

Northern Nevada Teacher Workforce Assessment 2017



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August 2017



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Introduction

The Education Alliance of Washoe County is a community partnership that fosters educational excellence and student achievement in Washoe County through leadership, advocacy, and resource development. Education Alliance's Board of Directors has always drawn a majority of its members from business, industry, and the community. Likewise, the P-16 Advocacy Council of the Education Alliance, formerly called the Washoe K-16 Council, is a collaboration of business, industry, and the community at large, in addition to representatives from the University of Nevada Reno (UNR), Truckee Meadows Community College (TMCC), and Washoe County School District (WCSD), resulting in a more comprehensive approach to education. Members work on initiatives that improve student achievement in K-12 and higher education in Washoe County so all students graduate and are prepared for productive careers.

The Education Alliance of Washoe County has published annual Data Profiles (1998-2015) which provide comprehensive statistics on high school performance, college enrollment, and college success of students from Washoe County School District. The Education Alliance has also published various other reports on key secondary and post-secondary education issues.

The current report *Northern Nevada Teacher Workforce Assessment 2017* was a collaborative effort between the Education Alliance of Washoe County and the University of Nevada, Reno College of Education to assess the teacher workforce in Northern Nevada. With recent national recognition of teacher shortages, this report is timely in assessing the teacher pipeline in Northern Nevada and identifying where challenges and successes may occur.

In addition to creating a comprehensive profile of the current workforce of teachers in Northern Nevada, this report also reviews expected workforce needs and growth projections by county school district. Furthermore, in this report we examine the initial stages of the teacher pipeline, teacher preparation programs, with respect to licensure and enrollment data.

The information provided in this report comes from various resources including district and teacher preparation program provided data, Title II Reports, and various relevant publications (citations for these can be found at the bottom of the page in which each is referenced).

**The data provided in this report are subject to change and are current as of the publication date.*



Purpose

The *Northern Nevada Teacher Workforce Assessment 2017* report was developed to specifically examine the needs of northern Nevada school districts – while keeping the current state of teacher preparation and teacher shortages in mind. This report aims to comprehensively review the current workforce of six primary school districts in northern Nevada and to examine teacher preparation programs in Nevada which will potentially supply future teachers to these districts.

The overall purpose of the current report is to meet the following goals:

1. To examine 6 northern Nevada school districts (i.e., Carson City School District, Churchill County School District, Douglas County School District, Lyon County School District, Storey County School District, and Washoe County School District) to better understand their current workforce and projected needs. We wanted to examine each district's current workforce size and expectations of growth in upcoming years, assess current retention rates, and to capture the demographics of the current workforce in these districts.
2. To provide an overview of teacher preparation program types (traditional and alternative route to licensure) to inform readers of differences in experience and training between these ways of becoming of a licensed teacher.
3. To thoroughly examine current teacher preparation programs in the state of Nevada. We aimed to provide a comprehensive picture of the demographics of teacher candidates and to examine the rates of licensure and completion from these programs.
4. To address important questions surrounding the teacher shortage crisis that is experienced in some counties in Nevada and share ideas to address these shortages.

The Nevada Consortium on the Teacher Pipeline recently published a report titled *The Nevada Teacher Workforce: An Initial Examination*.¹ This report aligns well with the current data report as it aimed to provide a portrait of the teacher workforce in Nevada and of teacher candidate production. However, as described in the report “The severity of Nevada’s teacher shortage differs widely across the State’s school districts” (p.4). Further, the report was lacking data from several Nevada districts, including the second largest school district in the state. Northern Nevada school districts make up a unique portion of the Nevada workforce. Providing a more specific and individualized assessment allows for a more informed discussion to address the current needs in this location of the state.

¹Riddle, D., Hayden, S., Laffiere, J., Plachowski, T. J., Beck, J. S., & Metcalf, K. K. (2017). *The Nevada Teacher Workforce: An Initial Examination*. Nevada Consortium on the Teacher Pipeline, 1-20. More information can be found at www.education.unlv.edu/consortium

Section 3:

Summary of School District Data

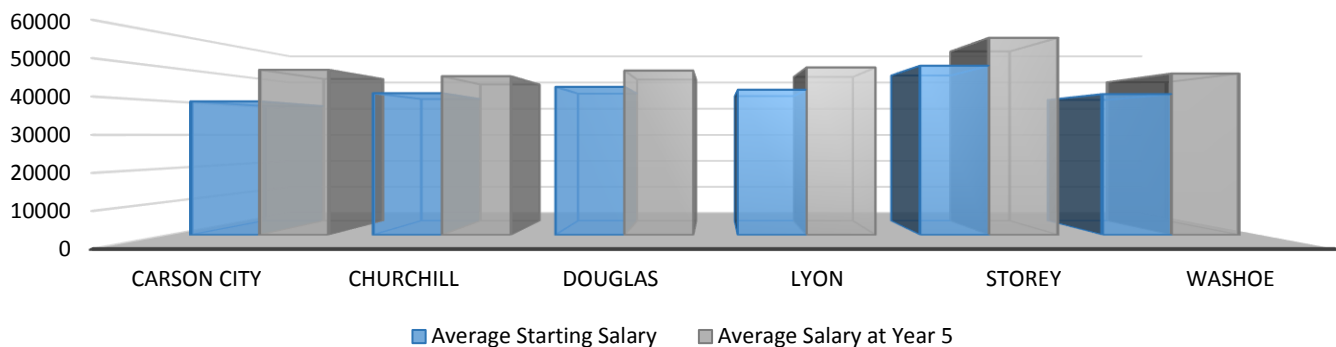


Summary of School District Data

Teacher Data [2016-2017]

	Number of Teachers Currently Employed	Number Expected to Hire 2017-2018
Carson City School District	411	30-40
Churchill County School District.....	180	18
Douglas County School District.....	391	9
Lyon County School District	491	unknown
Storey County School District	33	0
Washoe County School District	4278	unknown

Average Starting Salary and Salary at Year 5 by District



2012-2013 National Average Starting Salary for Teachers: \$36,414 ¹

2012-2013 Nevada Average Starting Salary for Teachers: \$35,358 ¹

Retention Rates

Retention rates are tracked through various measures across districts. Retention rates were not obtainable from Carson City, Churchill County, Douglas County, or Washoe County due to limitations in record-keeping, according to district officials. Lyon County reports having an 88.5% retention rate in the 2016-2017 academic year. Furthermore, Storey County reported that teachers remain at the district for an average of 12 years.

Many factors can contribute to fluctuations in retention rates within districts as well as across districts such as compensation, method of preparation, mentoring, and teaching conditions.² In a recent study of a national longitudinal sample of teachers, it was determined that approximately 17% of beginning teachers leave their positions within 5 years.³ Reports estimate that in 2013 Nevada's statewide teacher turnover rates were approximately 19.8%. This statewide estimate likely reflects higher rates of teacher turnover in the 2 largest school districts in the state (Clark and Washoe). In June of 2016, officials from these districts reported on teacher attrition and retention to the Nevada State Board of Education. Clark County reported an overall attrition rate of 9% in 2014-2015, while Washoe County reported a rate of 6.69% in the same school year. Washoe County also provided to the State Board a breakdown of attrition rates by type of school, with schools designated as "high needs" having substantially higher rates of attrition (21.75%). Washoe County schools designated as "priority" had an attrition rate of 30.77%. Priority schools are Title I schools in the lowest 5% of performance for student proficiency and growth, according to the Nevada Department of Education. Thus, overall attrition rates appear to mask the issue of exceedingly high attrition in Nevada's most at-risk schools.

¹<http://www.nea.org/home/2012-2013-average-starting-teacher-salary.html>

² <https://learningpolicyinstitute.org/product/coming-crisis-teaching-brief>

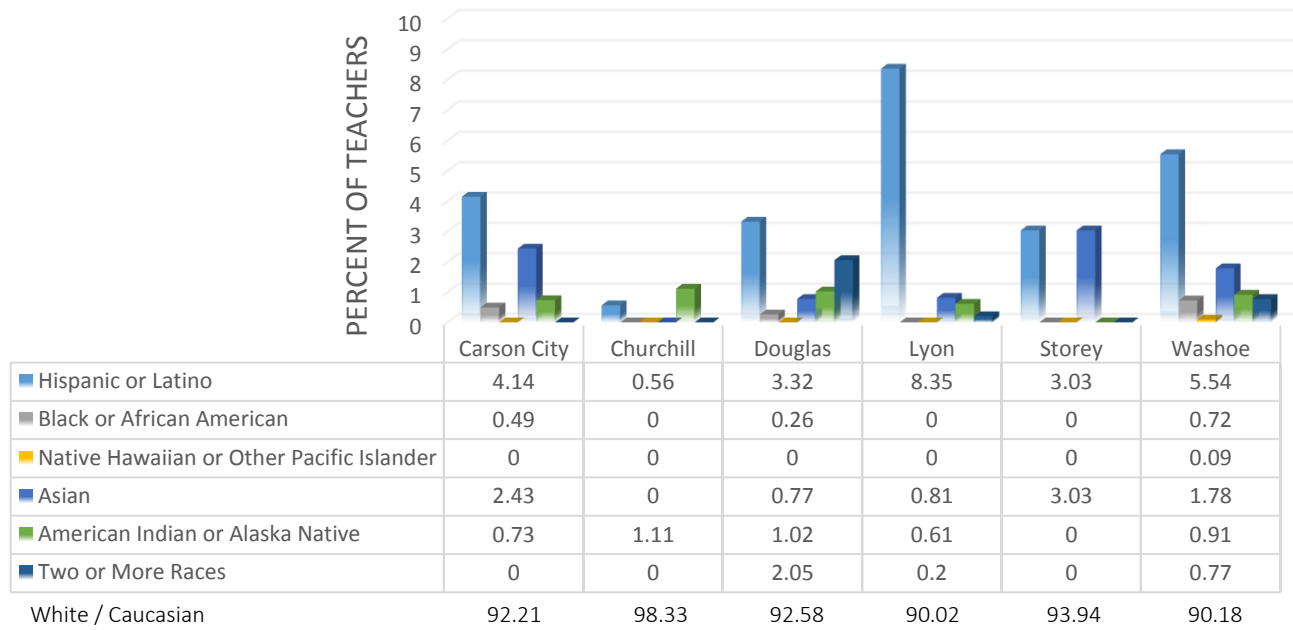
³<https://nces.ed.gov/pubs2015/2015337.pdf>



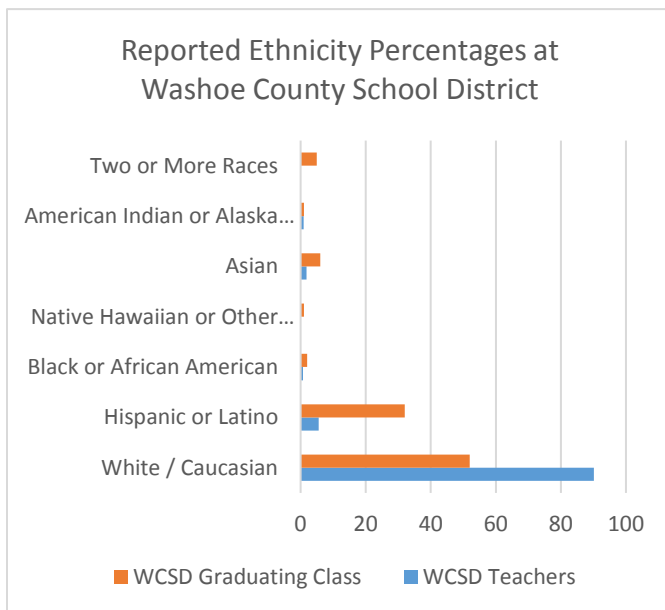
Summary of School District Data

Race/Ethnicity Data by District

Race/Ethnicity Data by District



* For the purposes of creating a valuable visual aide, percentage of White/Caucasian teachers were removed from the graph. This was done because the percentages were so high in each district that it skewed the graph, making other race columns indiscernible.



Teacher Race/Ethnicity in Perspective

White/Caucasian teachers are clearly overrepresented amongst teachers in Northern Nevada. Teachers of color are consistently underrepresented in schools in the U.S.¹ Northern Nevada data clearly mirror this trend. This is especially concerning in a geographical region with a highly diverse population, as research suggests that students of color benefit from being taught by teachers of their own race/ethnicity². To compare teacher race/ethnicity data with student data, see the example provided of Washoe County School District in the graph to the left. At present, it is clear that the ratio of teachers to students from traditionally underrepresented groups is out of alignment. White/Caucasian teachers are overrepresented, and Hispanic teachers are greatly underrepresented. These data should be considered as districts hire candidates and as teacher preparation providers recruit teaching candidates. Diversifying northern Nevada's teaching workforce should be considered a high priority.

¹Villegas, A. M., Strom, K. & Lucas, T. (2012). Closing the racial/ ethnic gap between students of color and their teachers: An elusive goal. *Equity and Excellence in Education*, 45(2), 283- 301.

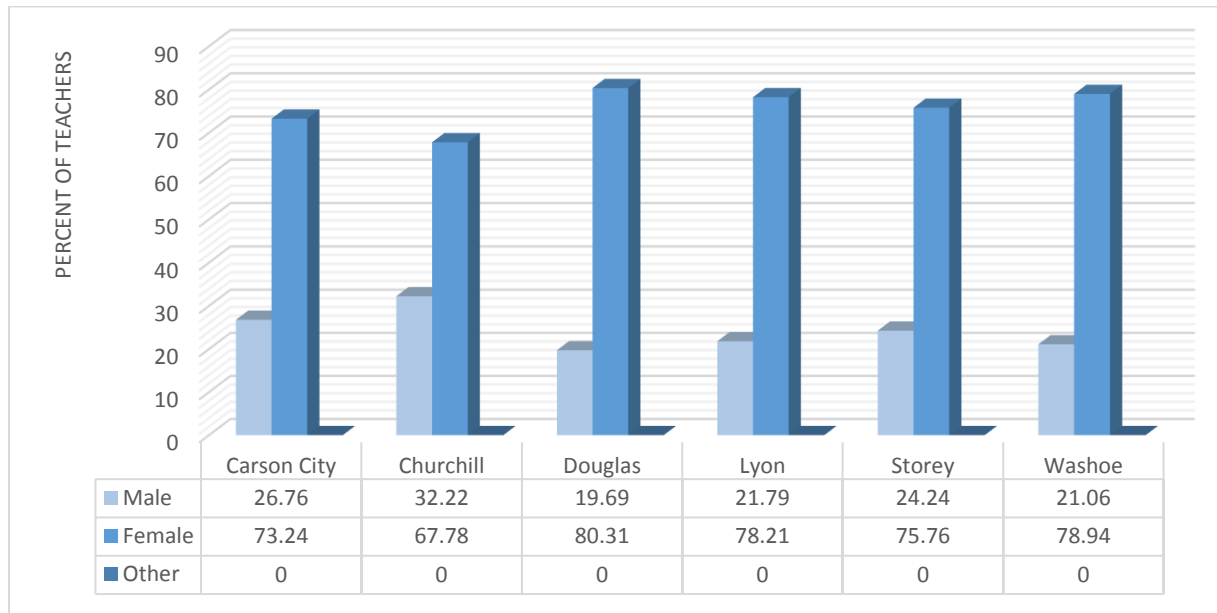
² Clotfelter, C. T., Ladd, H. F., & Vigdor, J. L. (2007). How and Why do Teacher Credentials Matter for Student Achievement? NBER Working Paper No. 12828. Retrieved from National Bureau of Economic Research website: <http://www.nber.org/papers/w12828>.

³Education Alliance (2016) Data Profile For the 2015-2016 School Year



Summary of School District Data

Gender Data by District



Teacher Gender in Perspective

Nationally, the teacher workforce has been predominately female. Based on the data provided from school districts in northern Nevada, we can conclude that these districts generally reflect the state and national averages. According to the U.S. Bureau of Labor's 2016 population survey, women make up 73.1% of the education workforce.¹ The proportion of female teachers tends to decrease across grades. For example, women make up 97.5% of preschool and kindergarten teachers but just 60.5% of secondary teachers. Unfortunately, gender was not reported by grade level in our data, so we cannot comment on whether northern Nevada reflects this national trend.

The lack of diversity in gender of the northern Nevada teaching workforce is concerning. Recent researchers have examined the influence of teacher gender on students. One study found that male students appear to have better educational outcomes when taught by men.² However, another recent study found that this concept of male teachers increasing the motivation of male students was simply not supported.³ Despite contradicting notions in the field regarding whether students are better off with teachers who match their gender, there is no doubt that diversity of gender amongst teachers is lacking and should be improved.

Recent reports indicate that up to 75% of the candidates currently enrolled in teacher preparation programs in Nevada are female.⁴ These data indicate that the gender ratios in Nevada are unlikely to change in the near future. Given that there is evidence across studies that male and female teachers may impact students in different ways, we suggest that school districts should prioritize recruiting and hiring a more diversified group of teachers to better cater to diverse student bodies.

¹United States Department of Labor: Bureau of Labor Statistics (2016). Current Population Survey (CPS). More information can be found at <https://www.bls.gov/cps/>

²Dee, T. S. (2006). A multilevel perspective on gender in classroom motivation and climate: Potential benefits of male teachers for boys? *Journal of Educational Psychology*, 100, 78-95.

³Marsh, H. W., Martin, A. J., & Cheng, J. H. S. (2008). The Why Chromosome: How a Teacher's Gender Affects Boys and Girls. *Education Next*, 6, 68.

⁴Riddle, D., Hayden, S., Laffiere, J., Plachowski, T. J., Beck, J. S., & Metcalf, K. K. (2017). The Nevada Teacher Workforce: An Initial Examination. *Nevada Consortium on the Teacher Pipeline*, 1-20. More information can be found at www.education.unlv.edu/consortium



Teacher Workforce Needs Growth Projections

Carson City

On average, Carson City School District has approximately 30-40 vacancies per year depending upon attrition due to resignations and retirements. This average is expected to remain consistent in the upcoming years.

Nationally, teacher demand is expected to continue to rise annually, with teacher demand reaching 316,000 by 2025.¹

Churchill County

At this time, Churchill County School District expects that their student enrollment will remain flat. Therefore, they do not foresee a need to increase the number of teachers hired in the upcoming years.

Lyon County

Lyon County School District hired 52 teachers in 2016/2017 and expects this number to grow slightly in the upcoming years with approximately 55 positions needing filled in 2020 and 60 in 2025.

The state of Nevada is currently being impacted highly by teacher shortages. Present turnover rates are 5.6% higher than the national average. Furthermore, the student-teacher ratios have been on the rise in recent years.¹

Storey County

At this time, Storey County School district anticipates that in the upcoming years there will be a small growth in their teacher needs. More specifically, it is expected that between 2020-2025 there will be 4 new positions to be filled.

Washoe County

Washoe County School District currently employs 4,278 teachers. They expect steady growth with the upcoming years. They expect to fill 4,325 positions in 2017, 4,370 in 2018, 4,447 in 2019, and 4,510 in 2020.

On average, northern Nevada counties are reporting expected growth in upcoming school years.

** Douglas County growth projections were not provided.

¹ A Coming Crisis in Teaching? Teacher Supply, Demand, and Shortages in the U.S. – Research Brief, Learning Policy Institute. (2016)

Section 4:

Teacher Preparation Programs



Teacher Preparation Programs

Overview of Preparation Program Types

Types of teacher preparation programs in Nevada

To become a licensed teacher in Nevada, there are two main alternatives:

- **“Traditional Route to Licensure”** programs are University-based programs for those seeking a college degree and teaching license. Traditional programs exist at the undergraduate and graduate level in Nevada. In a traditional undergraduate teacher preparation program, students take university core curriculum coursework in the first two years and teacher-specific coursework in the final two years, after submitting an application to a teacher preparation program. Graduate-level traditional programs were designed to provide teacher education coursework to students with undergraduate degrees in other fields. They are typically designed to be completed in two years. In the Nevada System of Higher Education, there are four public institutions that provide traditional route programs (University of Nevada, Las Vegas; University of Nevada, Reno; Great Basin College; and Nevada State College). There are 6 private institutions that are also approved by the Nevada Department of Education to provide traditional programs. These include: National University, Nova Southeastern University, Sierra Nevada College, Touro University Nevada, University of Phoenix, and Western Governors University.
- **“Alternative Route to Licensure” (ARL)** programs, similar to graduate-level traditional programs, are designed for candidates with an undergraduate 4-year degree in non-education-related fields of study. Where they differ, however, is that ARL programs place candidates into the classroom immediately following an initial orientation period. In a typical ARL program, for example, candidates take a training over the summer (online or in person), and begin as a teacher of record at the beginning of the school year, providing that they meet the requirements for a conditional ARL license. They are then expected to take coursework to meet full licensure requirements over the next 3 years, while working full-time in the classroom. In Nevada, ARL programs are offered by public and private universities, independent entities outside of Nevada, and school districts within Nevada. As most of these ARL programs are relatively new, no comparison data exist that exemplify the effectiveness of different programs in training proficient teachers. There are currently 19 ARL programs operating in the state of Nevada.

The chart on the following page delineates other differences between these two main routes for becoming a licensed teacher in Nevada.

Effectiveness of teacher preparation programs

Preparing high quality teachers is essential in improving student achievement. As alternative teacher preparation programs are becoming increasingly popular, researchers have attempted to explore the differences between preparation routes to determine which are most effective. Researchers examining the effectiveness of such programs have found varying results. On average, teachers who follow the alternative route to licensure tend to perform slightly lower on teaching evaluations than traditional route teachers.¹ However, researchers also found that alternative routes may be promising in that alternatively certified teachers tend to score higher on licensure exams and that they are able to enter the classroom quickly.¹ Researchers have also examined preparedness, finding that traditional route programs led individuals to report feeling more prepared in the core tasks of teaching in comparison to those trained in alternative route programs.² They also noted that this finding is similar to teachers' ratings of perceived efficacy, which ultimately explains why we see teachers trained in alternative routes leaving the profession at higher rates than those with traditional training.² Some professionals working in traditional preparation programs have criticized alternative training stating that they lack accountability and selectivity.³

In this report, we hoped to compare evaluations of teachers who were trained traditionally versus those trained in alternative programs within Nevada. Unfortunately, the lack data available hinders possible assessments. In particular, in a recent annual report of Nevada's ARL programs provided to the Commission on Professional Standards in Education, the programs reported a total of 551 teachers who have obtained conditional licensure through one of Nevada's 19 ARL programs. However, of these 551 teachers, only 198 evaluations were reported. This is highly problematic as the substantial lack of evaluations on these specific teachers leads to the inability to accurately assess overall effectiveness of teachers trained within ARL programs and makes it very difficult to compare these teachers with those traditionally trained. Many of the alternative programs which did not report data for all of their candidates reported having difficulty obtaining the evaluations from school districts, despite this being a requirement for ARL program approval. It is essential for all programs to have access to their teachers' annual evaluation data in order for programs to understand how the teachers they train are doing within the classroom. Efforts are being made by the Nevada Department of Education to systematically track teacher evaluation data for traditional and alternative route programs to allow providers easier access to evaluations. However, we must continue to stress the importance of accurate and timely data collection, especially on teacher/classroom effectiveness if we aim to understand and compare these forms of training.

Traditional Route

VS

Alternative Route

- Typically undergraduate 4-year programs, but can be offered at the graduate level.
- Focus on thorough pedagogical training.^{1,4}
- Requires student teaching experience.¹
- Approximately 75.4% females, 24.1% males enrolled.⁴
- Accounts for 69% of all preparation programs.⁴
- Approximately 88% of prospective teachers were enrolled in traditional programs in 2012.⁴
- Require any 4-year degree for admission. Programs vary widely in initial training requirements, but all are designed to place candidates into classrooms as the teacher of record while they simultaneously complete further training & education requirements. Content knowledge can be satisfied by passage of an exam.
- Do not get traditional course-based training in pedagogy prior to entering the classroom.¹
- Lacks formal student teaching experience (as candidates are full-time teachers early in the program).¹
- Approximately 70% females, 29.4% males enrolled.⁴ Tends to have a higher proportion of males than traditional route programs.¹
- 21% of alternative route programs are provided by institutions of higher education (IHEs) and 10% of alternative routes are not based at IHEs.⁴
- Approximately 12% of prospective teachers were enrolled in an alternative program (6% IHE, 6% non IHE) in 2012.⁴

¹ Shuls, J. V. & Trivitt, J. R. (2015). Teacher Effectiveness: An Analysis of Licensure Screens, *Educational Policy*, 29, 645-675.

² Darling-Hammond, L., Chung, R., & Frelow, F. (2002). Variation in Teacher Preparation: How Well Do Different Pathways Prepare Teachers to Teach? *Journal of Teacher Education*, 53, 286-302.

³ <http://www.npr.org/sections/ed/2014/09/12/347375798/for-teachers-many-paths-into-the-classroom-some-say-too-many>

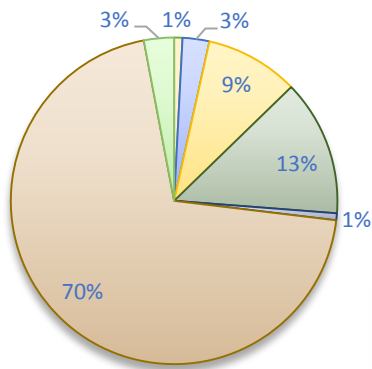
⁴ <https://title2.ed.gov/TitleIIReport13.pdf>



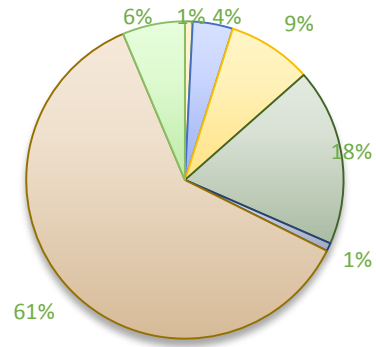
Teacher Preparation Programs

Enrollment by Race/Ethnicity

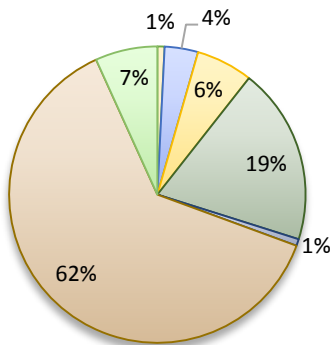
US Total Enrollment in Prep Programs
Total = 418,573



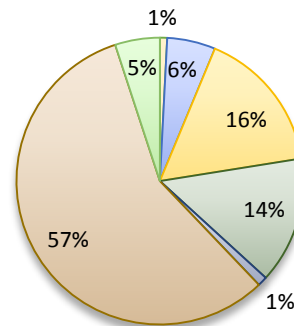
NV Total Enrollment in Prep Programs
Total = 3,174



Nevada Totals for Traditional Programs



Nevada Totals for Alternative Programs



In terms of racial/ethnic diversity, enrollment in Nevada's prep programs closely mirrors the enrollment in prep programs across the nation. Nevada appears to be slightly more diverse with a lowered percentage of White/Caucasian individuals and slightly higher percentages of Hispanic/Latino, Biracial or Multiracial, and Asian individuals. There are also slight, but non-significant differences in reported races/ethnicities between Nevada's traditional and alternative programs.

Source: U.S. Department of Education, Higher Education Act Title II State Report Card System

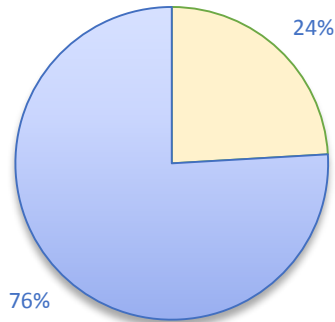
Note: An enrolled student is an individual admitted into a teacher preparation program but who has not yet completed the program. Also, when column numbers do not add up to equal the "total enrollment" it is due to missing demographic data in the report.



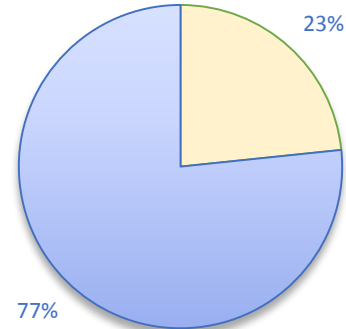
Teacher Preparation Programs

Enrollment Data by Gender

U.S. Total Enrollment in Prep Programs
Total = 418,573



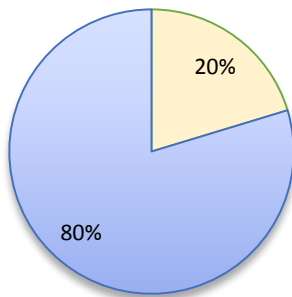
Nevada Total Enrollment in Prep Programs
Total = 3,174



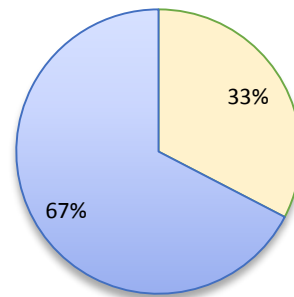
Male

Female

Nevada Totals for Traditional Programs



Nevada Totals for Alternative Programs



The data shown in this section highlight the lack of male representation within teacher preparation programs. While teacher preparation programs within the state of Nevada correspond to the nationally reported gender averages, efforts should still be made to further diversify. Teacher preparation programs in Nevada should aim to recruit and enroll higher percentages of males to better reflect the more diverse student bodies with which these future teachers will be working.

Source: U.S. Department of Education, Higher Education Act Title II State Report Card System

Note: An enrolled student is an individual admitted into a teacher preparation program but who has not yet completed the program. Also, when column numbers do not add up to equal the "total enrollment" it is due to missing demographic data in the report.

Section 5:

Addressing Northern Nevada's Teacher Needs



Is There a Teacher Shortage in the U.S. and in Nevada?

Media coverage of vast teacher shortages across the nation has been increasing. Researchers have examined these claims through national databases and have confirmed that shortages do exist in many areas across the country. Shortages are expected to rise in upcoming years due to decreases in teacher education program enrollment, increases in P-12 student enrollment, and high attrition rates of teachers.¹ Researchers report that just over half of recent teacher preparation program graduates are actually working within the field of education.² Furthermore, reports have confirmed that there are more severe shortages in specific areas of licensure including mathematics and science, special education, and bilingual education.¹ Teacher shortages also appear most prominent in areas higher in poverty, low-wages, and poor working conditions.¹ These factors appear to lead to a disproportionate impact on the most disadvantaged students.

The state of Nevada has also been highly impacted by teacher shortages. Residents have seen an uptick in recent media coverage referring to the teacher shortage crisis. In recent years, the media has highlighted this crisis with headlines such as “*Carson City feels the pains of teacher shortage, too*” (CarsonNow.org, 2016), “*Why Las Vegas is Recruiting Uncertified Teachers*” (The Atlantic, 2016), and “*Nevada declares teacher shortage emergency to boost out-of-state hiring*” (Las Vegas Sun, 2017). The average salary for teachers in Nevada was \$35,358 in 2013, slightly below the national average.¹ In addition, the turnover rate (which includes both *leavers* and *movers*) for Nevada teachers was 19.8% in 2013, well above the national average of 14.2%.¹ Nevada’s student-teacher ratios are also higher, 20.6, in comparison to the national reported ratio, 16.1. Furthermore, in 2014 14.1% of teachers in Nevada are reportedly inexperienced.¹ The described statistics may all potentially be contributing to the ongoing teacher shortages in the state of Nevada.

We provided growth projections for Northern Nevada counties (pg. 9) which raised interesting interpretations. Some northern Nevada districts indicated that they were not greatly impacted by teacher shortages, with upcoming growth seeming quite small. However, consideration should be taken for the location and size of the district. Rural districts may appear less in need due to small growth projections, but given the small-size of their current workforce these small numbers of needed teachers may actually contribute to a substantial proportion of that workforce. Therefore, despite the number of needed teachers, rural districts may actually be experiencing similar or stronger impacts of the teacher shortage crisis than are urban districts. It is important that stakeholders aiming to alleviate teacher shortages take these contextual factors into consideration.

Teacher shortages are not expected to be resolved in the near future as teacher attrition (which includes all leavers) across the country remains high (8% annually), P-12 student enrollment is continuing to rise, and fewer people are entering and completing teacher preparation programs.¹ Given these current factors, researchers estimate that annual demand for teachers will increase annually, with teacher demand reaching 316,000 by 2025.¹ Simply stated, there are not enough individuals completing training and becoming qualified teachers to fill the vacancies across locations and educational fields.

Reports across the country have identified the teacher shortage as a crisis which must be addressed. However, the solutions proposed in the teacher shortage conversation vary greatly. A common solution across the country is to hire teachers on emergency or temporary credentials. In 2015 alone, tens of thousands of teachers were hired in this manner to address teacher shortages.¹ Furthermore, schools have been increasing class sizes, are assigning short-term substitutes, or placing teachers from other fields into vacancies.¹ Another common solution states have adopted is to approve more “alternative route to licensure” programs, which offer candidates with a Bachelor’s degree in a non-education field the option to begin teaching after a brief period of training (e.g., over a summer) and then take licensure courses while employed as a teacher of record. In these programs, teachers are literally learning “on the job”. While these short-term solutions may seem reasonable, they may undermine the quality of education P-12 students receive, particularly those students in disadvantaged areas who have the greatest need for effective teaching.¹

Recommendations have also been made for more long-term solutions. Researchers recommend that districts offer competitive, equitable compensation packages.¹ At the teacher preparation level, it is recommended that the supply of qualified teachers to fill the needed vacancies is increased by providing better access to programs and training to potential candidates.¹ Additionally, by improving working conditions, career development opportunities, and training programs, school districts can help to advance teacher retention rates.¹ Long-term solutions are absolutely necessary to consider, as teacher shortages negatively impact the quality of instruction students receive across our country.¹ Quality education affects the potential success of these students and a severe and continuous lack of quality teaching can negatively impact both student achievement and society as a whole. Researchers in Tennessee³ reported that students who had an ineffective teacher for 3 years in a row scored 52 percentile points lower on state assessments than their counterparts who received highly effective teaching for the same time period. Given that well qualified and effective teachers are the most important factor in impacting P-12 student outcomes, teacher shortages are particularly alarming.

¹ A Coming Crisis in Teaching? Teacher Supply, Demand, and Shortages in the U.S. – Research Brief, Learning Policy Institute. (2016)

² Startz, Dick. (2016). Careers of ed students: Are they working in education?

³ Wright, Horn, & Sanders (1997) Teacher and classroom context effects on student achievement: Implications for teacher evaluation. *Journal of Personnel Evaluation in Education*, 11, 57–67.



Addressing Teacher Attrition in Northern Nevada

Researchers who have examined attrition rates of teachers in have made two important findings. First, teacher attrition rates are steadily rising in recent decades with the current rate of attrition remaining higher than 7%¹. Second, evidence across several studies suggests that a substantial portion of teachers choosing to leave the profession are higher quality and effective teachers.^{2,3} Rising attrition rates, coupled with the loss of effective teachers, emphasizes the need for stakeholders to address teacher attrition. Unfortunately, some of the evidence suggests that attrition issues are nationally-based and it is difficult to address these issues on a smaller scale (e.g., impacts of standardized testing). However, there are important ways in which stakeholders can address attrition within northern Nevada, such as through advocacy. The following list provides stakeholders with a starting point of important areas to consider when addressing teacher attrition (this list is not all-inclusive):

▽ Salary / Compensation:

- Teacher salaries can greatly impact teacher attrition. Salaries can affect teachers at all lengths of employment – especially when salaries are lower in comparison to their available alternatives.⁴ Salaries for teachers have been declining in recent decades, which is a serious point of concern given rises in cost of living and housing in the northern Nevada area. Teachers must be offered competitive and livable wages if districts expect to improve attrition.

▽ Training:

- Attrition appears to be higher for individuals who lack comprehensive and pedagogical training⁵. However, better training is often offered at more expensive traditional programs and take longer. Given the low salaries teachers will earn after completion, it is likely that teachers will choose a less costly option for preparation. Decisions to take less-expensive and less-comprehensive teacher training routes may lead to lower quality of teachers, contributing to further teacher attrition.

▽ Satisfaction and Working Conditions

- Much of the research surrounding teacher attrition examines satisfaction and stress related to their working conditions. Satisfaction levels can be related to stress, pressure of standardized testing, mentoring provided, poverty level of school, administrative support, professional autonomy, opportunities, class sizes, and resources available. By addressing these areas to increase satisfaction and improve working conditions, districts are likely to improve current attrition rates.

▽ Test/Examination Pressures

- Unfortunately, standardized testing contributes to a significant number of teachers who leave their positions. Standardized testing often contributes to pressure, stress, and restrictions placed on teachers. Furthermore, pressures from being evaluated and held accountable for those how their students perform on standardized tests can further contribute to the dissatisfaction.⁴ Due to the large-scale nature of standardized testing pressures, it may be difficult to address these issues locally. However, districts can encourage advocacy and evaluate their teachers through alternative methods. Stakeholders can also work towards policy reform.

¹Goldring, R., Taie, S., & Riddles, M. (2014). *Teacher attrition and mobility: Results from the 2012-13 teacher follow-up survey*. Washington, DC: Institute for Education Sciences, National Center for Education Statistics. Retrieved from <https://nces.ed.gov/pubs2014/2014077.pdf>

²TNTP. (2012). The irreplaceables: Understanding real retention crisis in America's urban schools. Retrieved from: https://tntp.org/assets/documents/TNTP_Irreplaceables_2012.pdf

³Winters, M. A., Dixon, B. L., & Greene, J. P. (2012). Observed characteristics and teacher quality: Impacts of sample selection on a value added model. *Economics of Education Review*, 31, 19-32.

⁴Sutcher, L., Darling-Hammond, L., & Carver-Thomas, D. (2016). A coming crisis in teaching? Teacher supply, demand, and shortages in the U.S. *Learning Policy Institute*, 1-10.

⁵Gray, L., Taie, S., & O'Rear, I. O. (2015). *Public School Teacher Attrition and Mobility in the First Five Years*. Washington, DC: National Center for Education Statistics. Retrieved from <https://nces.ed.gov/pubs2015/2015337.pdf>



Where do we go from here?

Addressing Teacher Shortages

The teacher pipeline can be divided into several sections. First, we have teacher preparation programs. Teacher preparation programs can consist of traditional routes and alternative routes. Next, we have completion. This portion of the pipeline consists of whether those who enroll in teacher preparation programs finish all requirements and complete the program. Following completion, the next step in the pipeline is whether those completers seek licensure. Once licensed, the next step of the pipeline is those teachers finding employment in schools.

When do we lose teachers in Nevada?	
Teachers are retained when the following happens:	Teachers are lost when the following happens:
They are successfully recruited and apply to teacher preparation programs.	They are not successful recruited and fail to apply to teacher preparation programs.
They are accepted into a teacher preparation program.	They are not accepted into a teacher preparation program.
They become enrolled in a teacher preparation program following acceptance.	They fail to enroll in a teacher preparation program following acceptance.
They complete the teacher preparation program.	They fail to complete the teacher preparation program.
They obtain licensure following completion.	They do not obtain licensure following completion.
They are employed in a teaching position in Nevada	They do not find employment in a teaching position in Nevada.

Each of these sections of the teacher pipeline are critical points that can impact the overall rates of teachers working in the field. Subsequently, each of these points acts as key areas stakeholders should focus on when aiming to address teacher shortage issues.

First, teacher shortages need to be addressed from the beginning of the pipeline. Enrollment in teacher preparation programs has been declining in recent years¹ which can greatly impact the workforce in upcoming years. If there are not sufficient numbers of individuals entering teacher preparation programs, there will not be sufficient numbers of teachers entering the workforce to fill openings. Strengthening the initial components of the teacher pipeline is an essential step in creating a process that produces higher numbers of qualified teachers. Other factors that should be considered at this stage of the pipeline is the type of training received, hands-on experience, diversity in individuals being recruited, and the quality of teachers being produced in these preparation programs.

The next two critical portions of the teacher pipeline are completions and licenses obtained. Researchers have noted that in Nevada between 10-15% of individuals who complete their education program do not go on to obtain licensure.² This is occurring even during years when the teacher shortages have been highly publicized. Stakeholders need to gather the data necessary to examine why individuals who do complete teacher preparation programs choose alternate career routes outside of licensure and teaching positions. Furthermore, with potential teacher shortages being faced in northern Nevada, it is important that stakeholders comprehensively assess where graduates from local teacher preparation programs are becoming employed and what percentage of teachers are coming from out-of-state preparation programs. These assessments will provide valuable information regarding the teacher pipeline specific to northern Nevada and will help with identifying where recruitment efforts should be placed.

Last, the turnover rate once teachers are employed in school districts has been quite high. Researchers have noted that teacher attrition is one of the greatest contributors to the teacher shortage crisis.³ School districts, policy-makers, and other important stakeholders should focus resources on addressing teacher attrition. Specific recommendations for addressing these issues can be found on the page titled *Addressing Teacher Attrition in Northern Nevada* (pg. 17).

In conclusion, addressing the teacher pipeline and teacher shortages cannot occur efficiently or effectively if efforts are disbursed to one stage of the pipeline only. Systematic efforts by stakeholders in northern Nevada should be made to (1) increase enrollment in local teacher preparation programs, (2) produce higher numbers of quality completers from these teacher preparation programs, (3) increase the number of licenses obtained in Nevada, (4) increase recruitment of well-qualified and effective teachers, and importantly (5) improve teacher retention and attrition rates.

¹ U.S. Department of Education, Office of Postsecondary Education. Higher Education Act Title II Reporting System (2015). *Enrollment in Teacher Preparation Programs* Retrieved from https://title2.ed.gov/Public/44077_Title_II_Issue_Brief_Enrollment_V4a.pdf

² Riddle, D., Hayden, S., Laffiere, J., Plachowski, T. J., Beck, J. S., & Metcalf, K. K. (2017). The Nevada Teacher Workforce: An Initial Examination. *Nevada Consortium on the Teacher Pipeline*, 1-20. More information can be found at www.education.unlv.edu/consortium

³ Sutchter, L., Darling-Hammond, L., & Carver-Thomas, D. (2016). A coming crisis in teaching? Teacher supply, demand, and shortages in the U.S. *Learning Policy Institute*, 1-10.

Section 6:

Concluding Remarks



Challenges in Assessing the Teacher Pipeline

The primary goal of this report was to comprehensively assess the teacher pipeline of northern Nevada. Unfortunately, our attempts to collect needed data were continuously met with data-related challenges. Particularly, several of the districts and many of the teacher preparation programs we contacted were unable to provide the data we requested, as they either did not keep records of those items and/or were unable to access them due to insufficient data collection and organization methods. Additionally, although most requests for data were sent out in February of 2017, much of data were not received in a timely manner and data collection continued until late July of 2017.

Teacher shortages in the United States and in Nevada need to be addressed, but must rely on data-driven and evidence-based strategies. The importance of collecting quality data cannot be emphasized enough. School districts who wish to assess and solve issues of teacher shortages in their districts must collect and maintain up-to-date records regarding their teaching workforce. We recommend that schools aim to collect and keep data regarding where their teachers were trained, demographics of their teaching workforce (e.g., race, gender), degrees held, specialties taught, salaries, length of employment, salary throughout employment, and reason for leaving. Teacher preparation programs should attempt to keep similar records regarding demographics of students but should also make attempts to measure which students go on for licensure after completion and when possible – where those students become employed. By capturing these data in more systematic ways, attempts at assessing the teacher pipeline and identifying areas that need improvement will be possible. Ultimately, these shortages can be best addressed when we have a complete picture of what is taking place in our specific area.



Acknowledgements

The authors of this report would like to thank all individuals and organizations who provided invaluable data and assistance in making this report possible. Particularly, we'd like to thank the Education Alliance of Washoe County for providing funding and important resources that were critical for the completion of this report. We'd like to thank the College of Education at the University of Nevada, Reno for their funding, guidance, and continued support. Furthermore, we would have been unable to complete this report without the cooperation and provision of data from all the included school districts and teacher preparation programs. We also would not have been able to examine important areas of assessment without the public data provided by 2016 Title II Reports – National Teacher Preparation Data compiled through the Higher Education Act by the U.S. Department of Education and found on the ed.gov website. Lastly, we would like to personally thank the College of Education at UNLV and the Nevada Consortium on the Teacher Pipeline for keeping us updated on their reports and allowing us to utilize important findings from their report to guide ours.

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