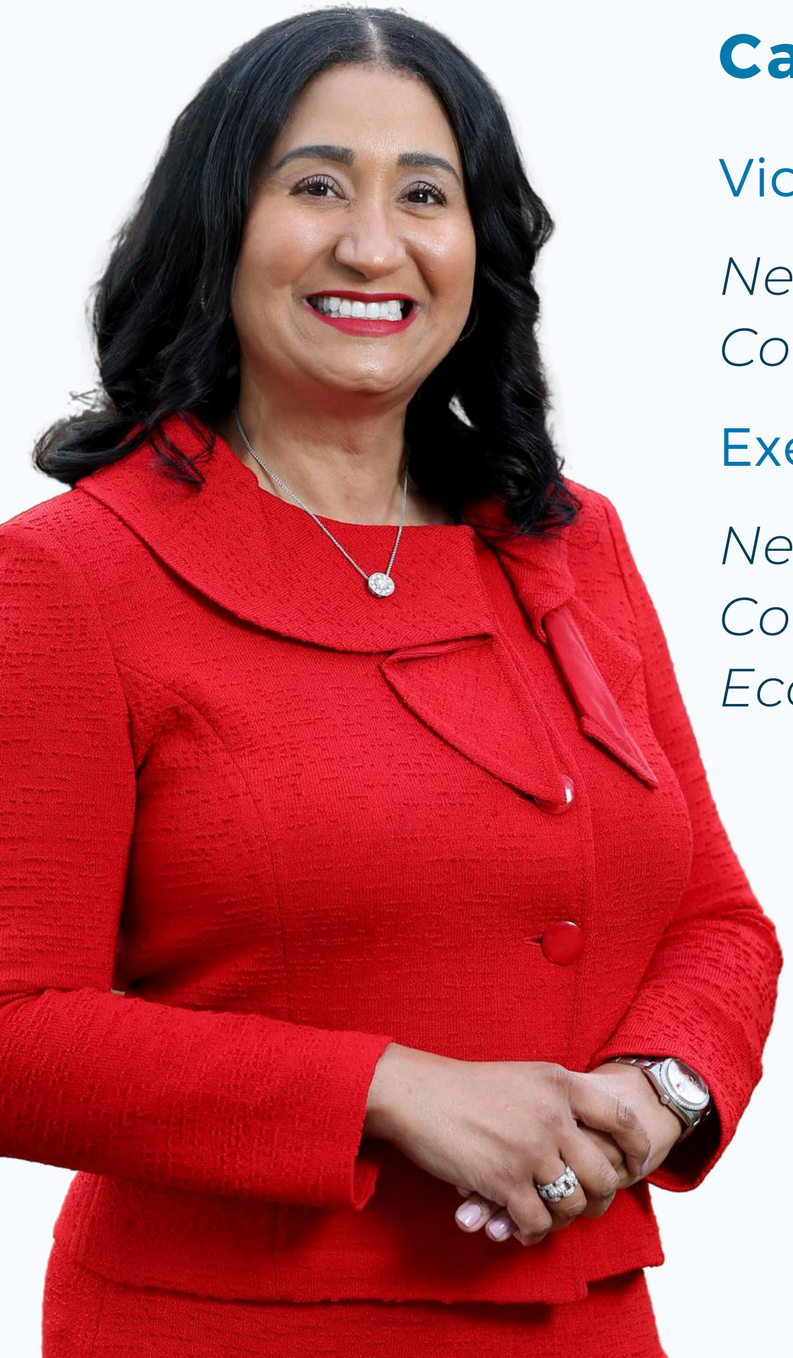
NJ PATHWAYS
TO CAREER OPPORTUNITIES
Aligning Education to Build an Innovative Workforce

Thank you for joining us. Please take this time to mute yourself.

NJ PATHWAYS
TO CAREER OPPORTUNITIES
Aligning Education to Build an Innovative Workforce

YEAR 2
END-OF-YEAR REPORT OUT

Center of Workforce Innovation for Data & Computer Science



Catherine Starghill, Esq.

Vice President

New Jersey Council of County Colleges

Executive Director

New Jersey Community College Consortium for Workforce & Economic Development

WELCOMING REMARKS

AGENDA

Data & Computer Science Pathway Projects Year 2 End-of-Year Report Out

1. Pilot Summer Institute for Data Science
2. The NJ Cyber Pathways to Cloud Computing
3. Bloomberg Fintech
4. Discovering the Power of Data
5. Precision Agriculture Using AI Drones
6. NJ Big Data Alliance – Data Science Articulation

Q&A

Upcoming Events

Our Education Partners

- Camden County College
- County College of Morris
- Essex County College
- Georgian Court University
- Hudson County Community College
- Kean University
- Middlesex College
- Montclair State University
- Ocean County College
- Ramapo College of NJ
- Raritan Valley Community College
- Rowan College at Burlington County
- Rowan University
- Rutgers University
- Rutgers University, Newark
- The Salvation Army, Kroc Center - Camden
- West Side High School, Newark Board of Education

Center of Workforce Innovation for Data & Computer Science

Kelly Fitzpatrick, Lead Institution Representative
County College of Morris

Pilot Summer Institute for Data Science

Kelly Fitzpatrick, County College of Morris
Joe Diaco, Camden County College

EDUCATION PARTNERS:

County College of Morris

Camden County College

Pilot Summer Institute for Data Science

The Summer Institute for Data Science provided high schools students with knowledge about data science as a growing field and discipline.

Four Main Goals:

1. **High school students gain exposure to data science terminology, techniques, and technology**
2. **High school students gain an understanding of educational pathways in data science**
3. **High school students gain an understanding of career opportunities in data science**
4. **Recruit students to community college data science courses, certificates and degree programs**

Research:

Summer programs are an effective mechanism for student on-ramping that can energize students to develop a passion for data science.

(National Academies of Sciences, Engineering and Medicine. (2018). Data Science for Undergraduates: Opportunities and Option (page 3-14 Summer Programs and Boot Camps))

PATHWAY CONNECTIONS:

Big Idea Different than the Work Done in Year 1

Connection to High School (Non-Credit)

Connection to High School (Dual Enrollment)

Community College (Non Credit)

Community College (Credit)

Apprenticeship Development

PLA for Apprenticeship RTI

PLA

Connection between Community Colleges (1+1)

Experiential Learning

Connection to CBOs

Adult Learners

Adult Literacy

Connection to 4-Yr College/University

Professional Development

Pilot

Pilot Summer Institute for Data Science

County College of Morris Agenda:

County College of Morris
Summer Institute for Data Science
June 24 – 27, 2024

Time	Session	Presenter	Location
9:00 to 9:30am	**Welcome to Summer Institute for Data Science Breakfast** **Coffee and Juice** **Tuesday Morning- Parent Information Session**	Patrick Enright, SVP, CCM	LRC
9:30 to 12:30am ***WORKING SESSIONS*** **For Data Science** *40 Students Per Session*	***June 24th- Monday*** *Topic: Decision Trees Music Preference in R*	Professor Kelly Fitzpatrick Mathematics Department	HH113
	June 25th- Tuesday Topic: Statistical Analysis in R	Professor Meimee Persau Mathematics Department	HH113
	June 26th- Wednesday Topic: Natural Language Processing (NLP) in Python	Professor Nancy Binowski Computer Science Department	HH113
	June 27th- Thursday Topic: Tableau Data Visualization	Professor Kelly Fitzpatrick Mathematics Department	HH113
12:30 to 1:00pm ***LUNCH AND LEARN***	Student, Employer, and Industry Presentations How to Apply for dual enrollment/share time programs CCM Professors invited to have lunch with the students **Lunch / Snacks and Drinks**		LRC

COUNTY COLLEGE OF MORRIS

PATHWAY CONNECTIONS:

Big Idea Different than the Work Done in Year 1

Connection to High School (Non-Credit)

Connection to High School (Dual Enrollment)

Community College (Non Credit)

Community College (Credit)

Apprenticeship Development

PLA for Apprenticeship RTI

PLA

Connection between Community Colleges (1+1)

Experiential Learning

Connection to CBOs

Adult Learners

Adult Literacy

Connection to 4-Yr College/University

Professional Development

Pilot

Pilot Summer Institute for Data Science

Results:

	2023	2024
# Attended	46	25
Male	66%	48%
Female	31%	43%
Asian	49%	74%
Hispanic	9%	9%
White	37%	9%
Entering 9th	69%	0%
Entering 10th	29%	70%
Entering 11th	3%	30%
Entering 12th	0%	0%

COUNTY COLLEGE OF MORRIS

PATHWAY CONNECTIONS:

Big Idea Different than the Work Done in Year 1

Connection to High School (Non-Credit)

Connection to High School (Credit)

Connection to High School (Dual Enrollment)

Community College (Non Credit)

Community College (Credit)

Apprenticeship Development

PLA for Apprenticeship RTI

PLA

Connection between Community Colleges (1+1)

Experiential Learning

Connection to CBOs

Adult Learners

Adult Literacy

Connection to 4-Yr College/University

Professional Development

Pilot

Pilot Summer Institute for Data Science

Improvements:

All improvements from the 2023 Summer Institute were implemented in the 2024 program.

Improvements for Data Science Summer Institute
1. Incorporate gamification (Kahoot) and more projects where students need to figure things out on their own
2. Divide students into teams to compete against each other for prizes / more interactive
3. Invite parents and high school teachers to breakfast info session on dual enrollment
4. Order more small and medium t-shirts
5. Allow more time for students to take the evaluation survey and review survey questions with them 6. For students that attend all four days hand out certificates of completion

COUNTY COLLEGE OF MORRIS

PATHWAY CONNECTIONS:

Big Idea Different than the Work Done in Year 1

Connection to High School (Non-Credit)

Connection to High School (Credit)

Connection to High School (Dual Enrollment)

Community College (Non Credit)

Community College (Credit)

Apprenticeship Development

PLA for Apprenticeship RTI

PLA

Connection between Community Colleges (1+1)

Experiential Learning

Connection to CBOs

Adult Learners

Adult Literacy

Connection to 4-Yr College/University

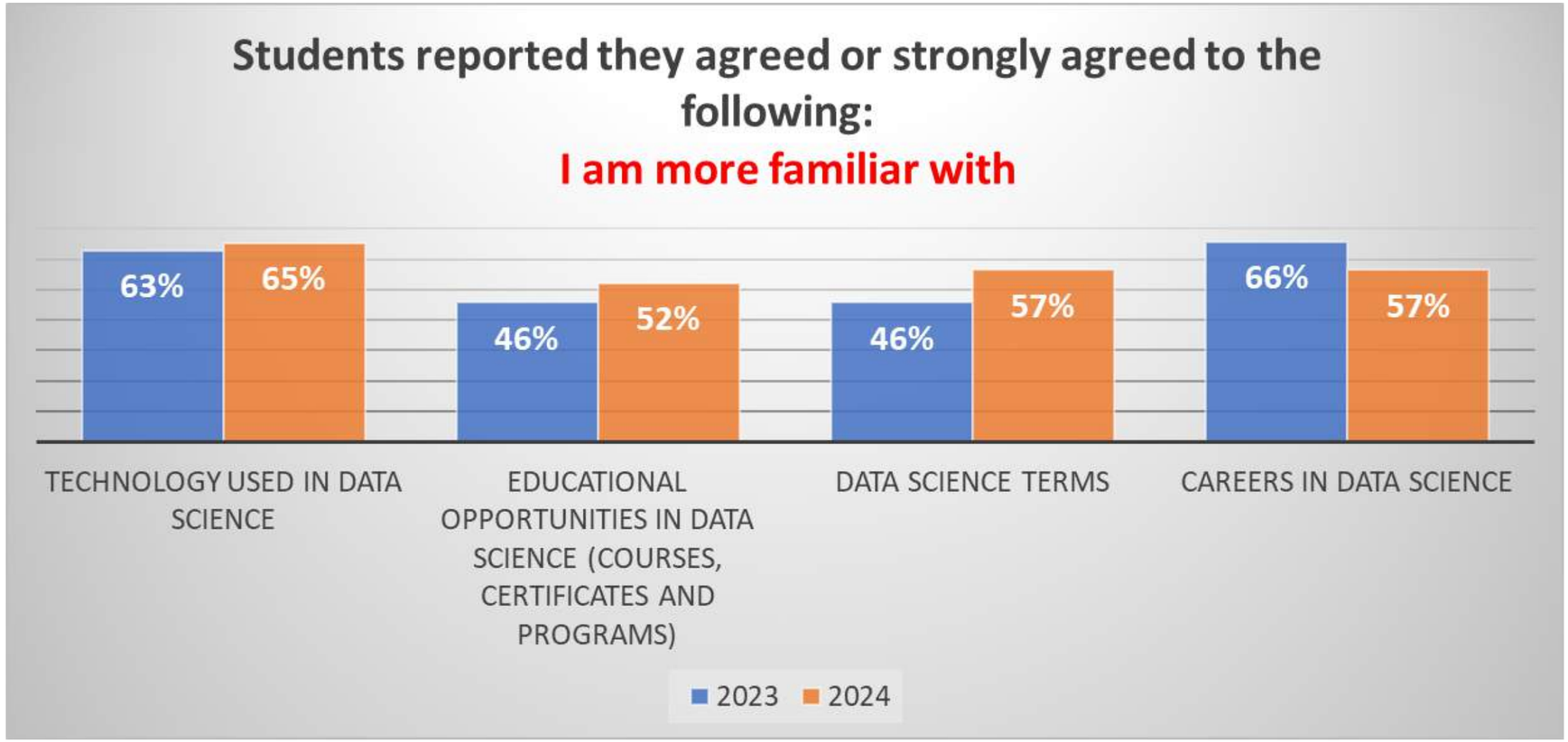
Professional Development

Pilot

Pilot Summer Institute for Data Science

Results:

All metrics were above 50% in 2024



Notes: Gamification was used to improve student knowledge, there was not an industry speaker in 2024.

COUNTY COLLEGE OF MORRIS

PATHWAY CONNECTIONS:

Big Idea Different than the Work Done in Year 1

Connection to High School (Non-Credit)

Connection to High School (Dual Enrollment)

Community College (Non Credit)

Community College (Credit)

Apprenticeship Development

PLA for Apprenticeship RTI

PLA

Connection between Community Colleges (1+1)

Experiential Learning

Connection to CBOs

Adult Learners

Adult Literacy

Connection to 4-Yr College/University

Professional Development

Pilot

Pilot Summer Institute for Data Science

Participation:

25 Attended 2024

4.0★
average rating

COUNTY COLLEGE OF MORRIS

PATHWAY CONNECTIONS:

Big Idea Different than the Work Done in Year 1

Connection to High School (Non-Credit)

Connection to High School (Dual Enrollment)

Community College (Non Credit)

Community College (Credit)

Apprenticeship Development

PLA for Apprenticeship RTI

PLA

Connection between Community Colleges (1+1)

Experiential Learning

Connection to CBOs

Adult Learners

Adult Literacy

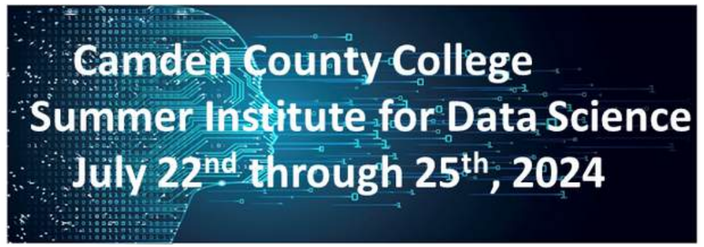
Connection to 4-Yr College/University

Professional Development

Pilot

Pilot Summer Institute for Data Science

Camden County College Agenda:



NJ PATHWAYS TO CAREER OPPORTUNITIES
Aligning Education to Build an Innovative Workforce

Time	Session	Presenter	Location
9:00 to 9:25am	Registration and Breakfast Monday through Thursday		Roosevelt 102
WORKING SESSIONS Mon – Thurs 9:30 am – 12:30 pm	July 22nd- Monday Welcome + Summer Institute Intro Data Science Using Spreadsheets (Excel) Is there a relationship between your height and arm span?	Instructors: Profs Diaco, Wright, Le, Quinto-Green and Smaldone Student Aids: Jake Green &Rob Czarnota	CIM-111S
	July 23rd- Tuesday R Statistical Programming for Data Science Data Science & Analytics	Instructors: Profs Smaldone, Diaco, & Quinto-Green Student Aid: Rob Czarnota	CIM-111S
	July 24th- Wednesday Natural Language Processing using Python Exploring Unstructured Data	Instructors: Profs Le & Wright Student Aid: Jake Green	CIM-111S
	July 25th- Thursday Data Visualization Using Tableau to Build Visualizations	Instructor: Prof Wright Student Aid: Jake Green	CIM-111S
12:30 pm	Lunch		Roosevelt 102
1pm	Students Dismissed		

PATHWAY CONNECTIONS:

Big Idea Different than the Work Done in Year 1

Connection to High School (Non-Credit)

Connection to High School (Dual Enrollment)

Community College (Non Credit)

Community College (Credit)

Apprenticeship Development

PLA for Apprenticeship RTI

PLA

Connection between Community Colleges (1+1)

Experiential Learning

Connection to CBOs

Adult Learners

Adult Literacy

Connection to 4-Yr College/University

Professional Development

Pilot

Pilot Summer Institute for Data Science

Results:

Camden County College hosted its first Summer Institute for Data Science from July 22 through July 25, 2024.

- **The summer program hosted 17 students from 10 different local area high schools.**
- **Students participated in four days of hands-on workshops focused on introducing students to data science technologies and concepts using Excel, R, Python, and Tableau.**
- **Projects ranged from basic Excel functions including correlation and regression performed on data collected by measuring each other's arm spans and heights, song generation using AI, natural language processing in Python, data analysis in R, and visualizing data in Tableau.**
- **The students rated their overall experience a 4.47 out of 5.**

CAMDEN COUNTY COLLEGE

PATHWAY CONNECTIONS:

Big Idea Different than the Work Done in Year 1

Connection to High School (Non-Credit)

Connection to High School (Dual Enrollment)

Community College (Non Credit)

Community College (Credit)

Apprenticeship Development

PLA for Apprenticeship RTI

PLA

Connection between Community Colleges (1+1)

Experiential Learning

Connection to CBOs

Adult Learners

Adult Literacy

Connection to 4-Yr College/University

Professional Development

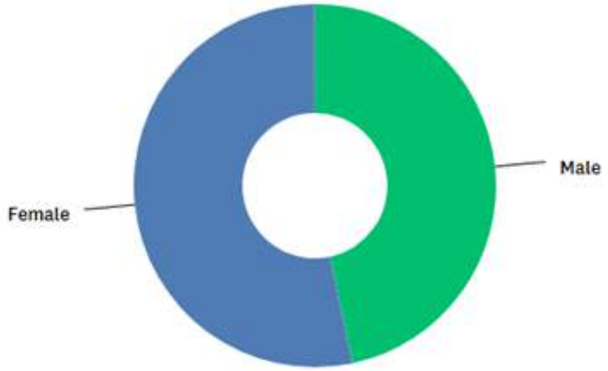
Pilot

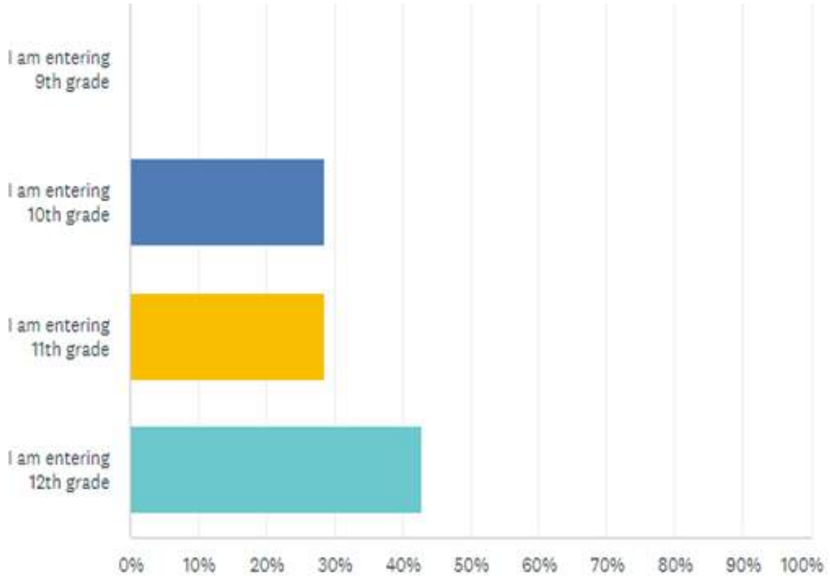
Pilot Summer Institute for Data Science

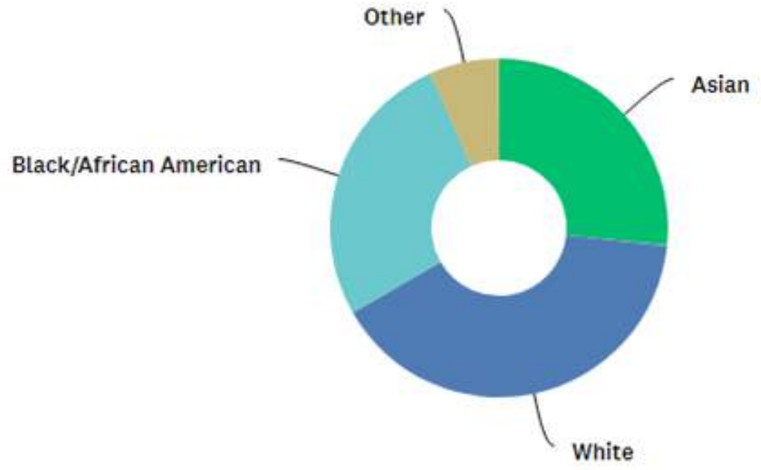
Results:

Demographic Information:

47% were male and 53% were females







28% were entering 10th grade,
28% entering 11th grade, and
43% entering 12th grade

Asian: 27%, White: 40%
Black/African American: 27%,
Other: 6%

CAMDEN COUNTY COLLEGE

PATHWAY CONNECTIONS:

Big Idea Different than the Work Done in Year 1

Connection to High School (Non-Credit)

Connection to High School (Dual Enrollment)

Community College (Non Credit)

Community College (Credit)

Apprenticeship Development

PLA for Apprenticeship RTI

PLA

Connection between Community Colleges (1+1)

Experiential Learning

Connection to CBOs

Adult Learners

Adult Literacy

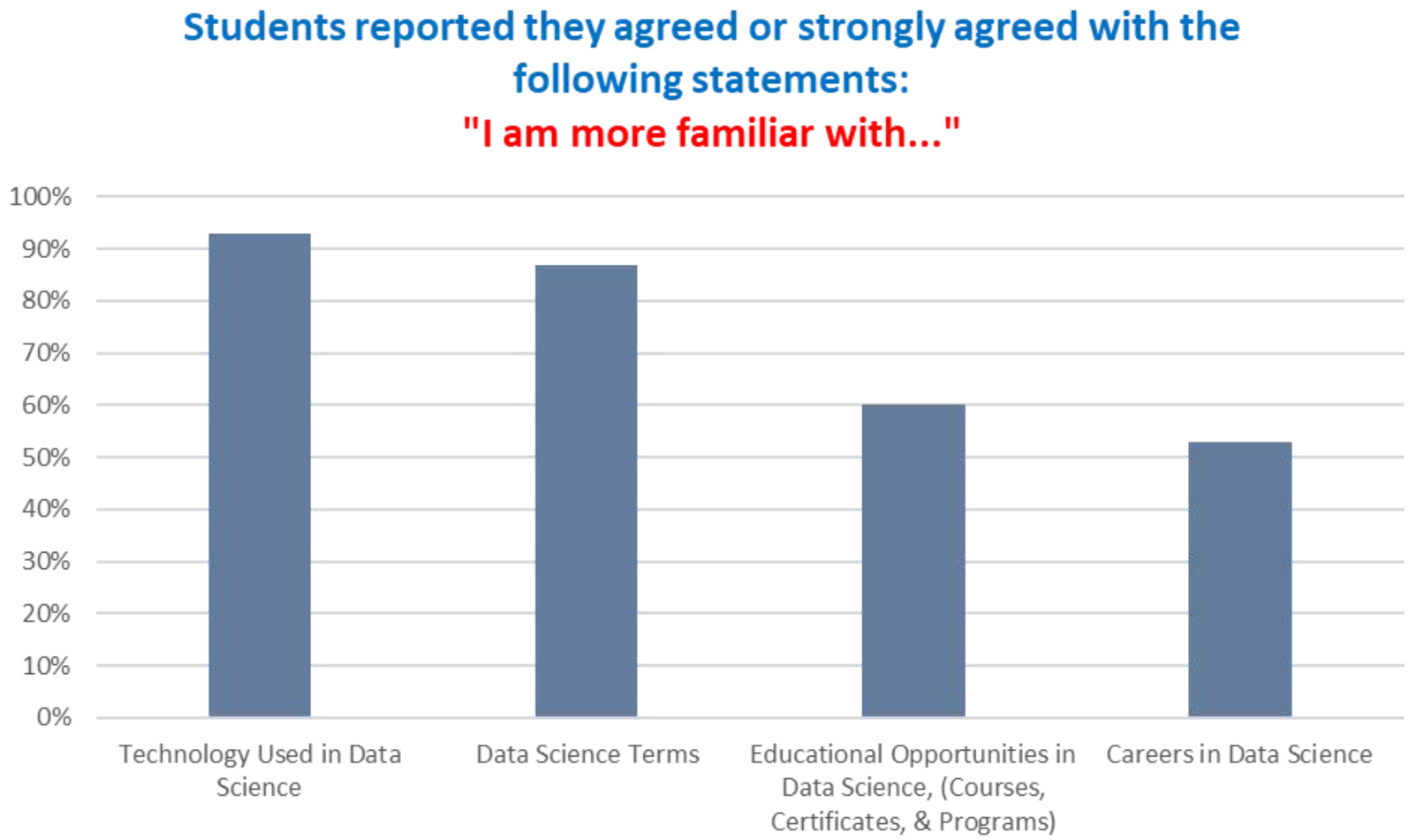
Connection to 4-Yr College/University

Professional Development

Pilot

Pilot Summer Institute for Data Science

Results:



CAMDEN COUNTY COLLEGE

PATHWAY CONNECTIONS:

Big Idea Different than the Work Done in Year 1

Connection to High School (Non-Credit)

Connection to High School (Dual Enrollment)

Community College (Non Credit)

Community College (Credit)

Apprenticeship Development

PLA for Apprenticeship RTI

PLA

Connection between Community Colleges (1+1)

Experiential Learning

Connection to CBOs

Adult Learners

Adult Literacy

Connection to 4-Yr College/University

Professional Development

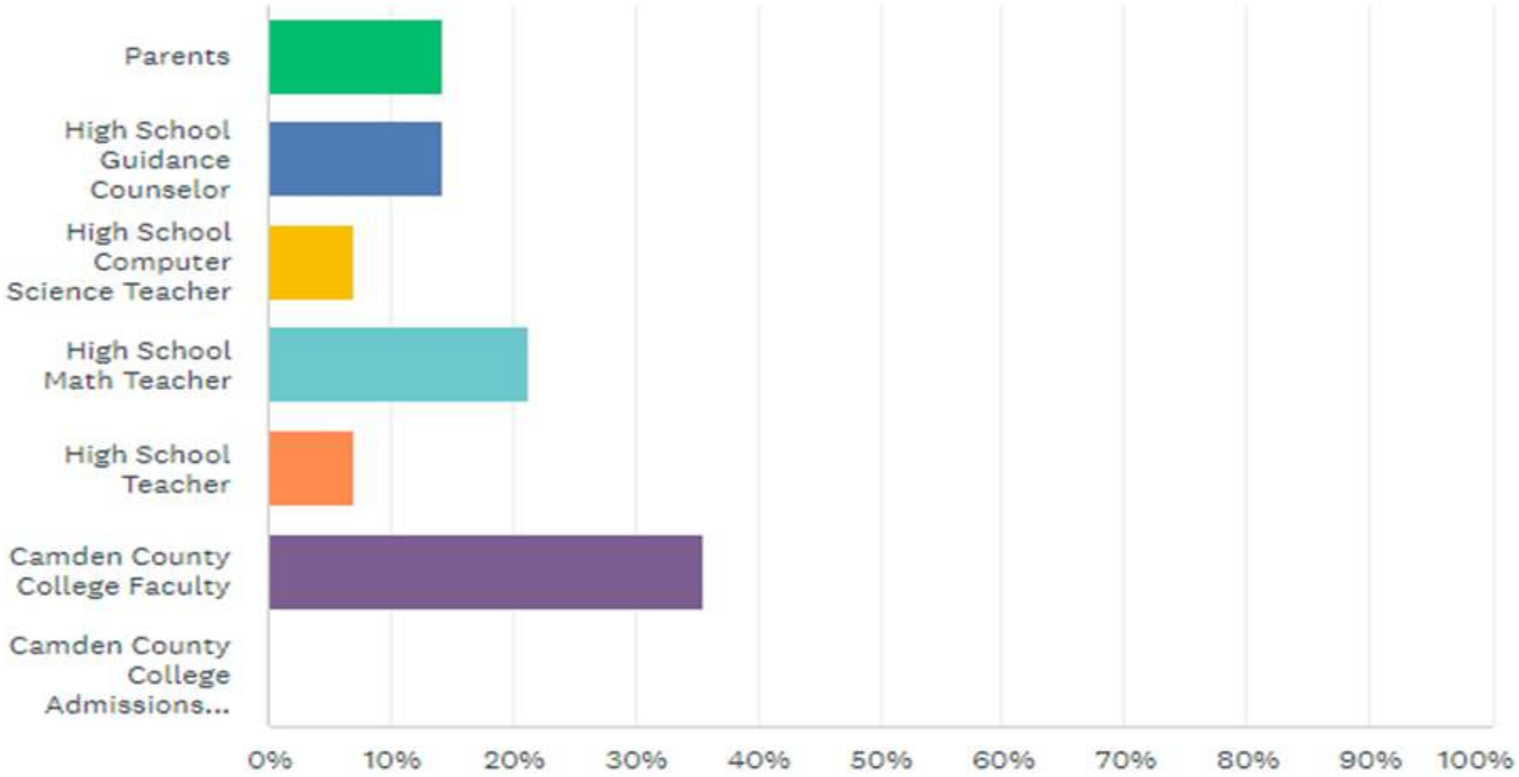
Pilot

Pilot Summer Institute for Data Science

Results:

Next Steps:

36% of students replied that they were more likely to seek further information about data science from CCC faculty than their parents, high school teachers, or guidance counselors.



CAMDEN COUNTY COLLEGE

PATHWAY CONNECTIONS:

Big Idea Different than the Work Done in Year 1

Connection to High School (Non-Credit)

Connection to High School (Dual Enrollment)

Community College (Non Credit)

Community College (Credit)

Apprenticeship Development

PLA for Apprenticeship RTI

PLA

Connection between Community Colleges (1+1)

Experiential Learning

Connection to CBOs

Adult Learners

Adult Literacy

Connection to 4-Yr College/University

Professional Development

Pilot

Pilot Summer Institute for Data Science

Results:

When asked, "How likely are you to recommend the 2025 Data Science Summer Institute to a friend or classmate?":

80% of students were "likely" or "very likely" to recommend the 2025 Data Science Summer Institute to a friend or classmate, with 20% responding "somewhat likely."

Student Comments:

In response to the question "Do you have any suggestions for new topics to cover or improvements to the Summer Institute?" Ten skipped the question, six replied "No" or "No change", and one suggested, "Maybe make the breaks just a little bit longer."

Students completed the survey at the end of the last training session and all students who attended the full four days were presented with a certificate of completion as suggested by CCM's 2023 results.

Overall, the CCC Summer Institute Pilot was a great success!

CAMDEN COUNTY COLLEGE

PATHWAY CONNECTIONS:

Big Idea Different than the Work Done in Year 1

Connection to High School (Non-Credit)

Connection to High School (Dual Enrollment)

Community College (Non Credit)

Community College (Credit)

Apprenticeship Development

PLA for Apprenticeship RTI

PLA

Connection between Community Colleges (1+1)

Experiential Learning

Connection to CBOs

Adult Learners

Adult Literacy

Connection to 4-Yr College/University

Professional Development

Pilot

Pilot Summer Institute for Data Science

Results:

CAMDEN COUNTY COLLEGE

The NJ Cyber Pathways to Cloud Computing

Mutasem Awwad, Raritan Valley Community College
Edem Tetteh, Rowan College at Burlington County

EDUCATION PARTNERS:

Ocean County College

Raritan Valley Community College

Rowan College at Burlington County

The NJ Cyber Pathways to Cloud Computing

The NJ Cyber Pathways to Cloud Computing project developed two Cybersecurity certificate programs using three modalities: face-to-face, HyFlex, and asynchronous online instructional delivery that utilizes a secured document repository shared amongst the three partner institutions.

Courses in the certificate programs are aligned to both industry-recognized certification standards and to the Workforce Framework for Cybersecurity (NICE Framework).

Each course completed will be transferrable between the partner colleges. This enables students enrolled in any of the partner colleges to complete these courses at any of the three colleges and seamlessly transfer the credits to their home institution.

PATHWAY CONNECTIONS:

Big Idea Different than the Work Done in Year 1

Connection to High School (Non-Credit)

Connection to High School (Dual Enrollment)

Community College (Non Credit)

Community College (Credit)

Apprenticeship Development

PLA for Apprenticeship RTI

PLA

Connection between Community Colleges (1+1)

Experiential Learning

Connection to CBOs

Adult Learners

Adult Literacy

Connection to 4-Yr College/University

Professional Development

Pilot

The NJ Cyber Pathways to Cloud Computing

10 3-credit courses were developed for online, onsite and Hyflex Modalities.

Required Courses with the Associated Credential

- **CyberOps Associate --> Cisco CyberOps Associate Credential**
- **Computer Hardware and Software --> CompTIA A+**
- **Ethical Hacking and Penetration Testing --> Certified Ethical Hacker**
- **Information Security Fundamentals --> CompTIA Security+**
- **Linux Fundamentals --> CompTIA Linux+**
- **Networking Essentials --> CompTIA Network+**

Pathway 1: Cloud Computing and Forensic Certificate

- **System Administration and Cloud Computing --> MicrosoftAZ800**
- **Privacy, Ethics and Forensics --> Digital Forensic**

Pathway 2: Cyber Healthcare and Compliance Certificate

- **Cyber Healthcare and Compliance --> HCISPP Credential**
- **Cybersecurity Legal and Regulatory Compliance --> CGRC Credential**

PATHWAY CONNECTIONS:

Big Idea Different than the Work Done in Year 1

Connection to High School (Non-Credit)

Connection to High School (Dual Enrollment)

Community College (Non Credit)

Community College (Credit)

Apprenticeship Development

PLA for Apprenticeship RTI

PLA

Connection between Community Colleges (1+1)

Experiential Learning

Connection to CBOs

Adult Learners

Adult Literacy

Connection to 4-Yr College/University

Professional Development

Pilot

The NJ Cyber Pathways to Cloud Computing

Raritan Valley Community College (RVCC):

- **Piloted two online courses in Summer 2024 via online mode:**
  - **Networking Essentials (5 students)**
  - **Security Fundaments courses (8 students)**
  - **One of two students passed COMPTIA A+ and Network+ certification and received an internship offer from HP.**

Rowan College at Burlington County (RCBC):

- **Piloting the following courses:**
  - **CIS-113: Computer Basics**
  - **CIS 160 - Programming I**
  - **CIS 263 - Data Structures and Algorithms**
  - **CIS 264 Computer Organization and Systems Programming**

Ocean County College (OCC):

- **Piloting three Hyflex and face to face courses:**
  - **Cyber Legal and Regulatory Compliance**
  - **Cyber Healthcare and Compliance**
  - **CyberOps Associate**

PATHWAY CONNECTIONS:

Big Idea Different than the Work Done in Year 1

Connection to High School (Non-Credit)

Connection to High School (Dual Enrollment)

Community College (Non Credit)

Community College (Credit)

Apprenticeship Development

PLA for Apprenticeship RTI

PLA

Connection between Community Colleges (1+1)

Experiential Learning

Connection to CBOs

Adult Learners

Adult Literacy

Connection to 4-Yr College/University

Professional Development

Pilot

The NJ Cyber Pathways to Cloud Computing

OCC engaged in an in-depth, market research needs assessment summary for Adult Learners through the Hanover Research Company.

The assessment targeted the demand for information technology occupations and healthcare-related information technology occupations particularly in Ocean County. As a result of this analysis and based on the demographics and labor market trends, Hanover suggested two low hanging fruit programs already offered at OCC.

- **AAS in Computer Science with a concentration in Information Technology**
- **AAS in Computer Science with a concentration in Cybersecurity**
- **Both degrees offer anywhere from 9 to 11 industry recognized credentials and two certificates:**
  - **One in cybersecurity and one in IT**
  - **All courses can be taken in three modalities (face to face, Hyflex, and online)**
  - **Both degrees can be completed in 12 - 18 months**
  - **All courses, except for two, have no pre-requisites**
    - **A student can sit for most of the industry recognized credential exams without taking a pre-requisite course**

PATHWAY CONNECTIONS:

Big Idea Different than the Work Done in Year 1

Connection to High School (Non-Credit)

Connection to High School (Dual Enrollment)

Community College (Non Credit)

Community College (Credit)

Apprenticeship Development

PLA for Apprenticeship RTI

PLA

Connection between Community Colleges (1+1)

Experiential Learning

Connection to CBOs

Adult Learners

Adult Literacy

Connection to 4-Yr College/University

Professional Development

Pilot

The NJ Cyber Pathways to Cloud Computing

Ancillary Outcomes:

- **RVCC signed an agreement with Hunterdon County Vocational School (HCVS) enabling HVCS students to complete up to two 3-credit courses: (1) Desktop computer Hardware and (2) Software and Networking Essentials.**
- **OCC currently works with several high schools, including Pinelands High School, offering the Cybersecurity program as part of their evening school which began in Summer 2024 and is scheduled to begin in Fall 2024 at Barnegat Bay High School for dual enrollment.**
- **RCBC is currently working to bring technical education to high schools through their PTECH program, dual enrollment, grant opportunities, and scholarships. RCBC recently completed the quick step program which allowed high schools to learn and complete CompTIA ITF and Network + certifications.**

PATHWAY CONNECTIONS:

Big Idea Different than the Work Done in Year 1

Connection to High School (Non-Credit)

Connection to High School (Dual Enrollment)

Community College (Non Credit)

Community College (Credit)

Apprenticeship Development

PLA for Apprenticeship RTI

PLA

Connection between Community Colleges (1+1)

Experiential Learning

Connection to CBOs

Adult Learners

Adult Literacy

Connection to 4-Yr College/University

Professional Development

Pilot

The NJ Cyber Pathways to Cloud Computing

Ancillary Outcomes:

- **RVCC collaborating with RCBC on 3+1 articulation agreements:**
  - **AA in Computer Networks and AA in Cybersecurity at RVCC articulate to the BA in Computing and Informatics at Rowan University.**
- **RCBC currently has 3+1 articulation agreement with Rowan University for the BA Computing Informatics and 2+2 articulation agreements with Wilmington University for the BA in Computer and Network Security.**
- **OCC completing 3+1 and 2+2 articulation agreements with Rowan University for the BA Computing and Informatics.**

PATHWAY CONNECTIONS:

Big Idea Different than the Work Done in Year 1

Connection to High School (Non-Credit)

Connection to High School (Dual Enrollment)

Community College (Non Credit)

Community College (Credit)

Apprenticeship Development

PLA for Apprenticeship RTI

PLA

Connection between Community Colleges (1+1)

Experiential Learning

Connection to CBOs

Adult Learners

Adult Literacy

Connection to 4-Yr College/University

Professional Development

Pilot

The NJ Cyber Pathways to Cloud Computing

Professional development training and certification was delivered for faculty at OCC, RVCC, and RCBC in specific cybersecurity topics, included, but were not limited to:

- **Linux+ (both certificates),**
- **Cyber Healthcare (HCISPP), and**
- **Cybersecurity Legal and Regulatory Requirements (CGRC)**

Three RCBC faculty participated in the Architecting on AWS by TechReform training in January 2024. One faculty member completed the CompTIA Network+ course in Spring 2024 and is pending the completion of the industry credential exams.

One RVCC faculty member attended the Cisco Live conference in June 2024 and the COMPTIA Summit in July 2024.

Bloomberg Fintech

Cathy Skelley, Essex County College

EDUCATION PARTNERS:

Essex County College

West Side High School – Newark Board of Education

Rutgers University, Newark

Bloomberg Fintech

Bloomberg connects students and faculty across multiple disciplines to the world's leading business and financial information network. To empower students with the hands-on knowledge and real-world experience they will need to compete in today's job market, Essex County College (ECC) developed the following:

- **A scalable Pilot program for 20 students using Bloomberg Terminals as an experiential learning model across several majors. It provides real-world experience in a simulated setting with the opportunity to complete all eight modules and earn a Bloomberg Market Concepts (BMC) certificate.**
- **Scaling up Bloomberg course work by providing select speakers to talk about different business topics including Fintech.**
- **Establishing eight Bloomberg Terminals at the West Essex campus.**
- **Bloomberg Global Trading Challenge with participants/students across the world.**

PATHWAY CONNECTIONS:

Big Idea Different than the Work Done in Year 1

Connection to High School (Non-Credit)

Connection to High School (Dual Enrollment)

Community College (Non Credit)

Community College (Credit)

Apprenticeship Development

PLA for Apprenticeship RTI

PLA

Connection between Community Colleges (1+1)

Experiential Learning

Connection to CBOs

Adult Learners

Adult Literacy

Connection to 4-Yr College/University

Professional Development

Pilot

Bloomberg Fintech

Activities:

- **ECC's Business Division offered BMC prep sessions. Certifications were in ECO 101 and ECO 102 where students had the opportunity to complete all eight modules. Students in Level 200 courses were encouraged to do their projects using the Bloomberg terminals.**
- **West Side High School students enrolled in ECO 101 and 102 also had the opportunity to receive Bloomberg Certifications.**
- **Students completed the BMC modules and received their certifications in May 2024.**
- **Bloomberg course work was scaled up by arranging for select expert speakers to present different business topics, including Fintech, on a monthly basis.**
- **ECC had three teams represented at the 2023 Bloomberg Global Trading Challenge which attracted over 2,000 teams from around the world. Students had the opportunity to visit Bloomberg L.P. Headquarters in New York City at the end of the competition and received a Bloomberg certification of participation.**

PATHWAY CONNECTIONS:

Big Idea Different than the Work Done in Year 1

Connection to High School (Non-Credit)

Connection to High School (Dual Enrollment)

Community College (Non Credit)

Community College (Credit)

Apprenticeship Development

PLA for Apprenticeship RTI

PLA

Connection between Community Colleges (1+1)

Experiential Learning

Connection to CBOs

Adult Learners

Adult Literacy

Connection to 4-Yr College/University

Professional Development

Pilot

Bloomberg Fintech

Bloomberg Global Trading Challenge

Essex County College Business Division

Essex County College students competing in 2023 Global Trading Challenge visit Bloomberg L.P. Headquarters, in New York City and receive certificates of participation.

PATHWAY CONNECTIONS:

Big Idea Different than the Work Done in Year 1

Connection to High School (Non-Credit)

Connection to High School (Dual Enrollment)

Community College (Non Credit)

Community College (Credit)

Apprenticeship Development

PLA for Apprenticeship RTI

PLA

Connection between Community Colleges (1+1)

Experiential Learning

Connection to CBOs

Adult Learners

Adult Literacy

Connection to 4-Yr College/University

Professional Development

Pilot

Bloomberg Fintech

Essex County College Ribbon Cutting Ceremony

Bloomberg Lab West Essex 3/20/24

Discovering the Power of Data

Joe Diaco, Camden County College

EDUCATION PARTNERS:

Camden County College

Middlesex College

County College of Morris

Discovering the Power of Data

The Discovering the Power of Data project was designed to engage High School students in small-scale, data science-type projects. The project created all content including; (1) lesson plans, (2) lectures, (3) exercises, (4) projects, and (5) labs. The three 1-year high school, turnkey, dual-credit courses correspond to college-level courses in Data Literacy, Introduction to Data Science, and Programming in Python has been implemented in the 2024-25 academic year.

This dual enrollment project was designed to enhance data literacy and introduce data science and Python programming to high school students through a collaborative effort between Camden County College, Middlesex College, and County College of Morris.

PATHWAY CONNECTIONS:

Big Idea Different than the Work Done in Year 1

Connection to High School (Non-Credit)

Connection to High School (Dual Enrollment)

Community College (Non Credit)

Community College (Credit)

Apprenticeship Development

PLA for Apprenticeship RTI

PLA

Connection between Community Colleges (1+1)

Experiential Learning

Connection to CBOs

Adult Learners

Adult Literacy

Connection to 4-Yr College/University

Professional Development

Pilot

Discovering the Power of Data

Big Idea different than the work done in Year 1:

As a "big idea" different from Year 1, the Discovering the Power of Data project aligns seamlessly with New Jersey's Opportunity Agenda, created by the New Jersey Council of County Colleges, which supports enabling each New Jersey high school student to graduate with at least six college credits. This project provides a unique and valuable opportunity for students to engage with data science and Python programming, curriculum that is increasingly essential in the modern workforce.

Connection to High Schools:

The project enhanced the integration of dual credit courses by systematically aligning college-level curricula with high school teaching by developing and approving targeted courses. The structured training for high school faculty ensures that instructors are well-equipped to teach these advanced subjects effectively. Furthermore, ongoing coordination with high schools by dual credit team representatives from each college ensures that these courses are seamlessly incorporated into high school programs. This strategic alignment not only enhances the academic offerings at the high school level but also accelerates students' readiness for college education and future careers in data-driven fields.

PATHWAY CONNECTIONS:

Big Idea Different than the Work Done in Year 1

Connection to High School (Non-Credit)

Connection to High School (Dual Enrollment)

Community College (Non Credit)

Community College (Credit)

Apprenticeship Development

PLA for Apprenticeship RTI

PLA

Connection between Community Colleges (1+1)

Experiential Learning

Connection to CBOs

Adult Learners

Adult Literacy

Connection to 4-Yr College/University

Professional Development

Pilot

Discovering the Power of Data

Connection to Community College (Credit):

The project fostered collaboration between Camden County College, Middlesex College, and County College of Morris, exemplified by the collective development and internal approval of new courses and shared training initiatives for high school faculty. Through regular planning and coordination meetings, representatives from each college consistently shared insights, strategies, and progress, ensuring a unified approach to course content and delivery. This collaboration extends to the co-creation of educational materials and marketing presentations, facilitating a cohesive educational framework. These types of cooperative efforts not only leverage the strengths of each institution but also promotes a standardized quality of education across the involved colleges, enhancing the overall impact and scalability of programs in the broader educational landscape.

PATHWAY CONNECTIONS:

Big Idea Different than the Work Done in Year 1

Connection to High School (Non-Credit)

Connection to High School (Dual Enrollment)

Community College (Non Credit)

Community College (Credit)

Apprenticeship Development

PLA for Apprenticeship RTI

PLA

Connection between Community Colleges (1+1)

Experiential Learning

Connection to CBOs

Adult Learners

Adult Literacy

Connection to 4-Yr College/University

Professional Development

Pilot

Discovering the Power of Data

Accomplishments:

- **Storage and Maintenance**
- **High School Faculty Training**

Challenges encountered:

- **Content agreement**
- **Lack of relevant texts**
- **Creating the Data Literacy course**
- **Flexibility within High School Curricula**
- **Differences in meeting times and course length**
- **Differences in hardware/software**

Ancillary Outcomes:

- **Collegiality and Scalability**
- **Delivery and Management**
- **Consistency**

PATHWAY CONNECTIONS:

Big Idea Different than the Work Done in Year 1

Connection to High School (Non-Credit)

Connection to High School (Dual Enrollment)

Community College (Non Credit)

Community College (Credit)

Apprenticeship Development

PLA for Apprenticeship RTI

PLA

Connection between Community Colleges (1+1)

Experiential Learning

Connection to CBOs

Adult Learners

Adult Literacy

Connection to 4-Yr College/University

Professional Development

Pilot

Discovering the Power of Data

Words of Advice:

- **Prepare**
- **Set attainable goals**
- **Mindfulness**
- **Seek New Tools**
- **Team Composition**
- **Be open to new ideas**
- **Marketing**

PATHWAY CONNECTIONS:

Big Idea Different than the Work Done in Year 1

Connection to High School (Non-Credit)

Connection to High School (Dual Enrollment)

Community College (Non Credit)

Community College (Credit)

Apprenticeship Development

PLA for Apprenticeship RTI

PLA

Connection between Community Colleges (1+1)

Experiential Learning

Connection to CBOs

Adult Learners

Adult Literacy

Connection to 4-Yr College/University

Professional Development

Pilot

Discovering the Power of Data

Professional Development:

The project included professional development for both college and high school faculty, which is integral to the success of the dual credit courses. Team members from each college were tasked with training high school faculty to ensure they possess the skills to teach these newly developed courses effectively. All three Community Colleges held successful workshops or one-on-one training for high school faculty.

CCC Summer Professional Development Workshop for High School Faculty

PATHWAY CONNECTIONS:

Big Idea Different than the Work Done in Year 1

Connection to High School (Non-Credit)

Connection to High School (Dual Enrollment)

Community College (Non Credit)

Community College (Credit)

Apprenticeship Development

PLA for Apprenticeship RTI

PLA

Connection between Community Colleges (1+1)

Experiential Learning

Connection to CBOs

Adult Learners

Adult Literacy

Connection to 4-Yr College/University

Professional Development

Pilot

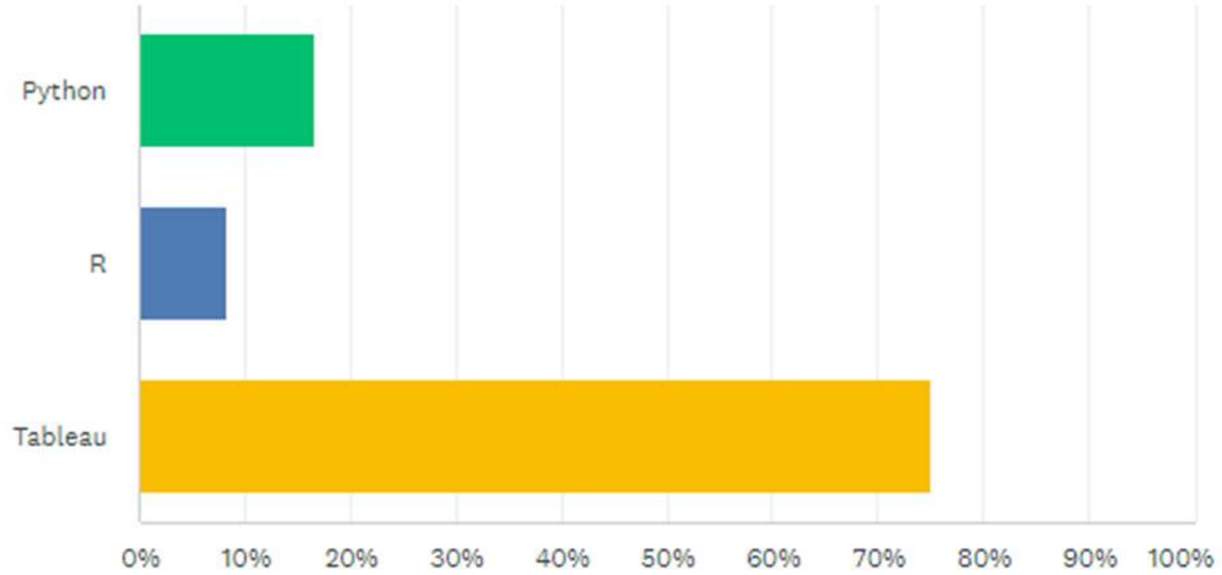
Discovering the Power of Data

Professional Development High School Faculty Survey Results

Demographics:

- **58% Male and 42% Female**
- **75% White, 17% Asian, and 8% Hispanic**

Favorite Training Session:



PATHWAY CONNECTIONS:

Big Idea Different than the Work Done in Year 1

Connection to High School (Non-Credit)

Connection to High School (Dual Enrollment)

Community College (Non Credit)

Community College (Credit)

Apprenticeship Development

PLA for Apprenticeship RTI

PLA

Connection between Community Colleges (1+1)

Experiential Learning

Connection to CBOs

Adult Learners

Adult Literacy

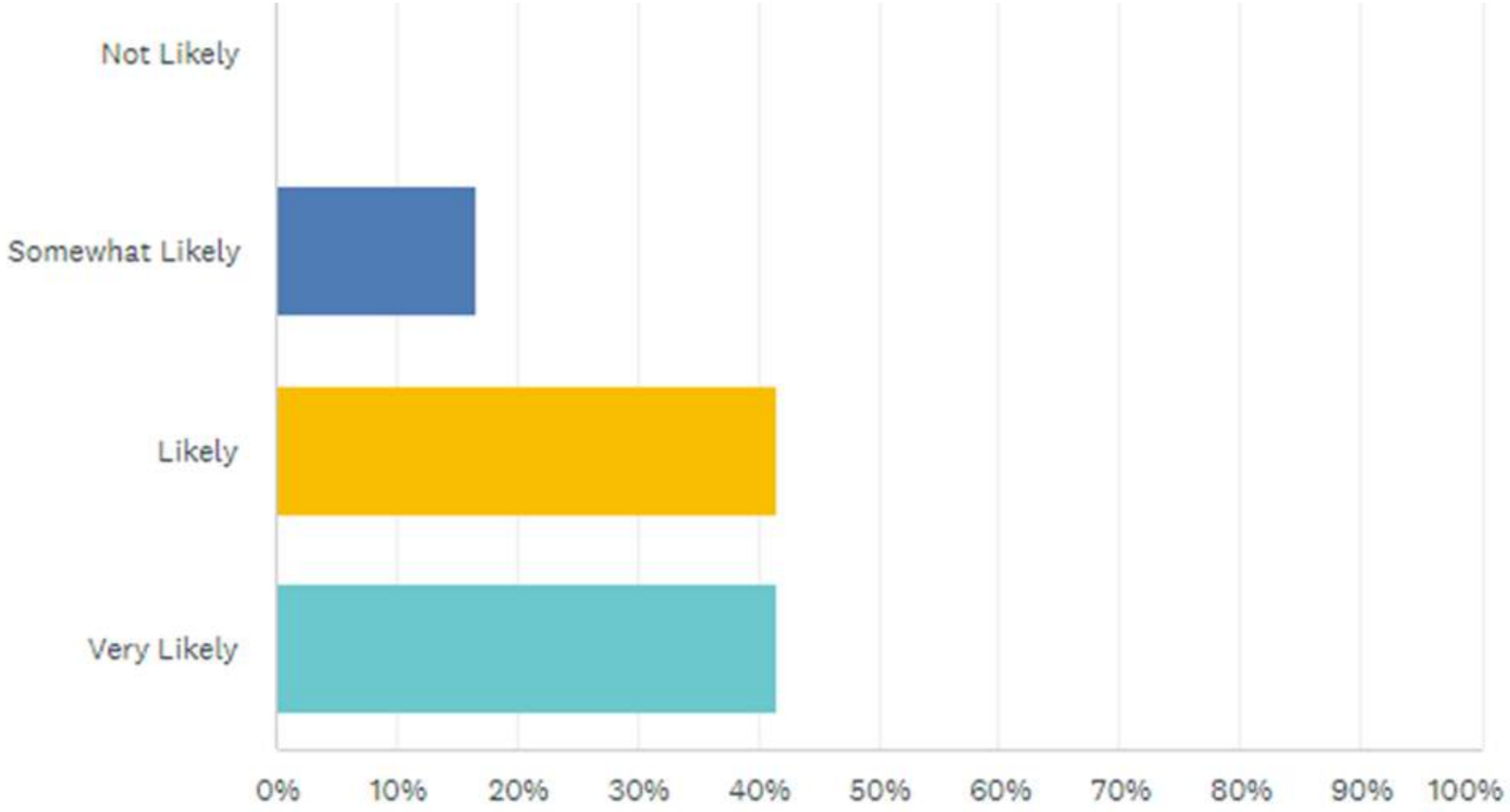
Connection to 4-Yr College/University

Professional Development

Pilot

Discovering the Power of Data

Professional Development High School Faculty Survey Results



PATHWAY CONNECTIONS:

Big Idea Different than the Work Done in Year 1

Connection to High School (Non-Credit)

Connection to High School (Dual Enrollment)

Community College (Non Credit)

Community College (Credit)

Apprenticeship Development

PLA for Apprenticeship RTI

PLA

Connection between Community Colleges (1+1)

Experiential Learning

Connection to CBOs

Adult Learners

Adult Literacy

Connection to 4-Yr College/University

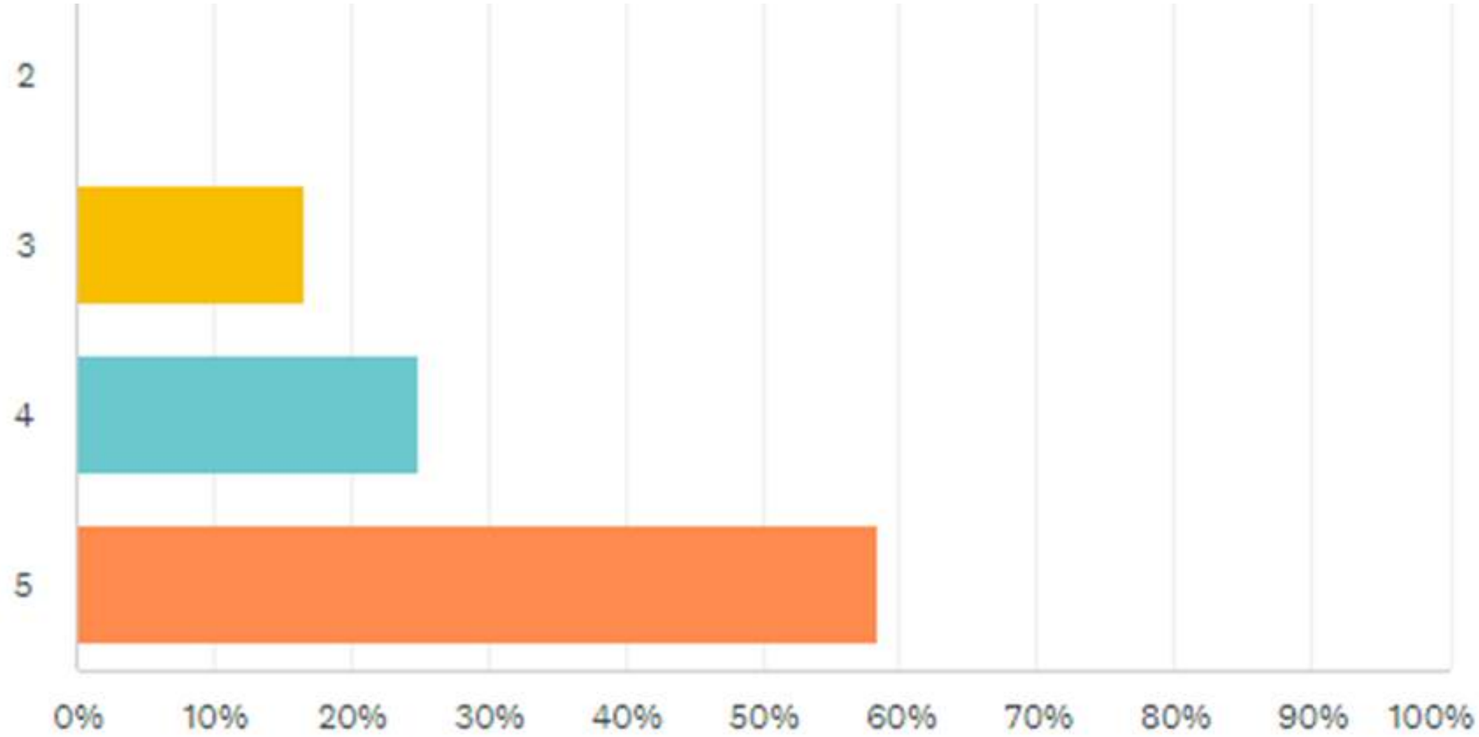
Professional Development

Pilot

Discovering the Power of Data

Professional Development High School Faculty Survey Results

“Please rate your overall experience at the Data Science Summer Professional Development Series on a scale of 1 to 5, with 5 being the highest.”



4.42 Mean Rating

PATHWAY CONNECTIONS:

Big Idea Different than the Work Done in Year 1

Connection to High School (Non-Credit)

Connection to High School (Dual Enrollment)

Community College (Non Credit)

Community College (Credit)

Apprenticeship Development

PLA for Apprenticeship RTI

PLA

Connection between Community Colleges (1+1)

Experiential Learning

Connection to CBOs

Adult Learners

Adult Literacy

Connection to 4-Yr College/University

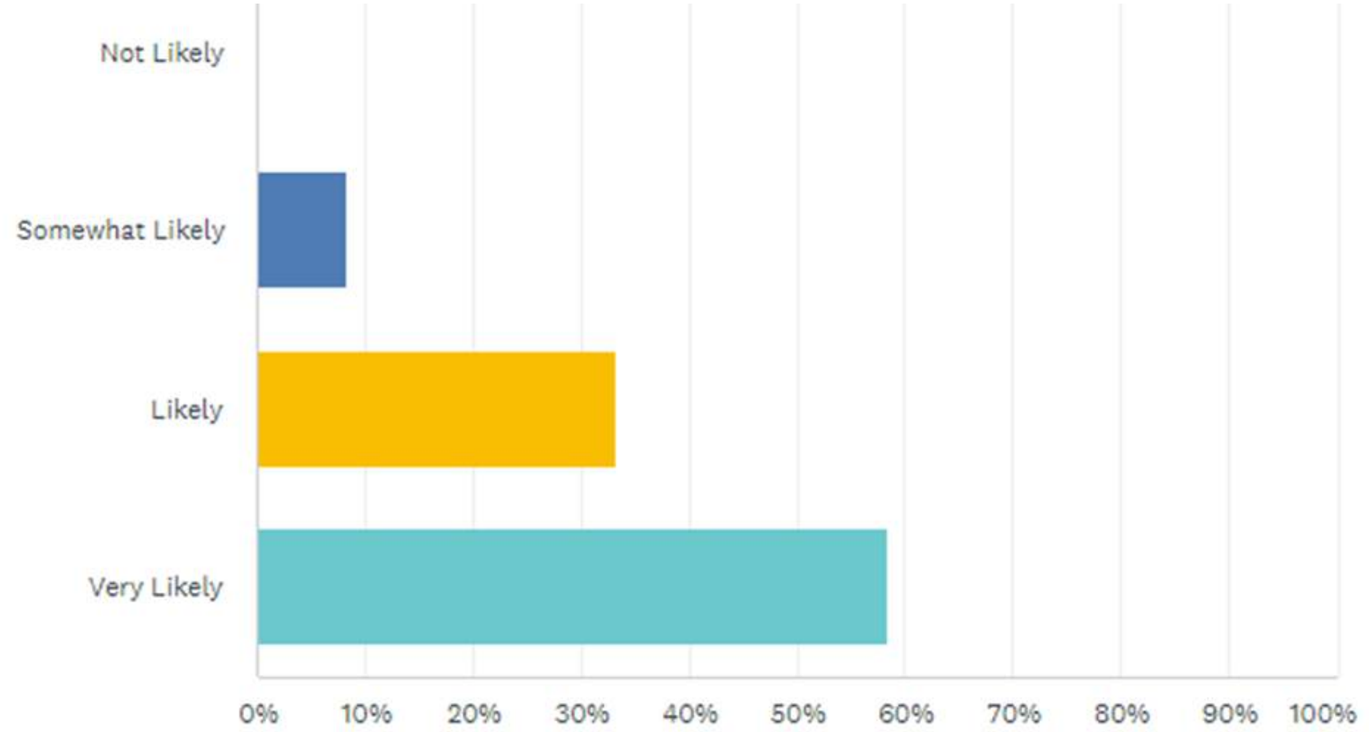
Professional Development

Pilot

Discovering the Power of Data

Professional Development High School Faculty Survey Results

"How likely are you to recommend future Data Science Summer Professional Development Series to a friend or coworker?"



92% "Likely" or "Very Likely"

PATHWAY CONNECTIONS:

Big Idea Different than the Work Done in Year 1

Connection to High School (Non-Credit)

Connection to High School (Dual Enrollment)

Community College (Non Credit)

Community College (Credit)

Apprenticeship Development

PLA for Apprenticeship RTI

PLA

Connection between Community Colleges (1+1)

Experiential Learning

Connection to CBOs

Adult Learners

Adult Literacy

Connection to 4-Yr College/University

Professional Development

Pilot

Discovering the Power of Data

Professional Development High School Faculty Survey Results

Feedback:

> This is the best conference in my career. The instructors are knowledgeable and well-prepared. I much appreciated that they built Python course in the format that we use at my high school and gave us the whole course. If I can suggest something, please make it a long day event: the materials being trained are very exciting and I want to learn more from them.

7/25/2024 10:39 PM View respondent's answers Add tags

> On the Python day, have some more markdowns prepared to see some of the cool things that can be done in addition to trying it on our own. Seeing Jake's capstone was great. Any more examples like that would be cool to see.

7/25/2024 12:08 PM View respondent's answers Add tags

> Please consider giving out a brochure providing basic coding commands before the workshop for beginners

7/25/2024 12:08 PM View respondent's answers Add tags

> Great job!

7/25/2024 11:11 AM View respondent's answers Add tags

Precision Agriculture Using AI Drones

Joe Diaco, Camden County College

EDUCATION PARTNERS:

Camden County College

Rowan University

INDUSTRY PARTNERS:

Giordano Farm

Matro Farm

Macrie Farm

Piney Hollow Farm

Vaccarella Farm

Precision Agriculture Using AI Drones

This advanced drone and AI integration project, conducted in collaboration with faculty and students from Camden County College (CCC) and Rowan University, successfully developed and implemented an innovative technological approach to precision agriculture specifically tailored for blueberry farms.

The project seamlessly merged academic research with practical application, leveraging drone technology and artificial intelligence to enhance blueberry yield predictions, detect disease, and optimize farm management practices.

PATHWAY CONNECTIONS:

Big Idea Different than the Work Done in Year 1

Connection to High School (Non-Credit)

Connection to High School (Dual Enrollment)

Community College (Non Credit)

Community College (Credit)

Apprenticeship Development

PLA for Apprenticeship RTI

PLA

Connection between Community Colleges (1+1)

Experiential Learning

Connection to CBOs

Adult Learners

Adult Literacy

Connection to 4-Yr College/University

Professional Development

Pilot

Precision Agriculture Using AI Drones

Experiential Learning through Research:

- **Estimate the crop yield of blueberry fields**
- **Detect scorch disease in blueberry bushes**
- **Program drones to fly “intelligently”**

Student Training and Mentoring:

- **Practical Skill Development**
- **Personalized Mentorship**
- **Interdisciplinary Learning**
- **Comprehensive Training Programs**
- **Collaborative Research**
- **Real-World Problem Solving**
- **Presentation and Communication Skills**

PATHWAY CONNECTIONS:

Big Idea Different than the Work Done in Year 1

Connection to High School (Non-Credit)

Connection to High School (Dual Enrollment)

Community College (Non Credit)

Community College (Credit)

Apprenticeship Development

PLA for Apprenticeship RTI

PLA

Connection between Community Colleges (1+1)

Experiential Learning

Connection to CBOs

Adult Learners

Adult Literacy

Connection to 4-Yr College/University

Professional Development

Pilot

Precision Agriculture Using AI Drones

Faculty Training and Collaboration:

- **Inter-Institutional Collaboration**
- **Mentorship Development**
- **Professional Development**
- **Joint Training Sessions**
- **Resource Sharing and Collaborative Research**
- **Enhanced Networking**

PATHWAY CONNECTIONS:

Big Idea Different than the Work Done in Year 1

Connection to High School (Non-Credit)

Connection to High School (Dual Enrollment)

Community College (Non Credit)

Community College (Credit)

Apprenticeship Development

PLA for Apprenticeship RTI

PLA

Connection between Community Colleges (1+1)

Experiential Learning

Connection to CBOs

Adult Learners

Adult Literacy

Connection to 4-Yr College/University

Professional Development

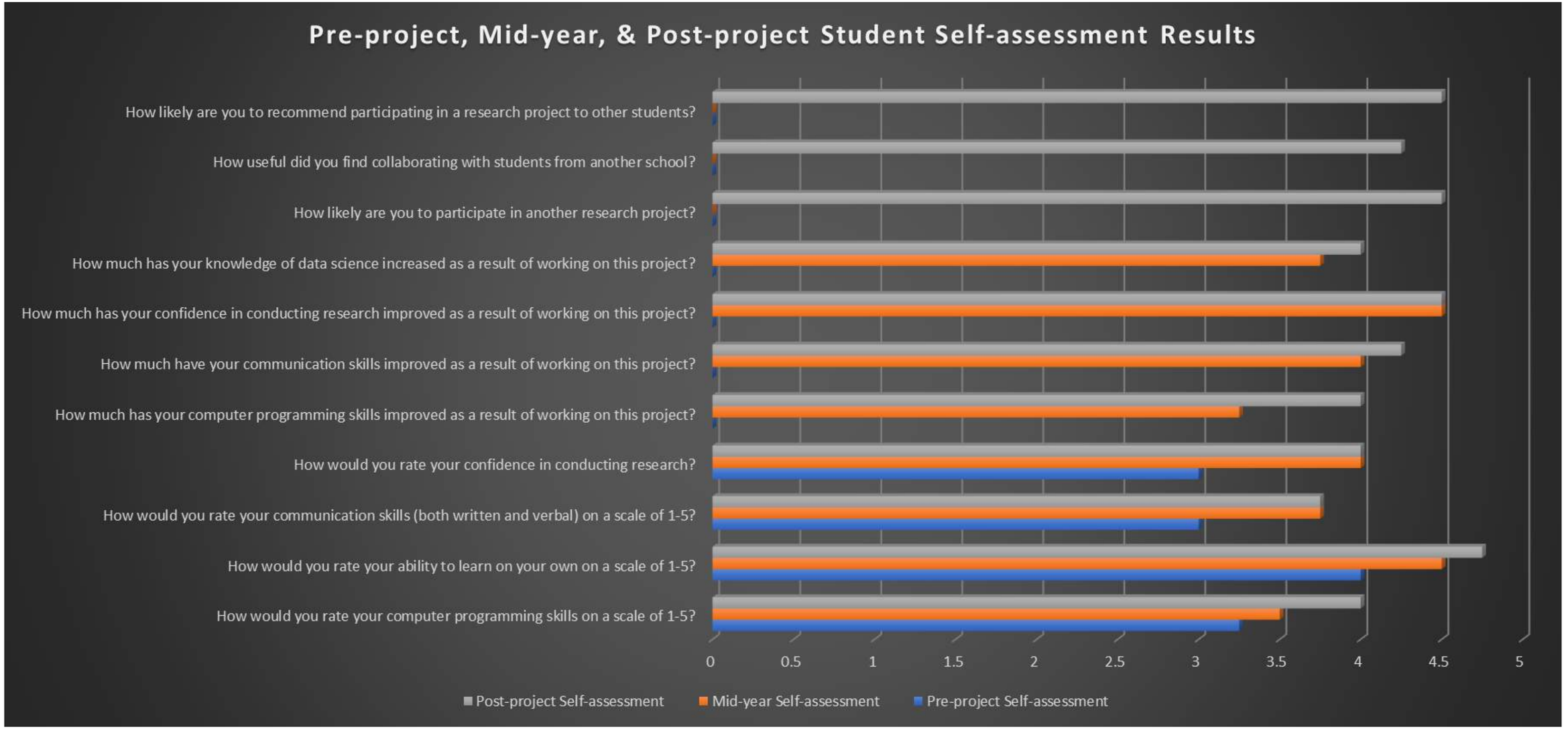
Pilot

Precision Agriculture Using AI Drones

Challenges:

- **Lack of programming skills**
- **The project involves hardware modification**
- **Flight time**
- **Students falling behind in their tasks**
- **Software issues**

Precision Agriculture Using AI Drones



PATHWAY CONNECTIONS:

Big Idea Different than the Work Done in Year 1

Connection to High School (Non-Credit)

Connection to High School (Dual Enrollment)

Community College (Non Credit)

Community College (Credit)

Apprenticeship Development

PLA for Apprenticeship RTI

PLA

Connection between Community Colleges (1+1)

Experiential Learning

Connection to CBOs

Adult Learners

Adult Literacy

Connection to 4-Yr College/University

Professional Development

Pilot

Precision Agriculture Using AI Drones

Camden County College and Rowan University teams participated in a drone safety training workshop conducted by Dave Krause, President of Influential Drones in January 2024.

PATHWAY CONNECTIONS:

Big Idea Different than the Work Done in Year 1

Connection to High School (Non-Credit)

Connection to High School (Dual Enrollment)

Community College (Non Credit)

Community College (Credit)

Apprenticeship Development

PLA for Apprenticeship RTI

PLA

Connection between Community Colleges (1+1)

Experiential Learning

Connection to CBOs

Adult Learners

Adult Literacy

Connection to 4-Yr College/University

Professional Development

Pilot

Precision Agriculture Using AI Drones

Drone Assembly

Camden County College and Rowan University teams assembled their programmable drones “Cougar” and “Mac.”

PATHWAY CONNECTIONS:

Big Idea Different than the Work Done in Year 1

Connection to High School (Non-Credit)

Connection to High School (Dual Enrollment)

Community College (Non Credit)

Community College (Credit)

Apprenticeship Development

PLA for Apprenticeship RTI

PLA

Connection between Community Colleges (1+1)

Experiential Learning

Connection to CBOs

Adult Learners

Adult Literacy

Connection to 4-Yr College/University

Professional Development

Pilot

Precision Agriculture Using AI Drones

Field Trips

Camden County College and Rowan University teams completed over 20 field trips to five farms in South Jersey from May through June to perform drone flight testing and collect data.

PATHWAY CONNECTIONS:

Big Idea Different than the Work Done in Year 1

Connection to High School (Non-Credit)

Connection to High School (Dual Enrollment)

Community College (Non Credit)

Community College (Credit)

Apprenticeship Development

PLA for Apprenticeship RTI

PLA

Connection between Community Colleges (1+1)

Experiential Learning

Connection to CBOs

Adult Learners

Adult Literacy

Connection to 4-Yr College/University

Professional Development

Pilot

Precision Agriculture Using AI Drones

Field Trips

Camden County College and Rowan University teams completed over 20 field trips to five farms in South Jersey from May through June to perform drone flight testing and collect data.

PATHWAY CONNECTIONS:

Big Idea Different than the Work Done in Year 1

Connection to High School (Non-Credit)

Connection to High School (Dual Enrollment)

Community College (Non Credit)

Community College (Credit)

Apprenticeship Development

PLA for Apprenticeship RTI

PLA

Connection between Community Colleges (1+1)

Experiential Learning

Connection to CBOs

Adult Learners

Adult Literacy

Connection to 4-Yr College/University

Professional Development

Pilot

Precision Agriculture Using AI Drones

Field Trips

Picking and Counting Blueberries to Establish Ground Truth

PATHWAY CONNECTIONS:

Big Idea Different than the Work Done in Year 1

Connection to High School (Non-Credit)

Connection to High School (Dual Enrollment)

Community College (Non Credit)

Community College (Credit)

Apprenticeship Development

PLA for Apprenticeship RTI

PLA

Connection between Community Colleges (1+1)

Experiential Learning

Connection to CBOs

Adult Learners

Adult Literacy

Connection to 4-Yr College/University

Professional Development

Pilot

Precision Agriculture Using AI Drones

NJ Agricultural Convention February 2024

Ancillary Activities:

Exhibiting our technology at the NJ Agricultural Convention in Atlantic City, NJ.

PATHWAY CONNECTIONS:

Big Idea Different than the Work Done in Year 1

Connection to High School (Non-Credit)

Connection to High School (Dual Enrollment)

Community College (Non Credit)

Community College (Credit)

Apprenticeship Development

PLA for Apprenticeship RTI

PLA

Connection between Community Colleges (1+1)

Experiential Learning

Connection to CBOs

Adult Learners

Adult Literacy

Connection to 4-Yr College/University

Professional Development

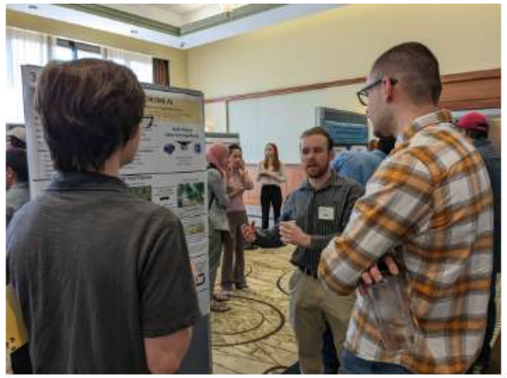
Pilot

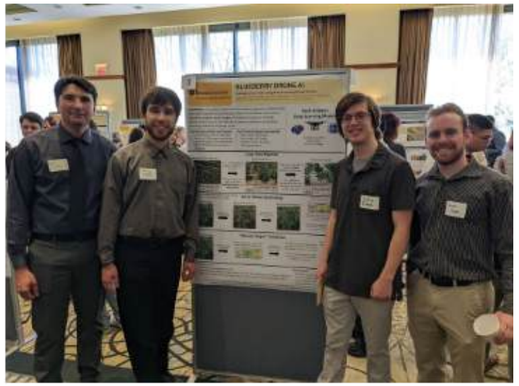
Precision Agriculture Using AI Drones

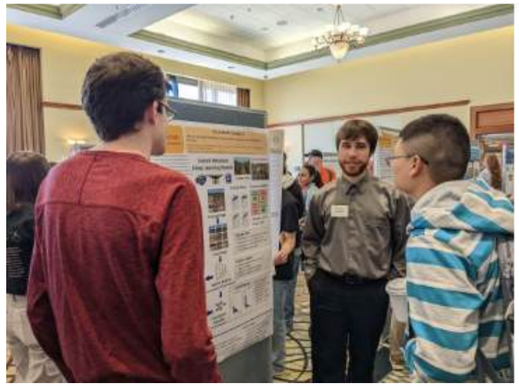
Rowan CSM Student Research Day April 2024

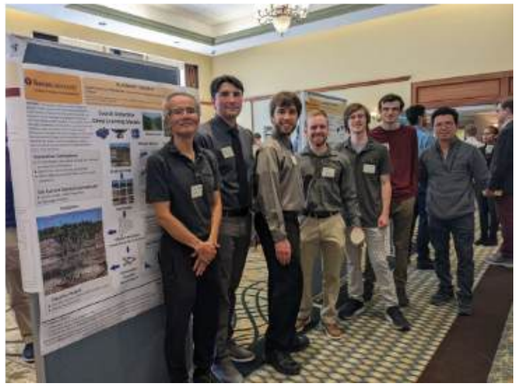
Ancillary Activities:

Camden County College and Rowan University students presented their research at the Rowan CSM (College of Science & Mathematics) Student Research Day









PATHWAY CONNECTIONS:

Big Idea Different than the Work Done in Year 1

Connection to High School (Non-Credit)

Connection to High School (Dual Enrollment)

Community College (Non Credit)

Community College (Credit)

Apprenticeship Development

PLA for Apprenticeship RTI

PLA

Connection between Community Colleges (1+1)

Experiential Learning

Connection to CBOs

Adult Learners

Adult Literacy

Connection to 4-Yr College/University

Professional Development

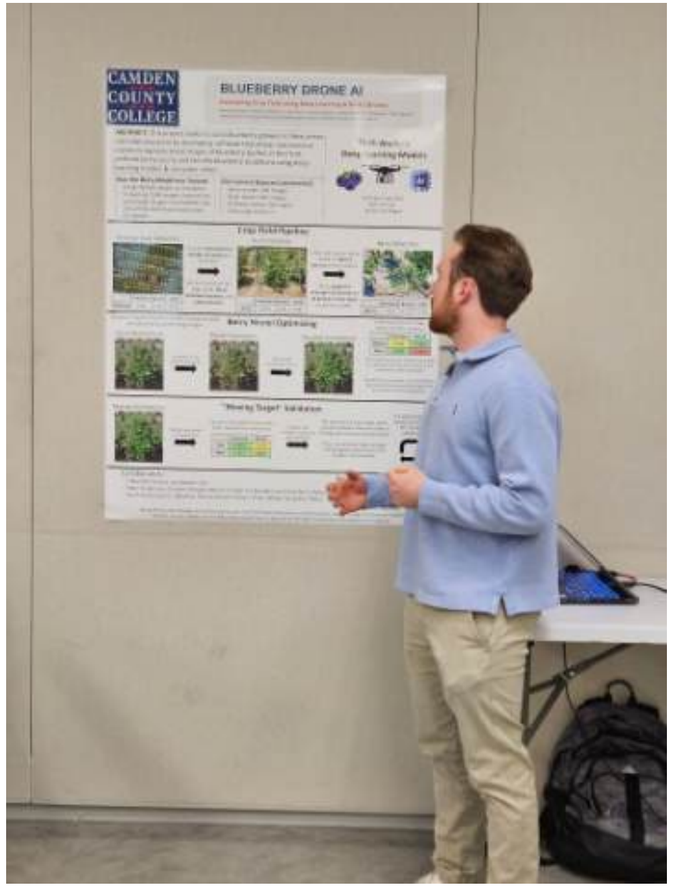
Pilot

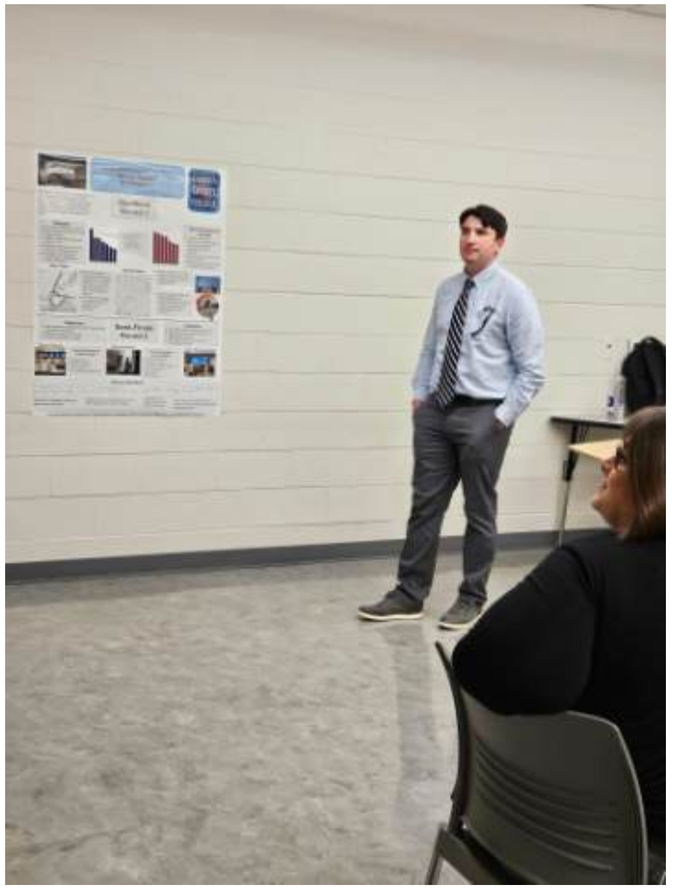
Precision Agriculture Using AI Drones

CCC Student Showcase April 2024

Ancillary Activities:

Camden County College students presented their research at the college's Student Showcase.





PATHWAY CONNECTIONS:

Big Idea Different than the Work Done in Year 1

Connection to High School (Non-Credit)

Connection to High School (Dual Enrollment)

Community College (Non Credit)

Community College (Credit)

Apprenticeship Development

PLA for Apprenticeship RTI

PLA

Connection between Community Colleges (1+1)

Experiential Learning

Connection to CBOs

Adult Learners

Adult Literacy

Connection to 4-Yr College/University

Professional Development

Pilot

Precision Agriculture Using AI Drones

Recognition at NJBDA Symposium 2024

Ancillary Activities:

Camden County College and Rowan University students received recognition for their research at the New Jersey Big Data Alliance (NJBDA) Symposium at Rutgers University in May 2024.

Detecting Blueberry Scorch Disease using Artificial Intelligence and Autonomous Drones (2nd Place)

Blueberry Drone AI: Estimating Crop Yield using Deep Learning & Smart Drones (4th Place, Honorable Mention)

PATHWAY CONNECTIONS:

Big Idea Different than the Work Done in Year 1

Connection to High School (Non-Credit)

Connection to High School (Dual Enrollment)

Community College (Non Credit)

Community College (Credit)

Apprenticeship Development

PLA for Apprenticeship RTI

PLA

Connection between Community Colleges (1+1)

Experiential Learning

Connection to CBOs

Adult Learners

Adult Literacy

Connection to 4-Yr College/University

Professional Development

Pilot

Precision Agriculture Using AI Drones

The Precision Agriculture using advanced drone and AI integration project has reached a high standard for the intersection of technology and agriculture. By achieving its goals, the project has not only advanced academic knowledge and student capabilities but has also laid the groundwork for more sustainable and efficient farming practices that could dramatically affect the agricultural industry.

The success of this project underscores the value of integrating academic research with practical application, providing a scalable model for future innovations in precision agriculture.

NJ Big Data Alliance – Data Science Articulation

Kelly Fitzpatrick, County College of Morris
Dr. Andrew Hrechak, Essex County College

EDUCATION PARTNERS:

Camden County College

Essex County College

Hudson County Community College

Middlesex College

County College of Morris

Rowan College at Burlington County

Georgian Court University

Kean University

Montclair State University

Ramapo College of NJ

Rowan University

Rutgers University

NJ Big Data Alliance – Data Science Articulation

The establishment of articulation agreements between Community Colleges and 4-year colleges/universities ensures a seamless transfer pathway for Community College graduates in Data Science degree programs. These agreements require the alignment of Community College curriculum to 4-year institutions' curriculum.

The NJ Big Data Alliance is made up of leading higher education institutions (including NJ's 17 four-year colleges and universities), government organizations and industry members focused on research and collaboration in advanced computing and data analytics, education, technology, and artificial intelligence (AI).

This project established a formal relationship between NJ's Community Colleges and the NJ Big Data Alliance. Through this partnership, we are aligning Community College curriculum to 4-year institutions' curriculum to enable the creation of more articulation agreements for Data Science transfer pathways,

PATHWAY CONNECTIONS:

Big Idea Different than the Work Done in Year 1

Connection to High School (Non-Credit)

Connection to High School (Dual Enrollment)

Community College (Non Credit)

Community College (Credit)

Apprenticeship Development

PLA for Apprenticeship RTI

PLA

Connection between Community Colleges (1+1)

Experiential Learning

Connection to CBOs

Adult Learners

Adult Literacy

Connection to 4-Yr College/University

Professional Development

Pilot

NJ Big Data Alliance – Data Science Articulation

In 2024, NJBDA amended its bylaws to include 2-year institutions with programs that teach courses and/or conducts research in the area of big data and/or advanced computing alongside the current roster of 4-year institutions. Benefits of membership to NJBDA include:

- **The ability to provide input and guidance on academic course development, topics for training and workshops, research needs, and the strategic direction of the consortium.**
- **The ability to contribute to the organization of, and/or host the NJBDA annual symposium and other events.**
- **Participation in regular virtual and in-person consortium meetings to build professional networks.**
- **Participation in NJBDA programs, externships, internships, and workshops for an institution's students, faculty, and staff.**

15 Community Colleges are now members of NJBDA.

PATHWAY CONNECTIONS:

Big Idea Different than the Work Done in Year 1

Connection to High School (Non-Credit)

Connection to High School (Dual Enrollment)

Community College (Non Credit)

Community College (Credit)

Apprenticeship Development

PLA for Apprenticeship RTI

PLA

Connection between Community Colleges (1+1)

Experiential Learning

Connection to CBOs

Adult Learners

Adult Literacy

Connection to 4-Yr College/University

Professional Development

Pilot

NJ Big Data Alliance – Data Science Articulation

Working groups were established to ensure a seamless transfer pathway and to ensure aligned Data Science courses are entered into NJ transfer:

- **Articulation Agreements**
- **Curriculum Review**

This approach and process will serve as a temple for other pathways to align curriculum to four-year institutions.

PATHWAY CONNECTIONS:

Big Idea Different than the Work Done in Year 1

Connection to High School (Non-Credit)

Connection to High School (Dual Enrollment)

Community College (Non Credit)

Community College (Credit)

Apprenticeship Development

PLA for Apprenticeship RTI

PLA

Connection between Community Colleges (1+1)

Experiential Learning

Connection to CBOs

Adult Learners

Adult Literacy

Connection to 4-Yr College/University

Professional Development

Pilot

NJ Big Data Alliance – Data Science Articulation

Community Colleges have partnered with the below institutions and have (working on) articulation agreements for Data Science programs and classes. Having these agreements in place assures for a seamless transition as students progress from two-year colleges to the four-year institutions.

RAMAPO COLLEGE OF NEW JERSEY

1766 RUTGERS

1872 Saint Peter's UNIVERSITY The Jesuit University of New Jersey

Rowan University

NJIT New Jersey Institute of Technology

PATHWAY CONNECTIONS:

Big Idea Different than the Work Done in Year 1

Connection to High School (Non-Credit)

Connection to High School (Dual Enrollment)

Community College (Non Credit)

Community College (Credit)

Apprenticeship Development

PLA for Apprenticeship RTI

PLA

Connection between Community Colleges (1+1)

Experiential Learning

Connection to CBOs

Adult Learners

Adult Literacy

Connection to 4-Yr College/University

Professional Development

Pilot

NJ Big Data Alliance – Data Science Articulation

PATHWAY CONNECTIONS:

Big Idea Different than the Work Done in Year 1

Connection to High School (Non-Credit)

Connection to High School (Dual Enrollment)

Community College (Non Credit)

Community College (Credit)

Apprenticeship Development

PLA for Apprenticeship RTI

PLA

Connection between Community Colleges (1+1)

Experiential Learning

Connection to CBOs

Adult Learners

Adult Literacy

Connection to 4-Yr College/University

Professional Development

Pilot

NJ Big Data Alliance – Data Science Articulation

NJ Big Data Alliance

2024 New Jersey Big Data Alliance Annual Symposium
Friday, May 17, 2024

KEYNOTE ADDRESS: AI Impacts on Society
Sherry Marcus, Director, Amazon Bedrock Science, Amazon Web Services

Gen AI: Navigating the Transformative Era of Artificial Intelligence
We are faced with the unprecedented challenge and opportunity of navigating the transformative era of artificial intelligence, spearheaded by Generative AI (Gen AI). AI is ubiquitous and represents a seismic shift in how businesses operate, innovate, and interact with society. In this dynamic landscape, we must separate the facts from the hype, harness the potential, and mitigate the risks associated with AI-driven transformation.

Amazon CodeWhisperer is a general purpose, machine learning-powered code generator that provides you with code recommendations in real time. As you write code, CodeWhisperer automatically generates suggestions based on your existing code and comments. Your personalized recommendations can vary in size and scope, ranging from a single line comment to fully formed functions.

aws

PATHWAY CONNECTIONS:

Big Idea Different than the Work Done in Year 1

Connection to High School (Non-Credit)

Connection to High School (Dual Enrollment)

Community College (Non Credit)

Community College (Credit)

Apprenticeship Development

PLA for Apprenticeship RTI

PLA

Connection between Community Colleges (1+1)

Experiential Learning

Connection to CBOs

Adult Learners

Adult Literacy

Connection to 4-Yr College/University

Professional Development

Pilot

NJ Big Data Alliance – Data Science Articulation

Partnership Award

Presented to a New Jersey business, government agency, or other entity in recognition of its significant contributions to New Jersey's Community Colleges.

NJ Big Data Alliance

PATHWAY CONNECTIONS:

Big Idea Different than the Work Done in Year 1

Connection to High School (Non-Credit)

Connection to High School (Dual Enrollment)

Community College (Non Credit)

Community College (Credit)

Apprenticeship Development

PLA for Apprenticeship RTI

PLA

Connection between Community Colleges (1+1)

Experiential Learning

Connection to CBOs

Adult Learners

Adult Literacy

Connection to 4-Yr College/University

Professional Development

Pilot

NJ Big Data Alliance – Data Science Articulation

Ancillary Activities:

"Winning Strategies: Mastering Hackathons and Data Science Competitions"

Jumpstart your hackathon success with our intensive half-day workshop! Designed for aspiring innovators, this session equips you with essential strategies and skills to excel in hackathons.

Date: October 4, 2024

Time 9:00 am - 1:00 pm

Location: Rowan University, Glassboro, NJ - Bunce Hall (Room 104)

What You'll Gain:

- **Hackathon Basics:** Learn what it takes to compete and succeed.
- **Teamwork & Planning:** Discover how to select a winning idea and execute it efficiently.
- **Tech & Design Insights:** Get quick tutorials on popular hackathon tools and design principles.
- **Pitch Perfect:** Enhance your presentation skills to impress judges.

PATHWAY CONNECTIONS:

Big Idea Different than the Work Done in Year 1

Connection to High School (Non-Credit)

Connection to High School (Dual Enrollment)

Community College (Non Credit)

Community College (Credit)

Apprenticeship Development

PLA for Apprenticeship RTI

PLA

Connection between Community Colleges (1+1)

Experiential Learning

Connection to CBOs

Adult Learners

Adult Literacy

Connection to 4-Yr College/University

Professional Development

Pilot

NJ Big Data Alliance – Data Science Articulation

Essex County College

Essex County College (ECC) created a Computer Science: Data Science Option AS degree. This curriculum provides students with a substantial mathematics and programming background to successfully transfer to a 4-year college/university to complete a BS degree in Data Science.

The Computer Science: Data Science Option launched in Fall 2024.

The ECC website and the college catalogue were updated to include the new program in July 2024.

A presentation was delivered at Convocation on August 26, 2024 to present the new program to the College community.

Posters and flyers have been created, and will be placed throughout the College.

PATHWAY CONNECTIONS:

Big Idea Different than the Work Done in Year 1

Connection to High School (Non-Credit)

Connection to High School (Dual Enrollment)

Community College (Non Credit)

Community College (Credit)

Apprenticeship Development

PLA for Apprenticeship RTI

PLA

Connection between Community Colleges (1+1)

Experiential Learning

Connection to CBOs

Adult Learners

Adult Literacy

Connection to 4-Yr College/University

Professional Development

Pilot

NJ Big Data Alliance – Data Science Articulation

Essex County College

Activities:

Due to most students lacking a strong math background, faculty decided to split the Introduction to Data Science course into two courses:

- **Data Science I (DSC 141) with a prerequisite of Algebra, and Statistics and Probability.**
- **Data Science II (DSC 241) with a prerequisite of Calculus II. Therefore, students can take Data Science I (DSC 141) in their second semester.**

Four new courses were created for the new Computer Science: Data Science AS degree option:

- **DSC 141 Data Science I**
- **DSC 241 Data Science II**
- **DSC 242 Introduction to Artificial Intelligence**
- **DSC 243 Data Visualization.**

Letters of transferability were received from the following institutions:

- **New Jersey Institute of Technology (NJIT)**
- **Kean University**
- **Drew University**
- **Caldwell University (Caldwell/Essex Scholars Agreement)**

Q&A

Center of Workforce Innovation for
Data & Computer Science

Closing Remarks

Catherine Starghill, Esq.

Year 2 End-of-Year Report Out

Center of Workforce Innovation for Offshore Wind

THURSDAY, OCTOBER 3

1:00 - 2:00 PM

NJ PATHWAYS
TO CAREER OPPORTUNITIES
Aligning Education to Build an Innovative Workforce

NJ PATHWAYS
TO CAREER OPPORTUNITIES
Aligning Education to Build an Innovative Workforce

#NJPATHWAYS

FOLLOW ALONG

NJPathways.org

@NJCommColleges

@NJ Community Colleges

@NJCommColleges

@NJCommColleges

@NJCommColleges