



PATHWAY **2** CAREERS

Pathway2Careers Career Exploration: A Student/Employer Partnership

Evaluation of the Outcomes of the
Fund for the Improvement of Post-Secondary Education (FIPSE)
Grant to New Mexico

April 2023

Prepared by:



Executive Summary

High Plains Regional Education Cooperative (REC 3) in New Mexico was awarded a \$5 million grant from the US Department of Education released the Fund for the Improvement of Post-Secondary Education (FIPSE) grant to spark an innovative new approach for helping students learn about and prepare for 21st Century careers.

Working together, NS4ed, LLC, a national career-connected-learning leader, and the STEM Outreach Center of the College of Education at New Mexico State University, Pathway2Careers (P2C) emerged as the first guided, scaffolded career exploration curriculum for grades 6-12. Pathway2Careers brings a full set of tools to the classroom to help students in their unique career journeys, from awareness to exploration, preparation, and ultimately employment.

Key outputs and objectives from the theory of change included:

- Career awareness curricula for middle and high school becomes a core subject, reflecting importance of career development early on
- School counselors, teachers, and post-secondary instructors build skills to support career exploration and pathway development
- Pathway2Careers online platform provides virtual and onsite program implementation

Short-term outcomes and measures included:

- Increased awareness of career pathways and skill requirements as measured by assessments of progress
- Improved employability skills as measured by career awareness and course pathways
- Increased participation in post-secondary education
- Improved alignment of courses with local and regional workplace demand as measured by career choices

Based on two surveys deployed to 48 students (grades 8-12) and 18 teachers (middle and high school core and CTE), Pathway2Careers positively impacted the majority of students and teachers in achieving its intent and stated outcomes.

Key findings include:

The majority of students are “more likely” or “somewhat more likely” to choose:

- Participating in CTE courses (61%)
- Considering attending community college (59%)
- Considering attending university (76%)
- Getting a job during or right after high school (72%)

The majority of students did report being “more interested” or “somewhat more interested” in every aspect of learning, including:

- Learning about different kinds of careers (79%)
- Learning more about a specific career field (73%)
- Learning how skills I learn in class are used in careers (66%)

Students responses to the statement, “I feel like I am catching up on learning that I had missed during the COVID-19 pandemic”, included:

- 20% strongly agree
- 43% agree
- 30% unsure
- 7% strongly disagree
- No students disagreed

Across the board, teachers reported overwhelmingly positive impacts on:

- Student interest in learning about careers (89%)
- Student understanding off different higher education choices (89%)
- Student understanding relevance of math skills to career application (88%)
- Student engagement in learning and classroom participation (83%)
- Student academic performance (78%)
- Increased student interest in pursuing higher education (72%)
- Student interest in STEM-related careers (67%)

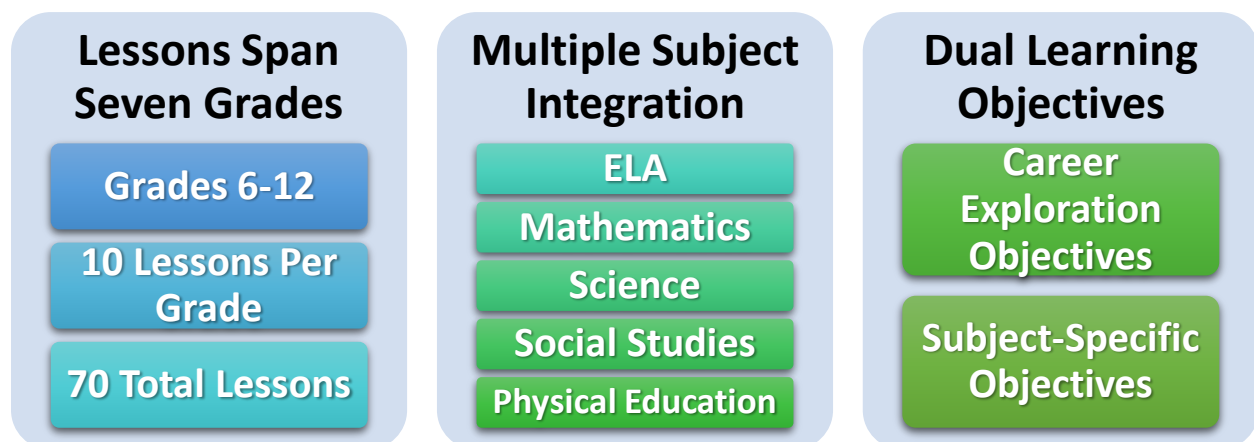
In light of this study, New Mexico stands poised to take incredible advantage of this new tool in its educational toolbox. Pathway2Careers is perfectly positioned to meet the stated goals of the *New Mexico Public Education Department’s 2022 Comprehensive Strategic Plan*.

Introduction

As the disconnect between K-12 education and preparation for future employment opportunities for students continue to grow, the US Department of Education released the \$5-million Fund for the Improvement of Post-Secondary Education (FIPSE) grant to spark an innovative new approach for helping students learn about and prepare for 21st Century careers. Goals for the grant included closing education and employment gaps for students of color, increasing awareness of high value careers (high-skill, high-demand, earning more than \$35,000 annually) for students from low-income families, and bridging awareness gaps for rural students who may have limited visibility of today's careers.

New Mexico applied for and was awarded the grant in 2021 through the High Plains Regional Cooperative (REC 3). New Mexico's goals included seeking a new way to support the state's students in building stronger connections between learning and career application. New Mexico is a majority-minority state with poverty rates higher than the national average. With an economy that requires a higher-skilled workforce and a full complement of K-12, community colleges, and universities, could an intervention be launched that helped students see their way to make academic choices that prepared them for much-needed higher skilled, living wage careers in the state?


Working together, NS4ed, LLC, a national career-connected-learning leader, and the STEM Outreach Center of the College of Education at New Mexico State University, Pathway2Careers (P2C) emerged as the first guided, scaffolded career exploration curriculum for grades 6-12. Intended to be deployed across subject areas (English, Math, Social Studies, Science, Physical Education and more), Pathway2Careers brings a full set of tools to the classroom to help students in their unique career journeys, from awareness to exploration, preparation, and ultimately employment.



Key outputs and objectives from the theory of change included:

- Career awareness curricula for middle and high school becomes a core subject, reflecting importance of career development early on

- School counselors, teachers, and post-secondary instructors build skills to support career exploration and pathway development
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CAREER EXPLORATION: The State of Things- People, Places, and

LEVEL: 2 ESTIMATED TIME: 60 minutes

CAREER EXPLORATION AREAS

Career Evaluation: Labor Market Data

Locate and describe basic categories of labor market data that can be used to inform career decisions, such as annual openings, median wages, projected new jobs, growth rates, and education zones.

CORE SUBJECTS

Math

NS4eG

Structured Stationery: People, Places, and Careers

Name: _____

Occupation I am going to research:	Map of my state:
Predictions I can make about this occupation:	

Did you know? Facts about this occupation:

	Data Location:	Data Location:	Data Location:	Data Location:
Median Wage				
Annual Openings				
Additional Data:				

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Short-term outcomes and measures included:

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- Improved employability skills as measured by career awareness and course pathways
- Increased participation in post-secondary education
- Improved alignment of courses with local and regional workplace demand as measured by career choices

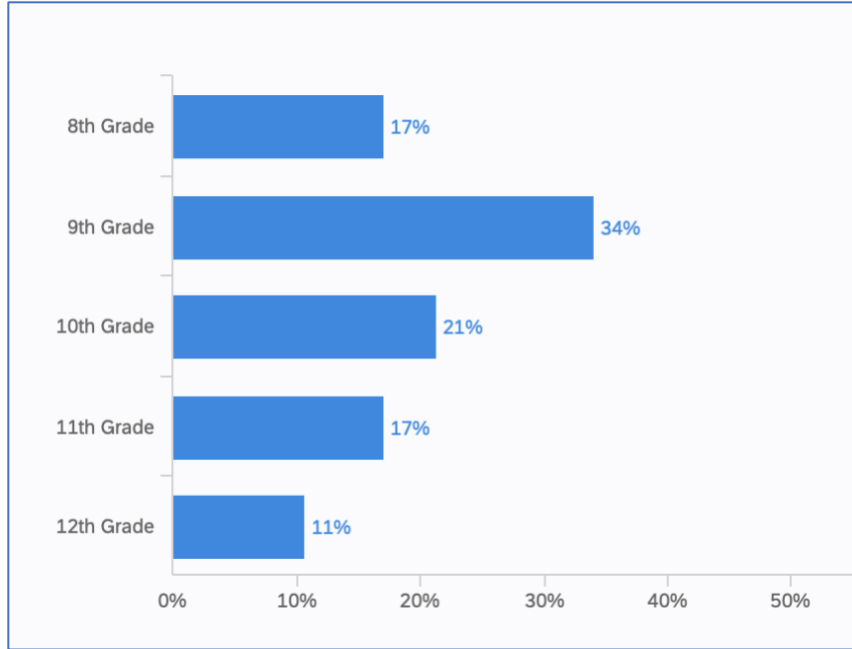
Ultimately, Pathway2Careers will become an open-sourced curricula for students in any state. Therefore, understanding the impact of the curriculum and platform on students and teachers is vital to ensure maximum benefit moving forward.

In 2022, The Bridge of Southern New Mexico was awarded the contract to do an evaluation of the impact of this investment on students and teachers who had been using the curriculum for one to one-and-a-half years. The Bridge deployed surveys custom designed for teachers and students, and a drawing for financial incentives were offered to encourage participation from teachers and students, as advised by the New Mexico Public Education Department. Names that were provided were completely disaggregated from the data.

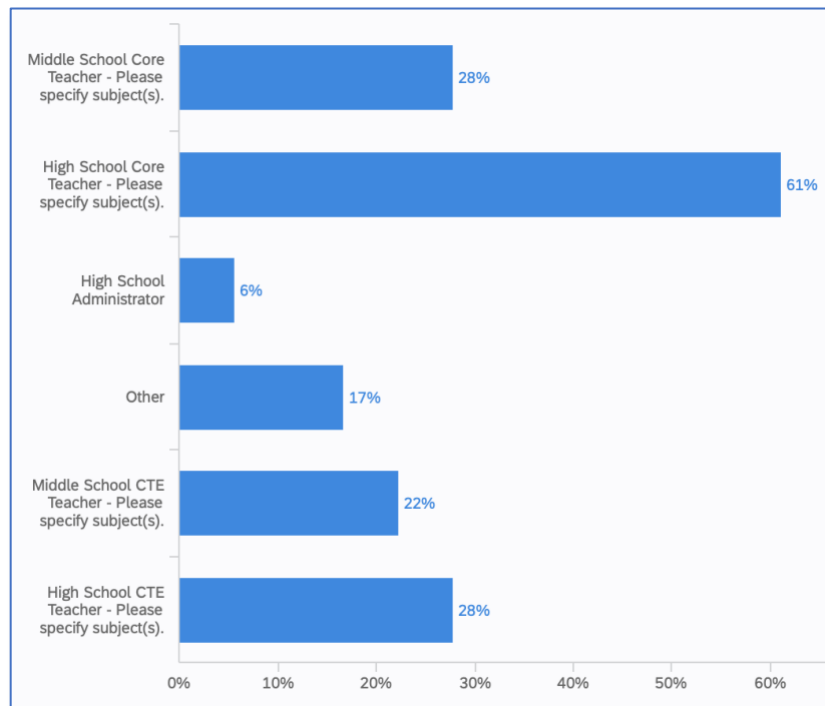
Following is a summary of the findings collected between February and March 2023.

About the Survey and It's Respondents

Students: 48 students in grades 8-12 in public and charter schools from across the state participated in the survey.



Teachers: 18 teachers (CTE and core content) in middle and high schools participated in the survey, representing approximately 20% of those using the curriculum.



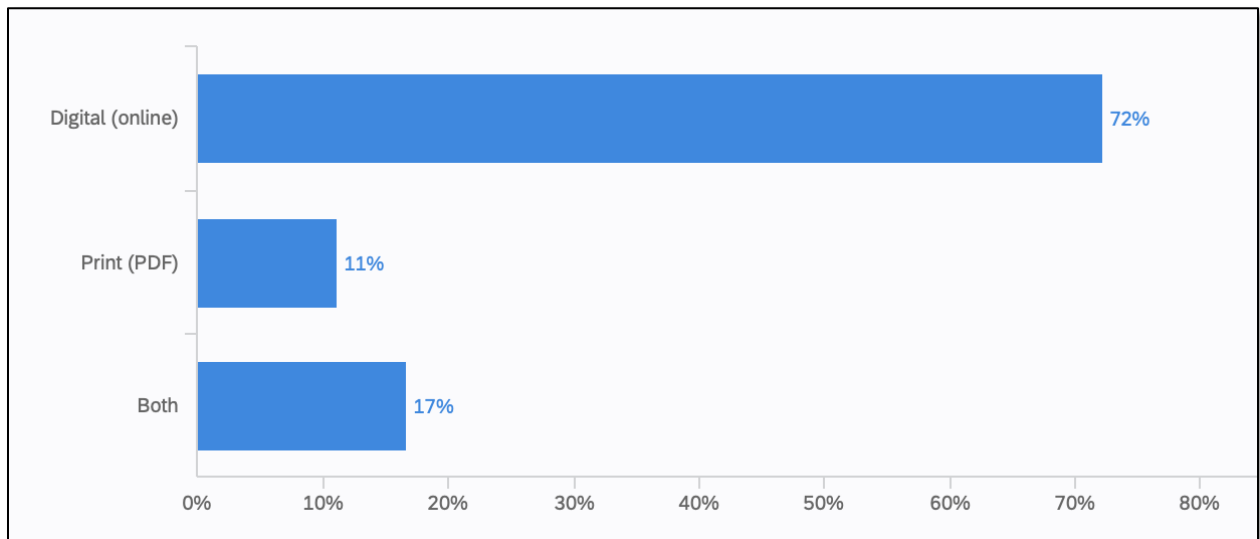
Subject areas in which courses were offered included:

- High School
 - Reading
 - Math
 - Special Education Math
 - Special Education English Language Arts
 - Algebra I and II
 - Chemistry
 - Robotics
 - Modern Classical and Languages
 - Physical Education
 - Advisory
 - Spanish
- Middle School
 - Intro to Computer Science
 - English Language Arts
 - Science
 - Advisory
 - Social Studies

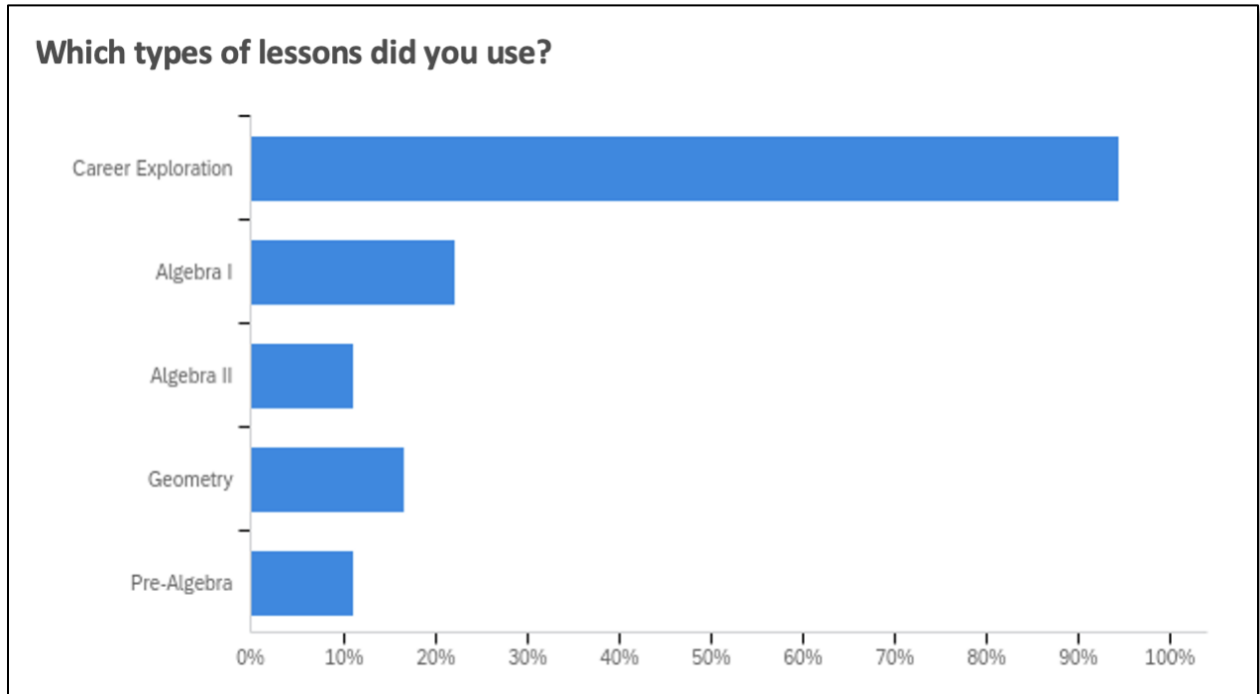
Teachers reported using P2C as both supplemental to core curricula and in helping students with Next Step plans and career pathways for education and employment options.

Pathway2Careers as an Instructional Tool

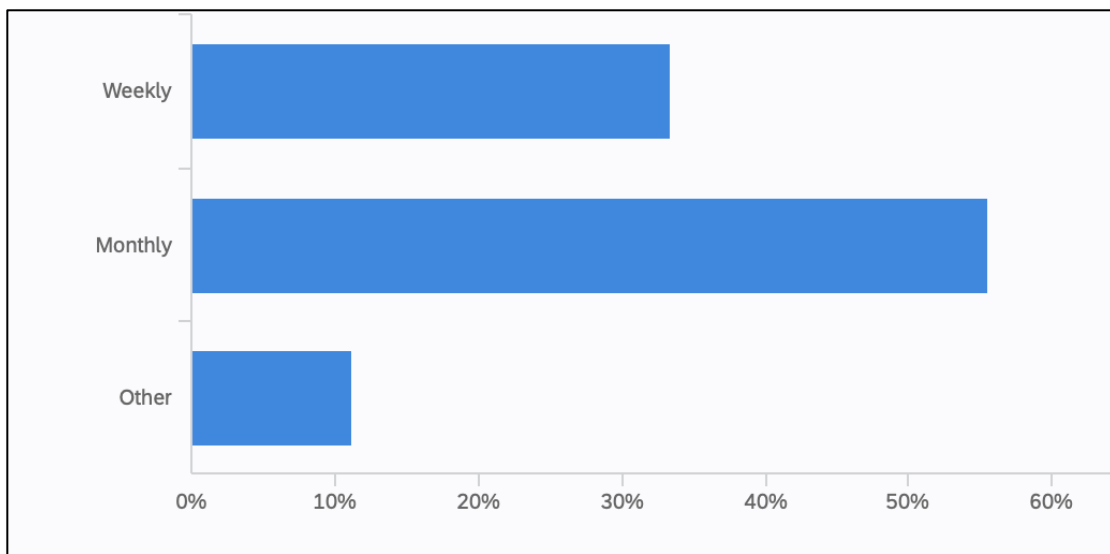
P2C is intended to support teachers in their instruction, not replace them. As such, the curriculum is presented in an on-line platform that allows flexibility for the teacher to use it fully online or as printed materials in PDF form. Reported usage is below.



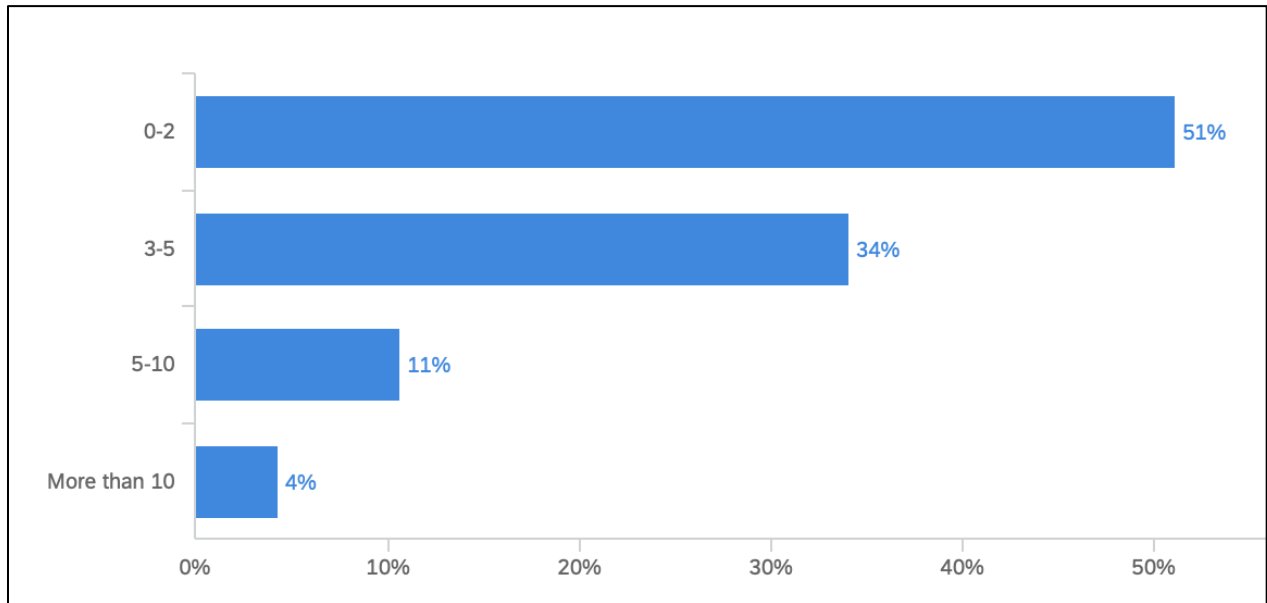
Educators and students in the pilot group also had access to the first-of-its-kind career-connected math curriculum funded by a separate State Education Agency (SEA) grant awarded to New Mexico for the creation of lessons in Pre-Algebra, Algebra I and II, and Geometry for New Mexico’s students. Some teachers included these lessons in their instruction.



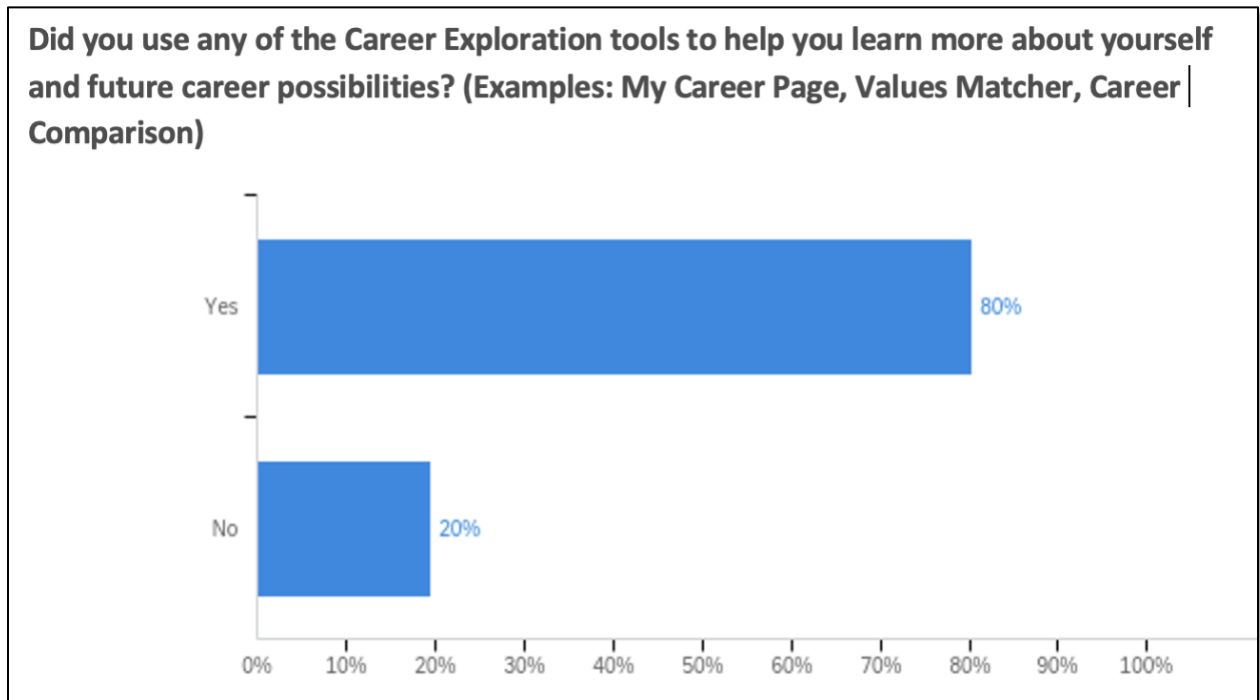
Lessons were delivered in an ongoing basis for most students, though some were delivered as little as occasionally “as an exit ticket,” reported one teacher.



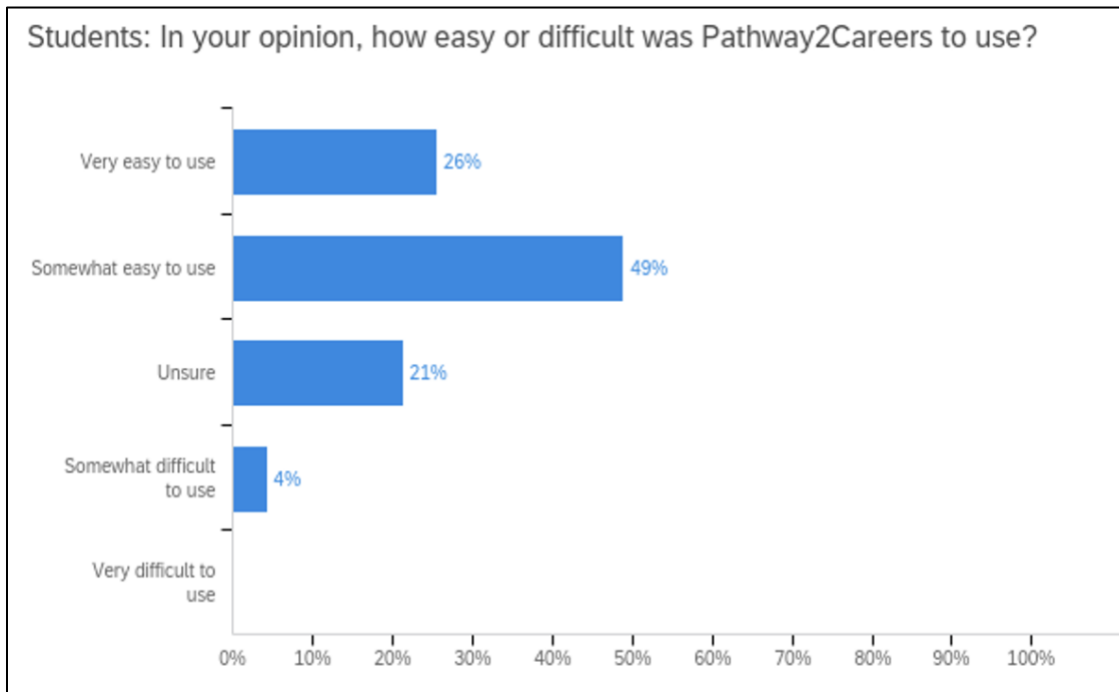
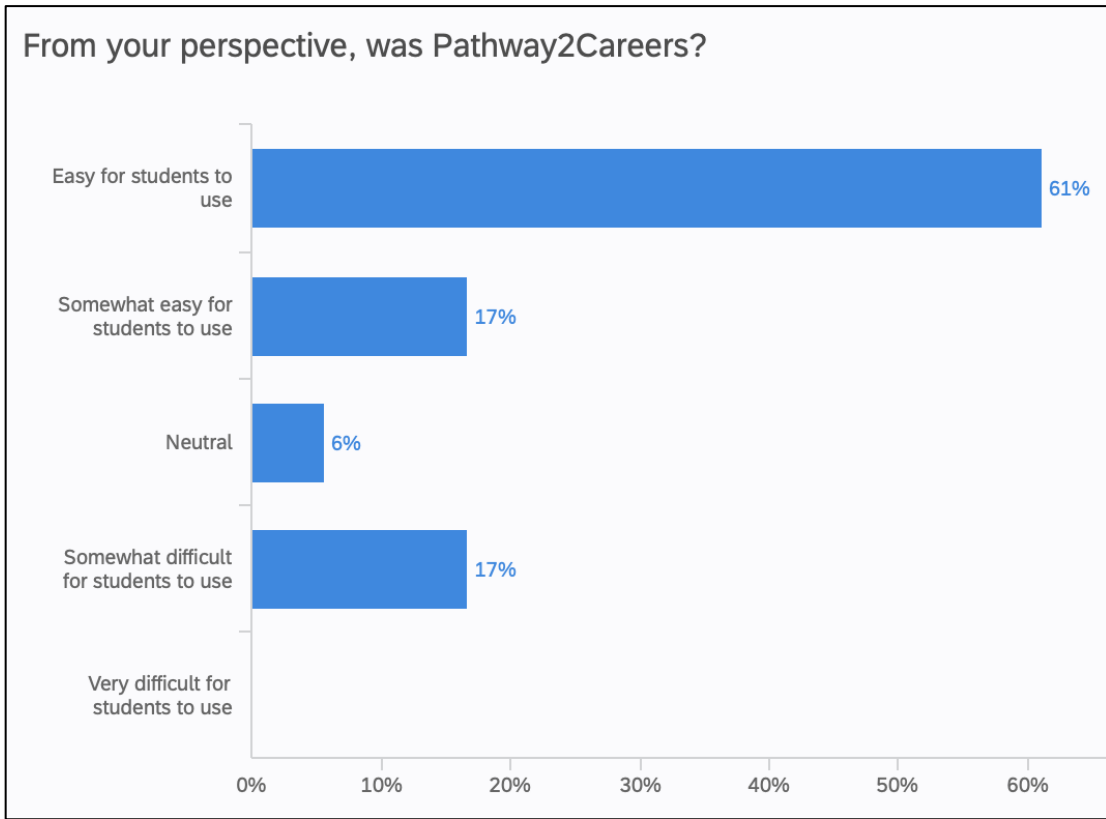
Most students reported using just a few lessons:



But students did overwhelmingly use the career planning tools as part of their career exploration journey.



An overwhelming majority of students and teachers alike approved of the functionality of P2C:



Some of the teachers' comments about the learning experience and students' reactions to it included:

- *"Students were receptive to information that was provided on each career. Students shared their career choices with other students. Career choices to explore were provided to the teacher by the students."*
- *The solved examples and notes that each lesson contain reinforce the student's understanding.*
- *"Students were able to identify their strengths and interests."*
- *"Students were able to understand the lesson, fully engaged, and excited to see what their careers did in the area of math."*
- *"P2C is the first curriculum in math I have dealt with that consistently offers both connections to careers but also gives solid tools to allow the students to explore career options on their own."*

The only negative comments noted that students were expecting something more like an app and that the curriculum when presented in PDF form was too large, though the teachers did like it as a supplemental curriculum source.

Students' comments noted that they enjoyed the career exposure. Some comments included:

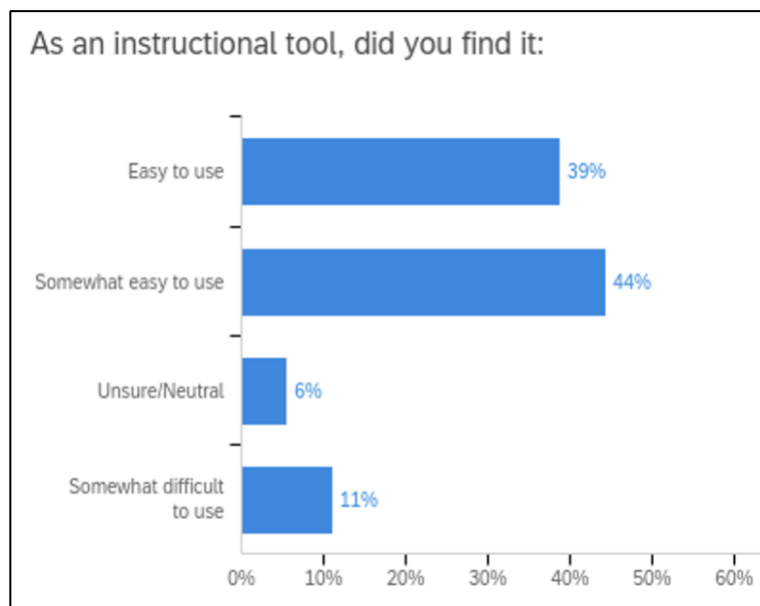
- *"I just liked how you could explore different careers and see what's right for you."*
- *"I found it really helpful, because it helped me learning more about my future and my career."*
- *"I liked how you can kinda set your goals in a way."*
- *"It helped me choose my career."*

A couple did note that they had difficulty navigating the courses or doing the lessons. One said in Spanish, *"Tienen preguntas dificiles."*

As an instructional tool, teachers reported overwhelmingly that it was an "easy to use" or "somewhat easy to use" tool.

Again, it is significant to note that no teachers found it "difficult to use," while 83% of teachers found it "easy to use" or "somewhat easy to use."

Teachers were able to share their thoughts on the platform/curriculum. Comments



included positives, challenges, and specific requests for professional development.

Positive examples included:

- *The portal is very easy to navigate and find lessons that go along with what I'm doing in my classroom core curriculum.*
- *The lessons reinforce the topics we cover and we enjoy the solved examples and notes that each lesson contain.*
- *Student are engaged.*

Requests for professional development included:

- *I fought it a little to get set up but beyond that none.*
- *My use of technology is not as high as it probably should be or can be. I am learning.*
- *I just needed practice and getting familiar with the tool.*

Teachers proposed a couple things to improve the tool, like:

- *The user interface is somewhat stiff. The students occasionally struggle to get through open ended questions, and showing their work online is difficult.*
- *The main challenge has been grading. It is very cumbersome to find and assess their scores.*

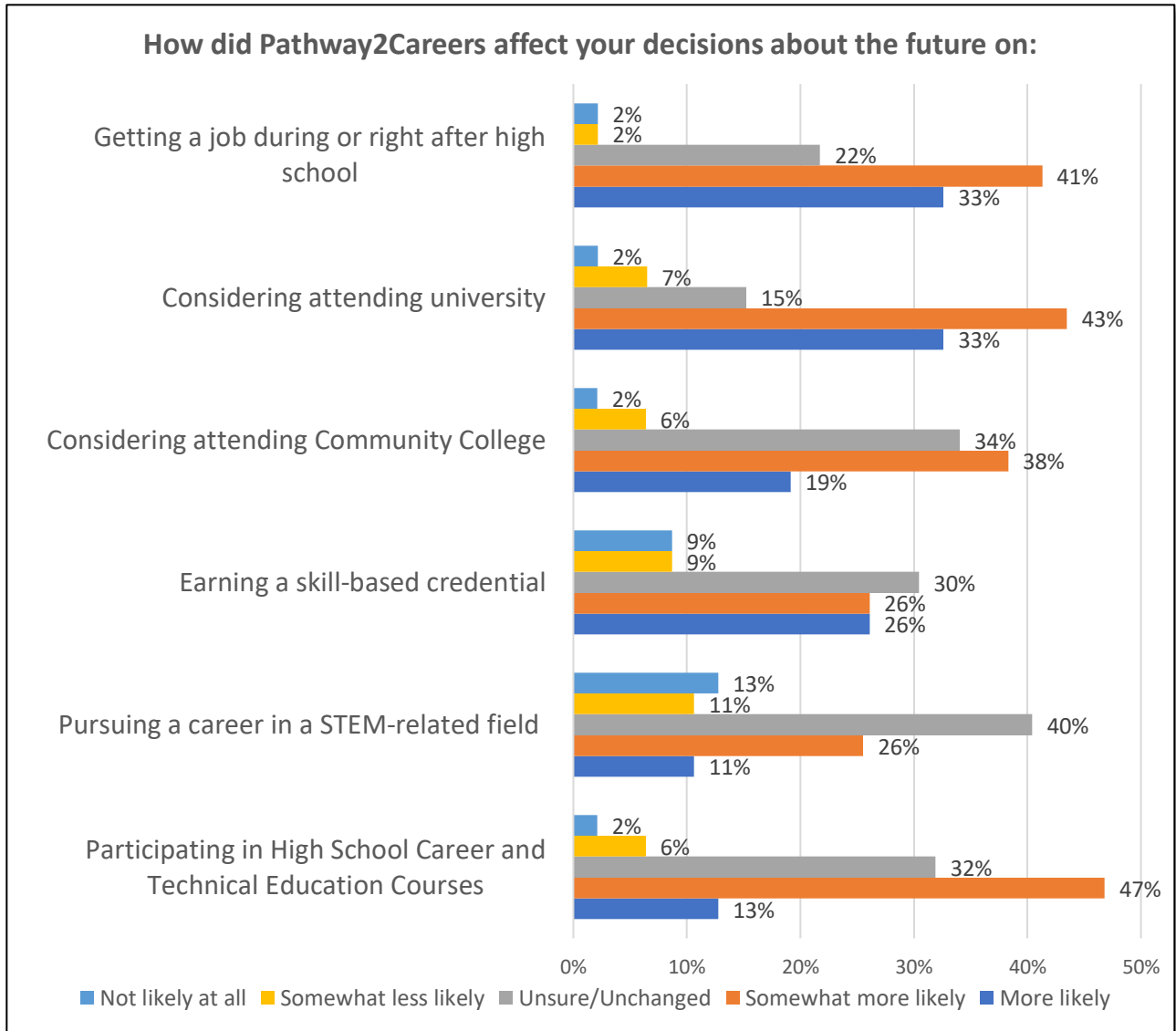
How Did Pathway2Careers Impact Students' Plans for their Futures?

The underlying premise for the creation of Pathway2Careers was the belief that, if equipped with information, students would have greater motivation and power to make well-informed academic and career choices that would equip them for a great future.

P2C creates alignment between education, employment, and economic development goals for communities and the state by equipping students for their career journeys through awareness, exploration, and preparation for high-value (high-demand, growing, higher-paying) careers.

If information is the fuel to drive student self-efficacy, then one would expect to see changes in students' perceptions, motivations, and plans based on what they learn in the curriculum.

Following are charts that show how Pathway2Careers impacted student's academic and career choices and motivation for how learning equips them for their future plans.



Clearly, after participating in P2C learning, the majority of students are “more likely” or “somewhat more likely” to choose:

- Participating in CTE courses (61%)
- Considering attending community college (59%)
- Considering attending university (76%)
- Getting a job during or right after high school (72%)

Half of students indicated that they would be “more likely” or “somewhat more likely” to earn a skill-based credential. The only decision where students were more “unsure” than likely was in pursuing a STEM-related field (39% vs. 37%).

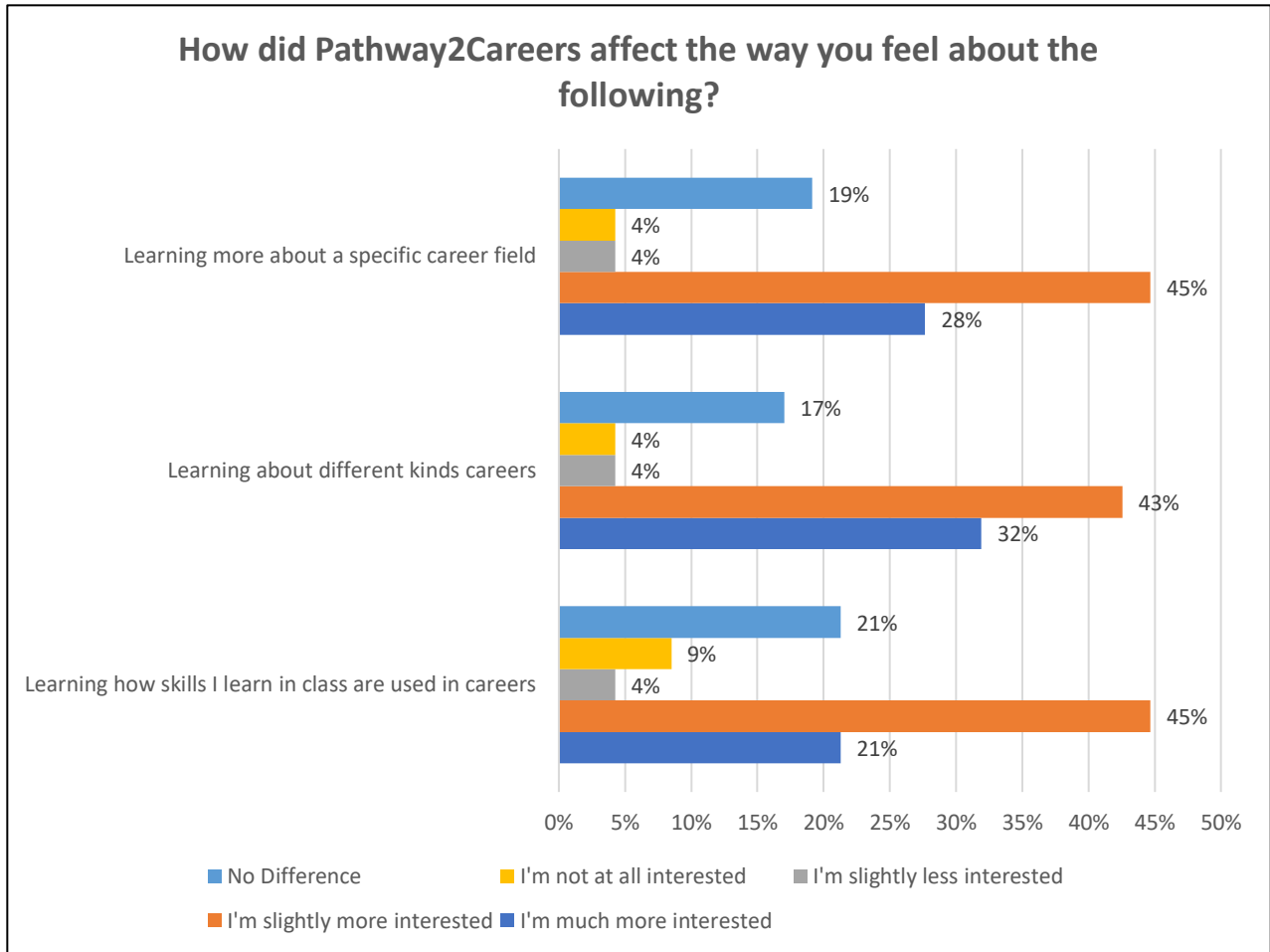
In fact, pursuing a STEM career was also the only metric that reflected any significant responses for “somewhat less likely” or “not likely at all” (26%), followed by skill-based credentials (18%).

However, when students listed what careers were of interest to them, 1 in 5 shared STEM-related careers. Only two students indicated they didn't yet know.

What is important to note is the specificity of some of their career choices. (Choices appear as input by the students.):

health care, childcare	The military
culinary arts or finance	speech therapist
PNM (Energy)	ingenieria y administracion de empresas
Business	psychology
Psychology	art and military
Military/ Unmanned Aerial Systems	medicina pediatria enfermeria cirugia
Marketing and Arts	seamstresses
A career that pays people a lot of money to do	LIFE SCIENCE
architecture	Architectural engineering
Engineer	Detective forense
welding or business	Welding engineering
Welder or a Barber	Psychology,Gastronomy,Forensic
Criminal Justice	midwife
Veterinarian, pharmacy technician, pharmacist.	welding
FBI agent	Enfermera o criminologa
game tester	realestate
DENTIST	I was interested in Detective.
Music and entertainment	Architecture, Mechanic
Animal related	Dermatology and Gynecology
Baking	Technology
computer engineer	NMSU
photography, marine biology	Education
Welding	

In a separate question that sought to understand students' motivation for learning, similarly, we see that application clearly increases interest in learning.



The majority of students did report being “more interested” or “somewhat more interested” in every aspect of learning, including:

- Learning about different kinds of careers (79%)
- Learning more about a specific career field (73%)
- Learning how skills I learn in class are used in careers (66%)

Responses for “unsure” hovered around 1 in 5 respondents, which may reflect the younger ages of the respondents (51% in 8th and 9th grade); and “not interested” or “slightly less interested” were small percentages, including, “Learning how skills I learn in class are used in different careers” ranking the highest at 13%.

Students also reported a positive impact of P2C on learning losses during the COVID-19 pandemic, in which schools were closed to in-person instruction from March, 2020 to April, 2021. Their responses to the statement, “I feel like I am catching up on learning that I had missed during the COVID-19 pandemic”, included:

- 20% strongly agree

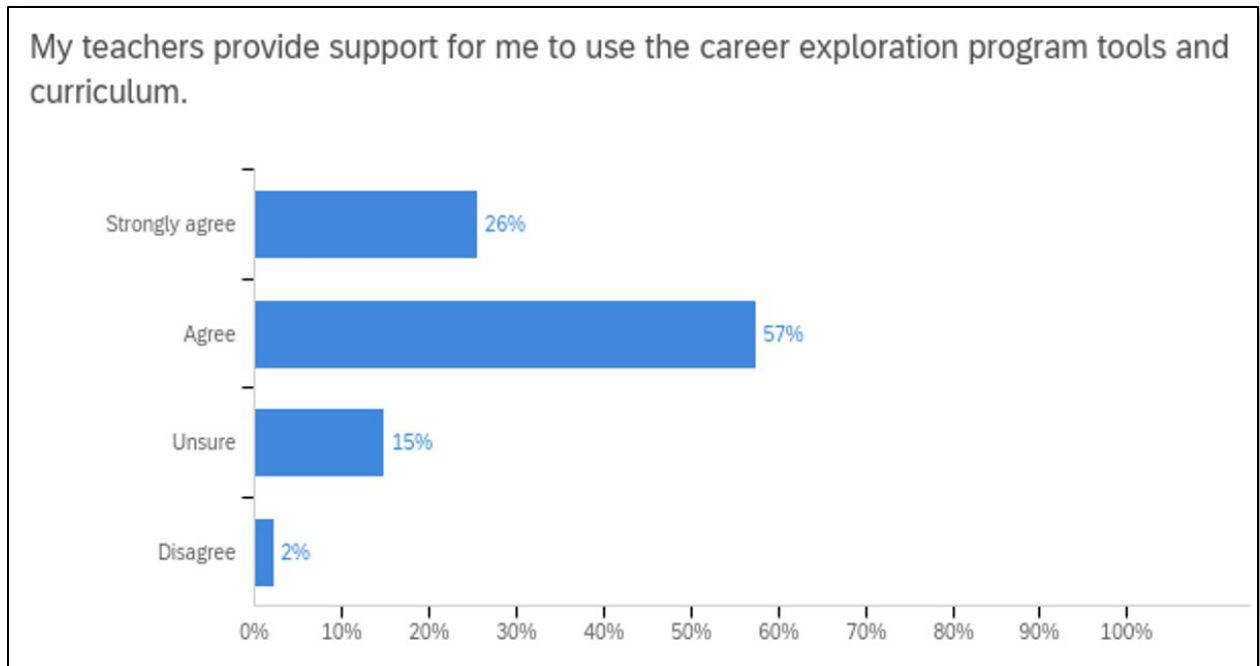
- 43% agree
- 30% unsure
- 7% strongly disagree
- No students disagreed

Students had the opportunity to discuss what they liked or found challenging about P2C. Nineteen of the answers are unclear whether the student viewed them positively or found them challenging. However, others were clear about positive and challenging things they found about the platform:

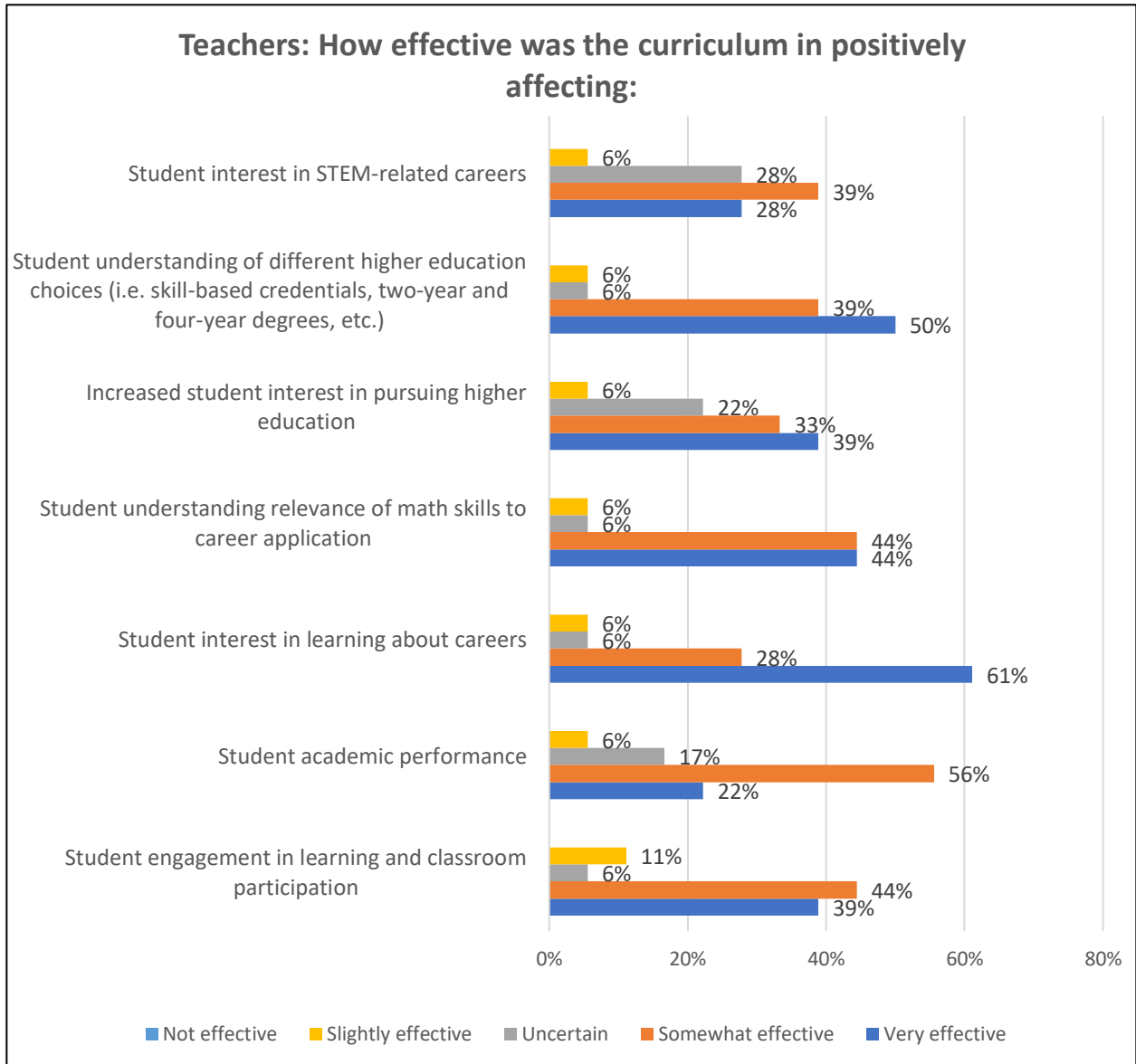
Positives	Challenges
the different career	having to find the right careers
it was easy	just getting around
It give you an idea of what careers there are	trying to remember what it was
it helped me make decisions	to know what class to what
it helped me choose my career	Tienen preguntas difíciles
I liked having all the careers in their own categories.	login
i just liked how you could explore different careers and see what's right for you.	What challenges they have for us in order to pass something.
I liked how you can kinda set your goals in a way	
looking at careers	
Las oportunidades	
Careers	
I found it really helpful , because it helped me learning more about my future and my career	
That it has information	
i think it's easy	
I like the tools that could be used in the career exploration.	
every thing in the careers	

I liked how the questions were based on real life experiences because I know I was always asking why do we need this kind of math.

Students also indicated that they felt supported by their teachers in using Pathway2Careers, which was important in the tool’s design to not replace the teacher, but rather support the teacher in instruction.



Teachers, too, indicated that they saw the impact of P2C on student learning and motivation in the classroom in their survey.



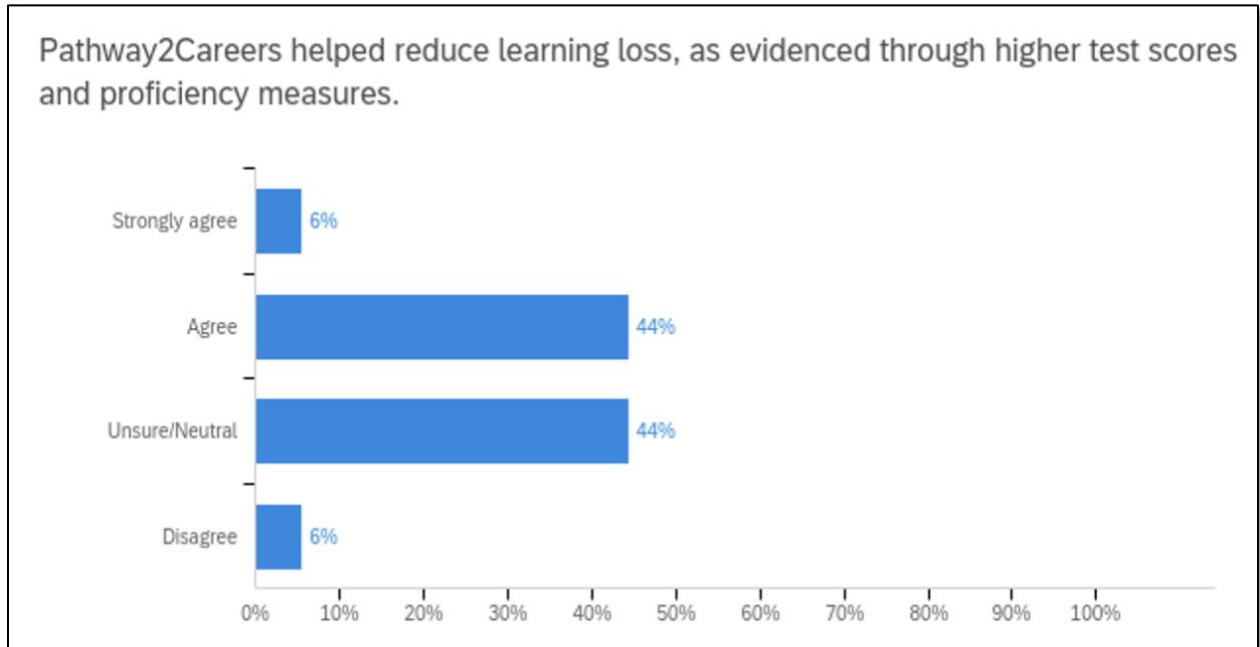
Across the board, teachers reported overwhelmingly positive impacts on:

- Student interest in learning about careers (89%)
- Student understanding of different higher education choices (89%)
- Student understanding relevance of math skills to career application (88%)
- Student engagement in learning and classroom participation (83%)
- Student academic performance (78%)
- Increased student interest in pursuing higher education (72%)
- Student interest in STEM-related careers (67%)

Teacher respondents were consistent with student data on STEM-related careers, as 28% were “uncertain” of the impact, followed by 22% “uncertain” about student interest in higher education and 17% in positively affecting academic performance. **It is significant to note that**

only a few teachers chose slightly effective, and no teachers chose “not effective” as an answer.

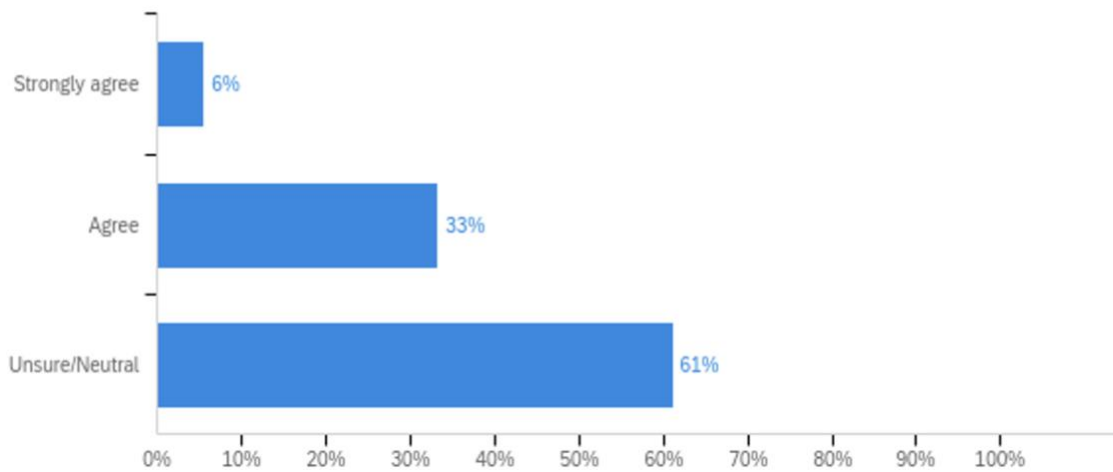
Teachers were less clear about the impact of P2C on recovering students’ learning loss during the pandemic school closures.



The survey indicated an even split in teachers’ perception that P2C did help reduce learning loss (50%), followed by 44% not being sure and only 6% disagreeing. No teachers indicated they “strongly disagreed.”

In the context of impact on proficiencies, however, teachers were less clear about the impact of P2C, with 61% choosing “unsure/uncertain.” However, no teachers chose “disagreed” with the statement.

Students' proficiencies have improved with Pathway2Careers, as evidenced by higher test scores and proficiency measures.



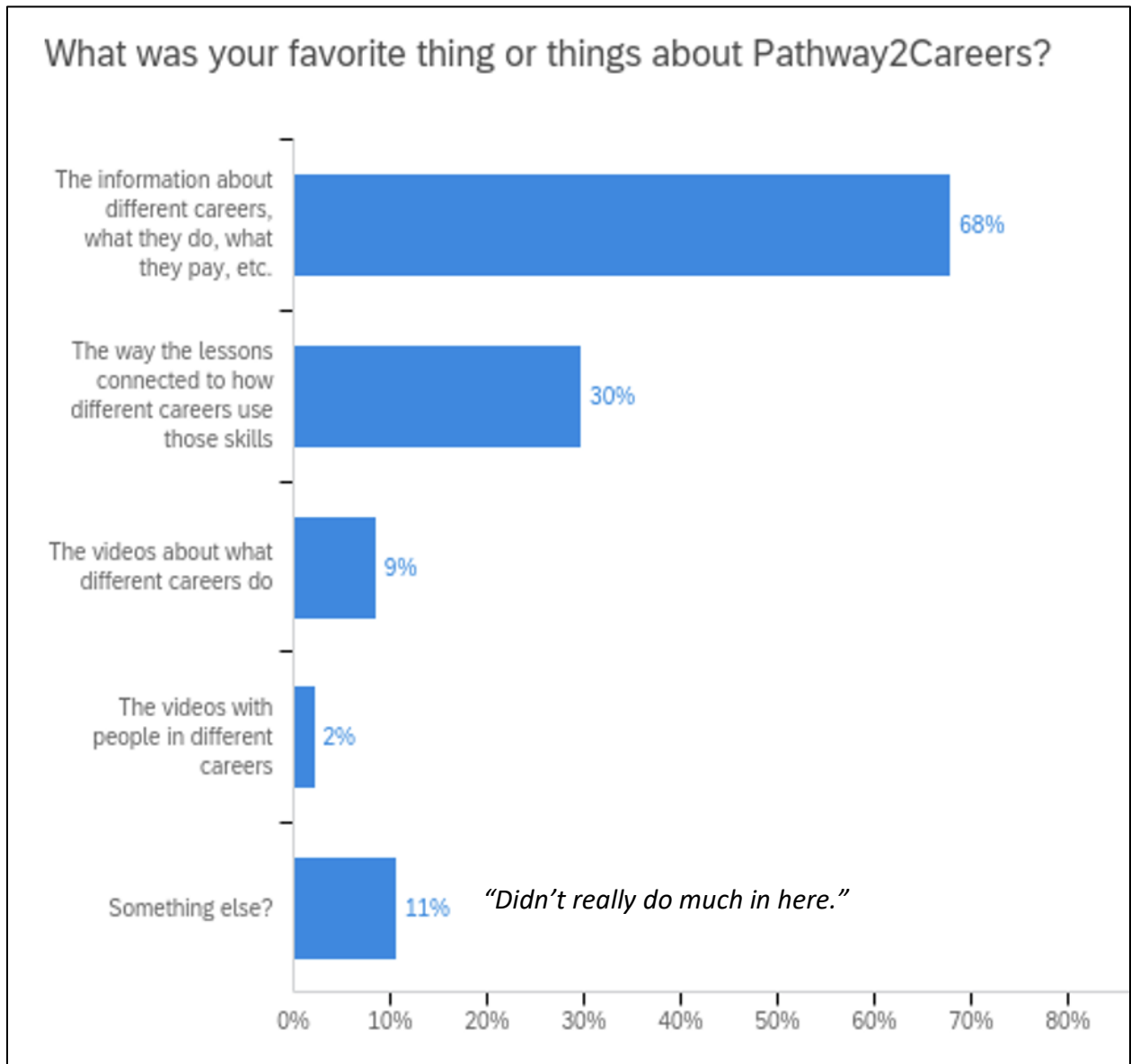
Some of the teachers who use P2C for counseling reported using it:

- To help with Next Step plans
- Exploration, including helping students see more careers and to narrow down careers options
- Research for future plans and aligning future goals and interests
- Taking student inventories

Perspectives on the Platform/Curriculum

With a desire to ensure the platform is best positioned to meet students' and teachers' needs, the surveys also included questions about what they liked and suggestions for improvements.

Students ranked elements of the platform/curriculum they liked best:



Exposure to career information was by far students' favorite thing, with the learning application coming in second. In fact, when asked what suggestions they have for improving P2C, student answers included:

- *No, I think it is very well based on things we learn in class and we get some extra practice when we get to our projects.*

- *no changes at all. I think it is just fine.*
- *more career options*

Teachers' answers about what they liked about P2C ranged from the breadth of career exposure to how the platform is organized and supports instruction. An important comment below brought up how P2C engaged one teacher's SPED students.

<i>Provides a lot of career choices as well as it is easy to understand and navigate through the different sections.</i>
<i>I like that it helps you figure out what you want to be when you get older.</i>
<i>How many different careers they had</i>
<i>The videos about the people who work in their option.</i>
<i>career pathway</i>
<i>everything</i>
<i>Lots of resources and information for the students.</i>
<i>Versatility and ease of use.</i>
<i>That it gives students an idea of their interests and an explanation of the different careers.</i>
<i>The information I needed was all together and I could view their results.</i>
<i>all</i>
<i>The lessons are engaging and bring the real life connection to my students and the curriculum.</i>
<i>The option of assigning lessons online or PDF handouts.</i>
<i>Students can explore careers they are interested in, see what their interests show they might enjoy, and comparing average salaries in different areas.</i>
<i>I Love the connection to careers, especially that there are real professionals interviewed, and job prospects in our region</i>
<i>I really like that I can use these as additions to my regular curriculum and as exit tickets.</i>
<i>It works better with my SPED students than any other curriculum I have dealt with.</i>

Teachers also offered their input on what they would like to see changed to improve P2C:

- *I would like to see the option for the students after their classes (their careers) and how hard or not it is to pass their classes and how many time their need to study.*
- *More interactive besides clicking on things.*
- *Just adding a test.*
- *The grading is cumbersome.*
- *User/teacher interface*
- *Somewhere to get help*

- *Maybe some types of games like for example if they have a credit card how this think work in the real life and how much they can expend according to their paycheck, some kind of simulation. And some simulation for the more popular carriers.*
- *Maybe a test where students can know better their interests and areas that are according to their answers such as Humanities, Health, etc.*
- *Support for ESL students*

Conclusion

New Mexico's response to the intent and purpose of the US Department of Education's FIPSE grant, and the originally stated goals in the theory of change, have indeed been met in the opinions of those teachers and students who responded to survey.

The importance of career-connected learning emerged in every metric in which it was measured, including student learning, academic and career choices, and future planning, as well as in what teachers saw in increased student engagement and outcomes. Growth in student awareness of a broad spectrum of careers translated to their interest in learning more, their likelihood to pursue higher education and work-based learning opportunities, participation in CTE, and to a somewhat lesser extent, pursuit of careers in STEM fields. Increased participation in CTE is an important goal for New Mexico, as graduation rates for CTE students in the state far outpaces the state average (93% vs. 78%).

The platform, as designed, seems to perform well as an instructional tool and in student ease of use, as reported by both teachers and students. It's intentional design to support and not supplant the classroom teacher is also reflected in 85% of students who reported that their teacher were able to help them in their learning.

High student usage of the career tools seems to have supported teachers in the development of state-required Next Step plans, as reported by some teachers, and provides full access to this complement of supports to every student in the state. This could be of enormous benefit to teachers and counselors in rural districts who may have more limited budgets and access to resources. Thanks to the Federal funding, Pathway2Careers is provided to every school district in the state at no cost.

Recommendations for the Future

Admittedly, this study would have benefitted from greater participation from students and teachers. The majority of students had a very minimal opportunity to engage with it. It is still early in its use and adoption in the state, so perhaps a future study would be able to gather a larger and even greater understanding of how the curriculum is affecting students' school engagement and teacher instruction.

Regardless, respondents did tell an overwhelming positive story in their responses, that, in fact, Pathway2Careers is accomplishing what its designers and the state set out to do.

Specific recommendations include:

- With New Mexico's recently released NAEP scores, which showed the state ranking last in the country for 4th and 8th grade math and reading, there is an important case to be made for increased exposure to, and usage of, Pathway2Careers Career Exploration and math lessons. Pathway2Careers is emerging as an evidence-based platform and curriculum that positively impacts the majority of students who engage with it.
- Increased calls for tutoring and instructional time would be well served with integration of the platform into those efforts for middle and high school students, who tend to be the most likely to be disengaged from education over time.
- More districts, schools, and teachers should adopt Pathway2Careers as supplemental to their instruction, as there is evidence that Pathway2Careers is having a positive effect on recovering learning loss and, perhaps, proficiencies.

Areas for suggested improvements and learning include:

- A better, ongoing approach to professional development to assist teachers who may be new adopters to educational technology, as well as to help them fully take advantage of the numerous aspects of the platform.
- Specific modifications to the curriculum to support grading and students' ability to track progress and return to previous work.
- A deeper understanding of the hesitancy or roadblocks students perceive to pursuing STEM careers, upon which much of New Mexico's economic development is dependent.
- Exploring how Pathway2Careers can support students in growing their literacy skills, a need demonstrated in their answers to the survey. Those skills are vital to their future employability and higher education aspirations.
- Specific support for Spanish-language proficient students and the importance of bi-literacy as a valuable workforce skill.

New Mexico stands poised to take incredible advantage of this new tool in the educational toolbox. Pathway2Careers is perfectly positioned to meet the stated goals of the New Mexico *New Mexico Public Education Department's 2022 Comprehensive Strategic Plan*.

Based on the outcomes of this research and the stated goals of The Bridge of Southern New Mexico, which are to increase high school and college graduation rates and build a skilled and ready workforce, The Bridge stands ready to support the state in maximizing the impact of this Federal investment on our students, educators, and state.