

# The Importance of Portrait of a Graduate Durable Skills for North Carolina Jobs

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# Why This Matters

- Career awareness and preparation are more important than ever
- SBE will be well positioned to drive policy that supports post secondary success
- Evolution of education practice to build durable skills into curriculum
- Excited about where this work will take public education in NC

# Theory to Evidence

- 1<sup>st</sup> of its kind research that turns **theories** about outcomes for students who possess durable skills when entering the workforce **into proof of importance**.
- To truly prepare students for success after high school graduation, we **embrace the shift**. Build and measure what employers in NC value.
- Durable skills ensure that every public-school graduate is prepared to enter the workforce, join the military or pursue higher education
- Share the research with employers, chambers, educators, higher education, and other states

# NC Department of Commerce

## LEAD: Labor and Economic Analysis Division



# Why LEAD's Interest in POG?

NC's labor market information experts

- Interest of relationship to:
  - Own findings from employers
  - Our understanding of occupations

Known customer to share research

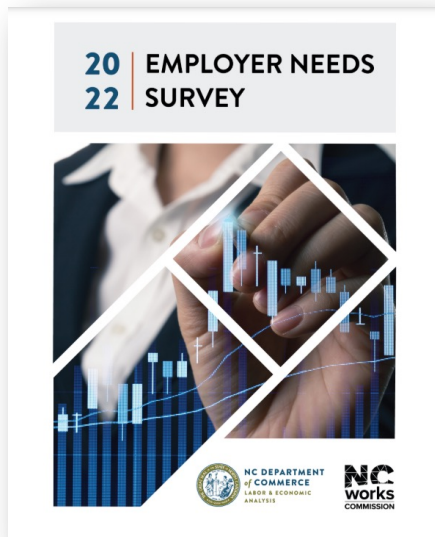
- Close partnership with DPI through NCcareers & CFS

Existing resource to publish findings

- NCcareers.org

The screenshot displays the NCcareers.org website interface. At the top, there is a navigation bar with the NCcareers logo and several menu items: Find My Interests, Explore Occupations, Plan My Career, Education & Training, Job Search, Sign In, and Help. The main content area features a large banner titled "Plan for Success!" with the subtext "Unlock Your Future. Introducing Our New Career Plan Builder, Coming Soon to NCcareers.org!". Below this banner are several interactive buttons: REALITY CHECK, INTEREST FINDER, CAREER CLUSTER MATCH, BE YOUR OWN BOSS, and SKILLS MATCHER. The "EXPLORE OCCUPATIONS" section is visible, featuring two occupation cards. The first card is for "Heating, Air Conditioning, and Refrigeration Mechanics and Installers", showing a salary of \$45,640 (\$52.72/hr), a fast-growing trend of +1.2%, and 35 jobs per year. The second card is for "Middle School Teachers", showing a salary of \$50,450 (\$52.72/hr), a fast-growing trend of +1.2%, and 35 jobs per year. Both cards include "Learn More" and "Related Occupations" buttons.

# 2024 NC Employer Needs Survey PREVIEW



## Employers with difficulty hiring entry level

2019: **50%**

2022: **81%**

2024: **62%**

## Top 3 challenges with entry-level workers

2019

2024

74% **Lack of employability qualities** 72%

68% **Low number of applicants** 66%

50% **Lack of work experience** 34%



NORTH CAROLINA   
**PORTRAIT of a GRADUATE**

### Research Questions

How do POG's durable skills align with NC's occupation?

- Projected growth
- Wages
- Post-secondary education

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### Research Goals

Inform partners & customers about labor market connection

- Education, economic/workforce development, & policy-makers
- Students, jobseekers, educators, counselors



# How Did We Do It?



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# Occupational Information Network (O\*NET)



- The #1 source for skills, competencies, and occupational requirements
- Sponsored by US Department of Labor through a grant to the **NC Department of Commerce**
- Detailed descriptions of 900+ occupations

# Mapping Durable Skills to O\*NET

Portrait of a Graduate Skill	O*NET Abilities	O*NET Skills
<b>Adaptability</b>	Category Flexibility, Fluency of Ideas, Visualization, Originality	Monitoring, Coordination, Learning Strategies, Negotiation, Complex Problem Solving
<b>Collaboration</b>	Originality	Active Listening, Time Management, Coordination, Negotiation
<b>Communication</b>	Oral Comprehension, Oral Expression, Written Comprehension, Written Expression, Speech Clarity	Active Listening, Reading Comprehension, Speaking, Writing, Instructing, Persuasion, Negotiation
<b>Critical Thinking</b>	Deductive Reasoning, Inductive Reasoning, Problem Sensitivity, Mathematical Reasoning	Critical Thinking, Complex Problem Solving, Judgment & Decision Making, Systems Analysis, Systems Evaluation, Troubleshooting, Learning Strategies, Operations Analysis
<b>Empathy</b>		Active Listening, Coordination, Service Orientation, Social Perceptiveness
<b>Learner's Mindset</b>	Inductive Reasoning, Information Ordering, Originality, Fluency of Ideas	Active Listening, Active Learning, Learning Strategies, Technology Design
<b>Personal Responsibility</b>		Monitoring, Time management, Judgment & Decision Making, Management of Finance Resources

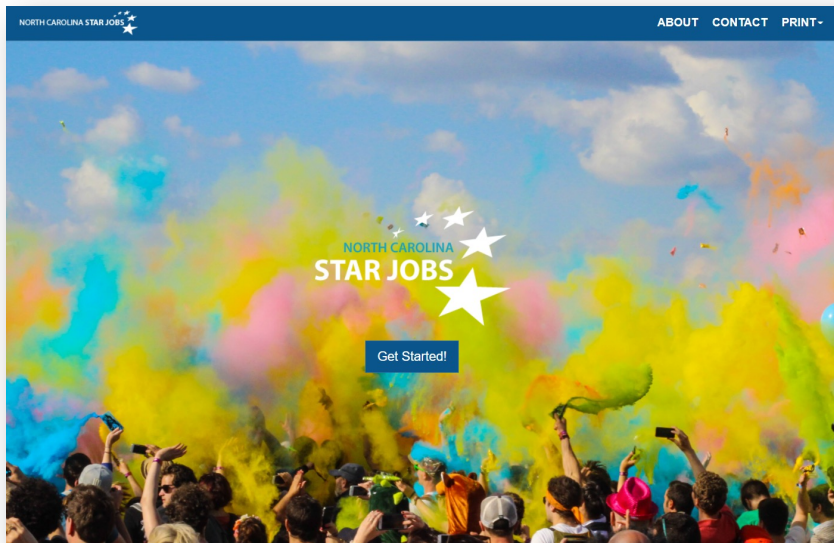
# Methodology

- Chose O\*NET [Skills](#) and [Abilities](#) for each POG durable skill
- Each occupation has an Importance Score for each O\*NET variable
  - Importance Score = the degree of importance a particular descriptor is to the occupation
  - Ranges from "Not Important" (1) to "Extremely Important" (5)
- Calculated a composite importance score per occupation for each durable skill
- Then, averaged composite scores per occupation for a Portrait score

## Example: Personal Responsibility

SOC	2018 Title	O*NET variable and importance score per occupation				Composite Score (Average of Importance Scores)
		Monitoring	Time Management	Judgment and Decision Making	Management of Financial Resources	PR Score
111011	Chief Executives	4	4	4.75	4.25	4.25
119032	Education Administrators, Kindergarten through Secondary	4	3.88	4.12	3.38	3.85
113051	Industrial Production Managers	4	3.88	4	3.38	3.82
119111	Medical and Health Services Managers	4	4	4	3.25	3.81
113131	Training and Development Managers	3.88	3.75	3.88	3.62	3.78

# Star Jobs: Identifying Promising Occupations



[Tools.NCcareers.org/StarJobs](https://Tools.NCcareers.org/StarJobs)  
Occupational Projections & Data, 2021-2030

**\$ Average Wage**

**+**

**% Growth Rate**

**+**

**# of Job Openings**  
(New + Replacements)



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# Top 15 Occupations for Empathy

*in order of importance*

*Jobs: therapist, counselor,  
social worker, nurse*

*Career clusters: Health  
Science, Human Services,  
Education, Government,  
& Hospitality*

Occupation	Star Jobs Ranking
• Psychiatrists	★★★★★
• Marriage and Family Therapists	★★★★★
• Child, Family, and School Social Workers	★★★★★
• Educational, Guidance, and Career Counselors	★★★★★
• Education Administrators (K-12)	★★★★★
• Healthcare Social Workers	★★★★★
• Substance Abuse and Mental Health Counselors	★★★★★★
• Emergency Management Directors	★★★
• Mental Health and Sub. Abuse Social Workers	★★★★★
• Lodging Managers	★★★★★
• Clergy	*
• Recreational Therapists	★★★
• Registered Nurses	★★★★★★
• Nurse Midwives	★★★★
• Licensed Practical and Vocational Nurses	★★★★★

*\* insufficient data for a star rating*

# Top 15 Occupations for Critical Thinking

*in order of importance*

*Jobs: engineer, physicist,  
analyst, actuary*

*Career clusters: STEM,  
Finance, Business, &  
Health Science*

Occupation	Star Jobs Ranking
• Bioengineers and Biomedical Engineers	★★★★★
• Nuclear Engineers	★★★★
• Chemical Engineers	★★★★★
• Operations Research Analysts	★★★★★
• Chief Executives	★★★★
• Epidemiologists	★★★★★
• Physicists	★★★★
• Industrial-Organizational Psychologists	*
• Biochemists and Biophysicists	★★★★★
• Actuaries	★★★★★
• Aerospace Engineers	★★★★★
• Electronics Engineers, Except Computer	★★★★★
• Anesthesiologists	★★★★
• Mining and Geological Engineers	★★★★
• Agricultural Engineers	*

*\* insufficient data for a star rating*

# Top 15 Occupations for the Portrait

*in order of importance*

*Jobs: leadership positions*

*Career clusters: Business,  
Education, Human Service,  
Law, Health Science, &  
Hospitality*

Occupation	Star Jobs Ranking
• <b>Chief Executives</b>	★★★★
• Education <b>Administrators</b> (K-12)	★★★★★
• Emergency Management <b>Directors</b>	★★★★
• <b>Coaches</b> and Scouts	★★★★★
• Industrial-Organizational <b>Psychologists</b>	*
• Training and Development <b>Managers</b>	★★★★★
• Medical and Health Services <b>Managers</b>	★★★★★
• <b>Clergy</b>	*
• Education <b>Administrators</b> , Postsecondary	★★★★★
• <b>Lawyers</b>	★★★★★
• <b>Psychiatrists</b>	★★★★★
• Instructional <b>Coordinators</b>	★★★★★
• Epidemiologists	★★★★★
• Occupational Therapists	★★★★★
• Lodging <b>Managers</b>	★★★★★

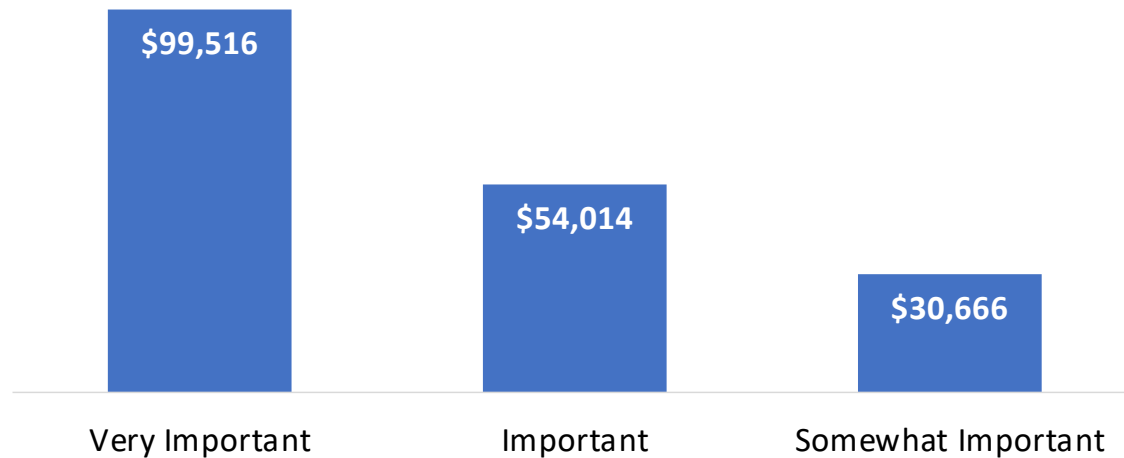
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# Importance of the NC Portrait of a Graduate Durable Skills in NC Occupations

# Durable Skills and Earning Potential

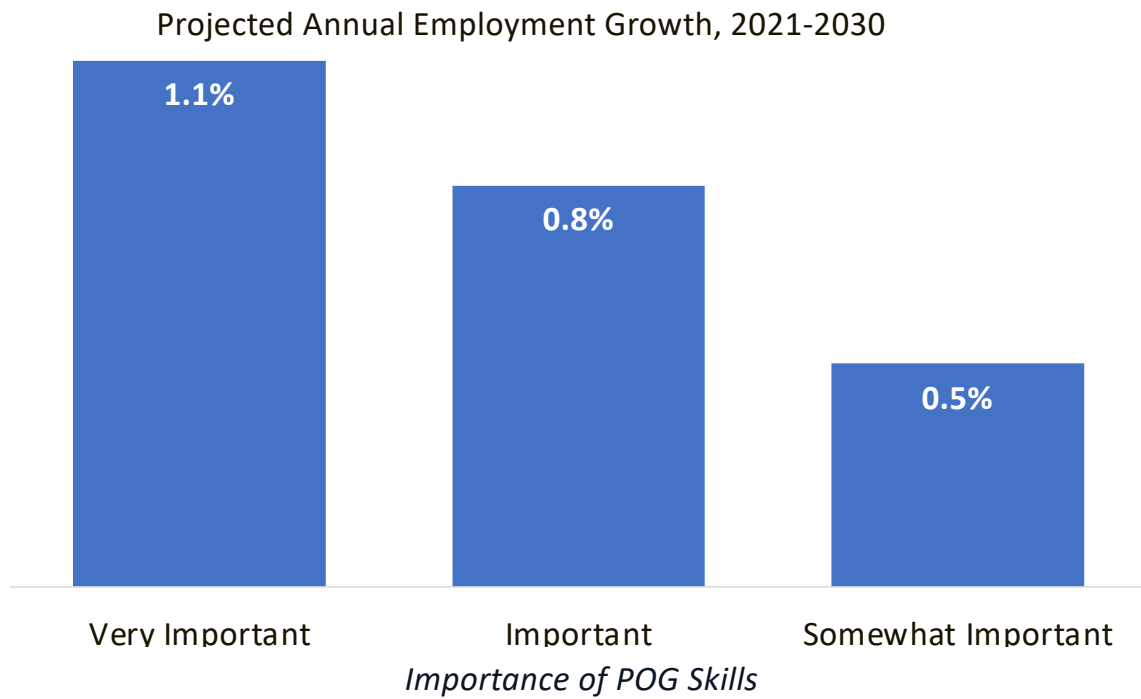
Average Annual Earnings, 2022



Occupations where POG durable skills are Very Important **Pay Better** on average

*Importance of POG Skills*

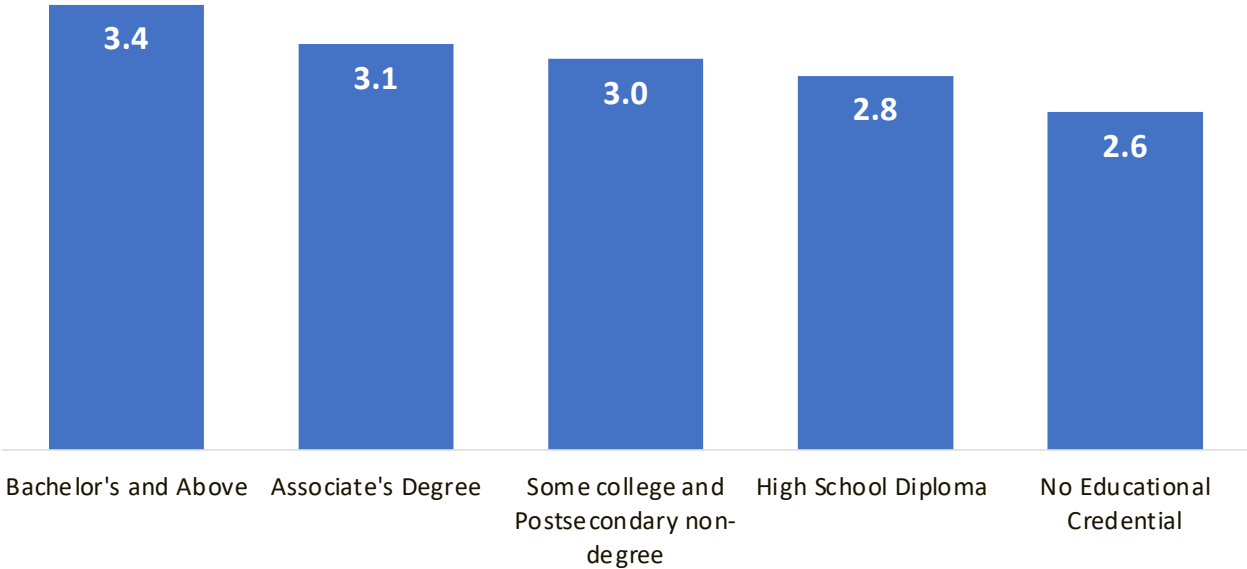
# Durable Skills and Employment Growth



Occupations where POG durable skills are Very Important have **higher projected growth**

# The Portrait of a Graduate and Education

Portrait Score by Required Minimum Education



Occupations that require **more education** have higher Portrait scores

# Durable Skills are Important Across Education Levels

Select occupations where POG durable skills are important or very important

## Below Associate's

- **Chefs and Head Cooks**
- Community Health Workers
- Licensed Practical and Vocational Nurses
- Police and Sheriff's Patrol Officers
- Recreation Workers
- Real Estate Sales Agents
- Firefighters
- Travel Agents
- Photographers
- **Electricians**
- Hairdressers and Cosmetologists
- Aircraft Mechanics and Service Technicians
- Retail Salespersons
- Audio and Video Technicians
- **Customer Service Representatives**

## Associate's Degree

- Air Traffic Controllers
- **Registered Nurses**
- **Preschool Teachers**
- Morticians and Funeral Arrangers
- Respiratory Therapists
- Environmental Engineering Technicians
- **Occupational Therapy Assistants**
- Mechanical Engineering Technicians
- Diagnostic Medical Sonographers
- Desktop Publishers
- Physical Therapist Assistants
- Veterinary Technicians
- Radiation Therapists
- Electrical and Electronics Drafters
- Civil Engineering Technicians

## Bachelor's Degree

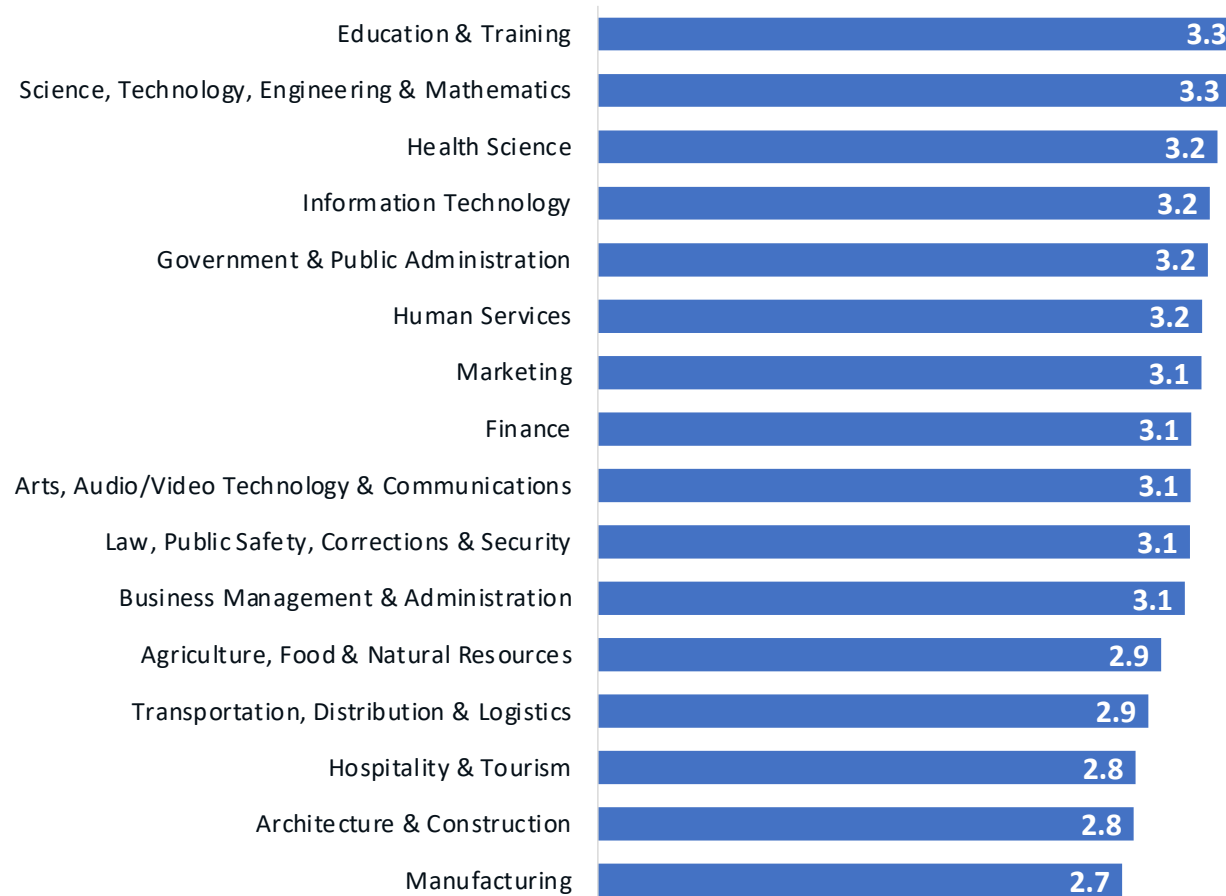
- Coaches and Scouts
- Social Workers
- Dietitians and Nutritionists
- **Biomedical Engineers**
- Special Education Teachers
- Management Analysts
- **Substance Abuse and Mental Health Counselors**
- Interior Designers
- Foresters
- Zoologists and Wildlife Biologists
- Civil Engineers
- Occupational Health and Safety Specialists
- Electrical Engineers
- Operations Research Analysts
- **Computer Programmers**

## Above Bachelor's

- Industrial-Organizational Psychologists
- **Lawyers**
- Epidemiologists
- Occupational Therapists
- Dentist
- Marriage and Family Therapists
- **Physician**
- Physicists
- Clinical and Counseling Psychologists
- Anesthesiologists
- Biochemists and Biophysicists
- Urban and Regional Planners
- Physical Therapists
- Pharmacists
- **Mathematicians**



### Portrait Score by Career Cluster



**Fact:**  
**Durable skills are important in all 16 career clusters**

# What did we learn?

- POG skills are important (somewhat to very) in every occupation across education levels in NC
- Yet some NC employers are having trouble finding talent with these durable skills
- Findings:
  - Yes! The seven durable skills map to NC Occupations
  - The Portrait is important in higher wage/growing jobs
  - Matters to all educational levels
  - Important for all 16 CTE career clusters



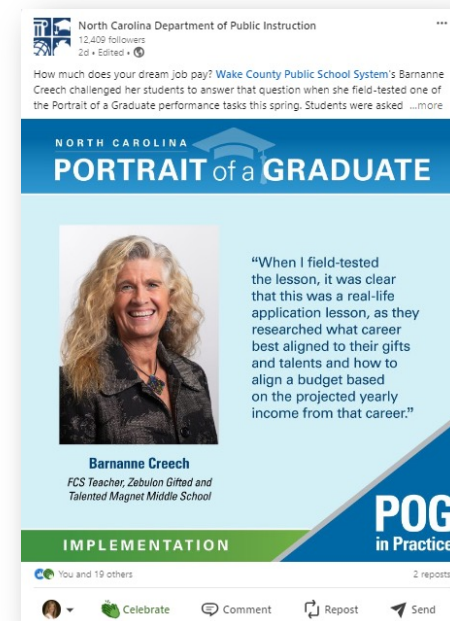
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- 1<sup>st</sup> of its kind research that turns **theories** about outcomes for students who possess durable skills when entering the workforce **into proof of importance**.
- To truly prepare students for success after high school graduation, we **embrace the shift**. Build and measure what employers in NC value.
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# NC Portrait of a Graduate Update

- Published Performance Tasks on June 11, 2024
  - 16 learning experiences, aligned to standards and field tested
  - 200 educators attended Webinar
  - So much momentum and energy!
- Partnering with Carnegie Foundation for the Advancement of Teaching and ETS in **Skills for the Future**: Applied for CGSA grant to test a new suite of tools to measure durable skills
- Final Phase: Creating online learning modules to ensure high quality PD for educators – to integrate durable skills into classroom curricula



# Thank you!

Questions?



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# Additional Durable Skills and Occupational Crosswalk



# Top 15 Occupations

## Adaptability

Occupation	Star Jobs Ranking
• Coaches and Scouts	★★★★★
• Chief Executives	★★★★
• Education Administrators (K-12)	★★★★★
• Emergency Management Directors	★★★★
• Architects	★★★★★
• Instructional Coordinators	★★★★★
• Training and Development Managers	★★★★★
• Fashion Designers	★★★★
• Epidemiologists	★★★★★
• Education Administrators, Postsecondary	★★★★★
• Industrial-Organizational Psychologists	*
• Physicists	★★★★
• Art Directors	*
• Mental Health and Substance Abuse Social Workers	★★★★★
• Biochemists and Biophysicists	★★★★★

\* insufficient data for a star rating

# Top 15 Occupations

## Collaboration

Occupation	Star Jobs Ranking
• Chief Executives	★★★★
• Education Administrators (K-12)	★★★★★
• Clergy	*
• Lawyers	★★★★★
• Coaches and Scouts	★★★★★
• Child, Family, and School Social Workers	★★★★★
• Fashion Designers	★★★★
• Education Administrators, Postsecondary	★★★★★
• Lodging Managers	★★★★★
• Purchasing Managers	★★★★★
• Industrial-Organizational Psychologists	*
• Producers and Directors	★★★★★
• Human Resources Managers	★★★★★
• Public Relations Specialists	★★★★★
• Sales Managers	★★★★★

*\* insufficient data for a star rating*

# Top 15 Occupations

## Communication

Occupation	Star Jobs Ranking
• Lawyers	★★★★★★
• Clergy	*
• English and Literature Teachers, Postsecondary	★★★★
• Chief Executives	★★★★
• Education Administrators (K-12)	★★★★★
• Industrial-Organizational Psychologists	*
• Child, Family, and School Social Workers	★★★★★
• Clinical and Counseling Psychologists	★★★★★
• Educational, Guidance, and Career Counselors	★★★★★
• Psychiatrists	★★★★★
• Marriage and Family Therapists	★★★★★
• Pediatricians, General	★★★★
• Arbitrators, Mediators, and Conciliators	★★★
• Law Teachers, Postsecondary	★★★★★
• Coaches and Scouts	★★★★★

\* insufficient data for a star rating

# Top 15 Occupations

## Learner's Mindset

Occupation	Star Jobs Ranking
• Physicists	★★★★
• Biochemists and Biophysicists	★★★★★
• Industrial-Organizational Psychologists	*
• Education Administrators (K-12)	★★★★★
• Training and Development Managers	★★★★★
• Bioengineers and Biomedical Engineers	★★★★★
• Coaches and Scouts	★★★★★
• Occupational Therapists	★★★★★★
• Web and Digital Interface Designers	★★★★★★
• Aerospace Engineers	★★★★★
• Epidemiologists	★★★★★
• Farm and Home Management Educators	★
• Microbiologists	★★★★★
• Astronomers	★★★★★
• Biological Scientists	*

\* insufficient data for a star rating

# Top 15 Occupations

## Personal Responsibility

Occupation	Star Jobs Ranking
• Chief Executives	★★★★
• Education Administrators (K-12)	★★★★★
• Industrial Production Managers	★★★★★
• Medical and Health Services Managers	★★★★★★
• Training and Development Managers	★★★★★
• Education Administrators, Postsecondary	★★★★★
• Dentists	★★★★★
• Purchasing Managers	★★★★★
• Construction Managers	★★★★★★
• Education and Childcare Administrators, Preschool	★★★
• First-Line Supervisors of Non-Retail Sales Workers	★★★★
• Architectural and Engineering Managers	★★★★★
• Chefs and Head Cooks	★★★★★★
• First-Line Supervisors of Mechanics, Installers & Repairers	★★★★★★
• Emergency Management Directors	★★★★