

Teacher Supply – Looking for the Whole Story

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Introduction/Need for Research

Typically in California the teacher supply has been reported by teacher educators as the number of students completing student teaching by the agriculture teacher preparation programs. This same methodology appears to be common in the collection of data for the AAAE National Supply and Demand Study (Foster et.al., 2021; Foster et.al., 2020; Smith et.al., 2019). However, anecdotally we have known that teachers from other sources were taking jobs in the state. With the advent of dashboards provided by the California Commission on Teacher Credentialing (CTC) (2021) it became apparent that teacher preparation institutions were only supplying about 50% of the teachers receiving agricultural teaching credentials in the state. About 40% of the agricultural credentials issued were career technical education (CTE) teaching credentials sometimes called “alternative” credentials. Clearly a new method of determining and understanding teacher supply was needed. Conventional wisdom would suggest a chronic shortage of teachers in California. Data provided by the California Department of Education (DOE) (C. Parker, personal communication, 12/13/2021) does not actually track net new hires as “replacements” which includes teachers moving from existing positions (Table 1). We looked for ways to quantify this data and determine how many of these credentialed teachers actually took jobs. Comparison of Agricultural Experience Tracker (AET) data between years would indicate about 65-70 new hires are made indicating a possible surplus of teachers. If the supply is being under-reported then the number of excess teachers would be even greater.

Conceptual Framework

AAAE National Supply and Demand Study (Lawver et. al. 2018) provides a model for determining teacher supply and demand. The model indicates sources for supply are retained teachers, newly certificated teachers, alternative certificated teachers, teachers from other states, and a reserve pool (certificated teachers not currently teaching).

Methodology

Since the dashboards only provide summary data a data request was made to the CTC for data that could identify individual teachers. To determine if credentialed teachers actually took positions the data was aligned with the teacher list in AET. Alignment was undertaken by matching first and last names in the two data sets. Unmatched records were then matched using last name and first initial. The second match was then vetted by the researchers. AET data was available for academic years (AY) 19-20, 20-21, and 21-22. CTC data was available from 7/1/2015 to 6/30/2020. Data was provided in both cases as Excel workbooks and was imported into an Access database for matching and further analysis. The initial analysis sought to see how many teachers appeared in both data sets (matching teachers).

Results/findings

Initial data (Table 2) shows that there is a large discrepancy between the numbers traditionally reported by the DOE (Table 1) and the number of teachers credentialed to teach agriculture in California. Credential holders by definition can hold a teaching job so should be considered the supply. Table 3 examines the sources of credentials. The number of single subject credentials recommended by the agriculture teacher preparation institutions in California more closely follow the DOE’s data. Table 4 shows the number of credential holders that were matched with AET (teachers with jobs). This analysis is crude as AET data is incomplete and no attempt was made to compare issue date to AET years, but it does give some insight as to who is being hired.

Conclusions

Being able to accurately quantify the supply is important for understanding teacher supply. Use of credentialing data is a more complete source of teacher supply data and it should be encouraged to get a true picture of the teacher supply. A better understanding of the source of supply may lead to different professional development programs and modification of “Teach Ag” initiatives. While the initial analysis is useful additional thought needs to be given to the alignment of data sets and to determine how best to establish a sustainable metric for comparison over time. This methodology could be used in any state where credential data can be obtained. A better source of practicing teacher data needs to be developed in California to better understand demand.

Implications/Recommendations/ Impact on Profession

Several research questions are raised by this research. Why are credential holders not taking or getting jobs? Why are there such gender differences in the credentials? Are credential holders not teaching part of a pool that can be tapped for supply?

Table 1 – Hires and Supply in California (DOE Data)

Year (AY)	2016	2017	2018	2019	2020
Replacement	109	94	105	102	96
New Program	5	8	3	2	2
Addition	56	31	32	27	29
Supply	65	78	75	88	74

Table 2 – Credentials Issued (CTC)

Credentials	Year (FY)				
	2016	2017	2018	2019	2020
Ag Single Subject Teaching Credential	72	76	93	90	93
Ag CTE Teaching Credential	48	55	65	61	47
Total Ag Credentials Issued	120	131	158	121	140

Table 3 -- Issued Credential Summary by Fiscal Year

Source	2016	2017	2018	2019	2020
All Ag Single Subject	72	76	93	90	93
Ag Teacher Prep Institutions	61	67	85	79	84
Out of State	7	4	5	6	5
Other (non-agriculture)	4	5	3	5	4
CTE	48	55	65	61	47
TOTAL	120	131	158	121	140

Table 4 -- Matching Teachers by Credential Type and Gender (all years)

Credentials	Issued	Matched	Matched Gender		
			F	M	Unknown
Ag Single Subject Teaching Credential	424 (61%)	316 (45%)	163	56	97
Ag CTE Teaching Credential	276 (39%)	76 (11%)	30	33	13
Total	700 (100%)	392 (56%)	193	89	110

References

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