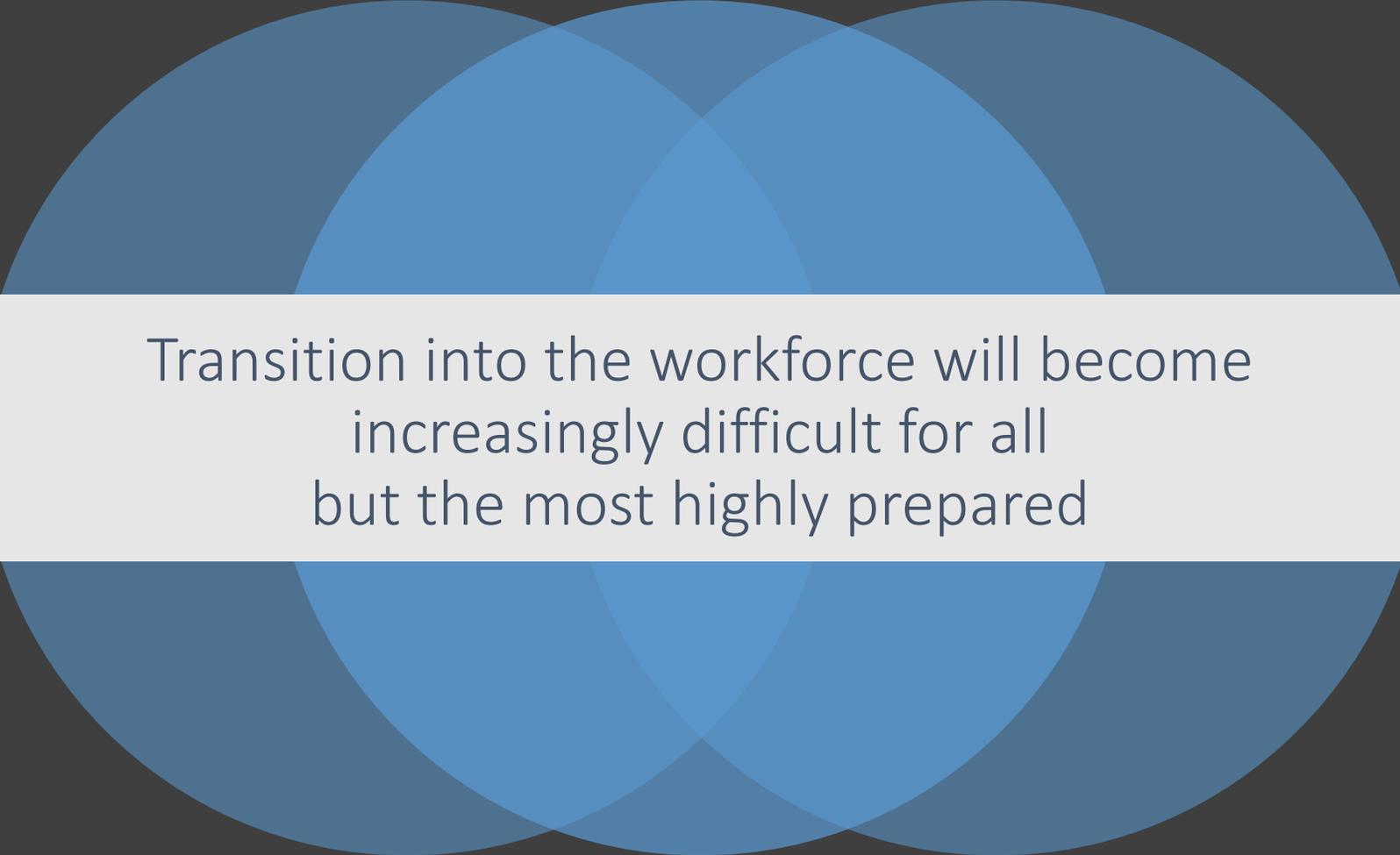
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Portland STEM Partnership



# The Changing Nature of Entering and Moving Through a Career



Transition into the workforce will become  
increasingly difficult for all  
but the most highly prepared

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Historically in the U.S., new entrants into the labor force typically bounced from job to job, learning work readiness skills and finding an area of focus.

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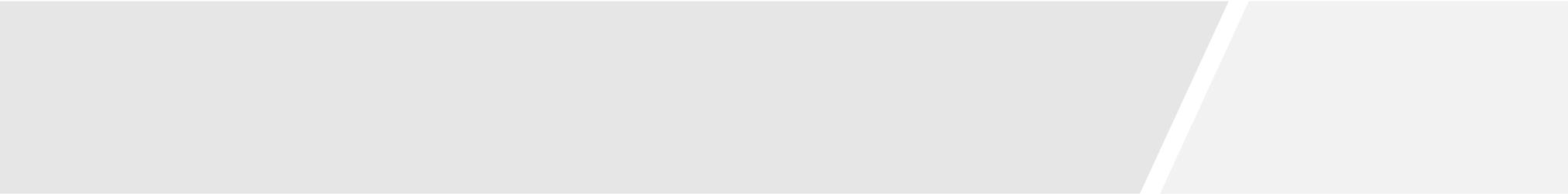
This requires a large pool of relatively low-skill or low value-add entry-level jobs.

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Those low-skill, low value-add positions will decrease as automation and other efficiencies continue to take hold.

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Many more entry-level positions will require a high skill or training level right from the beginning.



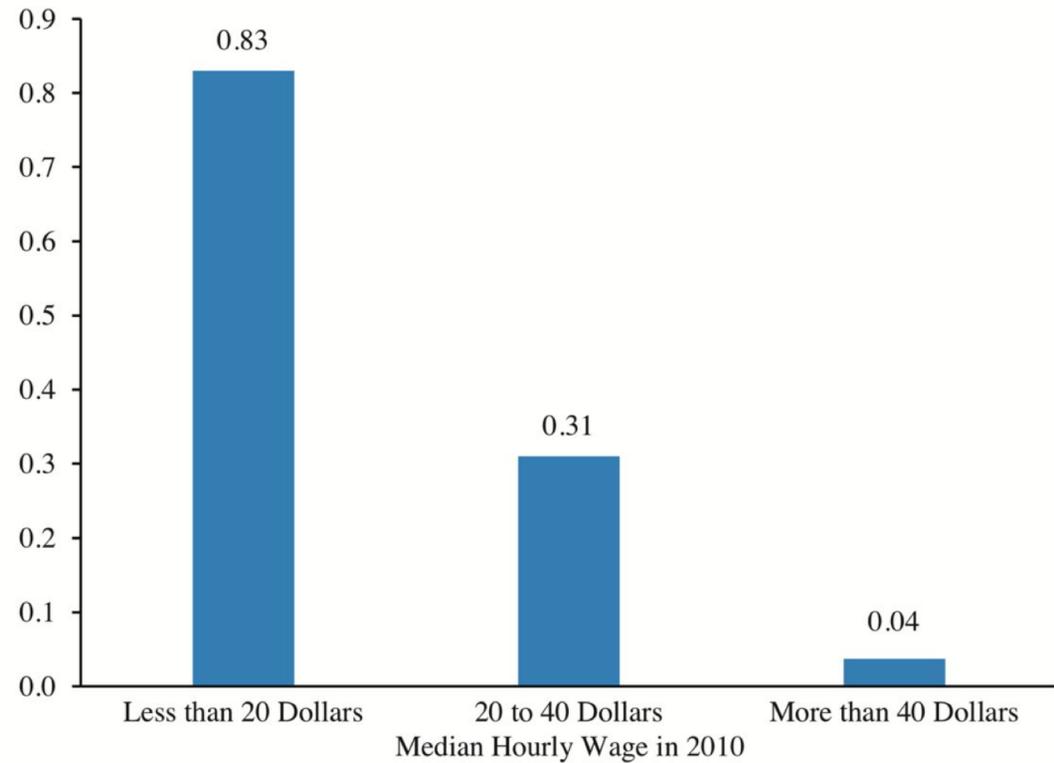
Today's entry-level jobs\* require much more skill and education

- Radiation Therapist
- Commercial Pilot
- Diagnostic Medical Sonographer
- Web Developer
- Claims Adjuster, Appraiser, Examiner, and Investigator
- Electric Line Installer and Repairer
- Occupational Therapy Assistant
- Geological and Petroleum Technician
- Wind Turbine Technician
- Computer Support Specialist
- Civil Engineering Technician
- Environmental Engineering Technician
- Plumber, Pipefitter, and Steamfitter

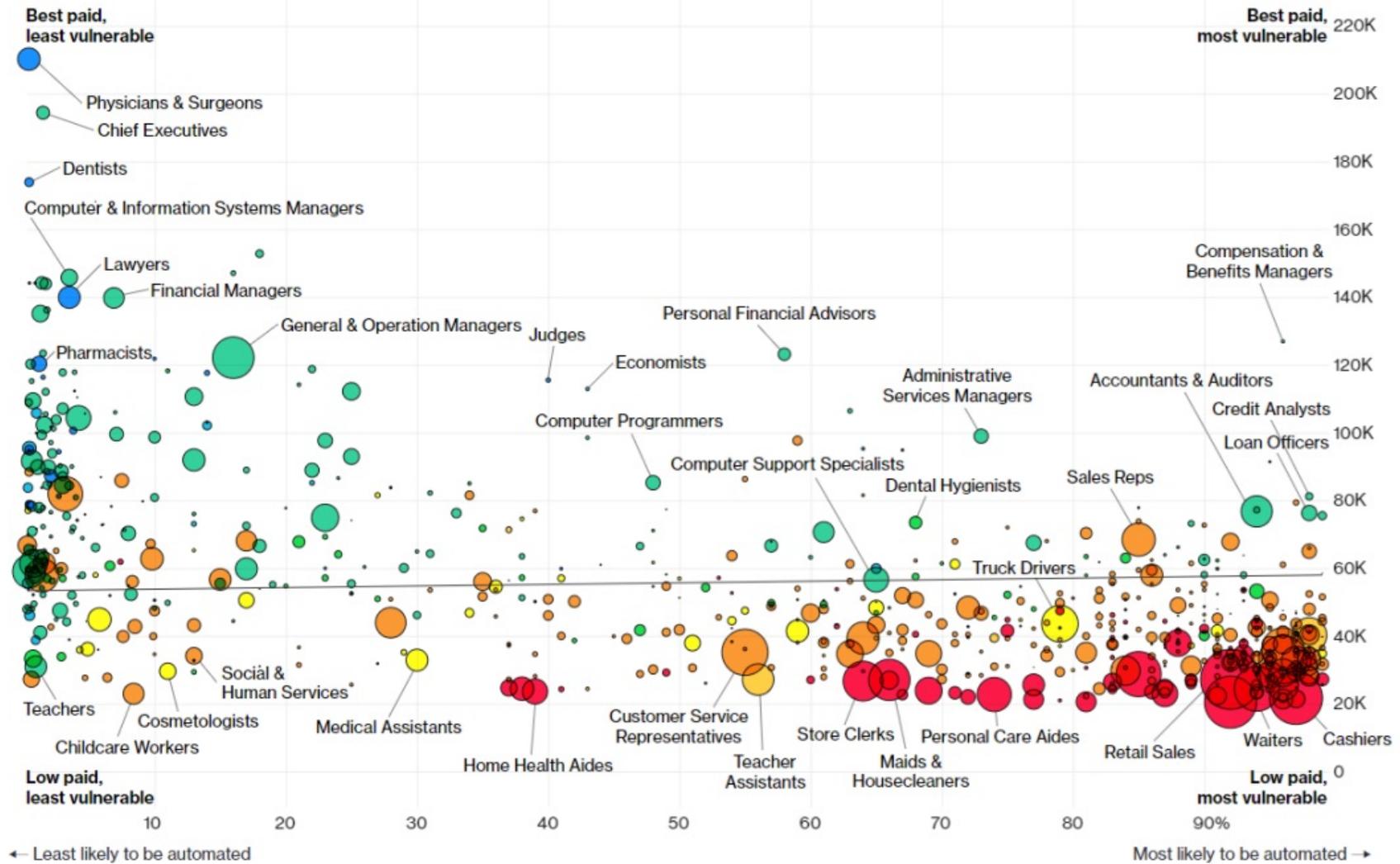
\*Jobs that pay well (\$40k or more) and are in demand.

Most young people will see their work affected by automation at some point

Figure 5-15  
**Probability of Automation by an Occupation's Median Hourly Wage**  
Median Probability of Automation

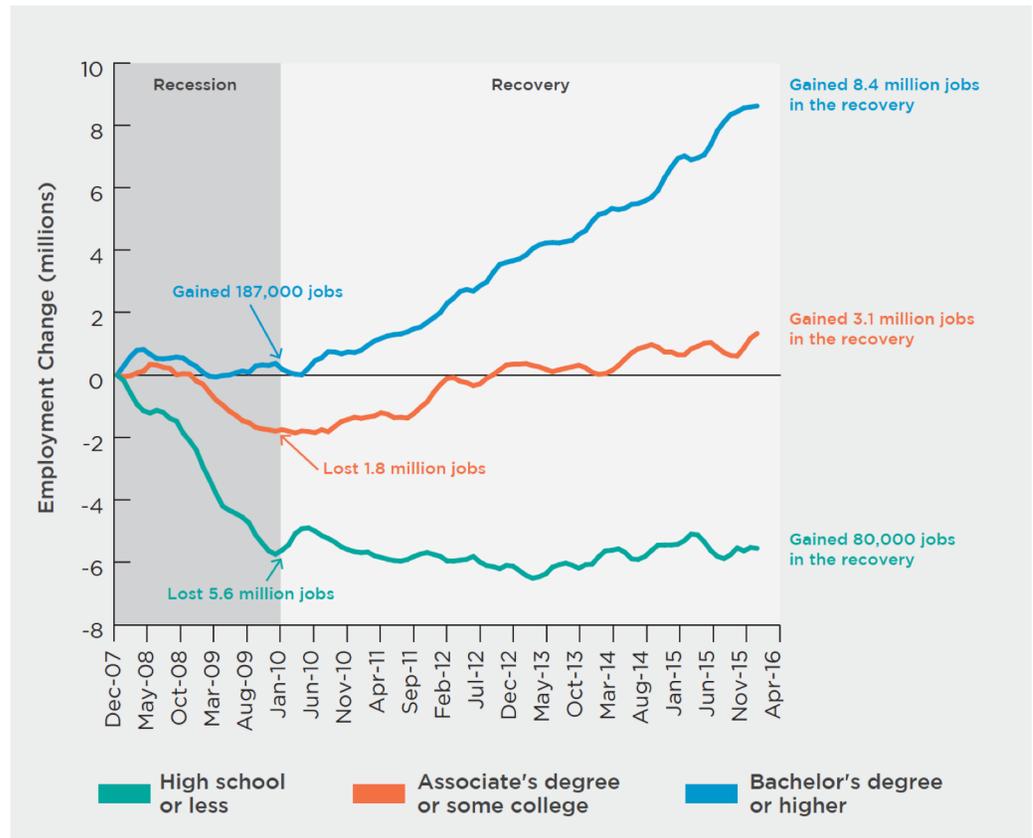


Source: Bureau of Labor Statistics; Frey and Osborne (2013); CEA calculations.



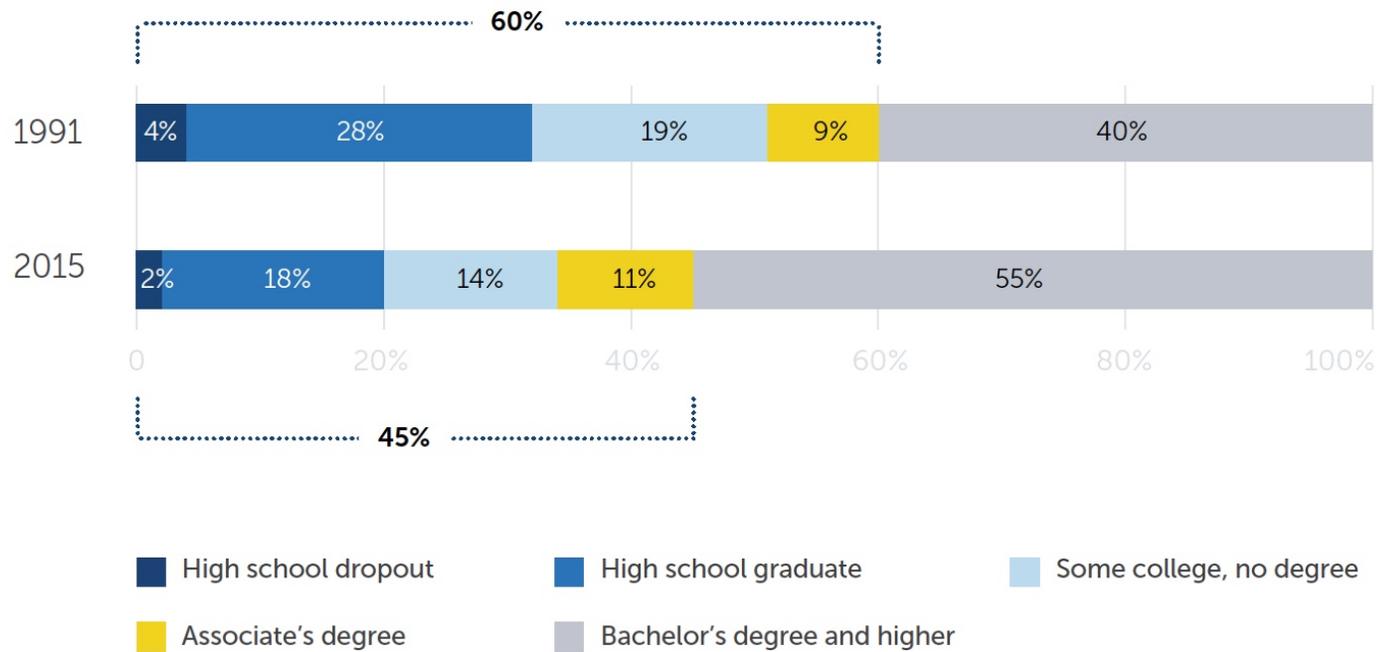
## Only high-skill jobs were immune to the Great Recession

- **Bachelor's degree or higher:** gained jobs during recession, gained most jobs in recovery.
- **Associate's/some college:** lost jobs in recession, gained jobs recently.
- **H.S. diploma or less:** lost most jobs in recession, did not regain those jobs since.



Source: Georgetown University Center on Education and the Workforce analysis of *Current Population Survey* (CPS) data, 2007-2016.

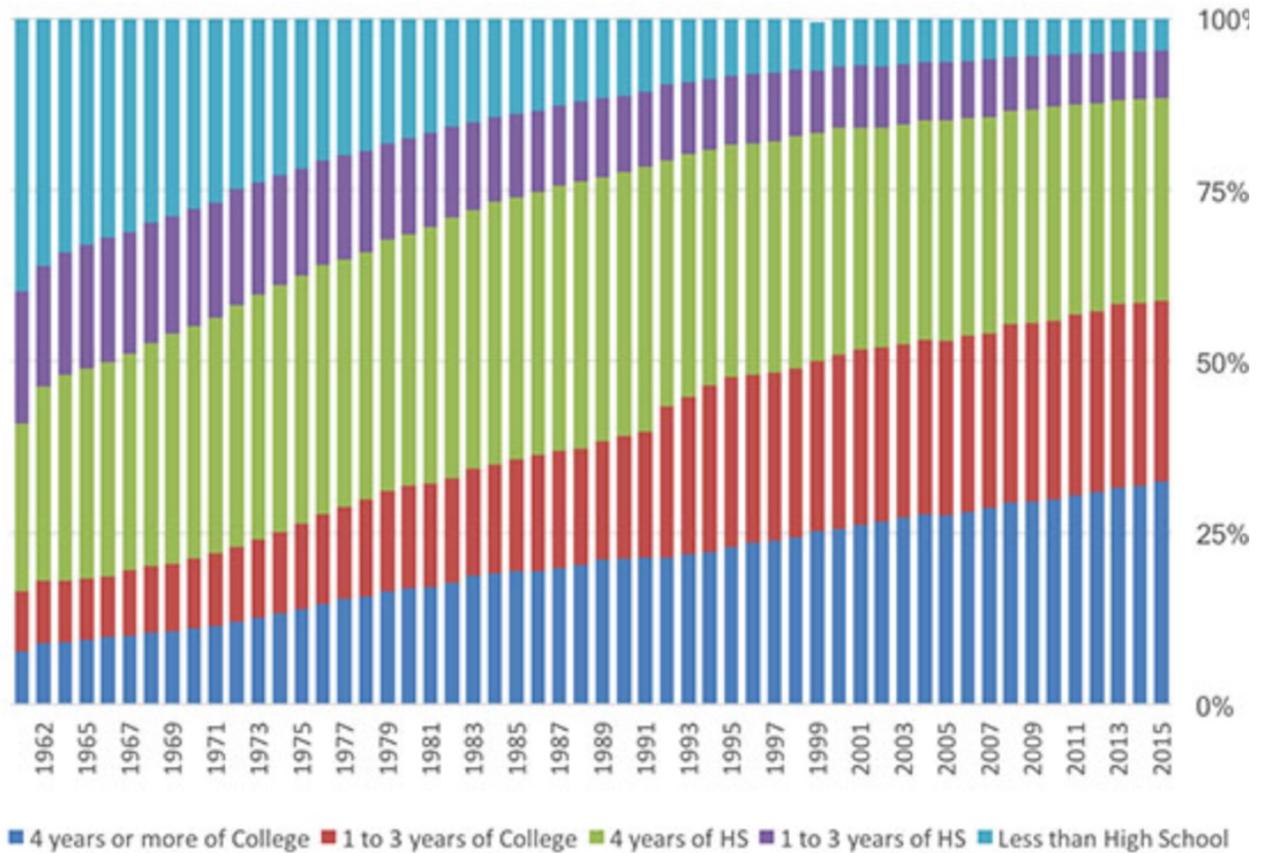
## Share of good jobs going to workers without a BA



Source: Georgetown University Center on Education and the Workforce, Good Jobs That Pay without a BA, 2017.

## Education level for population $\geq 25$ years old

- Steadily rising education level has enabled many people to take advantage of the knowledge economy.
- How do schools get the rest of students to pursue postsecondary learning?



**SOURCE:** [CPS Historic Time Series Tables](#).

How will  
today's  
students  
confront a  
world with:

- rampant automation
- vanishing traditional occupations,  
entirely new occupations
- ubiquity of information availability
- rapidly diminishing control by schools of  
access to content knowledge
- expectation that workers make high  
value-added contributions

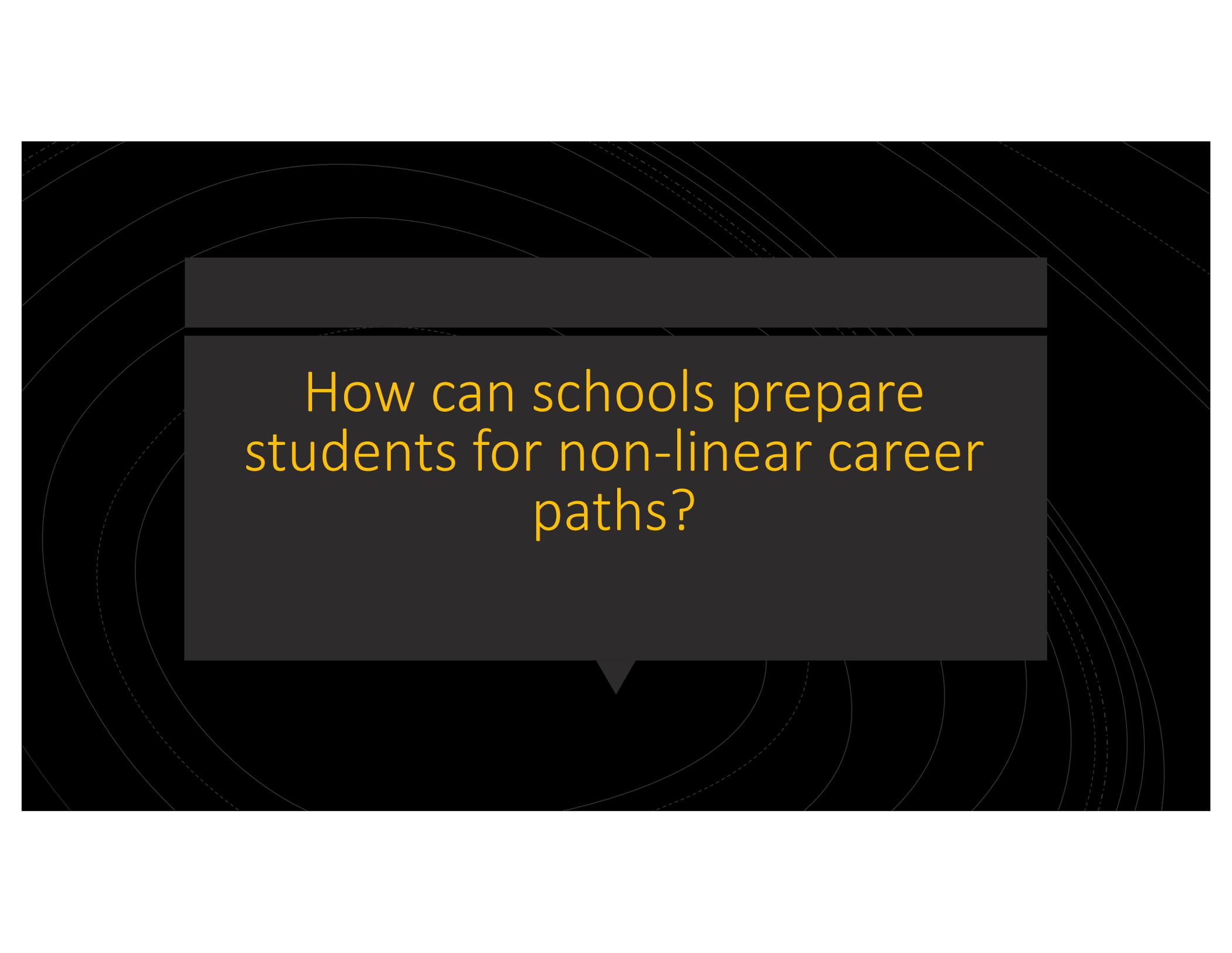
What proportion of your students do you think will have a linear career?

75%-  
100%

50%-75%

25%-50%

0-25%

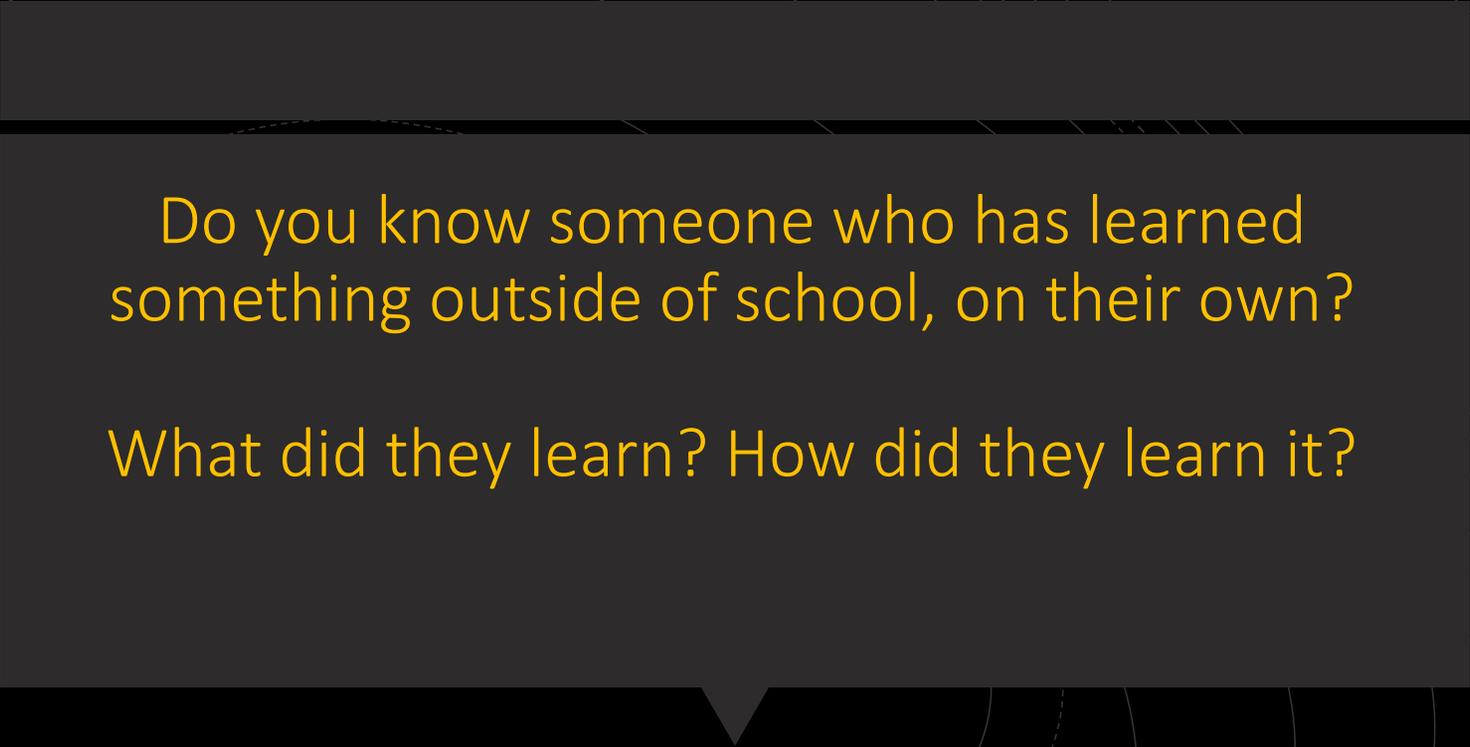


How can schools prepare  
students for non-linear career  
paths?

To what degree do you think  
companies look for employees who  
can adapt and grow as their jobs  
change?



# The Future of Learning

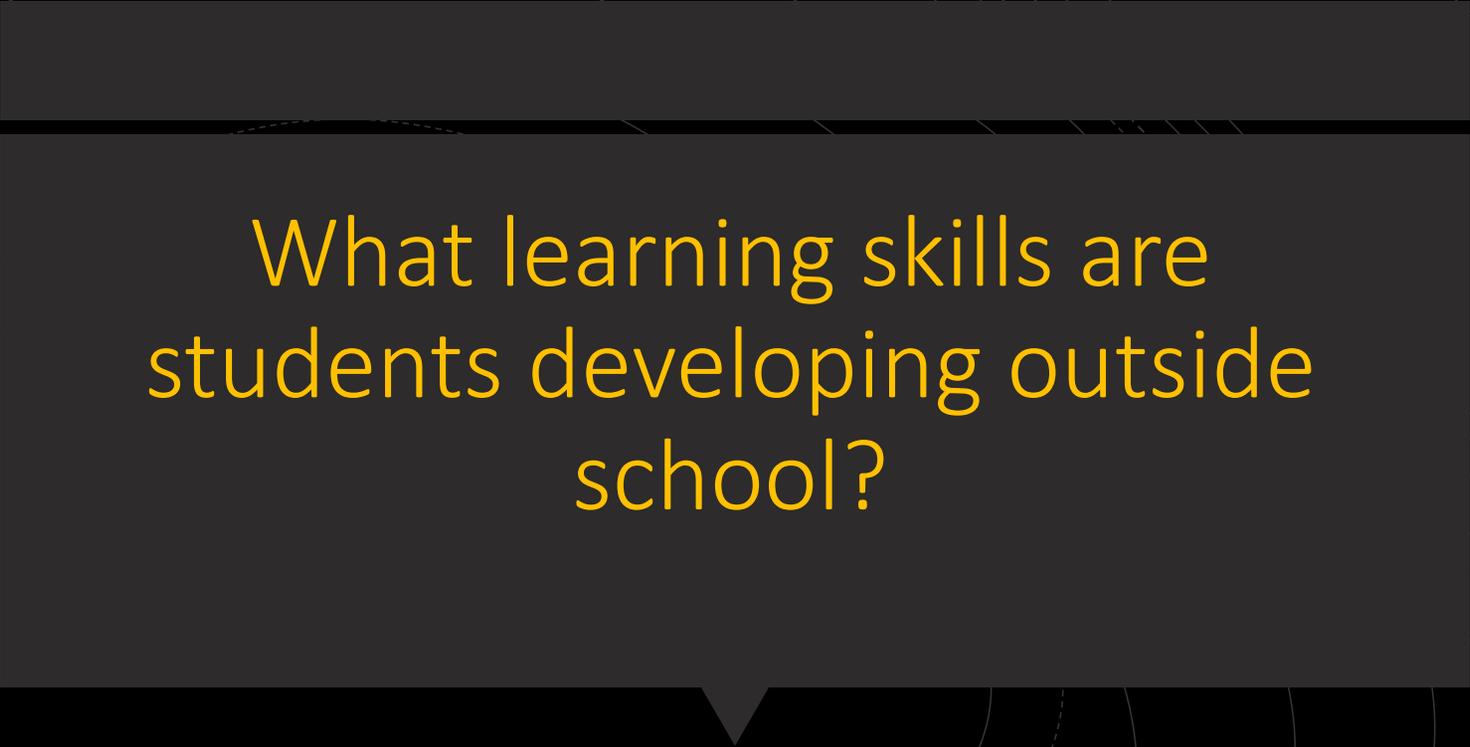


Do you know someone who has learned something outside of school, on their own?

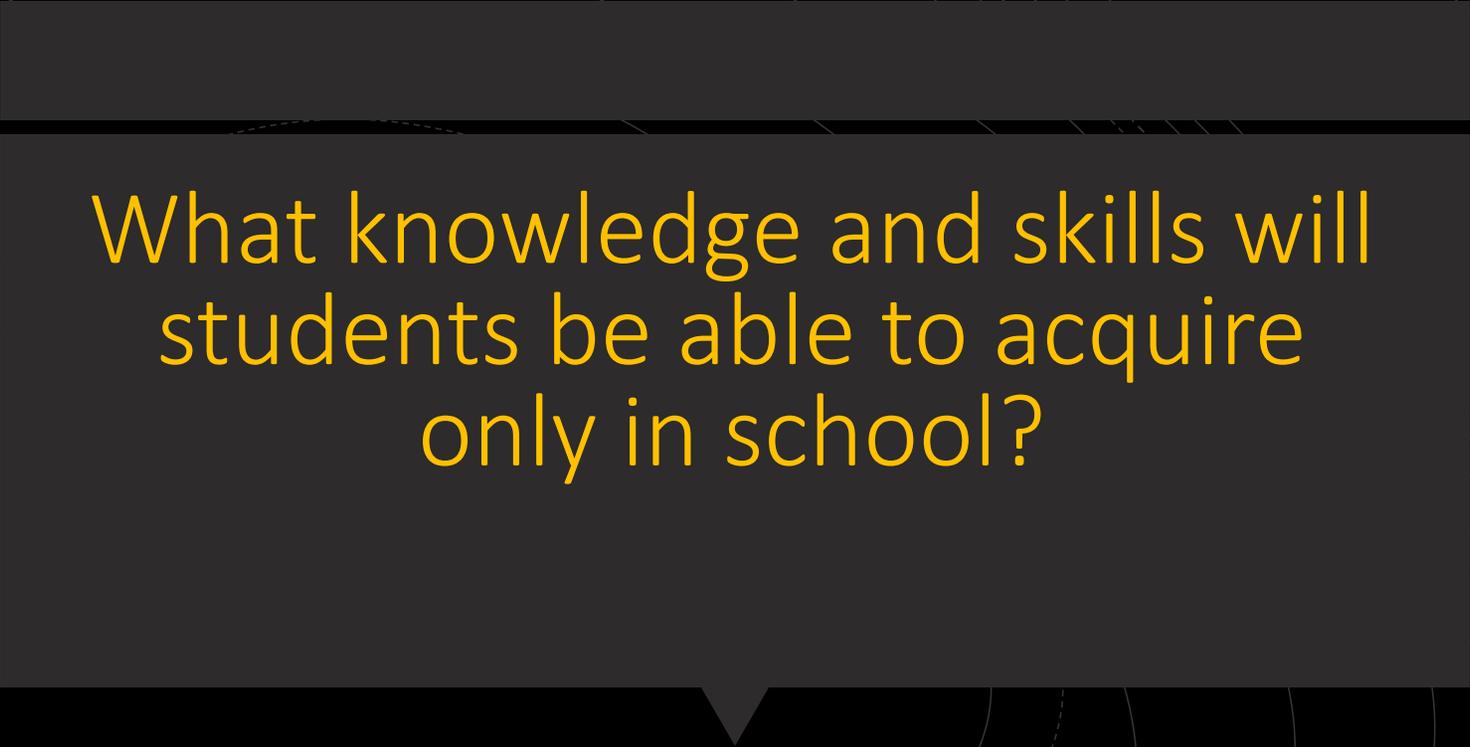
What did they learn? How did they learn it?

Want to learn  
something?  
There's a video for  
that.

- Algebra? Untold videos on youtube
- Physics concepts? Dozens of videos on angular momentum and rotational motion, many with high production values
- Fly fishing? Hundreds of videos on how to learn fly fishing
- Assemble IKEA furniture? Many, including drunk people putting IKEA furniture together



What learning skills are  
students developing outside  
school?



What knowledge and skills will  
students be able to acquire  
only in school?

## The old skills for school success

- Compliance
- Punctuality and showing up
- Following directions
- Doing only what's asked
- Focusing on goals set by others
- Gaining favor with teacher
- Not asking questions
- Learning without applying

## The new readiness skills for success

- Initiative
- Independence
- Personal management
- High aspirations/goal orientation
- Challenging conventions and assumptions
- Persistence
- Technology as a learning tool
- Help seeking
- No fear of failure

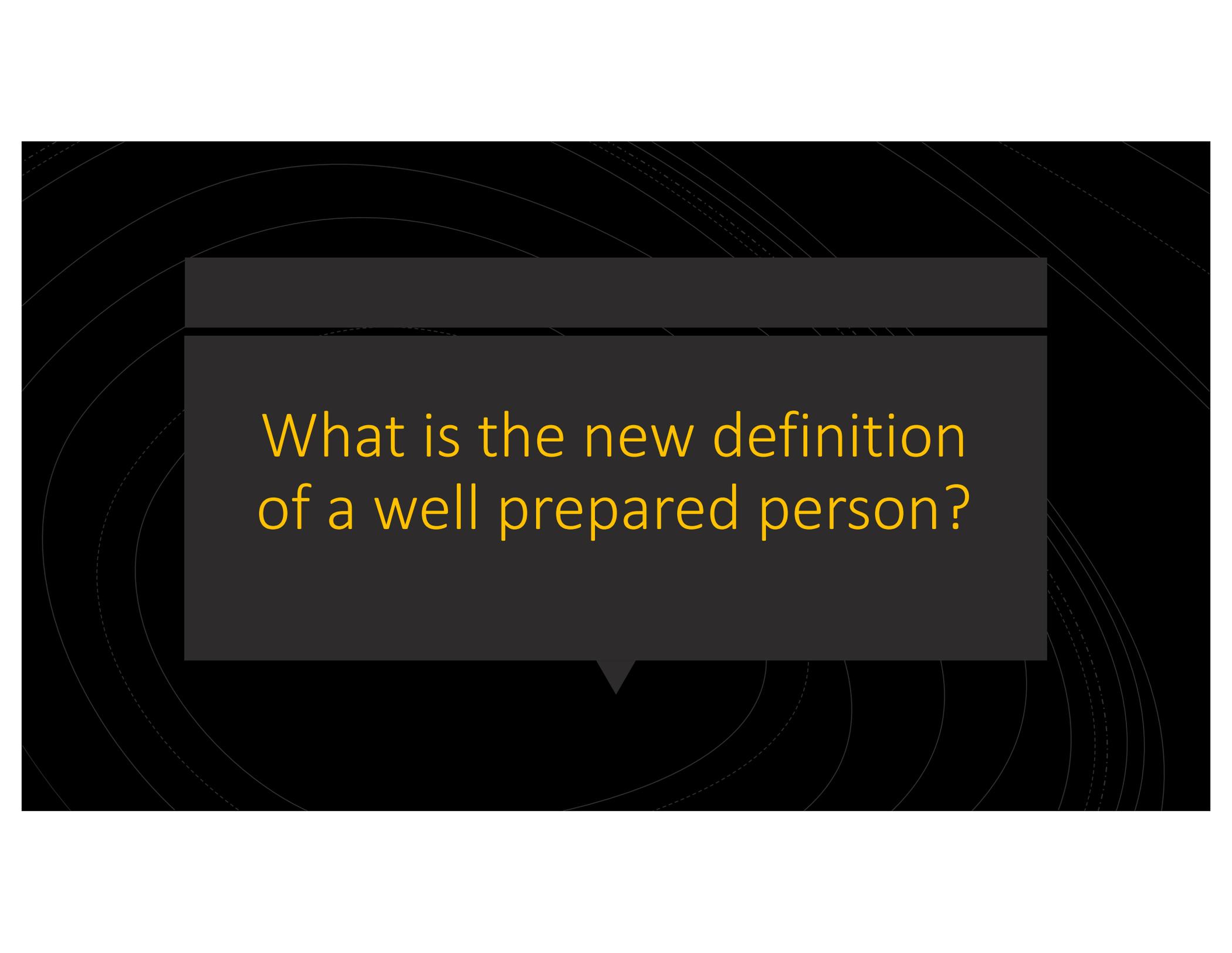
What proportion of today's students do you believe are developing the new readiness skills?

75%-  
100%

50%-75%

25%-50%

0-25%



What is the new definition  
of a well prepared person?

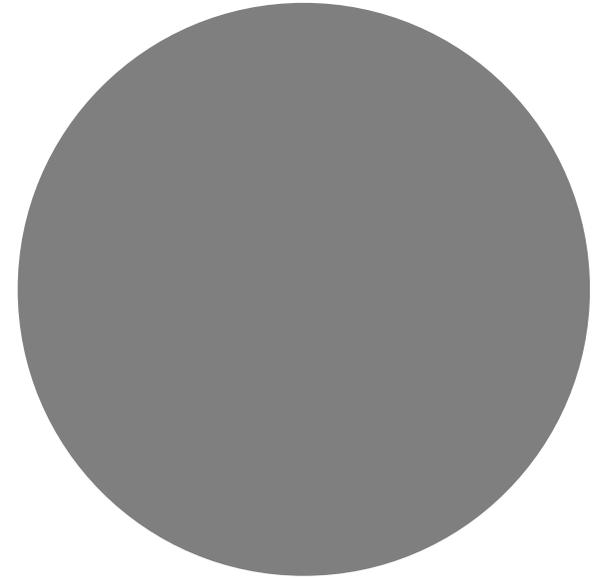
# Someone who can...

Sustain effort	
Be reflective	
Diagnose errors	
Maintain goal orientation	
Not be deterred by failure	
Be confident in their abilities to succeed	
Be ready to acquire new knowledge and skills	
Be willing to acknowledge limitations and blind spots	
Not need approval of authority figures to validate personal success	

Things that help  
prepare students for  
the future

- Entrepreneurship training and opportunities
- Internships
- Dual enrollment
- App development and coding
- Video game development
- Simulations
  - Minecraft, Sims
- Large-scale projects
- High quality CTE
- Maker space
- Travel

Schools can better prepare students for the future with a curriculum that has students apply what they are learning to real-world problems and in real-world settings.



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# EdImagine

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