



Helping Students Make Informed Career Decisions Using Labor Market Information (LMI)

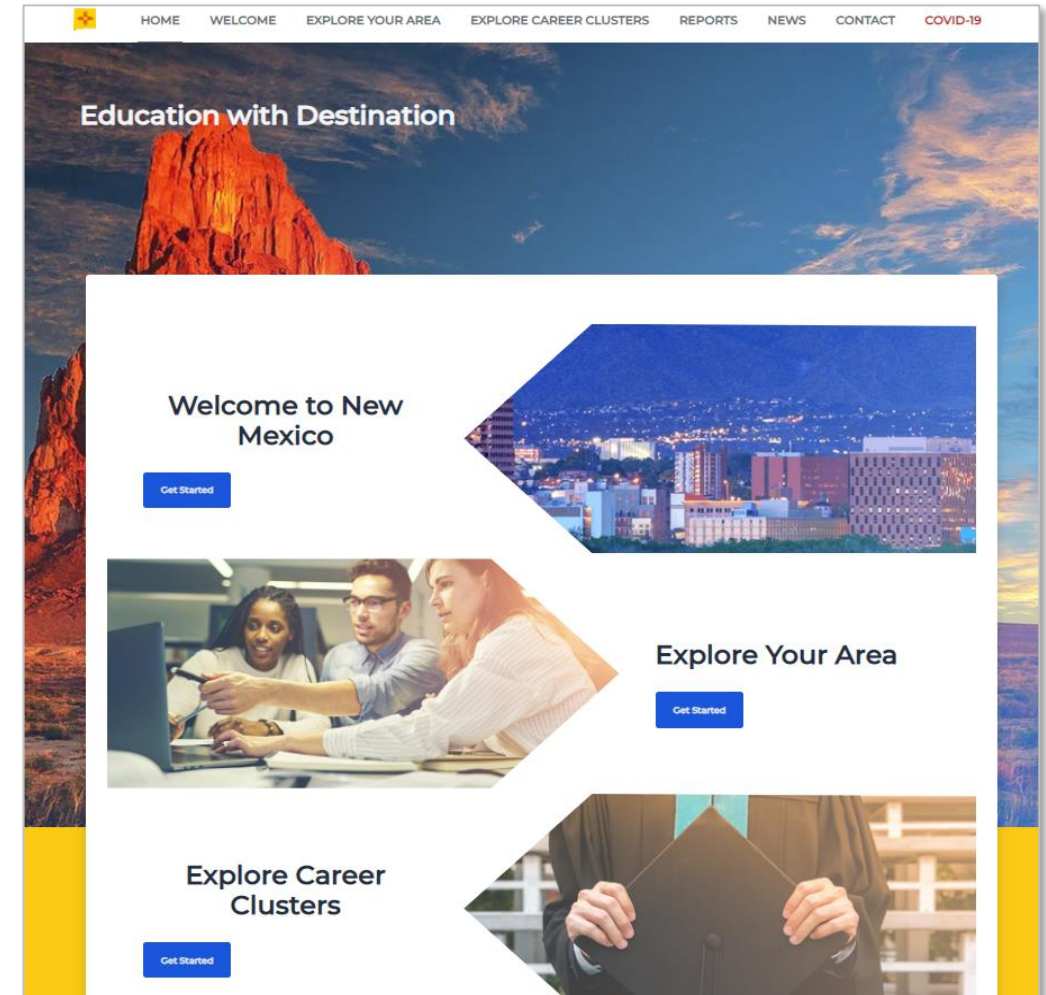
Danielle Tallent, PhD | Chief Learning Officer, NS4ed

Overview



careerpathways-nm.com

- The Future of Work
- Making Informed Career Decisions
- Tools and Training
 - *NM Career Pathways Dashboard*
 - *P2C Professional Development*
- Discussion



The Future of Work



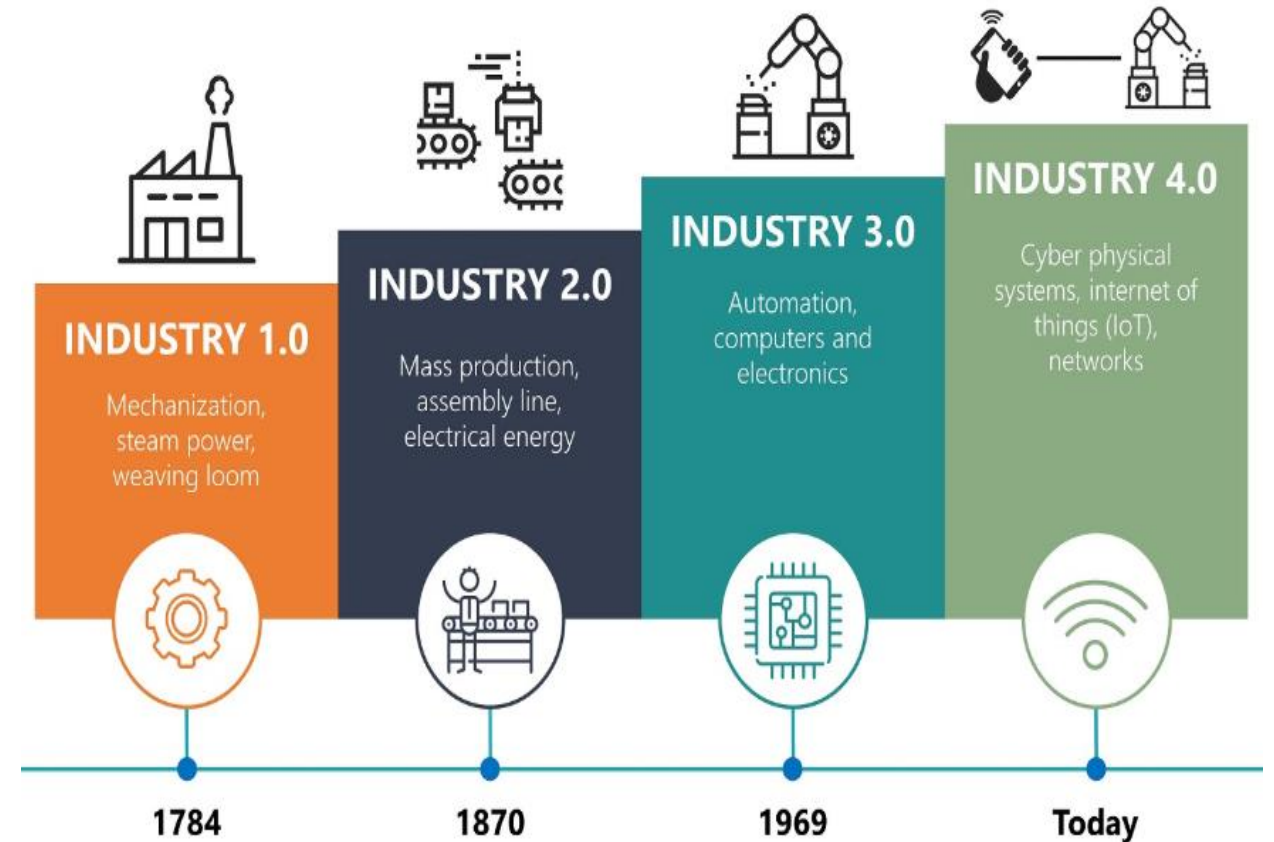
The Future of Work

Fourth Industrial Revolution

- Rapid advances in automation
- Emergence of artificial intelligence
- Fusion with technology

Faster than Previous Revolutions

- Change in the past was slow.
- Change today is instant and pervasive.
- People and businesses are struggling to meet the demands of technology.



The Future of Work

Additional Factors Affecting Jobs

- Social Factors – aging population
- Economic Factors – globalization
- Environmental Factors – green energy demands



Future Jobs Will Require Education and Skills

- The use of technology will be incorporated into most jobs.
- The unskilled jobs that paid earlier generations are decreasing.
 - Automation – replacing low-skill jobs
 - Globalization – relocating low-skill jobs
- Well-paying jobs will require skills.



The Future of Work

Specific Skills Will be Valued

- **Human Skills** – critical thinking, problem-solving, teamwork, communication
- **Technology Skills** – using computers and mobile devices, adaptability, digital literacy
- **STEM Skills** – mathematics, computing, data analysis, creativity, attention to detail



$$\begin{array}{l} 2 > -3 \\ 0.999\dots = 1 \\ \pi \approx 3.14 \\ \sqrt{2} \\ 5^{(2+2)} \\ 101_2 = 5_{10} \end{array} \begin{array}{l} + \\ - \\ \times \\ \div \\ \infty \\ 5^2 \\ (1-2)+3 \end{array}$$

The Future of Work

Changes Related to COVID-19

- Earlier economic disruptions were fueled by disruptions in the supply of capital or technology (2008 financial crisis, digitalization, and automation).
- With the COVID-19 health crisis, human capital has become threatened.
- Leisure and hospitality has been hardest hit with significant layoffs and furloughs.
- Only two-thirds of Americans are working for the same employer now as they were in February of 2020.
- Incomes are dropping, indicating that many workers are transitioning into lower-paying jobs.

The Future of Work

Changes Related to COVID-19

- The most vulnerable occupations tend to be those already threatened by automation (low-skill and routine jobs).
- Additional “social contact” occupations continue to be affected, including individuals working in/for:
 - Restaurants, retailers, airlines, event planning, arts, entertainment, recreation, etc.
- Some occupations are on the rise, specifically COVID-19-related occupations.
 - Respiratory therapists, general practitioners, psychiatrists, epidemiologists
- Occupations in ecommerce are also rising with increased demand for warehouse and delivery workers.

Overall job postings have declined, but there have been small increases in COVID-19-related occupations.

Top 15 occupations by absolute increases in job postings

	Number	%
Interpreters and translators	19,902	268
Respiratory therapists	10,587	52
Family and general practitioners	9,189	18
Physicians and surgeons	6,281	9
Registered nurses	5,510	1
Manual laborers and warehouse stockers	4,420	9
Internists	4,301	12
Psychiatrists	3,469	13
Obstetricians and gynecologists	1,878	13
Writers and authors	1,707	51
Loan interviewers and clerks	1,673	19
Surgeons	1,502	7
Chemistry and biology R&D managers	1,343	6
Anesthesiologists	1,207	19
Heating and air-conditioning installers ²	962	63

Top 15 occupations by absolute decreases in job postings¹

	Number	%
Retail supervisors	-51,593	-15
Childcare workers	-45,165	-36
Retail salespersons	-42,551	-12
App-software developers	-33,583	-11
Food-prep supervisors	-32,196	-22
Light-truck delivery drivers	-30,820	-21
Customer-service representatives	-29,817	-12
Office and administrative supervisors	-28,425	-18
Food-prep workers	-25,583	-20
Personal-care aides	-24,926	-25
Restaurant cooks	-24,160	-30
Accountants and auditors	-20,895	-15
Heavy- and tractor-trailer truck drivers	-20,517	-3
Maintenance and repair workers	-20,367	-16
Restaurant servers	-16,556	-30

Note: Unidentified occupations were removed from chart; only occupations with at least 500 job postings in February 2020 were analyzed; names of occupations adjusted for clarity; occupations shown do not represent the full one-million decline.

¹Mar 18–Apr 16, 2020.

²Military-only occupations excluded from chart.

Source: Emsi job-posting data; McKinsey Global Institute analysis

[Source: McKinsey & Company](#)

The Future of Work

Changes Related to COVID-19

- Valued Skills = *abilities that enhance the use of technology and accommodate change*
 - **Adaptability and Flexibility:** Individuals will need to update and refresh skills frequently. There will be few “jobs for life.”
 - **Tech Savviness:** To become more resilient, **businesses will continue to embrace technology** – artificial intelligence, big data, the Internet of Things (IoT), virtual and augmented reality, and robotics.
 - **Creativity and Innovation:** There will be a need to **generate new ways of doing business** to adapt to rapid and unexpected shifts.
 - **Data Literacy:** Businesses will move more into the **use of data to predict and adapt to changes**. People will need to be equipped with skills to understand the data and make decisions.
 - **Critical Thinking:** **Not all information can be trusted**. Thus, individuals will need the ability to critically evaluate information from diverse sources.
 - **Digital and Coding Skills:** With almost all **companies now operating at some digital level**, the ability to support these digital operations will be valued.
 - **Emotional Intelligence:** In **uncertain and changing times**, individuals who can be aware of, express, and control their emotions, as well as be aware of others’ emotions, will be valued. [Source: Forbes](#)

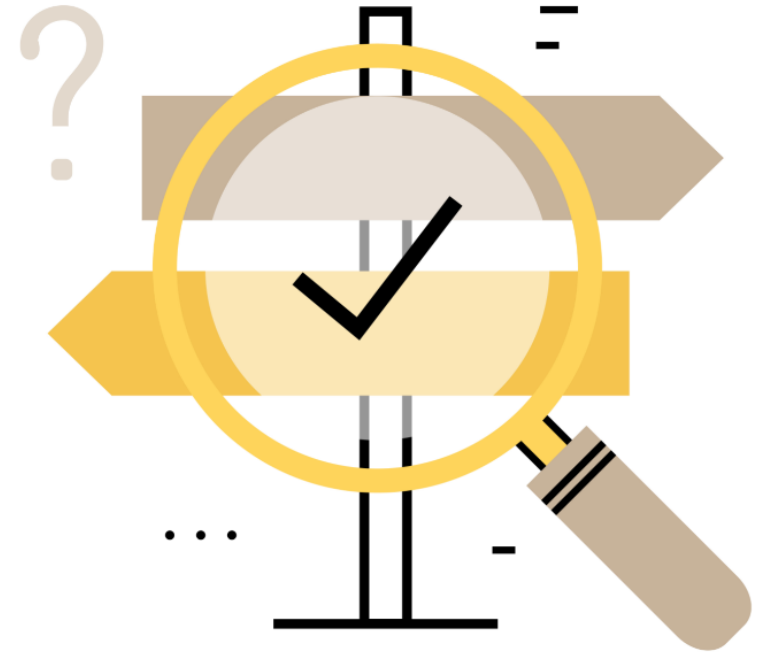
Making Informed Career Decisions

Goal of Career Exploration → Informed Career Decision

What is an informed career decision?

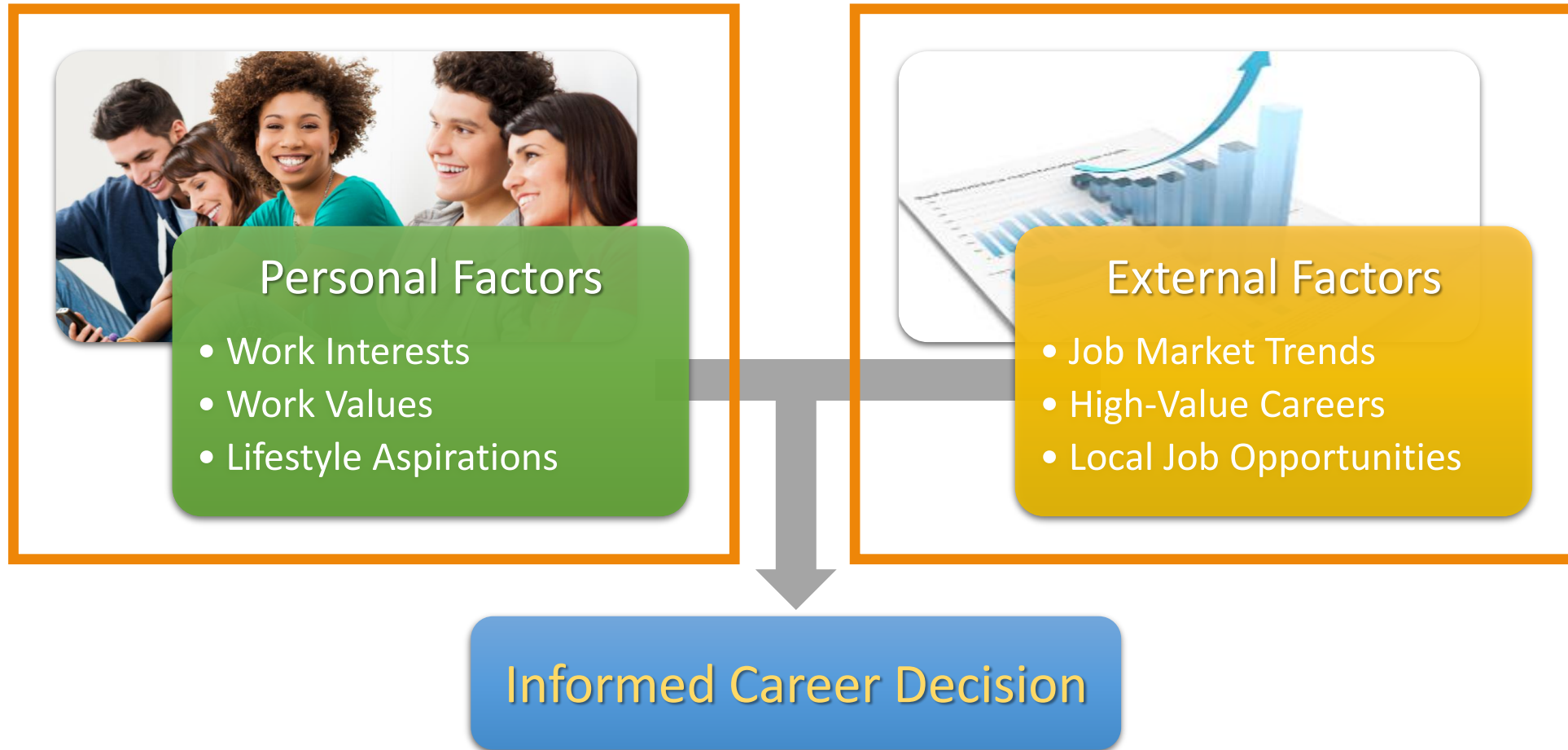
A career choice that incorporates multiple sources of information.

- Awareness of career options
- Insight into personal needs and wants
- Understanding of local job market



Making Informed Career Decisions

Components of an Informed Career Decision



Making Informed Career Decisions

External Factors = elements that extend beyond the individual that can affect employment success

Aligning career choices with external factors can help minimize obstacles and streamline access to good jobs.

Commonly Neglected External Factors

- Labor Market Trends
- High-Value Careers
- Local Employment Opportunities



Making Informed Career Decisions

How can we stay connected with the future of work and prepare students for employment success?



Articles and Reports



Student Interests and Requests



HOMEROOM
THE OFFICIAL BLOG OF THE U.S. DEPARTMENT OF EDUCATION



**ASSOCIATION FOR
CAREER & TECHNICAL
EDUCATION®**

News, Blogs, and
Announcements

Making Informed Career Decisions

- One of the most efficient and direct methods of connecting with the future of work is to examine trends in specific occupations.
 - What occupations are projected to be in **high demand**?
 - Which of these occupations are good jobs with **living wages**?
- Answering these questions allows us to...
 - Connect with current and future **labor demands**
 - Prepare students with **skills** needed for entry into good jobs



Making Informed Career Decisions

How can we develop awareness of occupation trends in our local regions?



Labor Market
Information (LMI)



Making Informed Career Decisions

Simple statistics can reveal jobs with the most openings, highest wages, and most growth.



Annual Openings



Median Wages



Projected New Jobs



Growth Rates

Making Informed Career Decisions



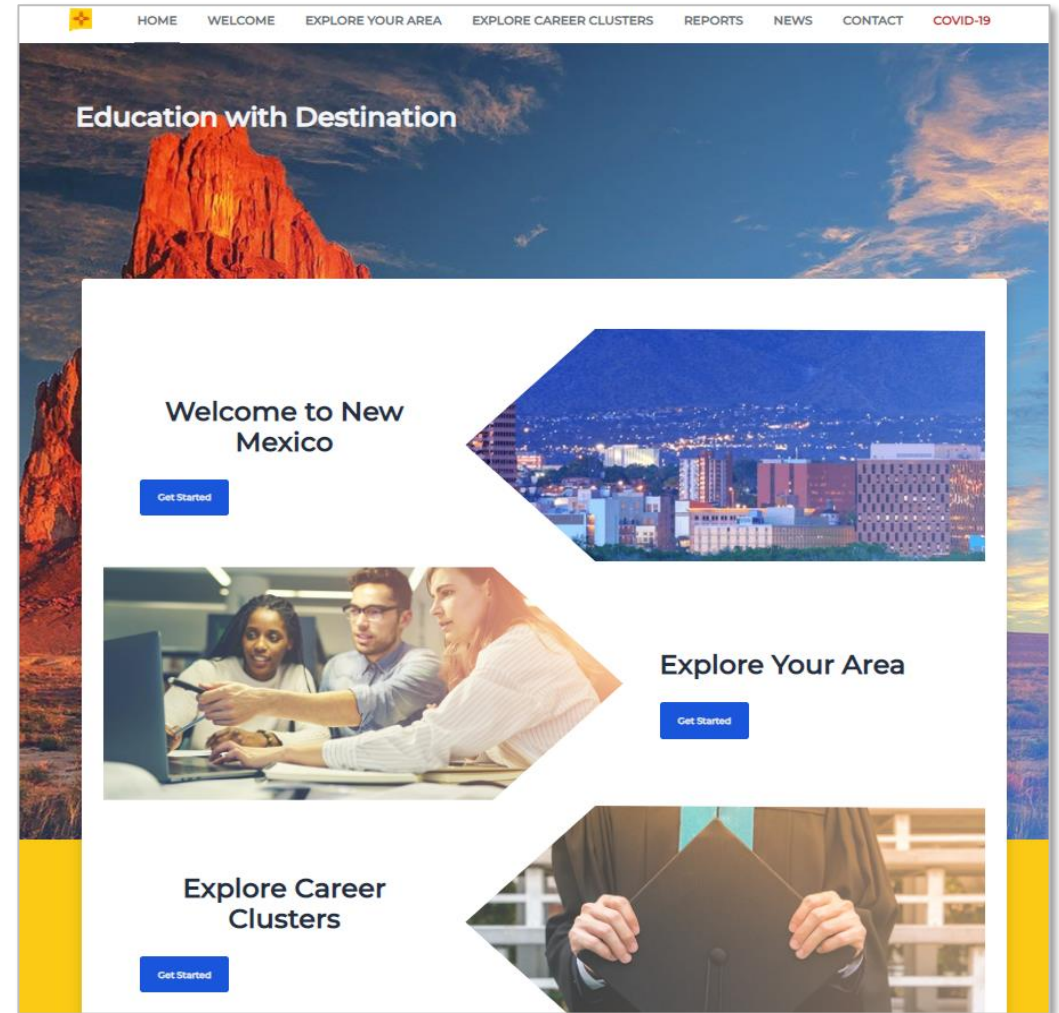
To successfully identify high-value careers, data related to demand and wages needs to be evaluated.



Tools and Training

NM Career Pathways Dashboard

careerpathways-nm.com



Tools and Training

PC Professional Development
For Educators

CATALOG ANNOUNCEMENTS FORUM CONTACT LOG IN

Online Training

Discover the power of labor market information with

- Clear and concise video tutorials
- Printable guides
- Assessments to help verify your knowledge
- Completion certificates

GET STARTED

Not signed up yet? [Sign up.](#)



pathway2pd.com

Course Catalog

Introduction to Labor Market Exploration for Educators

This introductory course looks at how labor market information can be used to connect with the future of work and reveal critical directions for policy and practice that supports employment success for students.

[LEARN MORE](#)

Tools and Training

pathway2pd.com

Course Catalog



Introduction to Labor Market Exploration for Educators

This introductory course looks at how labor market information can be used to connect with the future of work and reveal critical directions for policy and practice that supports employment success for students.

[LEARN MORE](#)



Exploring High-Value Careers with Students

In this course, methods for identifying and connecting students with local high-value careers are discussed. Career exploration tools are introduced that can be used alongside labor market information to assist in informing and...

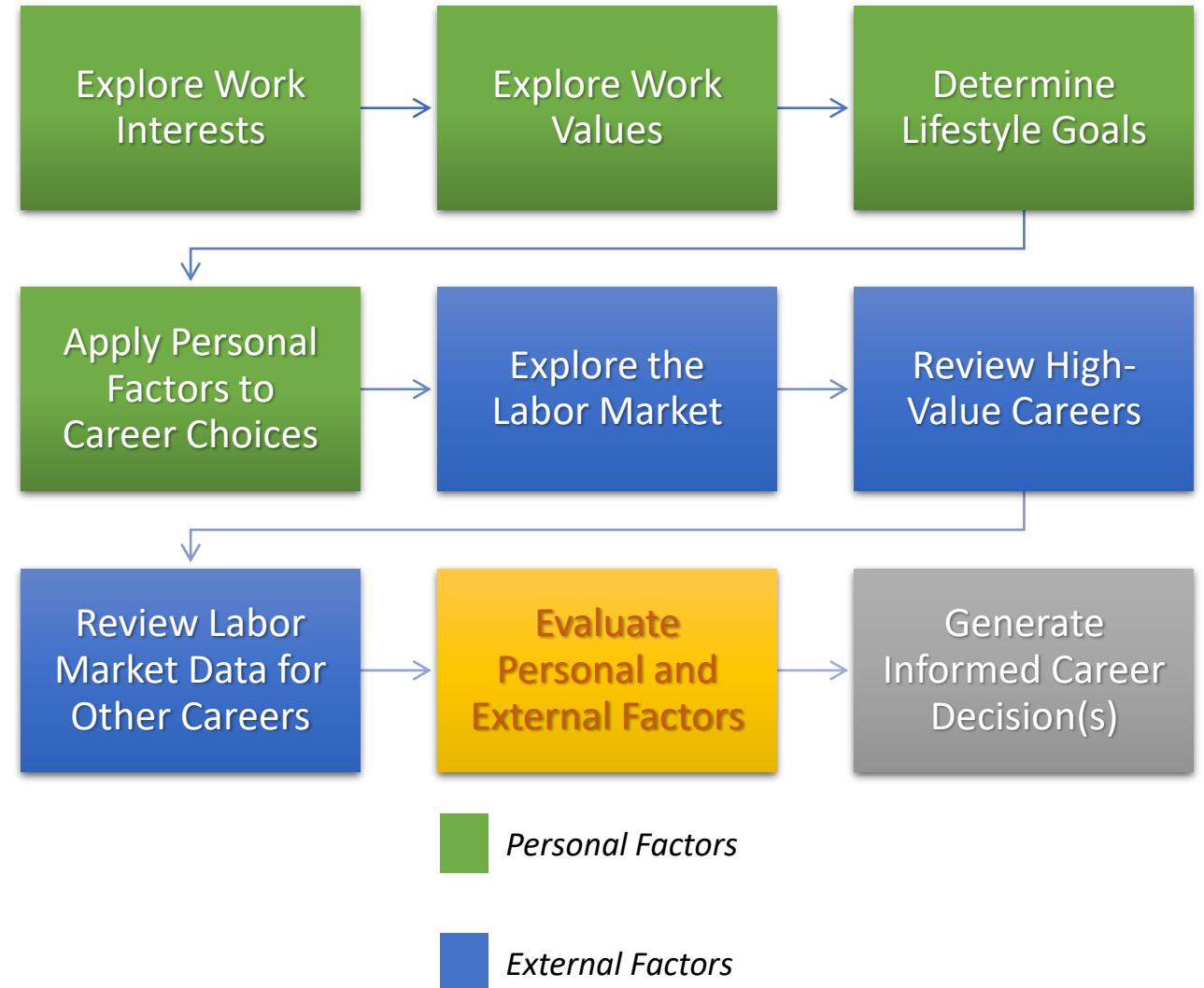
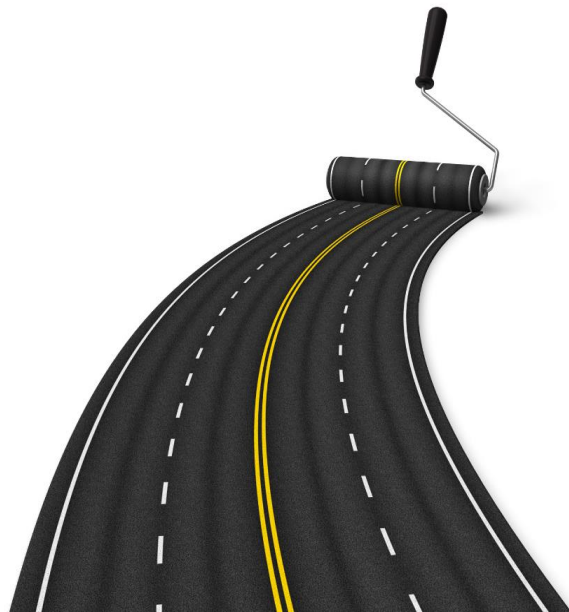
[LEARN MORE](#)



- **Course 1 = 4 hours**
 - Four modules
 - Four multiple choice quizzes
- **Course 2 = 3 hours**
 - Three modules
 - Three multiple choice quizzes
- **Completion certificate for each course**

PD - Helpful Solutions for Career Exploration

Roadmap for the Career Exploration Process



PD - Helpful Solutions for Career Exploration

High-Value Careers Tables


- Template for listing high-value careers by cluster
- Provides quick insight into top jobs within each cluster that are highest in demand with a living wage or better
- Can be shared with students as a simple resource to assist in making informed career decisions

Template available at
pathway2careers.com
(see P2C Downloads)


Local High-Value Careers

High-value careers are high-demand, high-wage careers that are stable or growing in demand.

School Name _____
School District _____
Workforce Region _____


 Architecture and Construction

Occupation	Annual Openings	Median Wages	Career Pathway	Information Link

 Arts, Audio/Visual Technology and Communication

Occupation	Annual Openings	Median Wages	Career Pathway	Information Link

NS4ed™ Pathway2Careers™ 2018 Trademark NS4ed, LLC

 NS4ed 2
RESEARCH • POLICY • PRACTICE

PD - Helpful Solutions for Career Exploration

Activity – Making Informed Decisions

Review – Gather and review information learned from exploration of personal and external factors.

Choose – Determine the importance of personal and external factors.

Evaluate – Assess the degree that occupations align with personal and external factors.

Decide – Select a career that provides the best match for personal and external factors.

Making Informed Career Decisions

Instructions: Review the results from your previous career exploration activities, including what you have learned about labor market data and high-value careers. Use this information to answer the questions below.

1. Complete the table below.

Work Interests Assessment	Work Values Assessment	Lifestyle Aspirations
List your top <u>two</u> work interests and provide a brief definition of each.	List your top <u>two</u> work values and provide a brief definition of each.	Briefly describe your future lifestyle goals and list the annual income you will need to support your lifestyle.

2. Review each of these fact important and 5 being least important. Rate each of your "Lifestyle Goals" and rate them from 1 to 5.

1
2
3
4
5

3. What are high-value careers? What types of labor market information can you look at to help you identify high-value careers?

4. For you, how important is it that your future career is a high-value career? Would you consider a career with low job availability or low wage? Why or why not?

After answering question 1-4, you should now have an idea of your top personal factors and a sense of how important high-value careers are to you. There are many ways to use this information and no one way is better than another. Below is one approach that you might find helpful.

Based on your answer to question 4, determine whether a high-value career is essential and choose one of the decision-making pathways below. Answer the questions for your chosen pathway.

High-Value Career is Essential

```
graph LR; EF[External Factors] --> PF[Personal Factors]; PF --> CD((Career Decision))
```


High-Value Career is Not Essential

```
graph LR; PF[Personal Factors] --> EF[External Factors]; EF --> CD((Career Decision))
```

Activity available at pathway2careers.com (see P2C Downloads)


NS4ed™ Pathway2Careers™ 2018 Trademark NS4ed, LLC Page | 2

PD - Helpful Solutions for Career Exploration



Architecture and Construction

National Career Clusters Pathway ♦ Construction



Regional Career Opportunities – Listed by Highest Projected Demand

Job Zone 1
High School
Diploma or Less


Job Zone 2
High School
Diploma

Job Zone 3
Certificate or
Associate's Degree

Job Zone 4
Bachelor's
Degree

Job Zone 5
Master's or
Doctorate Degree

Job Zone 1 High School Diploma or Less	Job Zone 2 High School Diploma	Job Zone 3 Certificate or Associate's Degree	Job Zone 4 Bachelor's Degree	Job Zone 5 Master's or Doctorate Degree
Cement Masons & Concrete Finishers Annual Openings = 117 Median Wage = \$39,108	Construction Laborers Annual Openings = 1121 Median Wage = \$30,603	Electricians Annual Openings = 582 Median Wage = \$45,173	Construction Managers Annual Openings = 235 Median Wage = \$73,169	<i>Few regional occupations in this pathway require education at this degree level.</i>
Conveyor Operators & Tenders Annual Openings = 29 Median Wage = \$26,564	Carpenters Annual Openings = 532 Median Wage = \$41,372	Plumbers, Pipefitters & Steamfitters Annual Openings = 327 Median Wage = \$46,955	<i>Few regional occupations in this pathway require education at this degree level.</i>	
<i>Few regional occupations in this pathway require education at this degree level.</i>	Operating Engineers & Other Construction Equipment Operators Annual Openings = 253 Median Wage = \$37,722	Structural Metal Fabricators & Fitters Annual Openings = 74 Median Wage = \$32,165		
	Painters, Construction & Maintenance Annual Openings = 200 Median Wage = \$35,711	Crane & Tower Operators Annual Openings = 48 Median Wage = \$39,484		
	Helpers - Electricians Annual Openings = 141 Median Wage = \$31,207	<i>Few regional occupations in this pathway require education at this degree level.</i>		




★ Top five high-value occupations in this pathway for the Northern Middle Tennessee Region


Occupations with the highest annual openings that are stable or growing with median wages above \$35,000 are considered high-value.

* State level data was used due to limitations in regional data.

Explore careers at tsbdata.dashboard.com




NS4ed™ Pathway2Careers™ 2018 Trademark NS4ed, LLC



Architecture and Construction

National Career Clusters Pathway ♦ Construction




Regional High School Requirements and Programs (Grades 9-12)

English Language Arts	Math	Science	Social Studies	Foreign Language	Physical Education	Fine Arts	Elective Focus
English I	Integrated I	Biology	World History and Geography	Foreign Language I	Lifetime Wellness	Fine Arts Selection	Minimum of Three Courses <i>See career programs and electives below.</i>
English II	Integrated II	Chemistry	U.S. History and Geography	Foreign Language II	Physical Education (.5)	-----	One Additional Elective is Required
English III	Integrated III	Physics	Economics / Government	-----	-----	-----	
English IV	Upper Level Math	-----	Personal Finance (.5)	-----	-----	-----	

Career Programs	Career Program Courses	Additional Electives	Regional Postsecondary Schools	
<input type="checkbox"/> Residential & Commercial Construction <input type="checkbox"/> Mechanical, Electrical, and Plumbing (MEP Systems) <i>See other Architecture and Construction pathways for additional career programs and opportunities.</i>	<input type="checkbox"/> Career Exploration <input type="checkbox"/> Fundamentals of Construction <input type="checkbox"/> Residential and Commercial Construction I & II <input type="checkbox"/> Mechanical, Electrical, & Plumbing Systems (MEP Systems) <input type="checkbox"/> HVAC <input type="checkbox"/> Electrical Systems <input type="checkbox"/> Plumbing Systems <input type="checkbox"/> Work-Based Learning / Practicum	English Language Arts <input type="checkbox"/> _____ <input type="checkbox"/> _____ Math <input type="checkbox"/> _____ <input type="checkbox"/> _____ Science <input type="checkbox"/> _____ <input type="checkbox"/> _____ Other <input type="checkbox"/> _____ <input type="checkbox"/> _____	Certificates and Associate's Degrees Community Colleges <ul style="list-style-type: none"> • Motlow State Community College • Tennessee College of Applied Technology • Nashville State Community College 	Bachelor's and Advanced Degrees Colleges and Universities <ul style="list-style-type: none"> • Middle Tennessee State University • Tennessee State University • University of Tennessee • Vanderbilt University

Postsecondary Programs/Majors for Occupations in this Pathway

Certificate or AA	Electrician	Plumbing and Related Water Supply Services	Metal Fabricator	Mobile Crane Operation	Masonry
Bachelor's Degree	Construction Management	***	***	***	***
Advanced Degree	***	***	***	***	***



NS4ed™ Pathway2Careers™ 2018 Trademark NS4ed, LLC

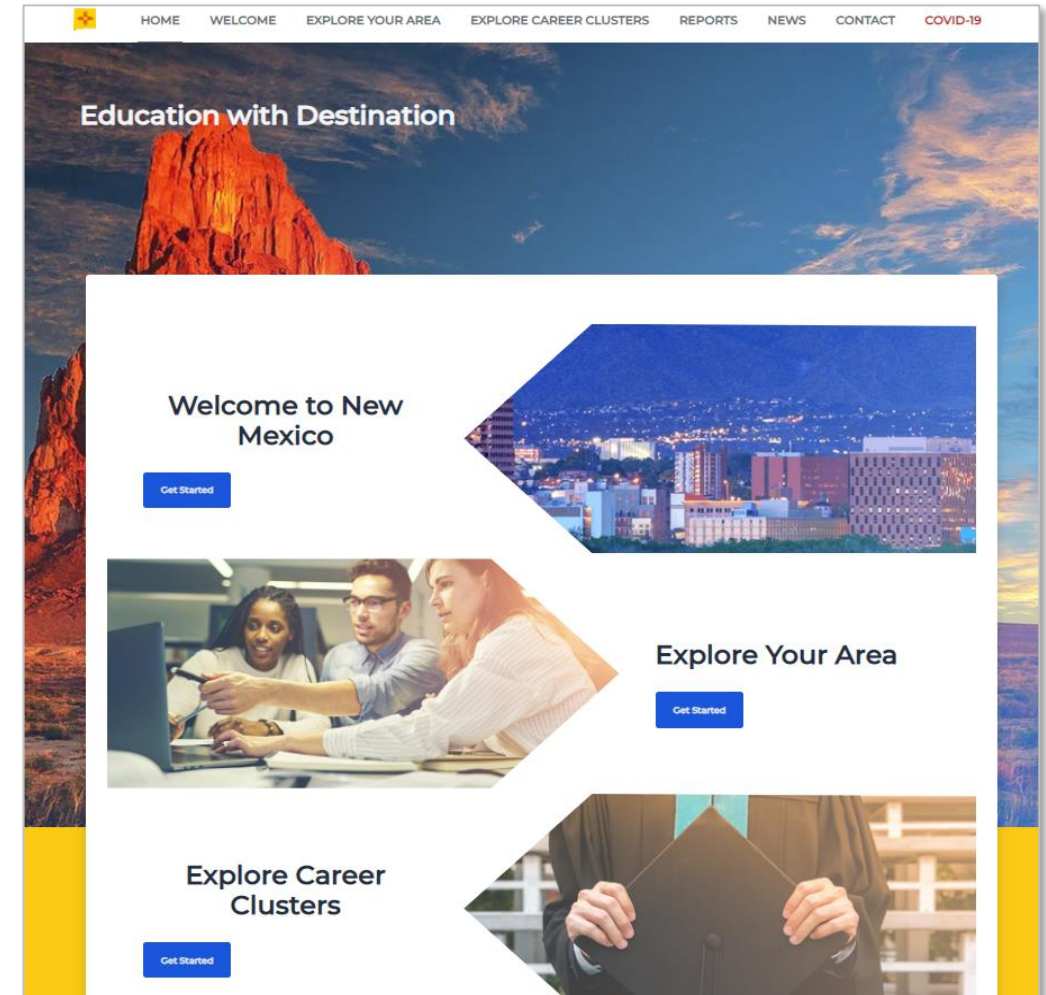
*** Few regional occupations in this pathway require education at this degree level.

Overview



careerpathways-nm.com

- The Future of Work
- Making Informed Career Decisions
- Tools and Training
 - *NM Career Pathways Dashboard*
 - *P2C Professional Development*
- Discussion



Contact Information



pathway2careers.com

Dr. Joseph Goins (CEO)
jgoins@ns4ed.com



Dr. Danielle Tallent (CLO)
dtallent@ns4ed.com