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## UNDERSTANDING PER-CHILD COSTS OF AN ECE CENTER

### Creating a Fast Breakeven Chart: A-Z Child Care Center

#### What you need to know about A-Z Child Care Center

- 60 Preschool children enrolled, in 4 classrooms of 15 children each
- One teacher and one teacher assistant per classroom
- Tuition Cost \$4,800 per year per student
- See Table 1 on page 4 for expense data (**For this activity treat semi-variable expenses as variable.**)

#### Make these Calculations

- Calculate the annual tuition
- Calculate the Fixed Costs
- Calculate the Variable Costs
- Determine the portion of Fixed and Variable Costs and Revenue allocated to each classroom (Hint: divide total of each [fixed costs, variable costs, revenue] by the number of classrooms). Add the Fixed and Variable Costs for a classroom together. You will need to use the following three data points on your graph (Write them down!):
  - Revenue per classroom =
  - Fixed costs per classroom =
  - Fixed Costs **PLUS** variable costs per classroom =

#### Create a Fast Breakeven Chart for **ONE** Classroom

##### *Step 1: Create a Line Graph*

- On a sheet of paper use a ruler to draw a horizontal line across the bottom of the page. Begin one inch in from the left and one inch up from the bottom of the page; draw the line to the end of the page (This is your horizontal axis). Under the line write, “Number of Children Enrolled”.

- Create a tick mark | every **two** inches along the horizontal axis; each tick mark represents 5 children (up to 15 children). Write the numbers 5, 10, and 15 under each tick mark.
- Create a vertical line from the start of the horizontal axis (left side of the page) and up the page 8 inches. Beside the line write “Dollars in Thousands”. This is the vertical axis.
- Create a tick mark | every **one** inch along the vertical axis; each tick mark represents dollars in the tens of thousands up to \$80,000. Number each tick mark 10, 20, 30...up to 80 to represent this.
- At the top of the page, title the line graph “One Classroom”.

**How did you do? Compare your line graph by opening the PDF File, “XY Line Graph no Data Points”.**

*Step 2: Plot the data points*

- Using a ruler, plot the fixed costs for one classroom (As previously calculated) as a straight line above the horizontal axis. Start at the spot along the vertical axis that represents the amount of fixed dollars per classroom and extend the line, across the page to the to the end of the graph (right margin). Label this line “Total Fixed Costs”.

**How did you do? Compare your line graph by opening the PDF File, “XY Line Graph with Fixed Costs”.**

- Plot the fixed plus variable costs for this classroom (As previously calculated). Place a dot • on your graph above the total number of children enrolled in the classroom; the dot should be horizontally aligned with the vertical axis at the amount that represents fixed plus variable costs for the classroom (Remember you added fixed and variable costs together earlier – use that dollar figure).
- Draw a straight line from the left margin at the point where the “Total Fixed Costs” line meets the vertical axis, and using a ruler to guide you, draw the line through the dot you made in the last step. Continue the line to the edge of the page. Label this line “Total Fixed Costs Plus Variable Costs”.

**How did you do? Compare your line graph by opening the PDF File, “XY Line Graph with Fixed Costs PLUS Variable Costs”.**

- Plot the revenue for this classroom (As previously calculated). Place a dot • representing this number of dollars, horizontally aligned above the number of children enrolled.
- Draw a straight line through the dot you placed in the last step starting where the horizontal and vertical axes meet (At zero). Continue the line all the way through the dot to the edge of the page. Label this line “Total Revenue”.

**How did you do? Compare your line graph by opening the PDF File, “XY Line Graph with Revenue - ALL Data Points”.**

- Draw a circle around the breakeven point, where the “Total Revenue” line crosses the Total Fixed and Variable Costs” line.

**Compare your completed graph by opening the PDF File, “XY Line Graph with Breakeven Point”.**

*Step 3: Activity Questions*

After completing your graph, reflect on these questions:

- What happens to the “Total Fixed and Variable Costs” line if the variable costs per classroom are lower?
- What happens to the “Total Fixed and Variable Costs” line if the variable costs per classroom are higher?
- What is happening if the “Total Revenue” line does not intersect the “Total Fixed and Variable Costs” line?

This activity is based on information found in *The Bottom Line for Children’s Programs: What you need to know to manage the money* by Gwen G. Morgan and Bess R. Emanuel. You can dig deeper into breakeven analysis in this book, exploring the differences between semi-variable and variable expenses on the breakeven point.

**Table 1: A-Z Child Care Center Expenses**

<u>Personnel</u>		<u>Type</u>
Director	\$ 27,000	Fixed
Admin. Assistant (Part-time)	\$ 10,000	Fixed
Teacher 1	\$ 19,000	Semi-variable
Assistant 1	\$ 14,000	Semi-variable
Teacher 2	\$ 19,000	Semi-variable
Assistant 2	\$ 14,000	Semi-variable
Teacher 2	\$ 19,000	Semi-variable
Assistant 3	\$ 14,000	Semi-variable
Teacher 4	\$ 19,000	Semi-variable
Assistant 4	\$ 14,000	Semi-variable
<i>Total Salaries</i>	\$ 169,000	
Fringe Benefits @ 14%	\$ 23,660	Semi-variable
<b>Total Personnel</b>	<b>\$ 192,660</b>	
<b>Other Expenses</b>		
Rent	\$ 2,000	Fixed
Telephone	\$ 3,200	Fixed
Utilities	\$ 12,000	Fixed
Food	\$ 2,700	Variable
Cleaning Services	\$ 350	Fixed
Printing/Copying	\$ 400	Fixed
Advertising	\$ 700	Fixed
Insurance	\$ 1,000	Fixed
Licenses/Fees	\$ 300	Fixed
Classroom Supplies/Equipment	\$ 16,000	Variable
Office Supplies	\$ 500	Fixed
Professional Development	\$ 500	Fixed
<b>Total Other Expenses</b>	<b>39650</b>	
<b>Total Expenses</b>	<b>\$ 232,310</b>	

Source: Kim Votta Consulting - [www.kvottaconsulting.com](http://www.kvottaconsulting.com)