

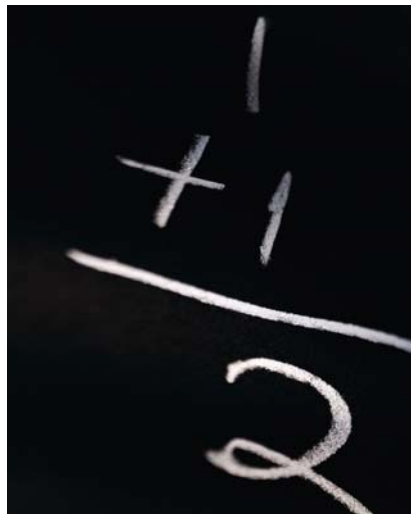
The Preschool Teacher Cost Estimate Tool:

**Estimating the Cost of Developing the Preschool
Teacher Workforce, 2007 - 2017**

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The Preschool Teacher Cost Estimate Tool: Estimating the Cost of Developing the Preschool Teacher Workforce, 2007 - 2017

What is the Cost Estimate Tool?

The Cost Estimate Tool is a series of automated Excel worksheets that will estimate the cost of developing a preschool teacher workforce in your county, or in another local area such as a region of the state, a school district, or the area surrounding an individual school.

The Tool uses a set of standard percentages and numbers, based on a series of assumptions, in order to estimate costs. If you agree with our assumptions, all you have to do is input a few local numbers into one of the worksheets, and the worksheets will then perform the calculations for you. If your locality has different assumptions, and you want to use different percentages and numbers, that is fine! In that case, just change the relevant numbers in the worksheets.

Two major assumptions include:

1. A ten-year start-up phase: the program will begin in 2007 and will be fully implemented in 2017.
2. The educational requirement for a preschool teacher will be a BA degree and an early-learning teaching credential.

The Tool described in this handout is intended for counties that have not conducted a recent early care and education workforce study. If your county is one of the nine counties that participated in the county buy-in portion of the *California Early Care and Education Workforce Study*, we have developed a Cost Estimate Tool that incorporates your county's workforce data.



How does the Cost Estimate Tool work?

The Cost Estimate Tool calculates the cost of developing a preschool teacher workforce by estimating:

1. The number of children your preschool program will serve when it is fully implemented.
2. The number of preschool teachers the program will need in order to serve these children.
3. How many of these teachers will come from the existing workforce, and how many will come from outside the ECE field.
4. The educational costs for these members of the workforce, based on their current educational levels, to meet preschool educational requirements.
5. The cost to institutions of higher education to educate this new workforce.



What does the Tool look like, and how do I use it?

The Tool is a series of Excel worksheets, using a variety of formulas, derived from our set of standard assumptions. All but one of the worksheets is hidden. When you open your workbook, you will see the “Variables Worksheet.” If you agree with the assumptions, just input three local numbers and your regional code into this worksheet. If you want to change the assumptions, you will have to input new information into the worksheets.

	Variables affecting teacher demand	
1.	Total number of 4-year-olds in 2008 (projected)	Input number for local area
2.	% of total number of 4-year-olds to be served by 2017 (year ten)	70%
3.	Number of children served per teacher (with a 1:20 teacher:child ratio, and teachers each serving 2 sessions)	40
4.	Turnover rate	18%
5.	Retention rate (students who finish a degree program who actually go into teaching)	83%
	Variables affecting workforce data	
6.	Number of infant/preschool centers (from the R&R)	Input number for local area
7.	Number of licensed providers (from the R&R)	Input number for local area
8.	Region (Northern CA=1, Bay Area=2, Central CA=3, Southern CA=4)	Input the code number for your region
9.	% of center teachers under 50 years old willing to upgrade their educational level	40%
10.	% of licensed providers with an AA or BA degree, under 55 years of age, willing to upgrade their educational level	5%
	Outcomes	
A.	Number of children served in 2017 (year 10)	Numbers will be automatically calculated
B.	Number of teachers needed by 2017	Numbers will be automatically calculated
C.	Number of students (new and upgrading) who will need to earn their degree and credential by 2017 to meet demand	Numbers will be automatically calculated
D.	Total cost over ten years to cover stated percentage of students costs	Numbers will be automatically calculated
E.	Total cost over ten years to cover stated percentage of institutional costs	Numbers will be automatically calculated
F.	Total cost over ten years to cover stated flat rate institutional cost	Numbers will be automatically calculated

Ten easy steps to use the Cost Estimate Tool

1. Total number of 4-year-olds in 2008 (projected) in your locality (region, county, school district, API school boundary, neighborhood, etc.)

The Cost Estimate Tool will use 2008 population data to estimate the total number of children in 2017 by applying a yearly percentage population change. The Tool uses regional data to calculate the percentage change. If you want to change this percentage population change, “unhide” the *Regional Wkfce Data Variables Worksheet* and input the new percentages in rows 42-47.

This data is available by county at the California Department of Finance Demographic Research Unit website:

http://www.dof.ca.gov/HTML/DEMOGRAP/Data/RaceEthnic/Population-00-50/RaceData_2000-2050.asp

If you need this information for smaller geographical areas, you can contact local sources or the Demographic Research Unit at the Department of Finance for assistance.

2. Percentage of the total number of 4-year-olds to be served by 2017 (year 10)

States that have implemented universal preschool programs, such as Georgia and Oklahoma, report a 70% participation rate statewide. This is the participation rate used in the Cost Estimate Tool.

If your locality wants to change this assumption, type in the participation rate your locality would like to use in the *Variables Worksheet*.

3. Number of children served per teacher

The Tool uses a *head teacher:child ratio of 1:20*, with each teacher serving morning and afternoon sessions. Each teacher will serve 40 children.

If your locality wants to change this ratio, type in the number of children served, based on your local ratio in the *Variables Worksheet*.

Note: The current CCLD license for centers serving preschoolers specifies an adult:child ratio of 1:12. Assuming that one head teacher and one assistant teacher can serve a classroom of 24 children, the minimum head teacher:child ratio is 1:24.



4. Turnover rate

The turnover rate for K-12 teachers in California is 11% (Alliance for Excellent Education, 2005). In the *Early Care and Education Workforce Study*, directors reported a 22% turnover rate for child care center teachers statewide (Whitebook et al., 2006a), with some slight variations among regions of the state.

	Average turnover rate
Statewide	22%
Northern California	21%
Bay Area	18%
Central California	22%
Southern California	24%
Source: Whitebook et al. (2006a).	

Assuming that preschool teachers will receive higher wages than teachers in other child care programs, but lower wages than K-12 teachers, the Tool assumes an 18% turnover rate.

Based on the regional *Early Care and Education Workforce Study* data, localities might want to use a different turnover rate. Simply type the new turnover rate into the *Variables Worksheet*.

5. Retention rate (students who finish degree program who actually go into teaching)

Between 1991 and 2001, approximately 83% of newly credentialed teachers in California entered the workforce within the first two years of receiving their credential (Esch et al., 2005). We therefore used this as an estimate for the retention rate of preschool teachers. This percentage can be changed in the *Variables Worksheet*.



6. Number of infant/preschool centers (from the R&R)

Ask your local R&R for the number of child care centers with an infant and/or preschool license in your locality. Input this number into the worksheet. Do not include any child care centers that serve only school-age children.

Once you input this number, the worksheet will calculate the total number of teachers in your locality, based on the average number of teachers per center in your region, per the *Early Care and Education Workforce Study*. To change this calculation, “unhide” the hidden *Regional Wkfce Data Variables Worksheet* and input the new number in row five.

7. Number of licensed providers (from the R&R)

Ask your local R&R for the number of licensed family child care home providers in your locality, and input this number into your worksheet.

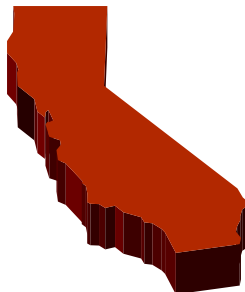
8. Region (Northern CA=1, Bay Area=2, Central CA=3, Southern CA=4)

When you input the code number for your region, the worksheet will use regional data from the *Early Care and Education Workforce Study* in order to calculate:

- ✓ The estimated number of teachers under the age of 50 with a BA degree or higher in your locality
- ✓ The estimated number of teachers under the age of 50 with an AA degree in your locality
- ✓ The estimated number of teachers under the age of 50 with some college credits, but no degree, in your locality

- ✓ The estimated number of licensed family child care providers under the age of 55 with a BA degree or higher in your locality
- ✓ The estimated number of licensed family child care providers under the age of 55 with an AA degree in your locality.

If you want to use different numbers and percentages, input this information in the *Regional Wkfce Data Variables Worksheet*.



9. Percentage of center teachers under 50 years old willing to upgrade educational level

This worksheet assumes that 40% of current center-based teachers under the age of 50 would want to upgrade their educational levels in order to be preschool teachers. If you want to change this assumption, input another percentage in the *Variables Worksheet*.

10. Percentage of licensed providers with an AA or BA degree, under 55 years old, willing to upgrade educational level

This worksheet assumes that 5% of providers with an AA or BA degree, under 55 years would want to upgrade their educational levels in order to be preschool teachers. If you want to change this assumption, input another percentage in the *Variables Worksheet*.



Outcomes: What will this Tool calculate?

A. Number of children served in 2017 (year 10)

The Cost Estimate Tool automatically calculates the number of children that will be served in 2017.

B. Number of teachers needed by 2017

The Cost Estimate Tool automatically calculates the number of teachers needed to serve the calculated number of children, by 2017.

C. Number of teaches (new and upgrading) who will need to earn their degree and credential by 2017 to meet demand

The Cost Estimate Tool automatically calculates the number of new and upgrading teachers who will need to earn their degree and credential by 2017. This number takes into account the turnover and retention rates of teachers.

D. Total cost over ten years to cover stated percentage of student costs

The Cost Estimate Tool calculates the cost over ten years to cover the fees for center teachers and licensed providers to upgrade their education. This assumes that approximately 41.4% of these fees will be covered by financial aid. Please see the following pages for more information about student costs.

E. Total cost over ten years to cover stated percentage of institutional costs

The Cost Estimate Tool calculates the costs over ten years to cover the expenditures by institutions of higher learning to educate the teachers and providers. The following pages will explain these costs in more detail. You can use this number for institutional costs, or the number described directly below in F.

F. Total cost over ten year to cover stated flat rate institutional costs

Because higher education financing is so complicated, the Cost Estimate Tool also provides a calculation based on offering a flat amount per institution, per year, to educate our prospective preschool teachers. See the following pages for a more detailed explanation. You can use this number for institutional costs, or use the number calculated above, in E.

The total cost to develop your preschool teacher workforce will be:

The total of D and E

Or

The total of D and F



If you want to understand how the Tool actually calculates the cost, read on:

Student costs and Institutional costs

The cost to educate new and existing teachers and providers can be broken into two categories:

- Cost to the student, and
- Cost to the institution

Cost to the student: In the Tool, student tuition data is used to determine the cost to the student. This is the average, statewide tuition, as reported by the University of California (UC), California State University (CSU), the California Community College (CCC) systems and the Association of Independent California Colleges and Universities. You can change the student cost numbers in the *Variables Worksheet* if you want to use other tuition data, or add other costs, such as room and board, transportation, or other expenses. To view and/or change these numbers, “unhide” the group of rows in the *Variables Worksheet* called “Variables affecting student costs (all 06-07 data)”.

Cost to the institution: The Tool uses two methods to calculate institutional costs. You can choose either one:

- ✓ **The first method** estimates marginal cost. This is the basic cost to institutions to educate new students, statewide, as reported by the UC, CSU, and CCC systems. You can change the institutional cost numbers if you want to include such items as merit increases for faculty and student support services. To view and/or change these numbers, “unhide” the group of rows the *Variables Worksheet* called “Variables affecting institutional costs (all 06-07 data)”.

OR

- ✓ **The second method** of calculating institutional costs is to set a flat amount, per institution, per year, to educate the new preschool teacher workforce. The Tool uses a flat fee of \$350,000 per institution in Southern California over 10 years. To view and/or change the flat fee amount, “unhide” the group of rows the *Variables Worksheet* called “Variables affecting outcome”. To view or change the number of institutions, use the *Regional Wkfce Data Variables worksheet*.

Changes in costs over the ten years

The Tool estimates costs for a ten-year period. It uses a 10% per year fee increase for undergraduates, and a 15% per year increase for graduate students, based on the *Higher Education Compact* between the California Governor's Office and the UC and CSU systems. CCC fees are increased at the current inflation rate of 4% per year (US Department of Labor, 2006).

State-funded marginal costs are also increased by the current inflation rate of 4% per year (US Department of Labor, 2006).

To view and/or change the percentage cost increases, "unhide" the group of rows in the *Variables Worksheet* called "Variables affecting student costs (all 06-07 data)".

Teacher/provider educational costs are based on their educational levels

Based on the regional data from the *Early Care and Education Workforce Study*, the Tool calculates the number of teachers and providers in the following six groups:

1. Teachers/providers who need less than a year to complete their credential
2. Teachers/providers who need a full year to complete their credential
3. Teachers/providers who need two years to complete their credential (part-time attendance)
4. Teachers/providers who need three years to complete a BA and credential
5. Teachers/providers who need six years to complete a BA and credential (part – time attendance)
6. Teachers/providers who need five years to complete a BA and credential

If you want to use different numbers and percentages, input this information in the *Regional Wkfc Data Variables Worksheet*.



Costs are based on the educational institutions that teachers/providers will attend

Teachers/providers with a BA who need a credential

Statewide, 55% of students complete their K-12 teaching credentials in the CSU system, 5% in the UC system, and 40% in private institutions (California Commission of Teacher Credentialing, 2004). These are the percentages we used in the Tool.

Teachers/providers with an AA

Statewide, 73% of community college students transfer to the CSU system to complete a BA, 18% transfer to the UC system, and 9% transfer to a private college or university (California Postsecondary Education Commission, 2005a). These are the percentages we used in the Tool.

Teachers/providers without a degree

- ✓ Statewide, 52% of students who need to complete their BA enroll in the CSU system, 26% in the UC system, and 22% in private institutions (Postsecondary Education Commission, 2005b). These are the percentages we used in the Tool.
- ✓ Of these students, the transfer enrollment rates are 12.5% for CSU, 19.7% for UC, and 14.6% for private institutions (University of California, 2006; California State University Analytic Studies, 2006; AICCU, 2006). These are the percentages we used in the Tool.

To view and/or change these percentages because of the types of institutions available in your locality, “unhide” the group of rows in the *Variables Worksheet* called “Variables affecting methodology”.



Costs are based on percentages of fees covered by the preschool entity

Student costs

The Tool assumes that the preschool entity will cover a portion of the educational costs for teachers/providers and financial aid to the teachers/providers will cover the remaining costs.

- ✓ Because of generally low levels of compensation for the ECE Workforce, the Tool assumes that 85% of the students needing to obtain additional education will qualify for government-sponsored financial aid.
- ✓ Of the 85% of students who need financial support, 15% would receive a full tuition grant, 35% would receive 25% coverage of tuition, and 50% would receive 50% coverage of tuition. Therefore, 41.44% of student fees would be covered by aid.
- ✓ The Tool assumes that the preschool entity will cover the remaining 58.56% of the costs to the teachers/providers.

Institutional costs

The Tool assumes that the preschool entity will cover 100% of the institutional costs.

To view and/or change these numbers, “unhide” the group of rows the *Variables Worksheet* called “Variables affecting outcome”.



What does the final cost estimate look like?

Cost Estimate for Southern California Region

Variables affecting teacher demand	
Total number of 4-year-olds in 2008 (projected)	317,359
% of total number of 4-year-olds to be served by 2017 (year ten)	70%
Number of children served per teacher (1:20 teacher:child ratio serving 2 sessions)	40
Turnover rate	18%
Retention rate (students who finish degree program who actually go into teaching)	83%
Variables affecting workforce data	
Number of infant/preschool centers (from the R&R)	730
Number of licensed providers (from the R&R)	2,487
Region (Northern CA=1, Bay Area=2, Central CA=3, Southern CA=4)	4
% of center teachers under 50 years old willing to upgrade educational level	40%
% of home providers with an AA or BA degree, under 55 years old, and willing to upgrade educational level	5%
Outcomes	
Number of children served in 2017 (year 10)	241,289
Number of teachers needed by 2017	6,032
Number of teachers (new and upgrading) who will need to earn their degree and credential by 2017 to meet demand	13,904
Total cost over ten years to cover stated % of students costs	\$223,492,260
Total cost over ten years to cover stated % of institutional costs	\$242,603,459
Total cost over ten years to cover stated flat rate institutional costs	\$238,000,000

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