



# Understanding Teacher Supply and Demand:

An up-close look at  
elements of teacher  
recruitment and retention

**April 25, 2020**

A presentation  
to the Nevada Task Force  
on Teacher Recruitment and Retention

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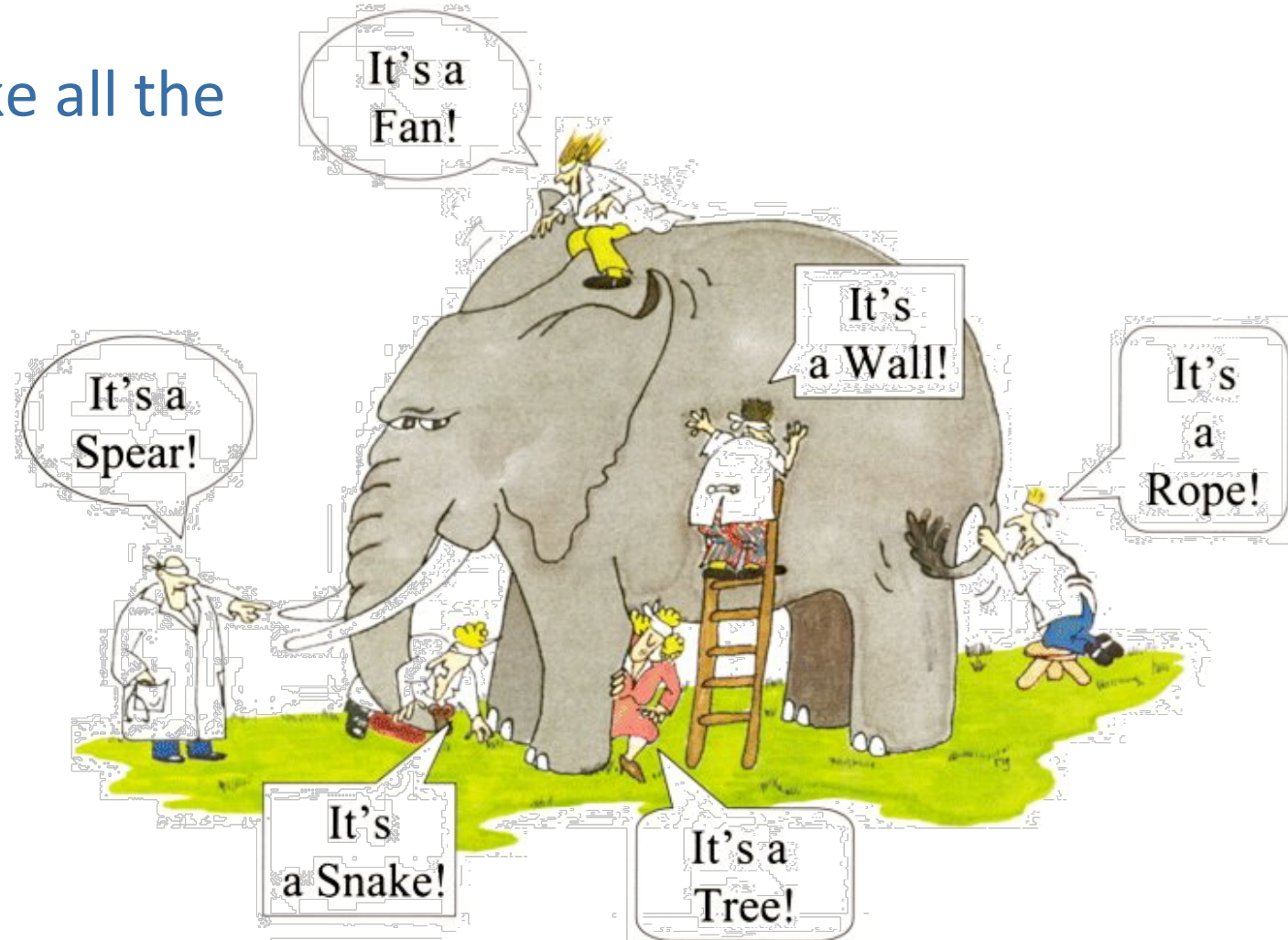


# Agenda

- Discuss benefits and research basis for a “supply and demand” data analysis lens
- Present key considerations for data analysis
- Share example data visualizations using national and state data within categories
- Q&A

# Recruitment and Retention through a Supply and Demand Lens

➤ **Perspective** can make all the difference.



# Recruitment and Retention through a Supply and Demand Lens cont.

- Factors in recruitment and retention of teachers are complex.
- A supply and demand lens facilitates a *step back* and a bird's-eye view.
- And a broader perspective *helps to identify root causes* as opposed to just symptoms.

# Research Foundation of Teacher Supply and Demand Analysis

- Several supply and demand models exist<sup>1</sup> but all generally include analysis of:
  - > sources of new supply (i.e. Teacher Pathways),
  - > the movement of existing supply (i.e. Currently Employed)
  - > the number of teachers demanded (i.e. District Needs)

<sup>1</sup> **For example:** Sutcher, Darling-Hammond, & Carver-Thomas (2016); Lindsay, Wan, Berg-Jacobson, Walston, & Redford (2016); Lazarte-Alcala (2018); Levin, Berg-Jacobson, Atchison, Lee, & Vontsolos (2015); Smith (2018); Zagorsky, Olsen, Hawley, & Gnagey (2013); Hill, & Hirshberg (2006)

# Research Foundation of Teacher Supply and Demand Analysis cont.

- These analyses often report data at various levels of aggregation including:
  - > State
  - > Region
  - > District
- Many also report data by school and district characteristics including:
  - > Locale
  - > Student population
  - > Teacher population

# Research Foundation of Teacher Supply and Demand Analysis cont.2

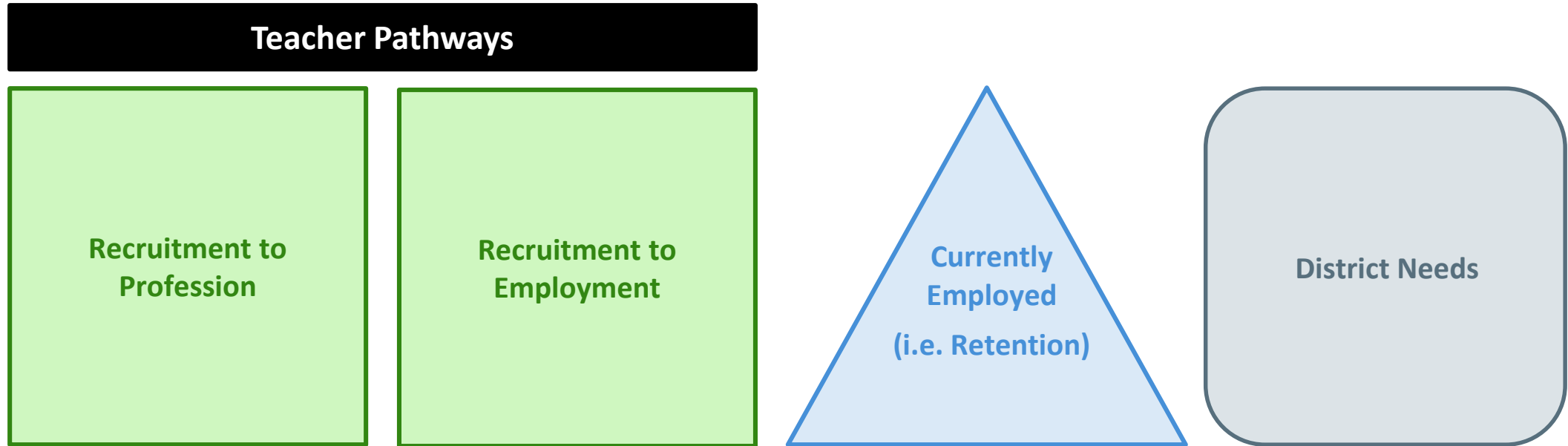
➤ Some illustrative example state supply and demand reports include:

- > National: [Learning Policy Institute](#); [Institute of Education Sciences](#)<sup>1</sup>
- > State-Specific: [OK](#), [MA](#), [IL](#), [TX](#), [OH](#)<sup>2</sup>

<sup>1</sup> Sutcher, Darling-Hammond, & Carver-Thomas (2016); Lindsay, Wan, Berg-Jacobson, Walston, & Redford (2016);

<sup>2</sup> Lazarte-Alcala (2018); Levin, Berg-Jacobson, Atchison, Lee, & Vontsolos (2015); Smith (2018); Zagorsky, Olsen, Hawley, & Gnagey (2013); Hill, & Hirshberg (2006); Sullivan, Barkowski, Lindsay, Lazarev, Nguyen, Newman, & Lin (2017)

# Recruitment and Retention: Considerations





Recruitment to  
Profession

- >> Traditional higher education preparation programs (EPPs)
- >> Alternative routes to licensure (ARL)
- >> “Grow your own” pathways

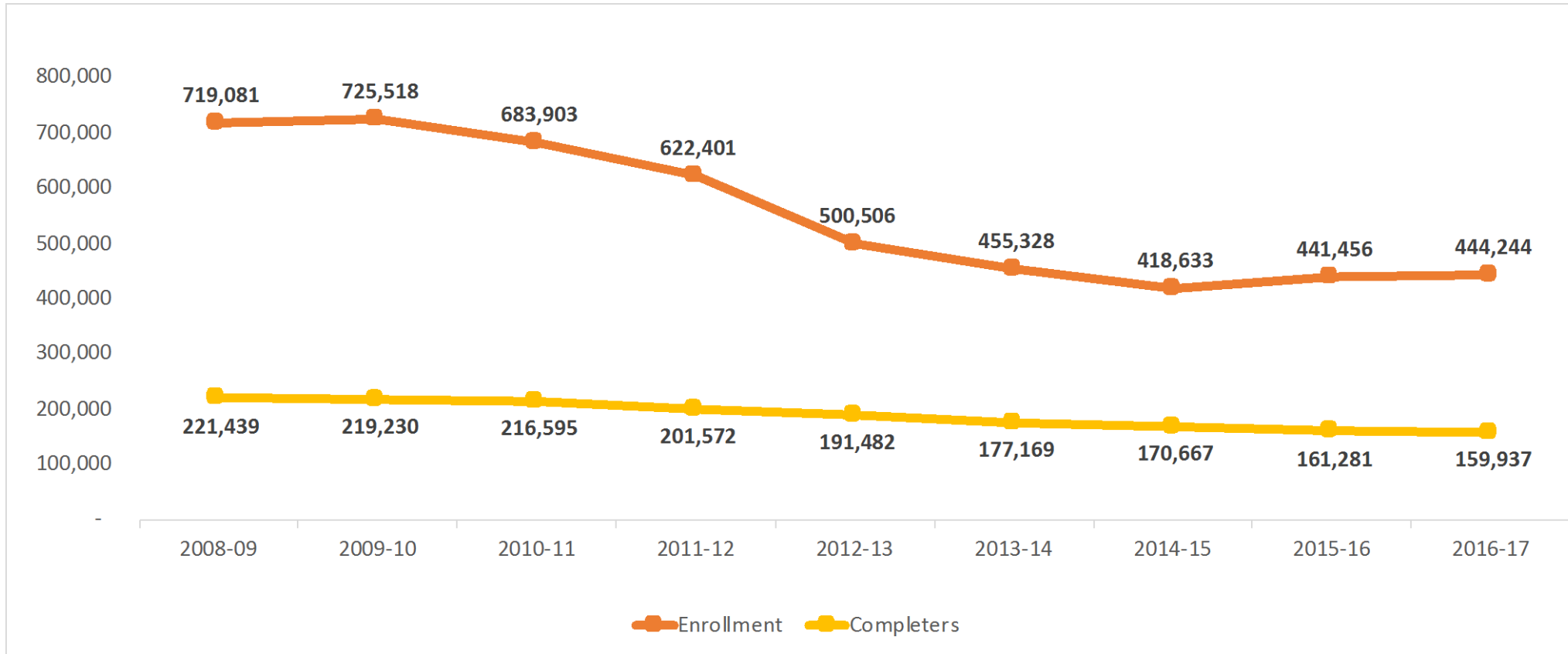
Recruitment to  
Employment

- » Prepared in NV (new to the profession)
- » Teachers new to state
- » Out-of-country recruitment

# Common Analyses

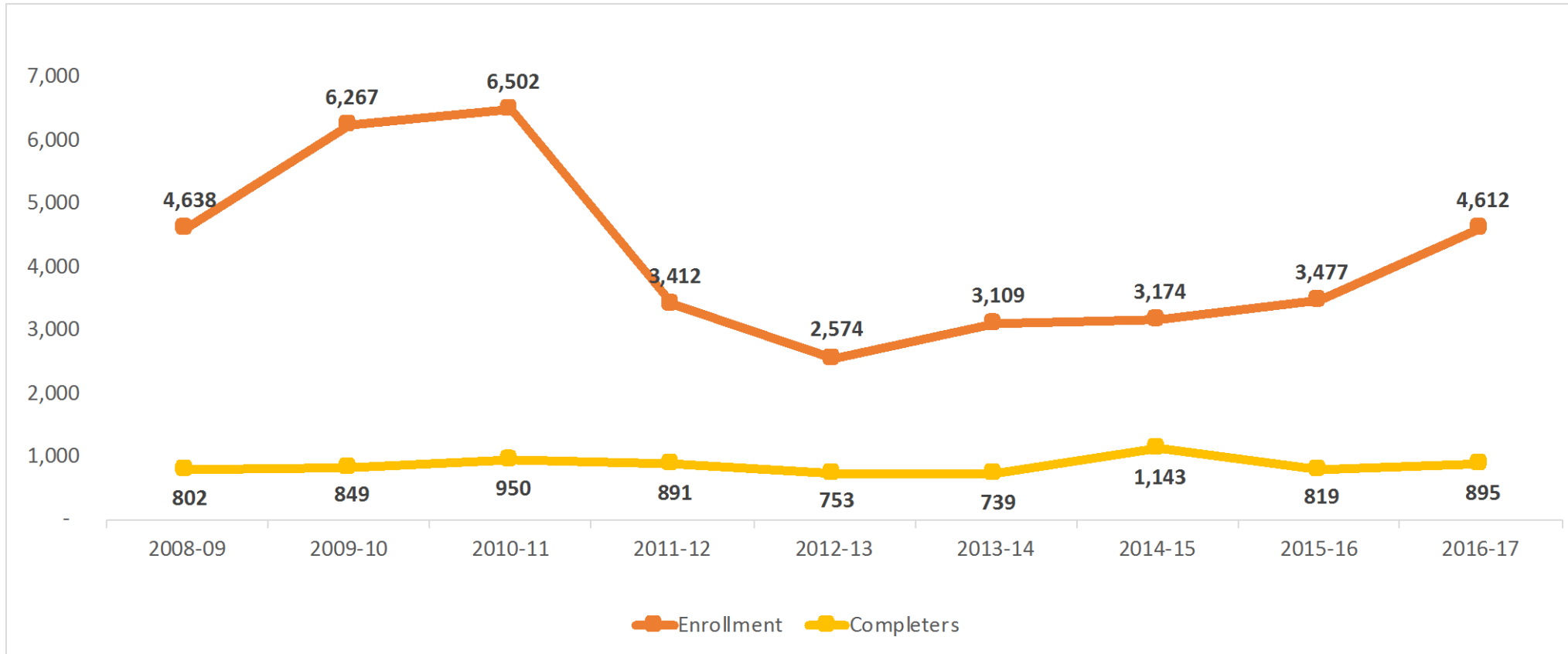
- Analysis of teacher pathways often examine trends in EPP enrollment and completion.
  - > **Enrollment:** indicates success in *recruiting to the profession*
  - > **Completion:** an important indication of potential for *recruitment to employment*
  
- Reports also often analyze the changes in proportion of students prepared with respect to program type – traditional or alternative.
  
- Analysis at the state level by area of focus by specific programs is also a common analysis.

# National Data: EPP Enrollment vs. Completers – 2008-09 to 2016-17



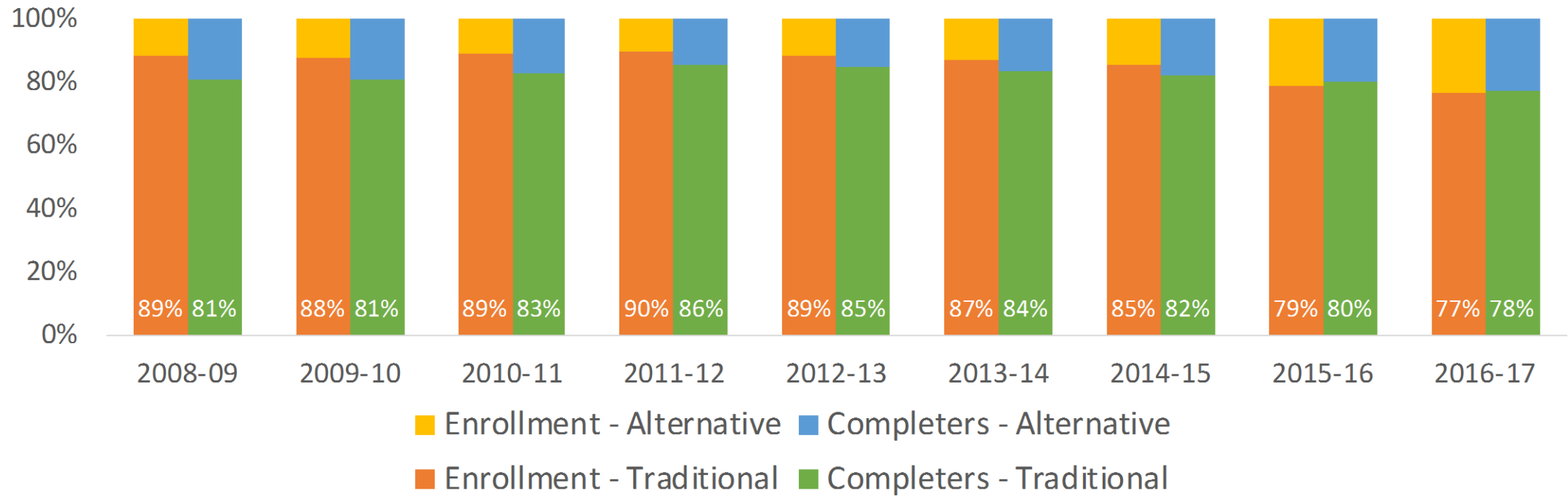
Source: U.S. Department of Education, Higher Education Act Title II State Report Card System

# Nevada Statewide Data: EPP Enrollment vs. Completers – 2008-09 to 2016-17



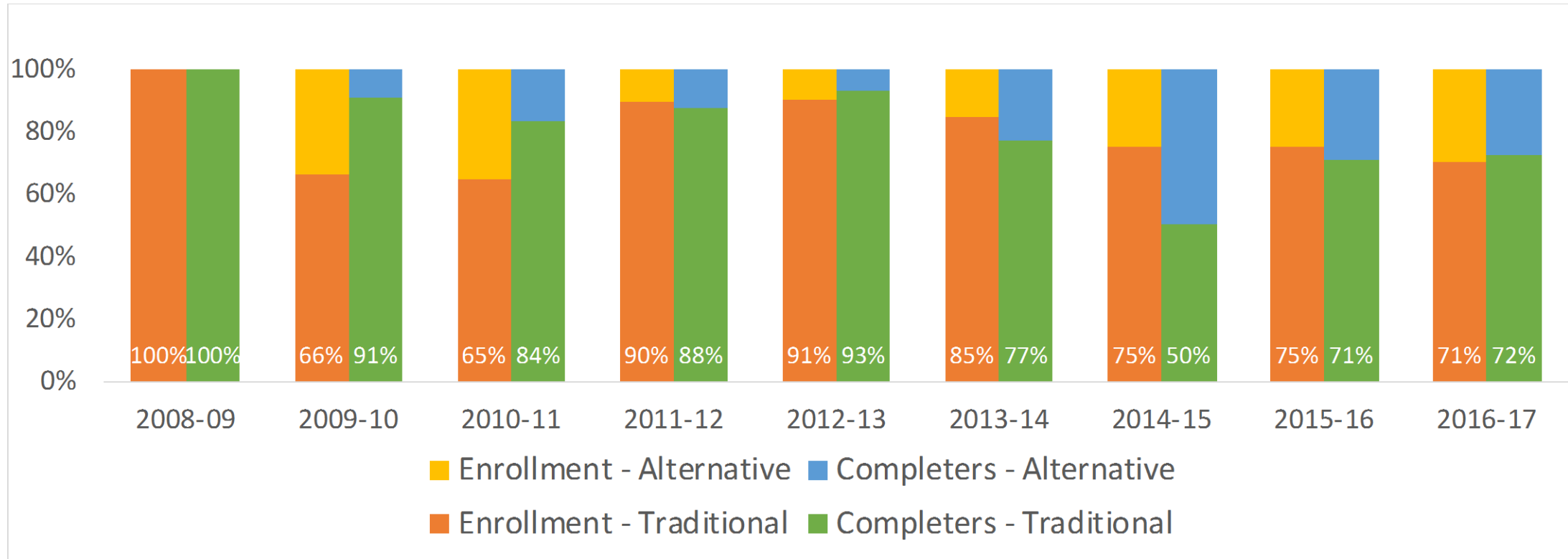
Source: U.S. Department of Education, Higher Education Act Title II State Report Card System

# National Data: EPP Enrollment/Completers by Program Type – 2008-09 to 2016-17



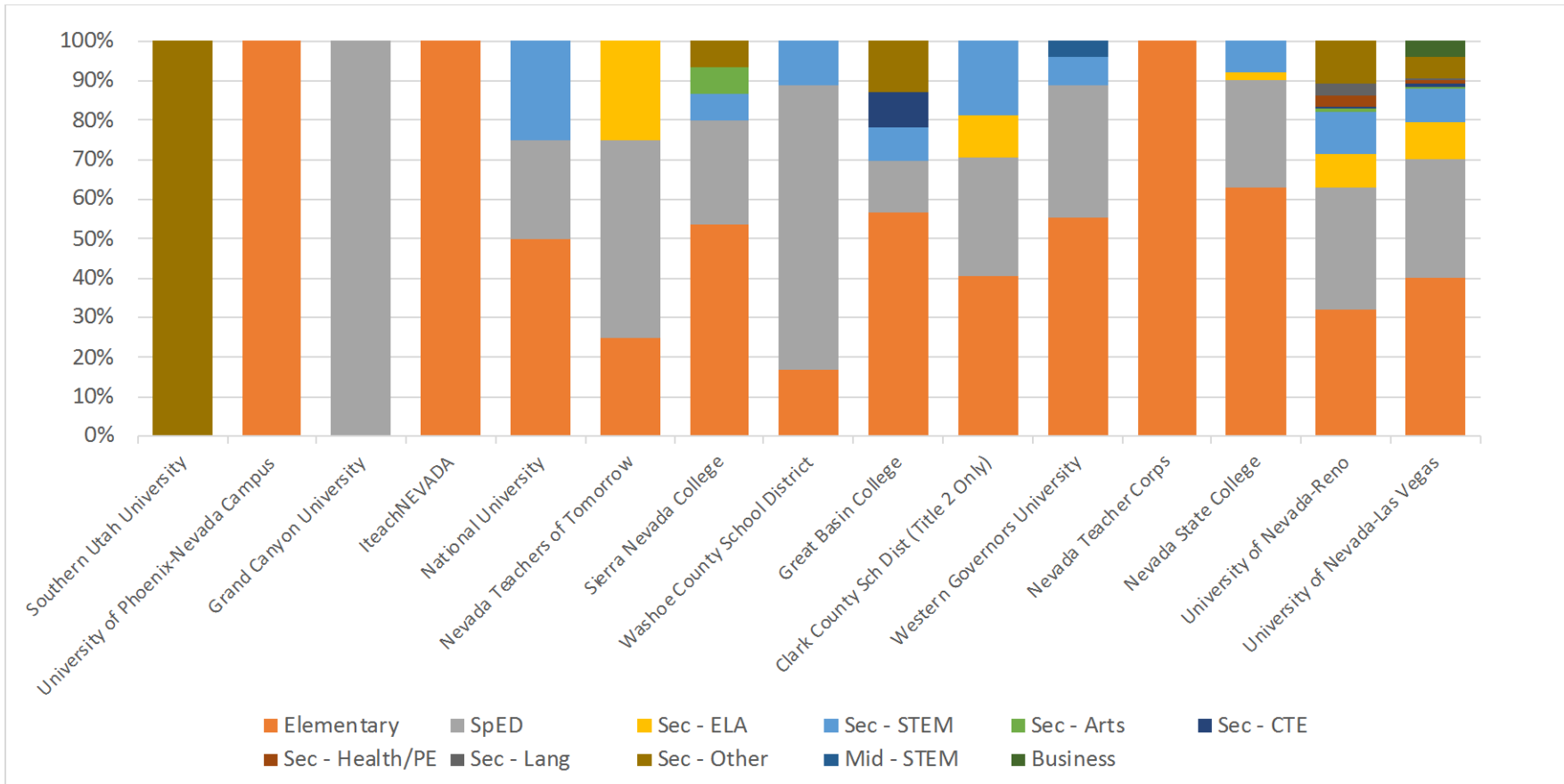
Source: U.S. Department of Education, Higher Education Act Title II State Report Card System

# Nevada Data: EPP Enrollment/Completers by Program Type – 2008-09 to 2016-17



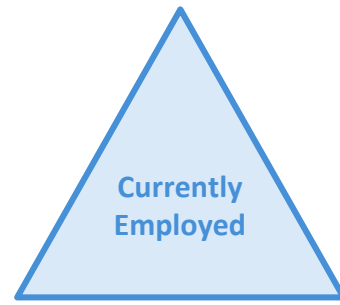
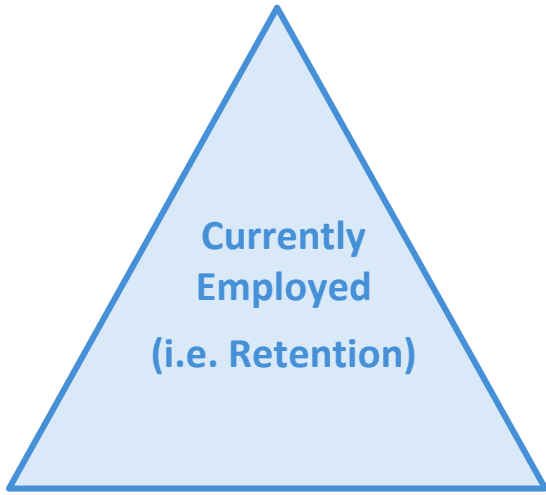
Source: U.S. Department of Education, Higher Education Act Title II State Report Card System

# Nevada Statewide Data: EPP Area of Focus by Program – 2017-18



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



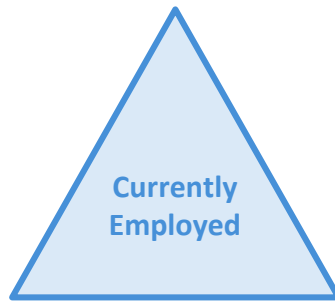


>> Teachers currently employed in the public education system in Nevada

>> Includes:

- > *Retained Teachers* – retained within the *state*, not necessarily within a district or school
- > *New Teachers* – new to the profession *and* new to the state

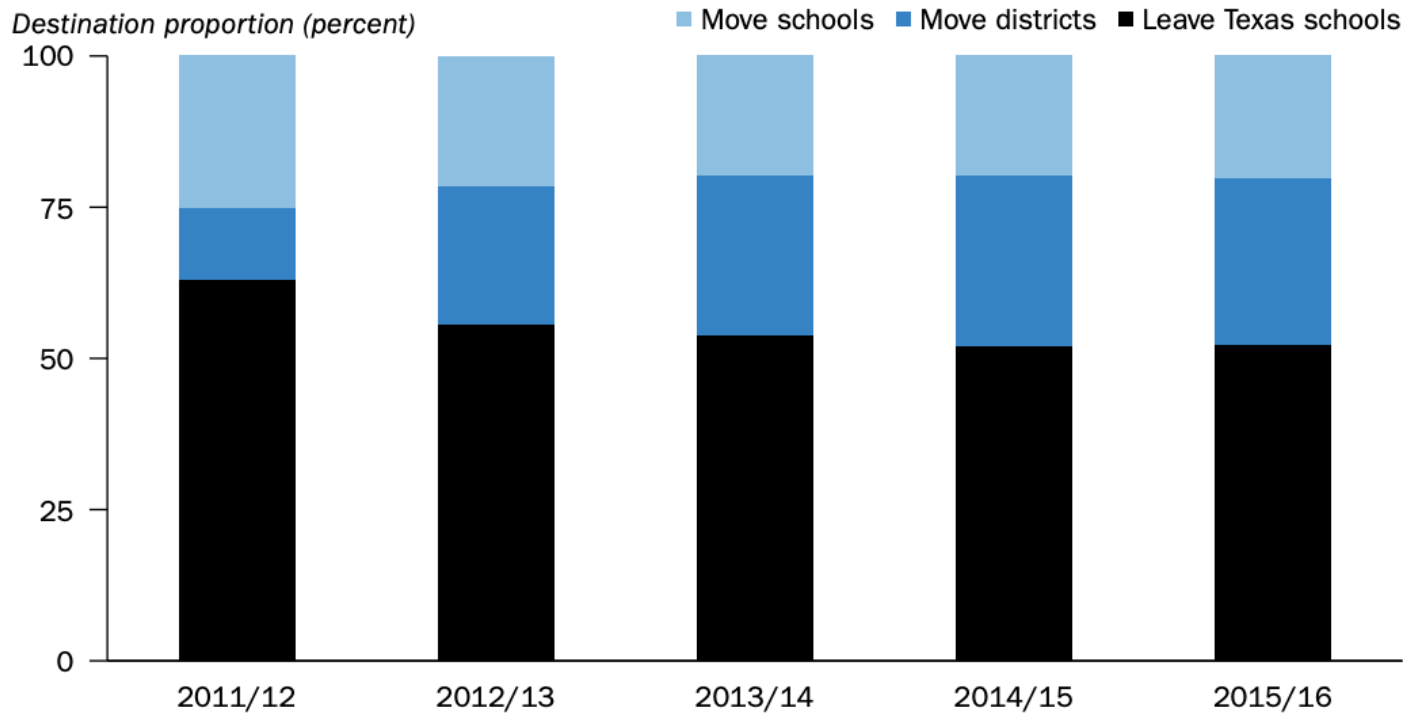
# Common Analyses cont.



- Analysis of teacher mobility including retention and attrition. Specific mobility categories generally include:
  - > *Stayers* – retained to school
  - > *Moved Schools* – moved to a different school within district
  - > *Moved Districts* – moved to a different district within the state
  - > *Leavers* – not retained within the state public education system
- Some reports focus career pathways of beginning teachers
- Licensure is also analyzed including:
  - > Prevalence of new vs. renewed licensure
  - > Composition of licensure by endorsement

# Example Figure Illustrating Mobility Categories

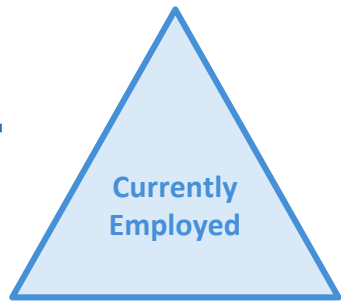
Note: Based on analysis of historical data conducted by NDE, mobility is a minimal issue in Nevada.



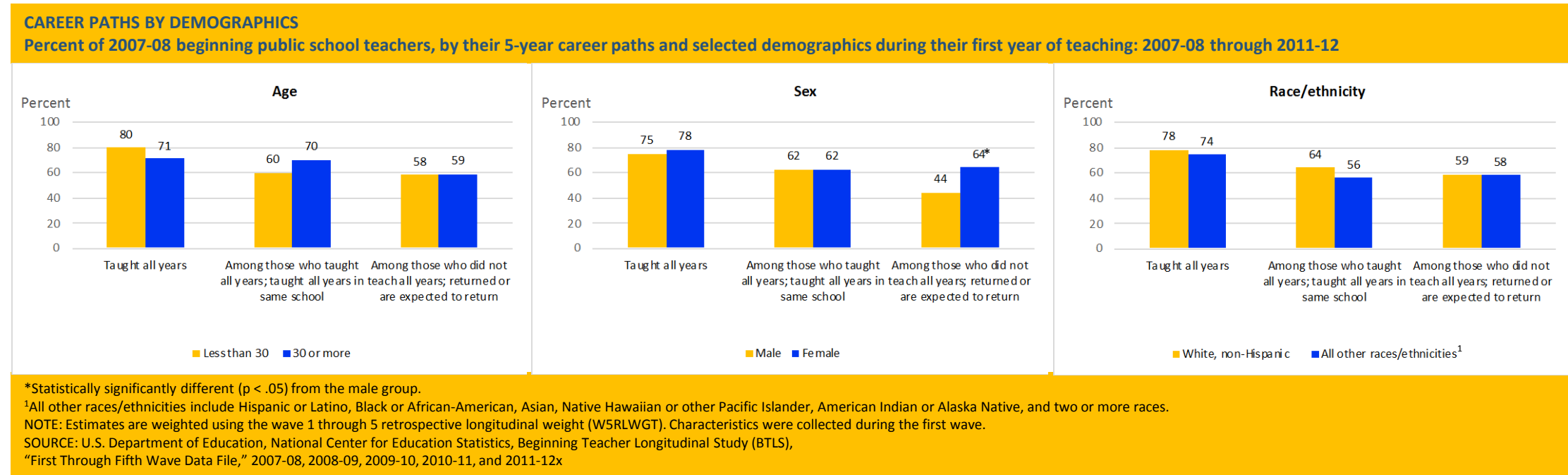
SOURCE: SULLIVAN, DAIKOWSKI, LINDSAY, LAZAREV, NGUYEN, NEWHALL, & LIU (2017)

Currently  
Employed

# National Data: Example Figure Illustrating Analysis of Career Pathways of Beginning Teachers

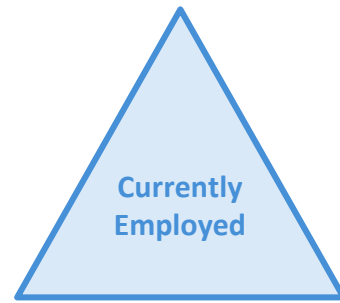


**FIGURE 2.**



Note: figure recreated based on original.

# Nevada Statewide Data: Currently Employed



Forthcoming analysis includes:

➤ Analysis of teacher mobility

➤ Licensure analysis

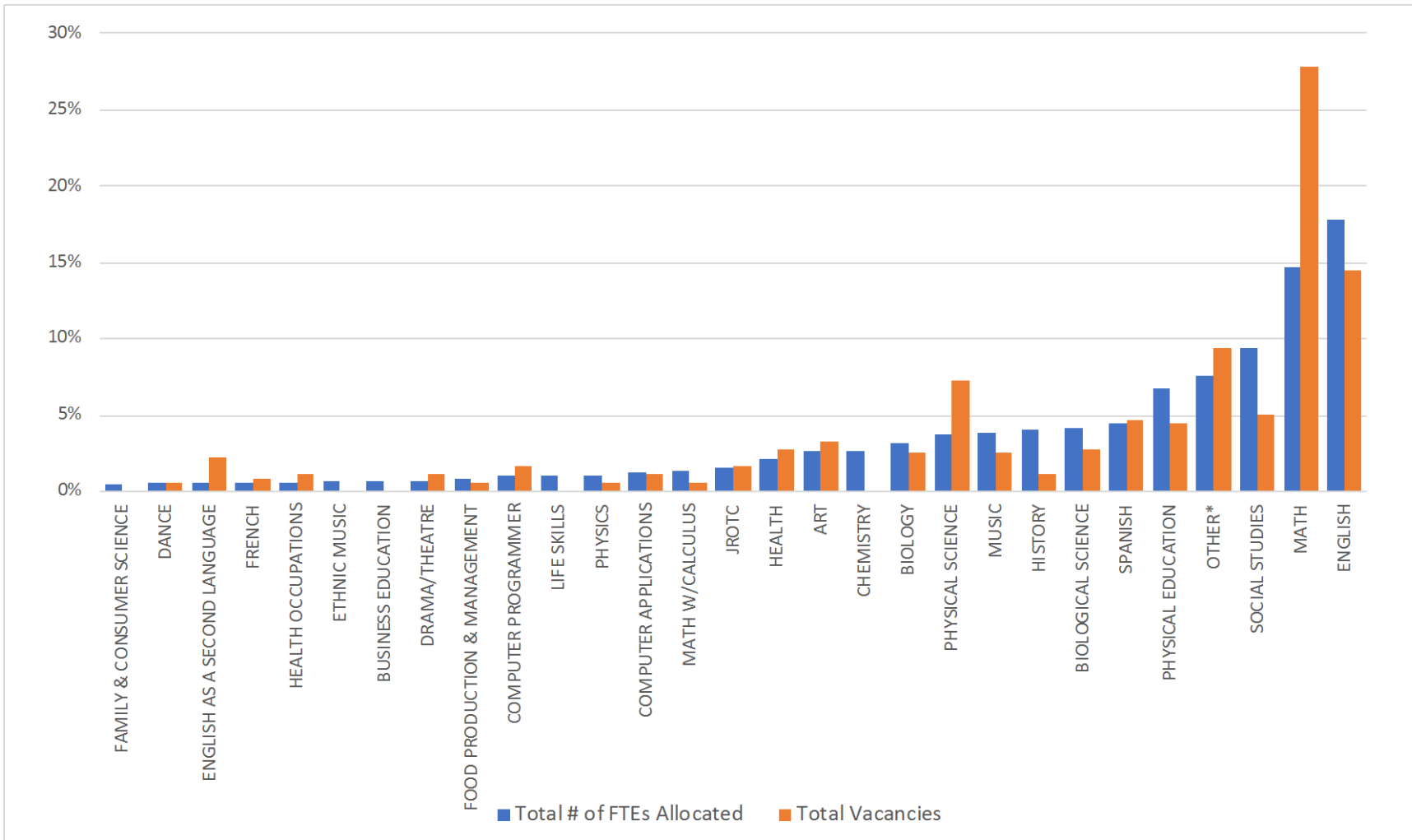
➤ Analysis of career pathways of beginning teachers (*pending confirmation of data availability*)



- >> Includes vacancies resulting from:
  - > Teacher attrition
  - > New teaching positions
  
- >> May be specified separately for specific teaching assignments (e.g. STEM, ELA, P.E., etc.)

## Common Analyses cont.2

- Analysis of vacancies over time and across settings
- Analysis of new positions over time



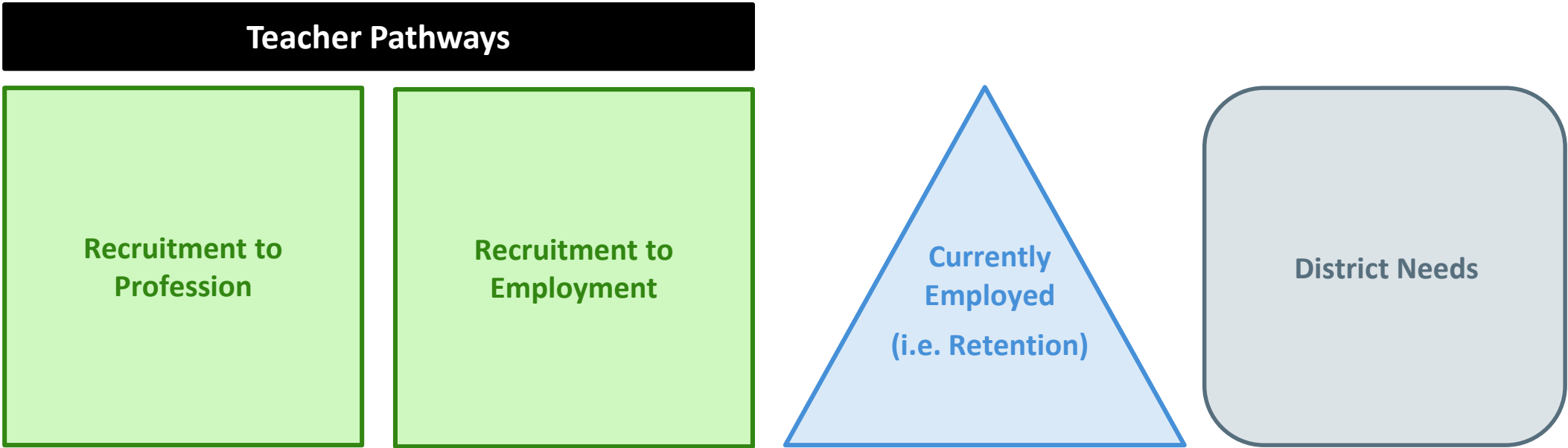
# Nevada Data: Vacancies and Total FTEs by Assignment in High School Grades (9-12) – 2019-20

Source: Nevada Department of Education, Teacher Shortage Area Data Collection (2020)

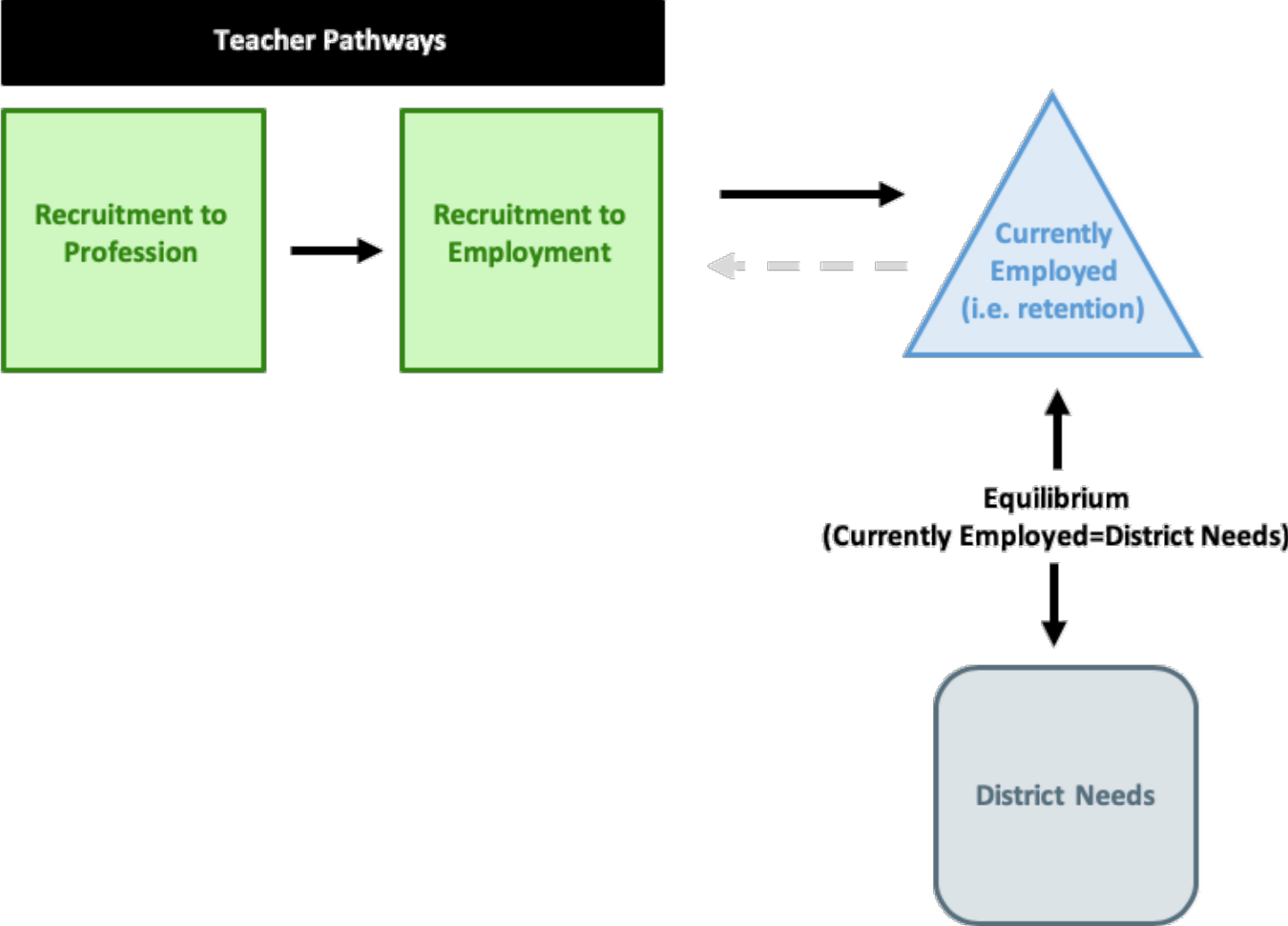
\*Other includes all Assignments making up less than 1% of Total # of Assigned FTEs individually



# Recruitment and Retention: Considerations cont.



# Recruitment and Retention: Considerations cont.2



# Shortage Indicators

- Serve as a proxy for teacher shortage and provide rough indication of the location and severity of shortages.
- Often include the following metrics:
  - > Vacancies/Unfilled positions
  - > Out-of-field teachers (i.e. assigned outside of licensure area)
  - > Irregular or provisionally certified teachers

# Shortage Indicators: Selected Research Findings

## ➤ Teacher Labor Market:

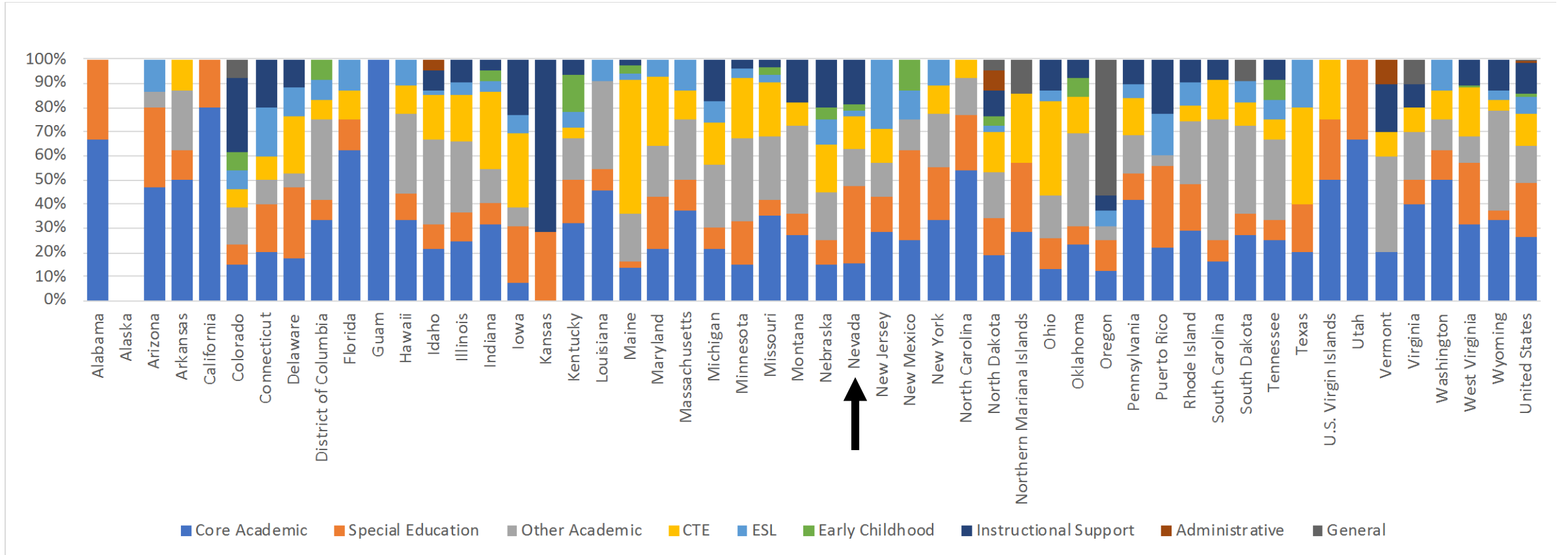
- > Fewer high school graduates are interested in pursuing education majors, and fewer college students are pursuing teaching careers (cited, Page 2)

## ➤ State-specific teacher shortages

- > Teacher shortages within states are impacted by the unique education policies that govern that state.
- > Teacher shortages are often confined to certain subject areas such as math, science, and special education.
- > Teacher shortages are often confined to schools with specific characteristics.

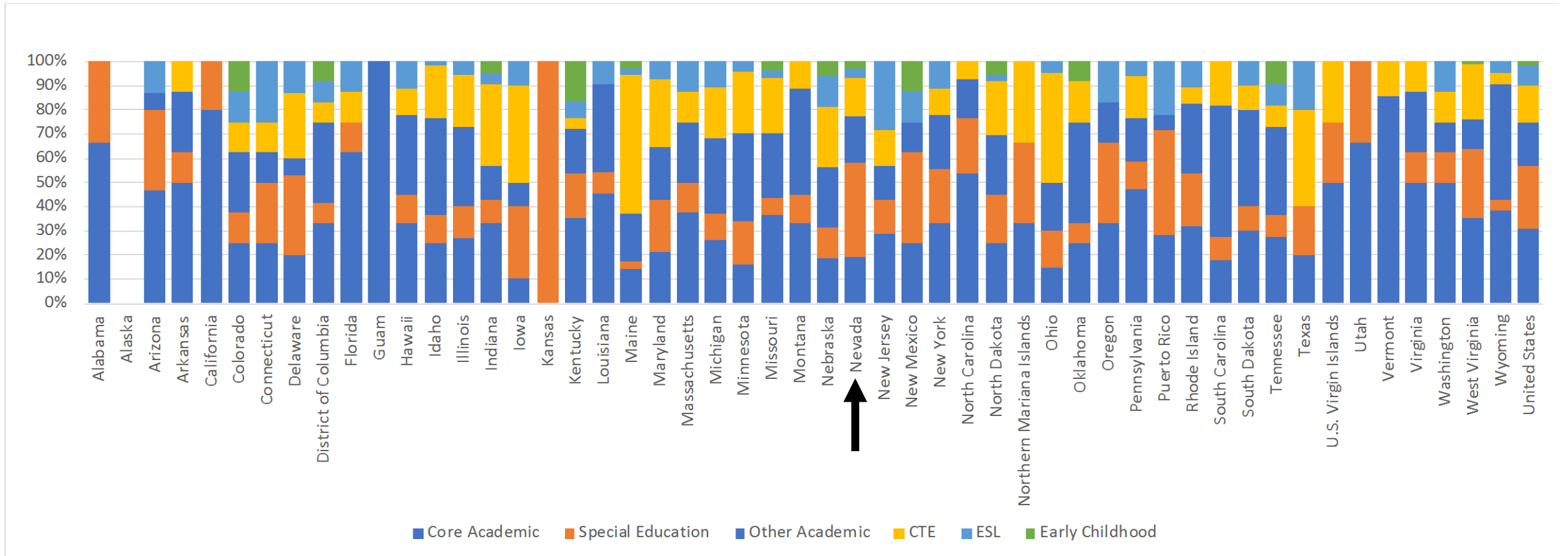
Source: Aragon (2016)

# National Data: Teacher Shortage Areas - 2020-21



Source: National Teacher Shortage Area Data (2021)

# National Data: Teacher Shortage Areas - 2020-21 cont.



Source: National Teacher Shortage Area Data (2021)

**Questions?**



# Thank you!

>> Alex Jacobson

>> Research Associate

>> (217) 480-0440

>> Andrew Morrill

>> Sr. Program Associate

>> (602) 322-7015

>> Mary Peterson

>> Sr. Program Associate

>> (775) 771-2867

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# References

- Aragon, S. (2016). Teacher Shortages: What We Know. Teacher Shortage Series. Education Commission of the States.
- Hill, A., & Hirshberg, D. (2006). Alaska Teacher Supply and Demand. 2005 Update. *Institute of Social and Economic Research, University of Alaska Anchorage.*
- Lazarte-Alcala, N. R. (2018, December). 2018 Oklahoma educator supply and demand report: Trends, projections, and recommendations (Report). Oklahoma City, OK: Oklahoma State Department of Education.
- Levin, J., Berg-Jacobson, A., Atchison, D., Lee, K., & Vontsolos, E. (2015). Massachusetts Study of Teacher Supply and Demand.
- Lindsay, J., Wan, Y., Berg-Jacobson, A., Walston, J., & Redford, J. (2016). Strategies for Estimating Teacher Supply and Demand Using Student and Teacher Data. REL 2017-197. *Regional Educational Laboratory Midwest.*

## References cont.

- Smith, T. "Educator supply and demand in Illinois." *2018 Triannual Report: Illinois State Board of Education* (2018).
- Sullivan, K., Barkowski, E., Lindsay, J., Lazarev, V., Nguyen, T., Newman, D., & Lin, L. (2017). Trends in Teacher Mobility in Texas and Associations with Teacher, Student, and School Characteristics. REL 2018-283. *Regional Educational Laboratory Southwest*.
- Sutcher, L., Darling-Hammond, L., & Carver-Thomas, D. (2016). A coming crisis in teaching? Teacher supply, demand, and shortages in the US.
- Zagorsky, J., Olsen, R., Hawley, J., & Gnagey, J. (2013) Teacher Supply and Demand in Ohio.