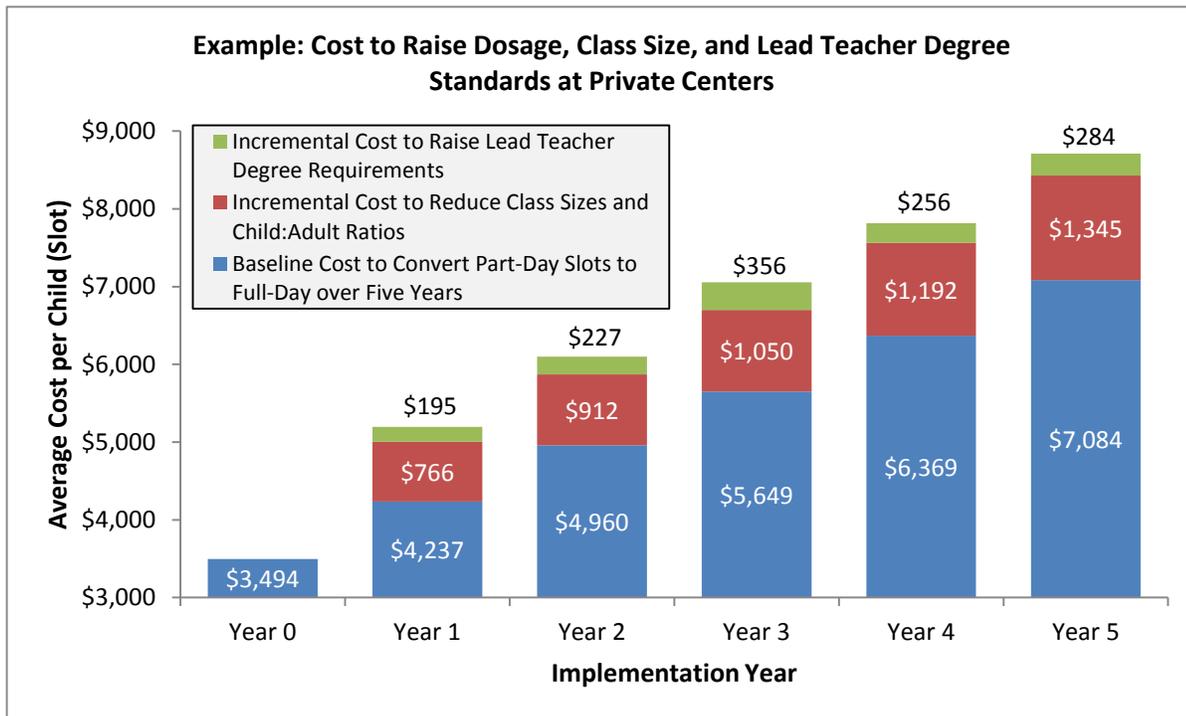# Using the CPQ&R to Create Graphics

Purpose of the Exercise

The following graphic is an example of how to illustrate per child costs associated with increasing specific quality elements, such as teacher degree requirements, reduced class size and increased dosage using the CPQ&R.

NOTE: the values you see in your graphic will be based on the state you selected and may not match the illustrative values shown below. In addition, this graphic was created using *Microsoft Excel Office Professional Plus 2010*; based on which version of Excel you are using, you may need to modify certain steps in the graphic instructions to match the formatting as shown below.

Example: Cost to Raise Dosage, Class Size, and Lead Teacher Degree Standards at Private Centers

Average Cost per Child (Slot)

- Incremental Cost to Raise Lead Teacher Degree Requirements
- Incremental Cost to Reduce Class Sizes and Child:Adult Ratios
- Baseline Cost to Convert Part-Day Slots to Full-Day over Five Years

Year	Top label	Red	Blue
Year 0			$3,494
Year 1	$195	$766	$4,237
Year 2	$227	$912	$4,960
Year 3	$356	$1,050	$5,649
Year 4	$256	$1,192	$6,369
Year 5	$284	$1,345	$7,084

Implementation Year

Instructions for Example Calculation

- The default state for this example is Alabama (AL).
- In the first scenario in Worksheet B, Implementation Plan, under Rows 24-29 (Implementation Years 0-5), enter the following slot counts for Private Centers:
  - Year 0: 10,000 (Part Day); 0 (Full Day)
  - Year 1: 8,000 (Part Day); 2,000 (Full Day)
  - Year 2: 6,000 (Part Day); 4,000 (Full Day)
  - Year 3: 4,000 (Part Day); 6,000 (Full Day)
  - Year 4: 2,000 (Part Day); 8,000 (Full Day)

- o Year 5: 0 (Part Day; 10,000 (Full Day)
- In Cell E136, enter a maximum class size of 25.
- In Cell, E152, enter a maximum number of children per classroom adult of 12.
- Enter the following for Private Centers:
  - o In Cell E187, "% of Lead Teachers in Year 0 with BA degree or higher"", enter 25%.
  - o In Cell E188, "% of Lead Teachers in Year 0 with an AA degree but not a BA", enter 75%.
  - o In Cell, E193, "% of Lead Teachers without a BA in Year 0 Enrolling in a BA Program in Years 1+", enter 0%.
  - o In Cell, E195, "% of Lead Teachers in Year 0 Enrolling in a BA program in Years 1+ with an AA degree", enter 100%.
  - o In Cell E202, "% of New Lead Teachers hired in Years 1+ with BA or higher", enter 25%.
  - o In Cell E203, "% of New Teachers hired in Years 1+ with an AA degree but not a BA", enter 75%.
  - o In Cell E205, "% of New Lead Teachers without a BA Enrolling in a BA Program in Years 1+", enter 0%.
  - o In Cell E206, "% of New Lead Teachers Enrolling in a BA Program in Years 1+, Hired with an AA degree", enter 100%.
- In Cell E444, "Inflation Factor", enter 0%.
- Add a second and third scenario by pressing the "Add a Scenario" button twice (located on the HOME Page). If you have disabled Excel macros on the CPQ&R, then you will need to add these scenarios by manually copying and pasting the first scenario. For instructions on how to manually copy and paste a scenario, please refer to the User Guide.
- Return to Worksheet B, and in the second and third scenarios, change the following:
  - o In Cells R136 & AE136, enter a maximum class size of 20.
  - o In Cells R152 & AE152, enter a maximum number of children per classroom adult of 10.
- In the third scenario, further change the following:
  - o In Cell AE193, "% of Lead Teachers without a BA in Year 0 Enrolling in a BA Program in Years 1+", enter 100%.
  - o In Cell AE205, "% of New Lead Teachers without a BA Enrolling in a BA Program in (Years 1+)", enter 100%.

The resulting three scenarios reflect three increasing levels of quality. The first scenario reflects the baseline cost to convert part-day slots to full-day over five years. The second includes the additional changes of reducing class sizes and child: adult ratios. The third includes those same changes, but also the requirement that 100% of teachers have or are working toward a BA degree.

The incremental cost for the second scenario, i.e., the cost over and above the first scenario, can be calculated by creating the following formulas in each of cells R18:W18:

- In Cell R18, enter $0. Change the cell formatting to dollars without showing cents, if necessary.
- In Cell S18, enter the formula "=S17-F17".
- Copy the formula in Cell S18, and paste in cells T18:W18.

The incremental cost for the third scenario is calculated in a similar manner, as follows:

- In Cell AE18, enter the formula "=AE17-R17". Change the cell formatting to dollars without showing cents, if necessary.
- Copy the formula in Cell AE18, and paste in cells AF18:AJ18.
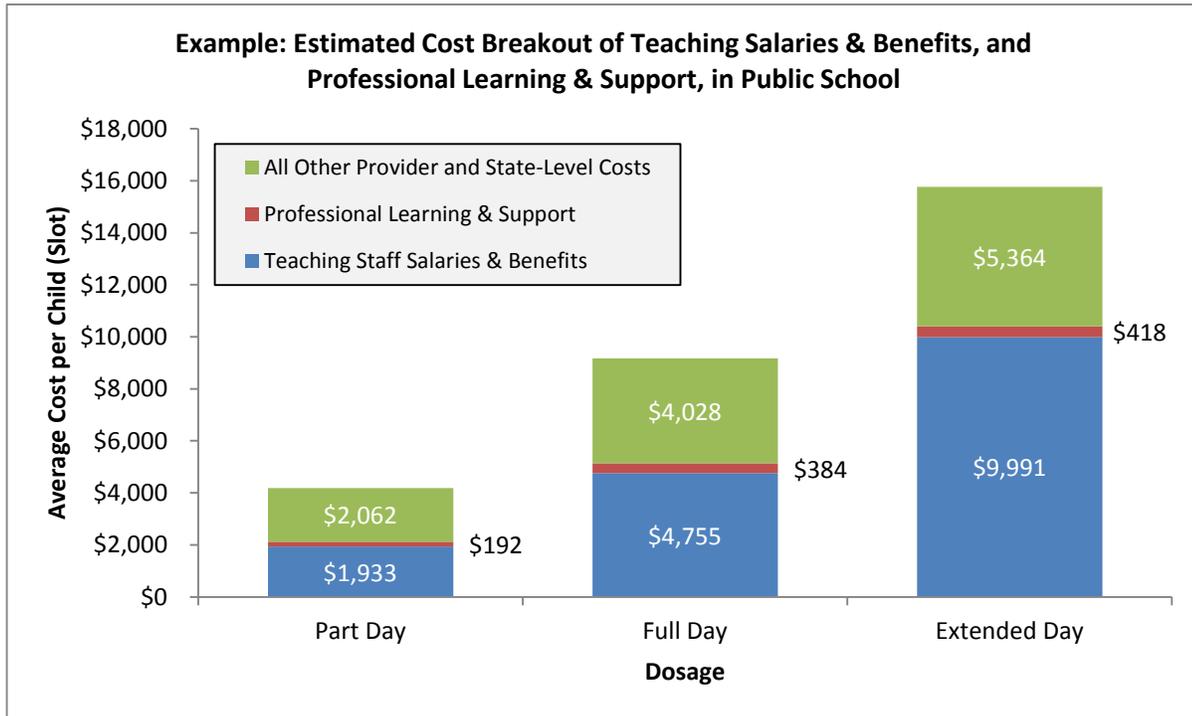
Instructions for Graphic

- Highlight Cells E17:J17.
- Insert a stacked column chart.
- Change the chart format size to 3.75" high by 6.23" wide.
- Highlight Cells R18:W18.
- Copy the cells and highlight the stacked column chart. Paste Special as a New Series.
- Highlight Cells AE18:AJ18.
- Copy the cells and highlight the stacked column chart. Paste Special as a New Series.
- In the chart, select Format Data Series and change the Gap Width to 50%.
- Select Format Axis for the vertical axis and under Axis Options, set a Minimum (Fixed) of 3,000.
- In Chart Tools Layout, Insert a Chart Title Above Chart, a Primary Horizontal Axis Title Below Axis, and a Primary Vertical Axis Title Rotated Title.
- Highlight the chart title and change the text to "Example: Cost to Raise Dosage, Class Size, and Lead Teacher Degree Standards at Private Centers".
- Highlight the horizontal axis title and change the text to "Implementation Year".
- Highlight the vertical axis title and change the text to "Average Cost per Child (Slot)".
- Change the font size of the Chart Title to 11 point, and the font size of the axis titles to 10.5 point.
- Highlight the legend and Format Legend; under Legend Options, uncheck the box to show the legend without overlapping the chart. Under Fill, choose Solid Fill and select the color "White, Background 1, Darker 5%". Under Border Color, choose Solid Line and select the color black.
- Click and drag the legend and move it the upper left-hand corner of the chart.
- Click on each of the series in the chart and select Add Data Label. Change the font color to white for Series 1 and Series 2. Leave the font color black for Series 3, but move each of the data labels above the series. Delete any "$0" values that may appear in Implementation Year 0.
- Highlight the entire chart and select "Select Data…". Add the horizontal category axis labels and change the series names for Series 1, 2, and 3:
    - Edit the Horizontal (Category) Axis Labels for Series 1 and select the Range E7:J7.
    - Edit the Series Name for Series 1 to "Baseline Cost to Convert Part-Day Slots to Full-Day over Five Years".
    - Edit Series 2 to "Incremental Cost to Reduce Class Sizes and Child:Adult Ratios".
    - Edit Series 3 to "Incremental Cost to Raise Lead Teacher Degree Requirements".
- Reduce the font size of the legend to 9 point and resize as needed.
- Delete the horizontal gridlines.

The chart graphic is now complete and should be identical to that shown in the example.

![CEELO logo - Center on Enhancing Early Learning Outcomes www.ceelo.org]

Purpose of Exercise

Teacher salaries and benefits are usually the greatest investment for any early learning program. In this exercise, the following graphic will be created is an example of how to illustrate how these costs vary by program length of day using the CPQ&R.

NOTE: the values you see in your graphic will be based on the state you selected and will not match the illustrative values shown below. In addition, this graphic was created using *Microsoft Excel Office Professional Plus 2010*; based on which version of Excel you are using, you may need to modify certain steps in the graphic instructions to match the formatting as shown below.

Example: Estimated Cost Breakout of Teaching Salaries & Benefits, and Professional Learning & Support, in Public School

A stacked bar chart with y-axis "Average Cost per Child (Slot)" ranging from $0 to $18,000, and x-axis "Dosage" with three categories.

Legend:
- All Other Provider and State-Level Costs (green)
- Professional Learning & Support (red)
- Teaching Staff Salaries & Benefits (blue)

Part Day: Teaching Staff Salaries & Benefits $1,933; Professional Learning & Support $192; All Other Provider and State-Level Costs $2,062

Full Day: Teaching Staff Salaries & Benefits $4,755; Professional Learning & Support $384; All Other Provider and State-Level Costs $4,028

Extended Day: Teaching Staff Salaries & Benefits $9,991; Professional Learning & Support $418; All Other Provider and State-Level Costs $5,364

Instructions for Example Calculation

- The default state for this example is Alabama (AL).
- In the first scenario, under Rows 24-25 (Implementation Years 0 & 1), enter the following slot counts for Public School:
    - Year 0: 10,000 (Part Day)
    - Year 1: 10,000 (Part Day)
- Enter participation rates under professional learning and support:
    - Enter 100% in Cells E310:F310 and E311:F311
    - Enter 100% in Cells E316:F316 and E317:F317

- o   Enter 100% in Cells E322:F322
- In Cell, E444, enter an inflation factor of 0%.
- Add a second and third scenario by either pressing the "Add a Scenario" button twice (located) on the HOME Page. If you have disabled Excel macros on the CPQ&R, then you will need to add these scenarios by manually copying and pasting the first scenario. For instructions on how to manually copy and paste a scenario, please refer to the User Guide.
- In the second scenario, you will move the 10,000 slots from Part Day to Full Day for Public School. To do so, enter 10,000 for Year 0 and Year 1 under Full Day, and delete the values under Part Day.
- In the third scenario, you will move the 10,000 slots from Part Day to Extended Day for Public School. To do so, enter 10,000 for Year 0 and Year 1 under Extended Day, and delete the values under Part Day.

The resulting three scenarios reflect three different dosage levels—Part Day, Full Day, and Extended Day—with no inflation. Year 1 costs are the subject of interest; you enter slot counts in Year 0 so that the CPQ&R will treat the 10,000 slots in Year 1 as existing slots, i.e., so that it does not interpret the slots as an expansion in the size of the program.

To create a summary breakdown of costs, you will create a new data table in the Blank Worksheet. The steps to creating the table are as follows:

- In Cell E9, enter "Teaching Staff Salaries & Benefits".
- In Cell E10, enter "Professional Learning & Support".
- In Cell E11, enter "All Other Provider and State-Level Costs".
- In Cell F8, enter "Part Day".
- In Cell G8, enter "Full Day".
- In Cell H8, enter "Extended Day".
- In Cell F9, enter the following formula:

    ='A. Summary Outputs & Index'!F59

- In Cell F10, enter the following formula:

    ='A. Summary Outputs & Index'!F61+('E. State-Level Infrastr&Support'!F17+'E. State-Level Infrastr&Support'!F21+'E. State-Level Infrastr&Support'!F22+'E. State-Level Infrastr&Support'!F35+'E. State-Level Infrastr&Support'!F39+'E. State-Level Infrastr&Support'!F45)/'A. Summary Outputs & Index'!F17

- In Cell F11, enter the following formula:

    ='A. Summary Outputs & Index'!F69-F9-F10

These formulas are summing costs from Year 1 of the first scenario. To copy and paste these formulas for the second and third scenarios, perform the following:

- Highlight Cells F9:F11 in the new data table created in the Blank Worksheet.

- Copy and paste the cells into Cells S9:S11 (for the second scenario), and again into Cells AF9:AF11 (for the third scenario.
- Move Cells S9:S11 to Cells G9:G11, under the heading created in Cell G8 for "Full Day".
- Move Cells AF9:AF11 to Cells H9:H11, under the heading created in Cell H8 for "Extended Day".

The data table is now complete and can be used for creating a chart graphic.
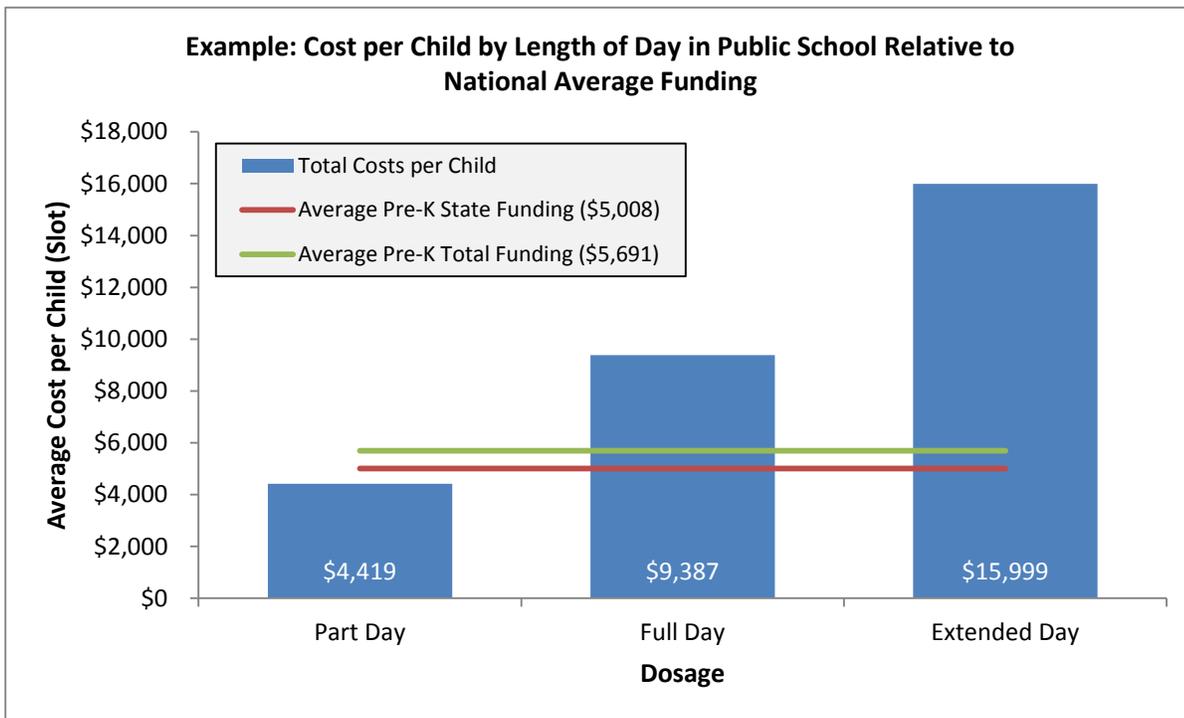
Instructions for Graphic
- Using the table created in the preceding instructions in the Blank Worksheet, highlight Cells E8:H11.
- Insert a stacked column chart.
- Change the chart format size to 3.75" high by 6.25" wide.
- In the chart, select Format Data Series and change the Gap Width to 75%.
- In Chart Tools Layout, Insert a Chart Title Above Chart, a Primary Horizontal Axis Title Below Axis, and a Primary Vertical Axis Title Rotated Title.
- Highlight the chart title and change the text to "Example: Estimated Cost Breakout of Teaching Salaries & Benefits, and Professional Learning & Support, in Public School".
- Highlight the horizontal axis title and change the text to "Dosage".
- Highlight the vertical axis title and change the text to "Average Cost per Child (Slot)".
- Change the font size of the Chart Title to 11 point. The font size of the axis titles should be 10 point.
- Highlight the legend and Format Legend; under Legend Options, uncheck the box to show the legend without overlapping the chart. Under Fill, choose Solid Fill and select the color "White, Background 1, Darker 5%". Under Border Color, choose Solid Line and select the color black.
- Click and drag the legend to the upper left-hand corner of the chart.
- Change the font size of the legend to 9 point, and resize the legend so that it is not overlapping any of the data series (i.e., stacked columns).
- Click on each of the series in the chart and select Add Data Label. Change the font color to white for "Teaching Staff Salaries & Benefits", and also for "All Other Provider and State-Level Costs". Leave the font color black for "Professional Learning and Support", but move each of the data labels to the right of the series.
- Delete the horizontal gridlines.

The chart graphic is now complete and should be identical to that shown in the example.

![CEELO logo — Center on Enhancing Early Learning Outcomes, www.ceelo.org]

Purpose of the Exercise

The following graphic is an example of how to illustrate the average per child costs associated with the length of day a child attends a program.

NOTE: the values you see in your graphic will be based on the state you selected and may not match the illustrative values shown below. In addition, this graphic was created using *Microsoft Excel Office Professional Plus 2010*; based on which version of Excel you are using, you may need to modify certain steps in the graphic instructions to match the formatting as shown below.

Example: Cost per Child by Length of Day in Public School Relative to National Average Funding

Y-axis: Average Cost per Child (Slot) — $0 to $18,000
X-axis: Dosage — Part Day, Full Day, Extended Day

Legend:
- Total Costs per Child
- Average Pre-K State Funding ($5,008)
- Average Pre-K Total Funding ($5,691)

Part Day: $4,419
Full Day: $9,387
Extended Day: $15,999

Instructions for Example Calculation

- The default state in this example is Alabama (AL).
- In Worksheet B, Implementation Plan, enter the following slot counts in Year 0 for Public School in Row 24:
  - In Cell H24, enter a value of 2,000 (Part Day)
  - In Cell I24, enter a value of 2,000 (Full Day)
  - In Cell J24, enter a value of 2,000 (Extended Day)
- Next, create a summary data table for your graphic in the Blank Worksheet. The steps to creating the table are as follows:
  - In Cell E9, enter "Total Costs per Child".

- o In Cell E10, enter "Average Pre-K State Funding ($5,008)". This is the statistic for the national average state spending per child reported in the 2017 NIEER State Preschool Yearbook.
- o In Cell E11, enter "Average Pre-K Total Funding ($5,691)". This is the statistic for the national average for all reported funding per child reported in the 2017 NIEER State Preschool Yearbook. All reported funding includes state, federal, and local sources of funding.
- o In Cell F8, enter "Part Day".
- o In Cell G8, enter "Full Day".
- o In Cell H8, enter "Extended Day".
- o In Cell F9, enter the following formula:

   ='F. Provider-Level Services'!E12+('A. Summary Outputs & Index'!E9/'A. Summary Outputs & Index'!E17)

- o In Cell G9, enter the following formula:

   ='F. Provider-Level Services'!E13+('A. Summary Outputs & Index'!E9/'A. Summary Outputs & Index'!E17)

- o In Cell H9, enter the following formula:

   ='F. Provider-Level Services'!E14+('A. Summary Outputs & Index'!E9/'A. Summary Outputs & Index'!E17)

These formulas add the provider-level cost per slot and the state-level cost per slot, for the specified length of day.

- o In Cells F10, G10, and H10, enter a value of $5,008.
- o In Cells F11, G11, and H11, enter a value of $5,691.
- o If the cells in the Range F9:H11 are not already formatted in dollars, the format to show dollars (and showing no decimals for cents)

The completed data table compares the CPQ&R cost per slot of day with selected statistics from the NIEER State of Preschool Yearbook.

Instructions for Graphic
- In the Blank Worksheet, highlight Cells E8:H11.
- Insert a stacked column chart.
- Change the chart format size to 3.75" high by 6.23" wide.
- In the chart, select the series "Average Pre-K Total Funding ($5,596)" and Change Chart Type to "Line."
- Select the series "Average Pre-K State Funding ($4,975)" and Change Chart Type to "Line."
- Select Format Data Series and change the Gap Width to 75%.
- In Chart Tools Layout, Insert a Chart Title Above Chart, a Primary Horizontal Axis Title Below Axis, and a Primary Vertical Axis Title Rotated Title.
- Highlight the chart title and change the text to "Example: Cost per Child by Length of Day in Public School Relative to National Average Funding".

- Highlight the horizontal axis title and change the text to "Dosage".
- Highlight the vertical axis title and change the text to "Average Cost per Child (Slot)".
- Change the font size of the Chart Title to 11 point, and the font size of the axis titles to 10.5 point.
- Highlight the legend and Format Legend; under Legend Options, uncheck the box to show the legend without overlapping the chart. Under Fill, choose Solid Fill and select the color "White, Background 1, Darker 5%". Under Border Color, choose Solid Line and select the color black.
- Click and drag the legend and move it the upper left-hand corner of the chart.
- Click on the series "Total Cost per Child" in the chart and select Add Data Labels. Change the font color to white. Change the Label Position to Inside Base.
- Reduce the font size of the legend to 9 point and resize as needed.
- Delete the horizontal gridlines.

The chart graphic is now complete and should be identical to that shown in the example.

The CPQ&R tool allows the state to understand the total annual cost of having Lead Teachers and Assistant Teachers meet credentialing and degree requirements. For Lead Teachers this would include a BA with early childhood degree specialization and teacher licensure. For Assistant Teachers this would include CDA or equivalent. For both Lead Teachers and Assistant Teachers, it also includes 15 hours of annual training for professional development.

 Purpose of Exercise:

The following graphic is an example of how to illustrate per child costs associated with increasing the proportion of Lead Teachers and Assistant Teachers meeting credentialing and degree benchmarks.
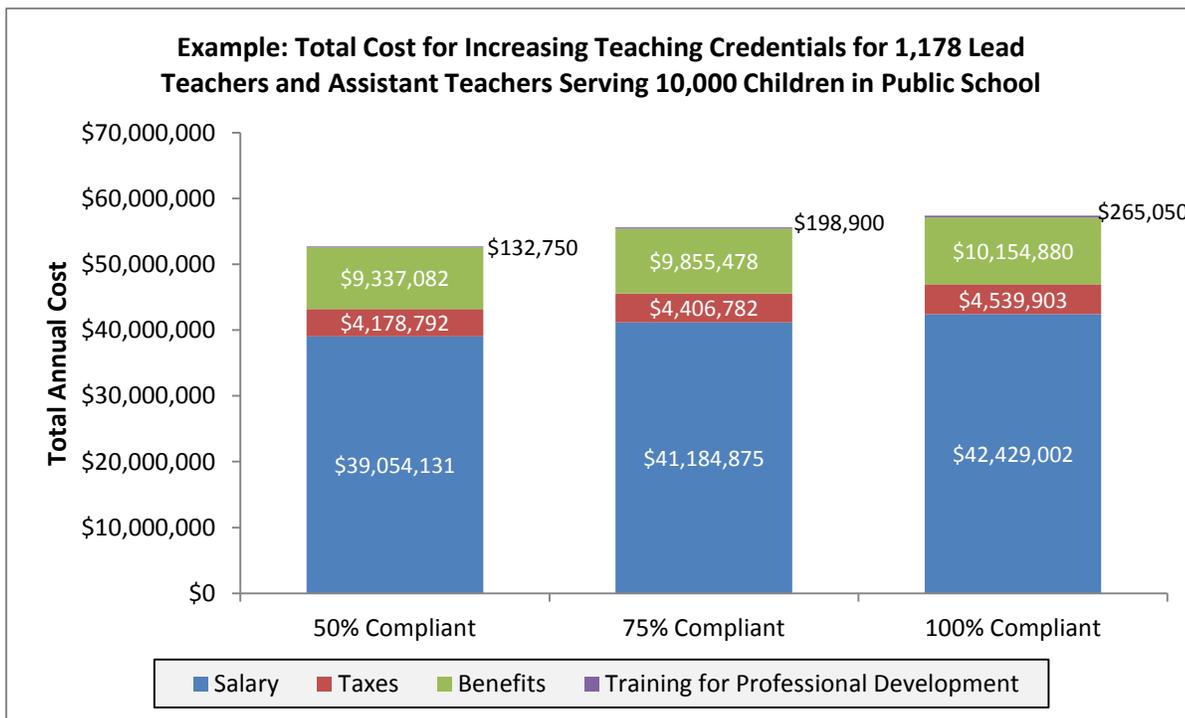
Three scenarios will be created in the CPQ&R. In the first, the percentage of Lead Teachers with a BA degree or higher, Lead Teachers with specialized training, Assistant Teachers with a CDA or higher, and Lead Teachers and Assistant Teachers participating in training for professional learning will be set at 50%. In the second and third scenarios, the aforementioned category percentages will be set at 75% and 100%, respectively.

NOTE: the values you see in your graphic will be based on the state you selected and may not match the illustrative values shown below. In addition, this graphic was created using *Microsoft Excel Office Professional Plus 2010*; based on which version of Excel you are using, you may need to modify certain steps in the graphic instructions to match the formatting as shown below.

Instructions for Example Calculation

- The default state in this example is Alabama (AL).
- In Worksheet B, Implementation Plan, enter the following for Public School:
    - In Cell I24, enter a value of 10,000 (Full Day Slots in Year 0). Note: you will see that the CPQ&R predicts 589 Lead Teachers and 589 Assistant Teachers (1,178 total) to serve these 10,000 slots.
    - In Cell F187, enter a value of 50% (the % of Lead Teachers in Year 0 with a BA Degree or Higher)
    - In Cell F226, enter a value of 50% (the % of Assistant Teachers in Year 0 with a CDA or Equivalent)
    - In Cell F254, enter a value of 50% (the % of Lead Teachers in Year 0 with Specialized Training in ECE/CD)
    - In Cell E310, enter a value of 50% (Participation Rate Among Lead Teachers in Professional Learning and Support)
    - In Cell E311, enter a value of 50% (Participation Rate Among Assistant Teachers in Professional Learning and Support)
- Add a second and third scenario by pressing the "Add a Scenario" button twice (located on the HOME Page). If you have disabled Excel macros on the CPQ&R, then you will need to add these scenarios by manually copying and pasting the first scenario. For instructions on how to manually copy and paste a scenario, please refer to the User Guide.
- Return to Worksheet B, and in the second scenario, change the following:
    - In Cell S187, change the value to 75%
    - In Cell S226, change the value to 75%
    - In Cell S254, change the value to 75%
    - In Cells R310 and R311, change the values to 75%
- In the third scenario, change the following:
    - In Cell AF187, change the value to 100%, and in Cell AF188, change the value to 0%. This additional change is required since the sum of these two cells should not exceed 100%.
    - In Cell AF226, change a value of 100%
    - In Cell AF254, change the value to 100%
    - In Cells AE310 and AE311, change the values to 100%

The resulting three scenarios reflect three increasing levels of quality. You will next create a summary data table for your graphic in the Blank Worksheet.

- In the Blank Worksheet, in Cell E9, enter "Salary".
- In Cell E10, enter "Taxes".
- In Cell E11, enter "Benefits".
- In Cell E12, enter "Training for Professional Development".
- In Cell F8, enter "50% Compliant".
- In Cell G8, enter "75% Compliant".
- In Cell H8, enter "100% Compliant".
- In Cell F9, enter the following formula:

    ='F. Provider-Level Services'!E277'F. Provider-Level Services'!E198*

- In Cell F10, enter the following formula:

  ='F. Provider-Level Services'!E278'F. Provider-Level Services'!E198*

- In Cell F11, enter the following formula:

  ='F. Provider-Level Services'!E279'F. Provider-Level Services'!E198*

- In Cell F12, enter the following formula:

  ='F. Provider-Level Services'!E285'F. Provider-Level Services'!E198*

Please note that all of the formulas above reference Column E of the CPQ&R, and are multiplying the CPQ&R calculated cost per Pre-K facility by the number of facilities required to serve 10,000 children.

- If the resulting values are not formatted in dollars, then format the cells in dollars without showing decimals (cents).
- Create similar formulas for "75% Compliant" and "100% Compliant", i.e., the second and third scenarios, respectively. Copy the formulas in the Blank Worksheet in Cells F9:F12 and to Cells S9:S12 and AF9:AF12. Next, you will move the contents of Cells S9:S12 to Cells G9:G12, and move the contents of Cells AF9:AF12 to Cells H9:H12.

The data table is now complete and can be used for creating a chart graphic.

Instructions for Graphic
- In the Blank Worksheet, highlight Cells E8:H12.
- Insert a stacked column chart.
- If you don't see columns for "50% Compliant", "75% Compliant", and "100% Compliant" across the horizontal axis, then in the chart choose Select Data and press the button to Switch Row/Column.
- Change the chart format size to 3.75" high by 6.23" wide.
- Select Format Data Series and change the Gap Width to 75%.
- In Chart Tools Layout, Insert a Chart Title Above Chart and a Primary Vertical Axis Title Rotated Title.
- Highlight the chart title and change the text to "Example: Total Cost for Increasing Teaching Credentials for 1,178 Lead Teachers and Assistant Teachers Serving 10,000 Children in Public School".
- Highlight the vertical axis title and change the text to "Total Annual Cost".
- Change the font size of the chart Title to 11 point and the axis title to 10.5 point.
- Highlight the legend and choose Format Legend; under Legend Position, choose Bottom. Under Fill, choose Solid Fill and select the color "White, Background 1, Darker 5%". Under Border Color, choose Solid Line and select the color black.
- Click on each of the series in the chart and select Add Data Label. Change the font color to white for "Salaries," "Taxes," and "Benefits." Leave the font color black for "Training for Professional Development", but move each of the data labels to the right of the series.
- Delete the horizontal gridlines.

The chart graphic is now complete and should be identical to that shown in the example.
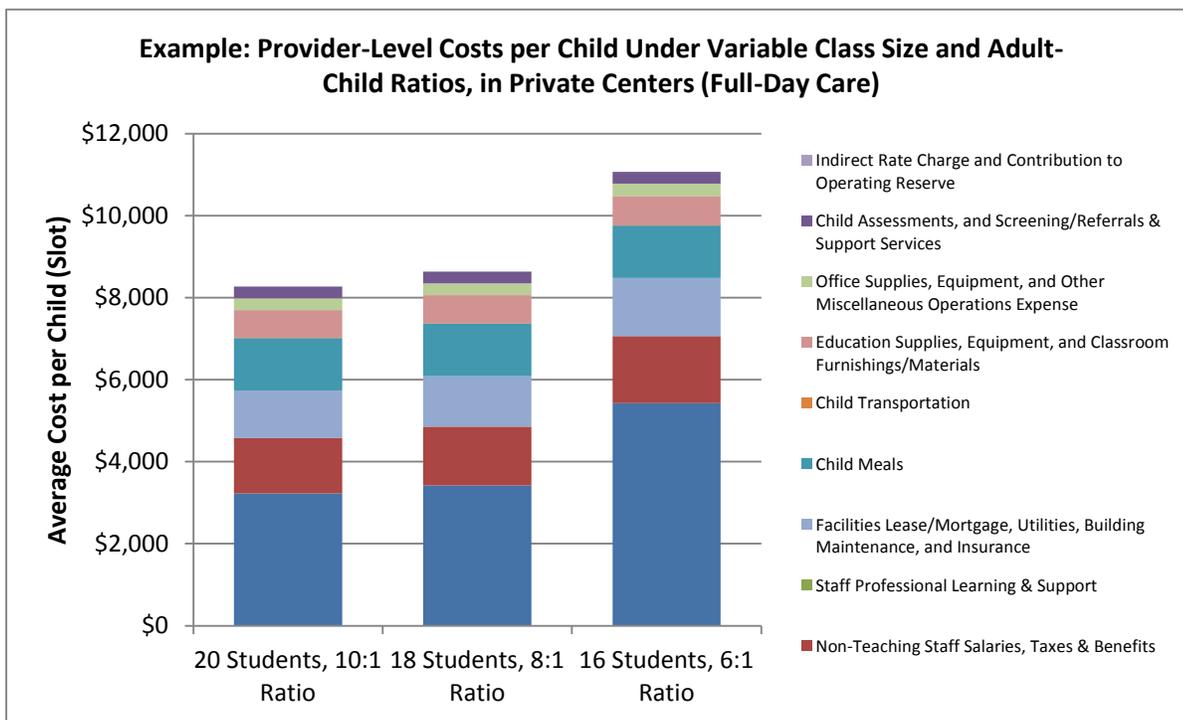
![CEELO - Center on Enhancing Early Learning Outcomes - www.ceelo.org]

Purpose of the Exercise

The following graphic is an example of how to illustrate costs associated with reducing class size and student-to-teacher ratios, both of which contribute to higher average per child costs.

Three scenarios will be created in the CPQ&R. In the first scenario, the maximum class size is 20 and the staff-child ratio is 1:10. In the second scenario, the maximum class size is 18 and the staff-child ratio is 1:8. In the third scenario, maximum class size is 16 and the staff-child ratio is 1:6.

 NOTE: the values you see in your graphic will be based on the state you selected and may not match the illustrative values shown below. In addition, this graphic was created using *Microsoft Excel Office Professional Plus 2010*; based on which version of Excel you are using, you may need to modify certain steps in the graphic instructions to match the formatting as shown below.

Example: Provider-Level Costs per Child Under Variable Class Size and Adult-Child Ratios, in Private Centers (Full-Day Care)

Instructions for Example Calculation
- The default state for this example is Alabama (AL).
- In Worksheet B, Implementation Plan, enter the following for Private Centers:
    o In Cell F24, enter a value of 10,000 slots in Cell F24 (Full Day Care in Private Centers in Year 0)

- Add a second and third scenario by pressing the "Add a Scenario" button twice (located on the HOME Page). If you have disabled Excel macros on the CPQ&R, then you will need to add these scenarios by manually copying and pasting the first scenario. For instructions on how to manually copy and paste a scenario, please refer to the User Guide.
- Return to Worksheet B and change the following:
    - In Cell R136, enter a value of 18 (the Maximum Class Size in the second scenario)
    - In Cell AE136, enter a value of 16 (the Maximum Class Size in the third scenario)
    - In Cell R152, enter a value of 8 (the Maximum Number of Children per Classroom Adult in the second scenario)
    - In Cell AE152, enter a value of 6 (the Maximum Number of Children per Classroom Adult in the third scenario)

You will next create a summary data table for your graphic, using values that are presented in Worksheet A, Summary Outputs & Index. The steps to creating the table are as follows:

- In the Blank Worksheet, in Cell F8, enter "20 Students, 10:1 Ratio".
- In Cell G8, enter "18 Students, 8:1 Ratio".
- In Cell H8, enter "16 Students, 6:1 Ratio".
- Create the row labels for your data table. To do this, copy the Range A36:A45 in Worksheet A and paste as values in the Blank Worksheet in Cells E9:E18.
- In Cell F9, enter the following formula:

    ='A. Summary Outputs & Index'!E36

- Copy the formula into Cells F10:F18. You should now be referencing Worksheet A, Cells E36:E45, in Cells F9:F18 of the Blank Worksheet.
- Create similar formulas for "18 Children, 9:1 Ratio" and "16 Children, 8:1 Ratio", i.e., the second and third scenarios, respectively. Copy the formulas in the Blank Worksheet in Cells F9:F18 and to Cells S9:S18 and AF9:AF18. Next, you will move the contents of Cells S9:S18 to Cells G9:G18, and move the contents of Cells AF9:AF18 to Cells H9:H18.

The data table is now complete and can be used for creating a chart graphic.

Instructions for Graphic
- In the Blank Worksheet, highlight Cells E8:H18.
- Insert a stacked column chart.
- If you don't see columns for "20 Students, 10:1 Ratio", "18 Students, 9:1 Ratio", and "16 Students, 8:1 Ratio" across the horizontal axis, then in the chart choose Select Data and press the button to Switch Row/Column.
- Change the chart format size to 3.75" high by 6.23" wide.
- Select Format Data Series and change the Gap Width to 75%.
- In Chart Tools Layout, Insert a Chart Title Above Chart and a Primary Vertical Axis Title Rotated Title.
- Highlight the chart title and change the text to "Example: Provider-Level Costs per Child Under Variable Class Size and Adult-Child Ratios, in Private Centers (Full-Day Care)".

- Highlight the vertical axis title and change the text to "Average Cost per Child (Slot)".
- Change the font size of the chart Title to 11 point and the axis title to 10.5 point. Change the font size of the legend to 7 point, so that all series names are shown.
- Reorder the series to show the largest categories on the bottom of each stacked bar. You will choose Select Data and using the up and down arrows on the left side of the menu to manually re-order the series. In the graphic example, Facilities Lease and Child Meals have been moved up to follow Salaries and Benefits for Teaching Staff and Non-Teaching Staff.

The chart graphic is now complete and should be identical to that shown in the example.