**Strengthening Nevada's PK-20 Teacher Pipeline: An Assessment to Meet Workforce Projections**

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**Abstract**

With an annual projected increase of 20% more PK-12 teachers needed in southern Nevada and an annual vacancy rate of over 1,000 teachers, Clark County School District (CCSD) will need to fill over 3,000 positions annually. CCSD initiated a CTE Teaching and Training program in 2017 to help establish a pipeline of future teachers to bridge the gap. Although enrollment numbers in the Program of Study have grown 400% since the inception, the number of students completing one to two years of this program has steadily decreased to 540 students.

Using a mixed methods approach, this research study sought to quantify and assess the strength of southern Nevada's current CTE Teaching and Training secondary student-to-teacher workforce pipeline to gain an understanding of annual retention and matriculation rates, the academic preparedness of students, and the current profile of secondary and post-secondary students. Additionally, students, previous NSHE graduates, and teachers were interviewed to better understand the needs and motivation of enrolled students and identify the gaps or weaknesses in matriculation throughout the pipeline.

Data demonstrated that the CTE Teaching and Training program suffers from high attrition rates resulting in fewer than 50 students annually matriculating from the the Program of Study into Nevada System of Higher Education institutions in southern Nevada to pursue undergraduate education majors. Several weaknesses to retention and matriculation within the program were identified by the data, including student placement, the academic preparedness of students, and the lack of engaging opportunities. Alternatively, strengths were identified as well, the diverse profile of a student enrolled in the Program of Study, detailing the motivational role teachers play in students' plans to pursue education as a profession, the utilization of school choice options by students to access the program, and the overall popularity of the undergraduate education major within southern Nevada's NSHE institutions. Policy recommendations were formed aligned to the identified weaknesses and strengths of the CTE Teaching and Training program.

**Introduction**

Southern Nevada is suffering from a teacher shortage that is projected to increase in the coming decade (NCES, 2022). According to Nevada's Department of Employment, Training, and Rehabilitation (DETR) 10-year market needs projections, the number of educators serving in Southern Nevada's schools are projected to increase by 20.3%, or near 2,000 educators. See Appendix C for more details. To compound this issue, classroom educator vacancies remain consistently high with approximately 1,000 vacancies at the start of the 2024-25 school year. Southern Nevada's teacher workforce is in a severe crisis.

Currently, Nevada's teaching profession is hamstrung by an insufficient PK-20 teacher pipeline. Establishing a robust PK-20 teacher pipeline begins with and depends upon quality K-12 educational experiences. CCSD established a CTE Teaching and Training program in 2017 to expose and prepare high school students to enter the field of education. Although the initial enrollment in the Program of Study increased nearly 400% between 2017 and 2024 (Moore, 2024), a large majority of students left the program before completion and even fewer entered higher education to pursue teaching as a profession.

The purpose of this research study is to quantify the strength of Southern Nevada's PK-20 teacher pipeline and understand the reasons why students choose to leave. Policy recommendations will be formed to identify ways Nevada can strengthen the teacher pipeline and create a sufficient mechanism to meet Nevada's future workforce needs.

*Research Questions*

This study incorporated quantitative and qualitative analyses to add depth and transparency to the research findings. Within the quantitative component, we sought to assess the strength of Nevada's current CTE Teaching and training secondary and post-secondary student-to-teacher workforce pipeline. Within the qualitative component, we conducted semi-structured interviews on students and teachers who are part of the pipeline. The current study sought to:

1. Understand the academic preparedness of enrolled students;

2. Understand the needs and motivation of enrolled students;

3. Calculate annual retention and matriculation rates of the pipeline;

4. Identify the current profile (e.g. student and geographic demographics) of enrolled students in both secondary and post-secondary settings;

5. Identify the gaps or weaknesses in matriculation throughout the pipeline; and

6. Identify the needed matriculation rates to meet the projected occupational needs for educators in Nevada.

## Data and Methods

The quantitative section relied on data sourced from the Nevada P-20 to Workforce Research (NPWR) Data System and the qualitative section relied on information gathered from interviews with students, past NSHE graduates, and teachers in CTE Teaching and Training programs in CCSD.

*Nevada P-20 to Workforce Research Data System*

Within the NPWR Data System, all the requested data files were large and required programs like Microsoft Access to assess the data. Due to this, each data request was specific to an NPWR Partner. Additionally, each request required at least one filter.

To start, we requested nearly all available tables and variables from the Nevada Department of Education (NDE). We considered the school years from 2020 and beyond from the table entitled *SLDS NDE Report Assessment* as our main filter. In doing so, this represented the current population of students in CTE Teaching and Training programs.

Similarly, we requested nearly all available tables and variables from the Nevada System of Higher Education (NSHE). Our tables depicted years from 2020 and beyond and for the undergraduate population in the table entitled *SLDS NSHE Cohort View*. The NSHE tables served many roles for this study, but primarily demonstrated the connection from NDE to NSHE.

Lastly, at the time of our request, the only available table from the Department of Employment, Training and Rehabilitation (DETR) was quarterly wages in Nevada. For this table, we considered data from 2023 and up. This table would be the largest in size and thus the filter for a

singular year – this gave a snapshot of educational professionals for the most recent data. See Appendix A for more details on data requested.

*Student, Past NSHE Students, and Teacher Interviews*

To understand the varied experiences within CTE Teaching and Training programs, we interviewed students, past NSHE graduates, and teachers in CCSD using a semi-structured approach. In total, there were 18 participants – two past NSHE graduates, six current students, and ten current teachers teaching and/or involved in their school's Program of Study. Each interview lasted from 15 minutes to an hour and was either in person or held virtually. All interviews were recorded and later transcribed. Key themes were identified upon review of each transcription by multiple investigators in the study. See Appendix B for examples of questions asked.

## Results

*Quantitative Analyses*

<u>Future Need for Teaching Profession</u>

It is no secret that there is a critical shortage of teachers. Nevada's Department of Employment, Training, and Rehabilitation predicted that by 2030, there would be a 20% increase in employment for the PK-12 profession with total annual openings being near 2,000.

*10-Year Long Term Projections from 2020 to 2030*

| PRESCHOOL, ELEMENTARY, MIDDLE, SECONDARY, AND SPECIAL EDUCATION TEACHERS | BASE YEAR EMPLOYMENT | PROJECTED EMPLOYMENT | ANNUAL OPENINGS |
|---|---|---|---|
| LAS VEGAS - PARADISE MSA | 18,970 | 22,813 | 1,915 |

See Appendix C for more details about annual openings for the state of Nevada.

<u>Negative Trend in Matriculation</u>

Building a strong student-to-teacher pipeline into the profession is contingent upon the strength of matriculation. Between 2019 to 2021, the CCSD CTE Teaching and Training programs

decreased in the enrollment of concentrators, students who enrolled in Level II CTE classes, and completers, students who completed the Program of Study and passed the assessment. The most dramatic decrease was between the 2020-21 and 2021-22 school years, representing 36% fewer students matriculating through the Program of Study in the 2021-22 school year.

*Concentrators and Completers in CCSD*

|  | 2019-20 | 2020-21 | 2021-22 | DISTINCT COUNT |
|---|---|---|---|---|
| TEACHING AND TRAINING | 858 | 842 | 540 | 860 |

Similarly, the same decrease occurred for fall cohorts of undergraduate Education majors across all NSHE institutions in southern Nevada, however, less dramatically.

*Undergraduate Education Majors in Southern Nevada NSHE Institutions*

| ALL UNDERGRADUATE EDUCATION MAJORS | 2021 FALL COHORT | 2022 FALL COHORT |
|---|---|---|
| COLLEGE OF SOUTHERN NEVADA | 114 | 109 |
| NEVADA STATE UNIVERSITY | 26 | 40 |
| UNIVERSITY OF NEVADA, LAS VEGAS | 113 | 83 |
| TOTAL | 253 | 232 |

Additionally, the proportion of undergraduate Education majors enrolled in southern Nevada's NSHE institutions who were in CCSD's CTE Teaching and Training programs decreased. Although these programs lowered enrollment, they are not unpopular programs and are, in fact, within the top 10 of all programs at the undergraduate level. It is important to note that 18% of undergraduate education majors were reported to have matriculated through the CCSD CTE Teaching and Training program.

*Undergraduate Education Majors who Participated in CTE Teaching and Training Programs*

| UNDERGRADUATE CTE TEACHING AND TRAINING | 2021 FALL | 2022 FALL |
|---|---|---|

| PARTICIPANTS AND EDUCATION MAJORS | COHORT | COHORT |
|---|---|---|
| COLLEGE OF SOUTHERN NEVADA | 17 | 11 |
| NEVADA STATE UNIVERSITY | 13 | 20 |
| UNIVERSITY OF NEVADA, LAS VEGAS | 18 | 10 |
| TOTAL | 48 | 41 |

See Appendices D through F for more details on enrollment trends across Nevada.

Profile of the Student-to-Teacher Pipeline

With a large need for teachers in the district, strengthening the student-to-teacher pipeline also requires the pipeline to be diverse. Although the Program of Study in CCSD decreased in size, the program's diversity, in terms of ethnicity and gender, did not change.

*Ethnicity of Students Enrolled in the CCSD CTE Teaching and Training Program*

| RACE/ETHNICITY | 2019-2020 | 2020-2021 | 2021-2022 |
|---|---|---|---|
| ASIAN | 61 (5%) | 60 (5%) | 43 (6%) |
| BLACK/AFRICAN AMERICAN | 181 (14%) | 173 (13%) | 89 (12%) |
| WHITE | 299 (23%) | 288 (22%) | 165 (22%) |
| HISPANIC/LATINO | 675 (52%) | 671 (52%) | 397 (53%) |
| AMERICAN INDIAN/ALASKAN NATIVE | 6 (1%) | 7 (1%) | 5 (1%) |
| TWO OR MORE RACES | 67 (5%) | 69 (5%) | 41 (5%) |
| NATIVE HAWAIIAN OR OTHER PACIFIC ISLANDER | 21 (2%) | 20 (2%) | 15 (2%) |
| TOTAL | 1310 | 1288 | 755 |

*Gender of Students Enrolled in the CCSD CTE Teaching and Training Program*

| GENDER | 2019-2020 | 2020-2021 | 2021-2022 |
|---|---|---|---|
| MALE | 257 (20%) | 255 (20%) | 165 (22%) |

| | | | |
|---|---|---|---|
| FEMALE | 1053 (80%) | 1033 (80%) | 590 (78%) |
| TOTAL | 1310 | 1288 | 755 |

Areas in which the program was diverse were based on where a student resides and whether they received free-reduced lunch. Otherwise, missed populations are students that had any of the following statuses: migrant, military, foster child, or unhoused.

Lastly, 36% of the 2021-22 CTE Teaching and Training program's student population did not attend their assigned zone school. This indicated that they either attended a magnet program, a career technical academy, or requested a Change of School Assignment (COSA) that allows students to enroll in another high school in CCSD if they can supply their own transportation. Additionally, 23% of the same population attended non-comprehensive schools that require student applications and are not COSAs. The chart below demonstrates the high school with the highest count of students enrolled in the CTE Teaching and Training program within each municipality.

*Summary of Top Attendance Schools within Municipalities for CTE Teaching and Training Program*

| SOUTHERN NEVADA MUNICIPALITIES | COUNT | AVERAGE MEDIAN INCOME | TOP SCHOOL OF ATTENDANCE |
|---|---|---|---|
| HENDERSON | 67 (9%) | $104,607 | Coronado HS |
| LAS VEGAS | 532 (70%) | $80,312 | Centennial HS |
| NORTH LAS VEGAS | 140 (19%) | $68,335 | Canyon Springs HS |
| UNKNOWN | 16 (2%) | - | - |
| TOTAL | 755 | $80,262 | Centennial HS |

See Appendices G through N for more details on enrollment diversity trends.

*Qualitative Analysis*

Responses to the interviews of current students, past NSHE graduates, and teachers fell into four themes or categories. The themes are as follows:

1. Implementation of the CTE Teaching and Training program.
2. Structural impacts on matriculation.
3. Matriculation of students.
4. Motivation to pursue a career in teaching.

The results of the qualitative analyses aligned with these four themes are described below.

Theme 1: Implementation of the CTE Teaching and Training Program

*Teacher Perspective*

Recruitment of students into the CTE Teaching and Training program varied at each school. In Magnet programs and Career and Technical Academies, students plan to enroll in CTE Teaching and Training programs, while students enrolled in comprehensive high schools may be assigned to teaching and training due to the lack of interest in the program and the availability of spots. One teacher reported the following:

> *They're dumping 150 to 200 students as freshmen that have zero interest in the actual profession [into the teaching and training program] and then they're just kind of hoping that after two years—that out of those 200— there will be 20 kids that perhaps want to do this. So, you're just throwing a bunch of stuff at the wall and hoping a few things stick. Then what I've seen in my seven years at the comprehensive level is the turnover rate with teachers is insane.*

Within interviews, teachers voiced their concern about the implementation of the CTE Teaching and Training program. Multiple teachers reported that they are teaching more than one level of CTE courses within the same academic period. The teacher below describes how it feels to simultaneously teach three levels of coursework in one class period.

> *Right now, I have all the teaching and training [students]. They have year two, three, and four all in one big class together. So, I have them only once [a week] and it's all together [in one classroom]. [Students] on this side of the room are doing this; you guys are doing this thing on this side of the room; and you guys are doing this different thing...So, I'm trying to wear three different hats at once. I feel like the circus performer spinning the*

*plates.*

*Student Perspective*

Students communicated the rigidity of the CTE Teaching and Training program and described it as a one-size-fits-all model. Students spoke about the limited options available for dual credit enrollment courses. This restriction became a barrier to individualizing the program according to students' needs.

> *I think definitely our dual credit classes should expand more to different career paths [within education].*

Some CTE Teaching and Training programs offer hands-on experiences to students. This is something students look forward to, but the opportunities are not equitably available.

> *Our senior year, we just do a dual credit course in education. It's kind of like all the exciting stuff already happened.*

Some schools do not have these options, and there is a heavy weight on the teacher to make sure they form relationships with nearby schools and teachers to offer hands-on experiences. Students voiced their desire to expand opportunities that would expose them to the teaching profession.

> *I think if we had a lot more community building and service projects, things like that, to work together — it would be a lot better.*

Theme 2: Structural Impacts on Matriculation

*Academic Preparedness*

According to teacher interviews, there are some CCSD high schools that remove students from CTE Teaching and Training programs when their grade point average falls below 3.0 within the program. Educators interviewed reported that many students did not matriculate through the Program of Study due to this procedure. Teachers reported that motivation for a student to academically achieve may be hindered by policies that employ singular measures to determine overall future success. One educator stated:

> *So, if they get lower than a B, essentially, in a class [within the program], they get kicked out of the program and can't move on and for some of our kids getting a C, that's their*

*best grade and it's like to be a teacher—you don't have to have straight A's in school.*

Teachers report that students performing below a GPA of 3.0 are removed from the CTE Teaching and Training program to increase the number of students who become course completers.

> *I have ... 22 students in my teaching and training one [course]. I have like 8 [in teaching and training two]... if those kids are gonna be in my class and those are—you know because there's some kids who failed because we can't have students who could potentially have less than a 3.0 GPA [in the program] because they have to [have a 3.0 GPA] in order for them to be a course completer... So they're kind of weeded out.*

Dual credit courses are appealing to students who are academically prepared for the CTE Teaching and Training program but deter those who are not academically prepared. If a student enrolls in dual credit courses and is unable to pass the course, their college GPA is impacted negatively. Teachers reported the difficulties students have in passing the dual credit courses due to the lack of academic preparedness.

> *They're struggling everywhere. They're not just struggling—all the kids that I am mentioning, all the ones that are failing dual credit -- they're not just failing my class— not a single one [are failing just my class]. If it was that, I have confidence in my own ability to get that kid to do the work. It's reluctancy to do any work in class. And so, you know, [Career and Technical Academies] are perceived as having all the best kids and stuff like that, but you also realize half of our kids are in for career programs. They have no desire to go to college.*

Theme 3: Matriculation of Students

*Passion of Teachers*

Students communicated that they want more students to become interested in the program. They said the community formed through the program has helped them grow and become more confident. Students and teachers alike reported the importance of the role of the CTE Teaching and Training teacher as reasons for retaining, regardless of whether they planned to pursue a career in education. A few teachers reported their overall passion for the profession and dedication to building a pipeline of high-quality future teachers.

> *I love what I'm teaching them. If you don't love what you teach, how can you show through to your students.*

Moreover, students retained within the program and became CTE completers if they felt that the teachers were passionate about teaching and formed a community within the class.

> *I didn't really think I was gonna stay there all four years. But really, the people there and the teachers and the staff made me want to stay there longer.*

*Parental Support*

The support of parents was a concern brought forward by teachers within the program. It was reported that students were less likely to matriculate through the CTE Teaching and Training program if their parents did not value college or had a negative experience in college. One teacher described parents as a barrier to matriculation.

> *The biggest barrier for a lot of these kids is their parents... It's not like barriers we've put up here, like institutionally we're creating for them, it's really their homes.*

*Student Attrition*

The lack of students matriculating through the CTE Teaching and Training program impacted the motivation of teachers and enrolled students. One teacher reported that few students were interested in pursuing teaching as a profession.

> *I probably only have two or three per class that are even considering the profession.*

Moreover, students felt that there was a lack of interest in being part of the Program of Study.

> *I wish that there were more people who were actually interested in my teaching [and training] program. We have a very small program, and a lot of people end up leaving.*

While another student reported the overall lack of interest among those who were currently enrolled in the program.

> *People don't really want to be involved in our program. A lot of people are very passive about it. It's hard to connect with some people because they aren't really interested in it.*

Theme 4: Motivation to Pursue a Career in Teaching

*Students Pursuing the Teaching Profession*

As stated earlier, the CTE Teaching and Training program prepares high school students for technical, academic and employability skills for success in the workplace (ACTE Online, February 2024).  Students report that due to this exploration into the teaching profession, some students developed a desire to pursue a career in teaching. One student was exposed to the education profession throughout their life, and participation in the CTE Teaching and Training program solidified the motivation to become a teacher.

> *My mom and grandma are actually teachers. So that really interested me in the profession. But since coming to the teaching program, I really became more interested in it than I was before.*

Another student described the opportunity to work with Pre-K students during their junior year of high school.

> *Walking into a Pre-K classroom, instantly, like I talked to amazing teachers who inspired me and I'm like wow, I want to become a pre-K teacher.*

Past NSHE graduates were interviewed who attended CCSD high schools, graduated from UNLV's College of Education, and currently serve as educators in Nevada. Neither of the past NSHE graduates were enrolled in a CCSD CTE Teaching and Training program. One past NSHEgraduate spoke about knowing that they wanted to become a teacher for many years.

> *So, I became a teacher because ever since kindergarten, I knew I wanted to be a teacher. It would just evolve into me—becoming a math teacher in elementary school. Once I realized what high school was and I was like, hey, maybe I can specialize in being a teacher in math. So here I am living my dream.*

*Students Not Pursing the Teaching Profession*

Each of the current students interviewed are matriculating through the CTE Teaching and Training program and are deemed course completers, which means they completed high school CTE Teaching and Training Levels I and II courses and passed the End of Course exam. They reported to have grown both individually and socially through participation in the program,

taking on leadership and facilitation roles.

> *I've changed so much as a leader because of me being able to facilitate—because I get to lead. It brought me out of my shell because I used to be shy. I couldn't talk and stuff.*

Multiple students also reported that they enrolled in CTE Teaching and Training programs, currently matriculating through the program, but have chosen not to pursue a career in education. Students reported inadequate salaries, interactions with current teachers, and the reputation of the profession as reasons for not pursuing. Students also reported that there were teachers who actively discussed the issues with the field of education and voiced their concerns to the students.

> *So, I learned a lot of things that I had not known about [teaching and training], like at all about the whole teaching career. It's one of my options, but it's not the very first one only because I now know stuff I didn't know before. My teachers were very honest about what teaching is really like, all the good parts and bad parts.*

## Discussion

To build a teacher pipeline to meet our future workforce needs, we must first understand the current programmatic strengths and challenges. This research study evaluated the current state of the student-to-teacher pipeline and identified reasons why students are exiting. As previously discussed, quantitative and qualitative data were utilized to gain a more comprehensive understanding of a research problem (Alele & Malau-Aduli, 2023). Below the strengths and challenges of the current Program of Study will be discussed.

### Challenges

Listed below are several challenges to both retention within and matriculation through the CTE Teaching and Training program.

#### Student Placement

There were 36% fewer students matriculating through the CTE Teaching and Training program in the 2021-22 school than in previous years. Most students and teachers reported the Program of Study as a "dumping ground" for those students who could not be placed in their preferred program. This process exacerbates attrition within the program and has been reported by students

as detrimental to establishing a sense of community, creating a cyclical effect on attrition with students being assigned to the program, not engaged in the learning and opportunities, and then leaving the program prior to completion.

*Academic Preparedness*

Only 27.6% of completers of the CTE Teaching and Training were able to earn a certificate of completion, indicating either their lack of preparedness or motivation to pass the End of Course exam. Additionally, procedures were implemented within schools to remove students considered academically underprepared after receiving less than a B in this Program of Study. Teachers reported their recommendations to retain students within the program were ignored.

*Lack of Engaging Opportunities*

The structure and learning opportunities offered within the Program of Study are determined by the teacher. Students reported the Program of Study as one-size-fits-all and limited, while teachers reported the lack of time allocated to developing engaging opportunities inside and outside of the classroom. While teachers reported the lack of time allocated as one reason for attrition, most were not assigned to the Program of Study full-time.

Strengths

There are multiple strengths that were identified within the current CTE Teaching and Training program, as follows:

*Profile of a Student*

The diversity of new teachers entering the profession in Nevada has long been a goal of CCSD (CCSD Schools, 2019). Currently, 78% of students enrolled in CTE Teaching and Training program were students of color. If matriculation increased throughout the secondary student-to-teacher workforce pipeline, teacher diversity would increase within the profession.

*Motivational Role of the Educator*

Students believed the quality of the teacher instructing the CTE Teaching and Training program was integral to their retention. Additionally, students reported that teachers were committed to

the teaching profession and motivated them to become future educators.

*School Choice Options*

Each student enrolled in the program of study described placement in the CTE Teaching and Training program as their first choice. Over one-third of all students enrolled in the CTE Teaching and Training program utilized the school choice option. Although this is a strength, more data needs to be collected to understand the accessibility and equity of all students to this approach.

*Popularity of the Education Major*

Data shows that education majors at the undergraduate and graduate levels are among the top 10 programs within southern Nevada's NSHE institutions, indicating a strong and consistent interest for those in post-secondary colleges and universities. Although only 18% of undergraduate education majors were reported to have matriculated through the CCSD CTE Teaching and Training program, this desire to pursue the field of education in post-secondary institutions is popular.

**Limitations**

Four key data limitations were identified.

1. Data requested through NPWR was limited to the years surrounding COVID-19. The most recent complete data available was from the 2021-22 school year, which is two full school year behind.

2. Due to the limited availability, data was only reported for students who were deemed concentrators or completers. This limitation did not enable the researchers to identify students deemed participants, or those who enrolled in the Program of Study. Without this population represented in the data, a large portion of the student population exposed to the CTE Teaching and Training program is missing. In other words, not having participation data construes the general enrollment numbers of the program.

3. The interviews conducted represented a sampling of students, teachers, and past NSHE

graduates who were highly involved in their school's CTE Teaching and Training programs. A more extensive qualitative analysis should be conducted incorporating a diverse sample from non-comprehensive and comprehensive schools across southern Nevada.

4. Additionally, not all schools with CTE Teaching and Training programs are represented within data collection and, therefore, does not reflect the experience of students at comprehensive high schools where the Program of Study is not a magnet program or career and technical academy. More research on other student experiences is needed to find improvements for the program.

## Policy Recommendations

*Policy Recommendation #1*: Establish a career pathway for future teachers.

*Justification*: With an increase in engagement opportunities (i.e., guest speakers, university and school partnerships, dual enrollment coursework), the CTE Teaching and Training program should transition to a career pathway. As reported by students in this research study, they are more likely to be motivated to pursue the teaching profession when provided with hands-on experiences.

*Policy Recommendation #2*: Employ a more comprehensive future teacher pipeline.

*Justification*: CTE Teaching and Training programs should engage students in meaningful lessons that are applicable to the teaching profession. Engagement opportunities should be incorporated within each level of the Program of Study offering opportunities that expose students to the benefits of the teaching profession, such as speakers within the field of teaching, internships and apprenticeships to offer experiences working with young children, and enhanced dual enrollment coursework.

*Policy Recommendation #3*: Make Structural Changes to the Program of Study.
    Assign a full-time teacher to teach and manage the CTE Teaching and Training program.

*Justification*: Employ a full-time teacher in each high school CTE Teaching and

Training program to set up and refine the program, establish internships, community opportunities, and a recruitment program.

<u>Advertise and market the CTE Teaching and Training program for recruitment.</u>

*Justification*: Create a robust advertising and marketing program to support student recruitment, minimizing the number of uninterested students assigned to the Program of Study, and reduce attrition.

*Policy Recommendation #4*: Evaluate the academic preparedness of students.

*Justification*: The academic preparedness of all students entering the CTE Teaching and Training program should be evaluated to determine to what extent additional services and academic support can be provided.

*Policy Recommendation #5*: Enhance accountability for CTE Programs.

*Justification*: An evaluation of a school-based program should be conducted if there is more than 50% attrition at any level of completion. This evaluation should consider, but is not limited to, barriers to student matriculation, academic preparedness, and engagement opportunities.

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**Appendix A**

Data Requested from NPWR Data System

| NPWR Partner | Data Reports | Data Needed | Reason |
|---|---|---|---|
| Nevada Department of Education | SLDS CTE Report | CTE Program Enrollment | To examine retention and matriculation of Teaching CTE Programs |
| | SLDS NDE Report Assessment | ACT Scores | To examine the academic success of students enrolled in the Teaching CTE Programs |
| | SLDS NDE Report Graduation | Diploma Types | To examine the academic success of students enrolled in the Teaching CTE Programs |
| | Student Demographics | Gender, Race/Ethnicity, FRL, IEP, LEP, Foster, Migrant, Military Status, Grade Level, Zip Code | To understand the demographic profile of students enrolled in the Teaching CTE Programs |
| Nevada System of Higher Education | SLDS NSHE Cohort View | Academic Career Code, First Time Flag | To examine only undergraduate students in the Education field |
| | SLDS NSHE Completions View | Academic Majors | To examine the matriculation of undergraduate degrees in the Education field |
| | SLDS NSHE CPP View | Academic Majors, Degree Types | To examine only undergraduate students in the Education field |
| | SLDS NSHE Student View | Gender, Race/Ethnicity, Zip Code | To examine only undergraduate students in the Education field |
| Department of Employment, Training, and | Employee Wage Reporting Table | Quarterly wages for the teaching profession | To examine the growth in wages with the growth of the profession |

| Rehabilitation | | | |
|---|---|---|---|

**Appendix B**

Example of Interview Questions Asked

| Group | Question | Reason |
|---|---|---|
| Teachers | At your school, how do students decide to enroll in the Teaching & Training program? | Addresses gaps and weaknesses of program |
| | At your school, what opportunities are provided to students to gain professional development and practical experiences as future teachers? | Addresses gaps and weaknesses of program |
| | Can you describe the levels of support you currently receive in teaching this course? Do you feel adequately supported in your role? | Addresses gaps and weaknesses of program |
| | What steps do you take to ensure that students completing the Teaching & Training program are well-prepared for the challenges of the teaching profession, both in terms of content knowledge and practical skills? | Addresses academic preparedness of students |
| | How do you engage students who initially did not choose the Teaching & Training program as their first choice? | Addresses needs and motivation of students |
| | How would you describe the enthusiasm students have towards the content in this class? | Addresses needs and motivation of students |
| Students | What initially brought you to the teaching and training program? For example, was the teaching and training program your first choice? If not, please explain. | Addresses needs and motivation of students |

| Group | Question | Reason |
|---|---|---|
| | Do you have plans on being in the education field in the future? | Addresses needs and motivation of students |
| | What would you say is the most difficult part of your teaching and training program? | Addresses academic preparedness of students |
| | What would you change about your teaching and training program? | Addresses gaps and weaknesses of program |

**Appendix C**

10-Year Long Term Projections from 2020 to 2030

| PRESCHOOL, ELEMENTARY, MIDDLE, SECONDARY, AND SPECIAL EDUCATION TEACHERS | BASE YEAR EMPLOYMENT | PROJECTED EMPLOYMENT | ANNUAL OPENINGS |
|---|---|---|---|
| **LAS VEGAS - PARADISE MSA** | 18,970 | 22,813 | 1,915 |
| **RENO-SPARKS MSA** | 4,278 | 4,578 | 356 |

**Appendix D**

Top 10 CTE Programs for Concentrators and Completers in CCSD

| TOP 10 CTE PROGRAMS | 2019-2020 | 2020-2021 | 2021-2022 | DISTINCT COUNT |
|---|---|---|---|---|
| **CULINARY ARTS** | 3184 | 3141 | 1644 | 3200 |
| **PHOTOGRAPHY** | 2127 | 2089 | 1050 | 2137 |
| **VIDEO PRODUCTION** | 1964 | 1940 | 944 | 1985 |
| **GRAPHIC DESIGN** | 1541 | 1524 | 786 | 1549 |
| **MARKETING** | 1319 | 1300 | 666 | 1336 |
| **FORENSIC SCIENCE** | 1310 | 1278 | 681 | 1318 |
| **SPORTS MEDICINE** | 1080 | 1070 | 530 | 1091 |
| **AUTOMOTIVE TECHNOLOGY** | 1002 | 991 | 553 | 1011 |
| **TEACHING AND TRAINING** | 858 | 842 | 540 | 860 |
| **THEATRE TECHNOLOGY** | 773 | 762 | 401 | 779 |

**Appendix E**

All Undergraduate Education Majors at NSHE Institutions

| ALL UNDERGRAD EDUCATION MAJORS | 2021 FALL COHORT | 2022 FALL COHORT |
|---|---|---|
| CSN | 114 | 109 |
| GBC | 13 | 13 |
| NSU | 26 | 40 |
| TMCC | 42 | 33 |
| UNLV | 113 | 83 |
| UNR | 86 | 101 |
| WNC | 1 | 3 |
| TOTAL | 395 | 381 |

**Appendix F**

Undergraduate Education Majors who Participated in CTE Teaching and Training Programs

| ALL UNDERGRAD & T&T PARTICIPANT & EDUCATION MJR | 2021 FALL COHORT | 2022 FALL COHORT |
|---|---|---|
| CSN | 17 | 11 |
| GBC | 1 | 1 |
| NSU | 13 | 20 |
| TMCC | 3 | 1 |
| UNLV | 18 | 10 |
| UNR | 14 | 16 |
| WNC | - | - |
| TOTAL | 66 | 59 |

**Appendix G**

Migrant Status

| MIGRANT STATUS | 2019-2020 | 2020-2021 | 2021-2022 |
|---|---|---|---|
| Y | - | 1 (0%) | - |
| N | 1310 (100%) | 1287 (100%) | 755 (100%) |
| TOTAL | 1310 | 1288 | 755 |

Military Status

| MILITARY STATUS | 2019-2020 | 2020-2021 | 2021-2022 |
|---|---|---|---|
| Y | 13 (1%) | 18 (1%) | 3 (0%) |
| N | 1297 (99%) | 1270 (99%) | 752(100%) |
| TOTAL | 1310 | 1288 | 755 |

Foster Status

| FOSTER STATUS | 2019-2020 | 2020-2021 | 2021-2022 |
|---|---|---|---|
| Y | 2 (0%) | 1 (0%) | 1 (0%) |
| N | 1308 (100%) | 1287 (100%) | 754 (100%) |
| TOTAL | 1310 | 1288 | 755 |

Unhoused Status

| FOSTER STATUS | 2019-2020 | 2020-2021 | 2021-2022 |
|---|---|---|---|
| Y | 19 (1%) | 19 (1%) | 13 (2%) |

| N | 1292 (99%) | 1269 (99%) | 742 (98%) |
|---|---|---|---|
| TOTAL | 1310 | 1288 | 755 |

**Appendix K**

Zip Code County of Undergraduate Education Majors in NSHE

| ALL UNDERGRAD EDUCATION | 2020 | 2021 | 2022 |
|---|---|---|---|
| CARSON CITY | 62 | 60 | 64 |
| CHURCHILL | 19 | 22 | 30 |
| CLARK | 3,071 | 3,248 | 3,259 |
| DOUGLAS | 45 | 43 | 38 |
| ELKO | 143 | 153 | 159 |
| ESMERALDA | 1 | 2 | 2 |
| EUREKA | 1 | 2 | 5 |
| HUMBOLDT | 39 | 43 | 41 |
| LANDER | 12 | 14 | 12 |
| LINCOLN | 4 | 4 | 2 |
| LYON | 59 | 68 | 63 |
| MINERAL | 3 | 1 | 2 |
| NYE | 57 | 61 | 53 |
| PERSHING | 5 | 8 | 6 |
| STOREY | 0 | 1 | 1 |
| WASHOE | 669 | 679 | 654 |
| WHITE PINE | 21 | 15 | 16 |
| UNKNOWN | 249 | 223 | 231 |

| TOTAL | 4,460 | 4,647 | 8,623 |
| --- | --- | --- | --- |

**Appendix L**

Top 10 Programs at NSHE Institutions Based on Fall Enrollments

| TOP 10 PROGRAMS | 2020 | 2021 | 2022 |
|---|---|---|---|
| **HEALTH PROFESSIONS AND RELATED PROGRAMS.** | 15,914 | 15,659 | 14,503 |
| **LIBERAL ARTS AND SCIENCES, GENERAL STUDIES AND HUMANITIES.** | 14,788 | 14,795 | 14,258 |
| **BUSINESS, MANAGEMENT, MARKETING, AND RELATED SUPPORT SERVICES.** | 14,629 | 14,353 | 14,277 |
| **PSYCHOLOGY.** | 5,234 | 5,477 | 5,473 |
| **UNDECLARED** | 5,379 | 4,927 | 5,383 |
| **BIOLOGICAL AND BIOMEDICAL SCIENCES.** | 5,438 | 5,216 | 5,030 |
| **VISUAL AND PERFORMING ARTS.** | 4,654 | 4,684 | 4,798 |
| **EDUCATION.** | 4,460 | 4,647 | 4,638 |
| **HOMELAND SECURITY, LAW ENFORCEMENT, FIREFIGHTING AND RELATED PROTECTIVE SERVICES.** | 3,991 | 4,352 | 4,009 |
| **ENGINEERING.** | 4,372 | 3,754 | 3,717 |

**Appendix M**

Ethnicity of Undergraduate Education Majors in NSHE

| ALL UNDERGRAD EDUCATION | 2020 | 2021 | 2022 |
|---|---|---|---|
| AMERICAN INDIAN OR ALASKAN NATIVE | 19 | 29 | 29 |
| ASIAN | 218 | 222 | 231 |
| BLACK | 274 | 295 | 306 |
| HISPANIC | 1,581 | 1,682 | 1,739 |
| NOT REPORTED | 8 | 8 | 9 |
| PACIFIC ISLANDER | 19 | 26 | 26 |
| UNKNOWN | 167 | 166 | 172 |
| WHITE | 1,885 | 1,906 | 1,821 |
| TWO OR MORE | 290 | 315 | 308 |
| TOTAL | 4,460 | 4,647 | 4,638 |

**Appendix N**

Gender of Undergraduate Education Majors in NSHE

| ALL UNDERGRAD EDUCATION | 2020 | 2021 | 2022 |
|---|---|---|---|
| FEMALE | 3,615 | 3,735 | 3,756 |
| MALE | 845 | 912 | 882 |
| TOTAL | 4,460 | 4,647 | 4,638 |

# NPWR Recommendations

*Data Requests*

Upon using the data request system, we are made aware of the data dictionary which contains a listing of all available tables and their variables. However, there are a couple changes that should be made to ease the initial process: 1) Label whether a table is temporal, and, if so, what the earliest timeframe is, 2) Include a sample dataset to see if it meets expectations (does not have to be real date), 3) Include a fuller list of all variable decoding as not all were made available, and 4) Reference versions for classification systems (CIP, NAICS, SOC, etc.) used. Having all the following assists with a smoother filtering process.

Other than the data requests, our other recommendations are specific to the CTE and the NDE Assessments tables. For the CTE table, it would be useful for this data to be temporal, and to also include information for participants – this would make for a clearer view of matriculation rates of cohorts for all CTE programs. Again, regarding researching CTE programs, it would be useful to have a record of whether a student passed a workplace readiness test, which again gives a better understanding of which students enrolled in every possible course level but did or did not pass a key assessment to them receiving a CTE certificate.