

ROI PROGRAM EVALUATIONS

Dr. Dave Maddock

RETURN ON INVESTMENT

It's very difficult to determine whether a program is successful in education, especially when trying to separate its effects from the teacher effects. One way of doing this is to calculate the return the investment provides

ROI VS EFFECT SIZE

EFFECT SIZE

- A measure of how well one group of students did versus another
 - E.g. Tier 2 students vs Tier 1 students
- Measures learning in terms of outcome scores
- Shows how many standard deviations a student grows on average from a program

RETURN ON INVESTMENT

- A measure of how much money is saved or spent
- Measures learning in terms of costs avoided in remediation
- Shows how effective we are with the dollars that we are investing in our children

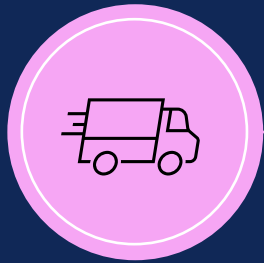


**WHAT IS A GOOD ROI
TO YOU?**



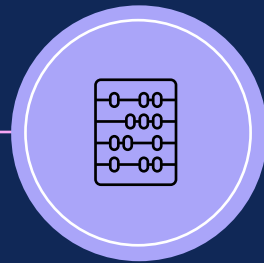
- Someone asking about ROI, probably

THE ROI PROCESS



Step 1 ●

Load exact costs



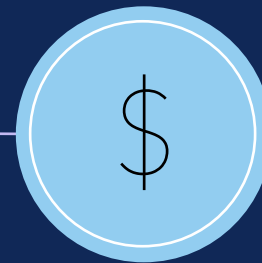
Step 2 ●

Convert to dollars and calculate benefits



Step 3 ●

Consider non-tangible benefits



Step 4 ●

Calculate ROI



Step 5 ●

Share with stakeholders

COST LOADING

- Determine the sum of all costs:
 - First, and most obviously, include the full cost of the program
 - Edgenuity cost \$268,600 for the program and \$61,100 for training teachers
 - Then, consider the factors of cost with which *the program could not exist*
 - For example, Edgenuity has to be provided on the internet. Internet was \$336 each month at each school, so for the program \$27,216 was added to the cost
 - Edgenuity requires teachers! Since it's in a lab, the program could not be provided without a teacher. At \$35 average per teacher, and 19.79% for benefits, for 34 teachers, Edgenuity had \$2,060,440 in unavoidable teacher costs
- Rule of ROI: Maximize cost calculation, minimize benefit calculation. This will create a much stronger case if the ROI turns out positive

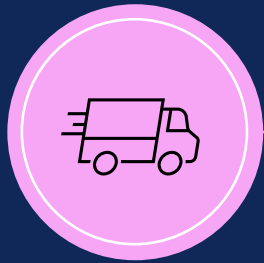
$$\$268,600 + \$61,100 + \$27,216 + \$2,060,440 = \quad ?$$

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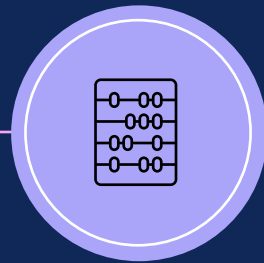
$$\$268,600 + \$61,100 + \$27,216 + \$2,060,440 = \$2,417,356$$

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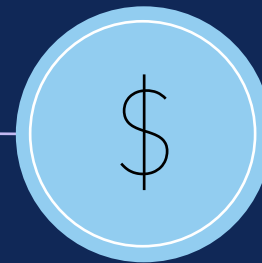
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CALCULATE BENEFITS AS DOLLARS

- This is the trickiest part because, unfortunately, student thinking doesn't easily convert to dollars
- What are some ways you might determine the value of student thinking?

CALCULATE BENEFITS AS DOLLARS

- The most sensible measure we have for student thinking is

Learning

Time

- We constantly think about learning in terms of time. 182 days of school. 7.5 hours per day. 49 minutes per class period. 90-minute reading block.
- The state pays schools dollars for time. In the FEFP model, in 2022, schools were given \$8,629 per student for 182 days of education
 - This works out to \$6.77 per class period at the high school level
 - It logically follows that a student who is 100 hours behind would take \$677 of remediation (~100 class periods) to “catch up” with the rest of the class
 - If a student could be caught up in 50 hours of teacher time, that would be \$338 in costs avoided
 - A class for a year effective earns \$1009 per student

CALCULATE BENEFITS AS DOLLARS

- Now that we know the value of being behind and catching up, we have to determine
 - How far behind each student is
 - How much progress each student gained
 - Then isolate the effects to the program
- Any *unified scale* will tell you how far behind a student is in years (NWEA, STAR, Lexile), just look at the expected annual gain for the 50%ile and determine the distance for the student
- From there, expected growth for one year can be determined, and actual growth can also be calculated
 - For example, a senior with a RIT of 218 is five years behind, and if the gain two RIT, that's ~1.5 years growth

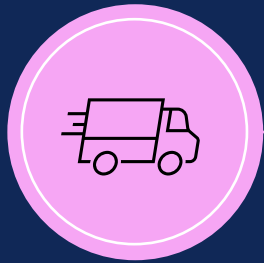
2020 Reading Student Achievement Norms						
	Fall		Winter		Spring	
Grade	Mean	SD	Mean	SD	Mean	SD
K	136.65	12.22	146.28	11.78	153.09	12.06
1	155.93	12.66	165.85	13.21	171.40	14.19
2	172.35	15.19	181.20	15.05	185.57	15.49
3	186.62	16.65	193.90	16.14	197.12	16.27
4	196.67	16.78	202.50	16.25	204.83	16.31
5	204.48	16.38	209.12	15.88	210.98	15.97
6	210.17	16.46	213.81	15.98	215.36	16.03
7	214.20	16.51	217.09	16.21	218.36	16.38
8	218.01	17.04	220.52	16.69	221.66	16.87
9	218.90	19.02	220.52	18.73	221.40	19.03
10	221.47	17.92	222.91	17.81	223.51	18.20
11	223.53	17.73	224.64	17.80	224.71	18.50
12	223.80	19.32	223.85	21.21	224.33	23.08

CALCULATE BENEFITS AS DOLLARS

- The 501 students who used Edugenuity grew a total of 167 years.
 - This is \$510,787 in benefit
- Additionally, we *avoided* the cost of providing an entire remedial course for the student to recover their credit (student *can* learn and earn credits at the same time; dual benefits)
 - 2538 half credits were earned on Edgenuity, representing a cost-avoidance benefit (\$504 per half-class) of \$1,276,111

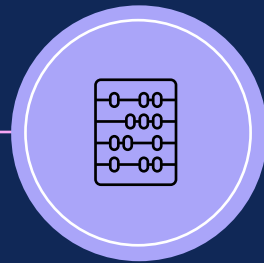
$$\$510,787 + \$1,276,111 = \$1,786,898$$

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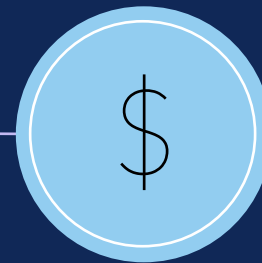
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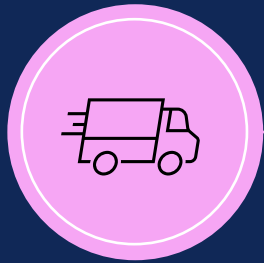
Step 5 ●

Share with stakeholders

CONSIDER INTANGIBLES

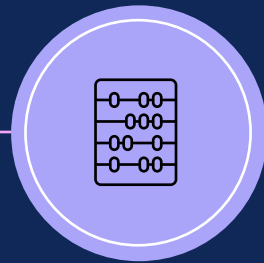
Just because we can't calculate it out doesn't mean it
isn't important to our teachers

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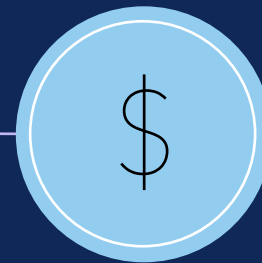
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CALCULATE ROI

- The formula for ROI is benefits-minus-costs over costs

Benefits - Costs

Costs

\$1,786,898 - \$2,417,356

= -0.26 x 100 = -26% ROI

\$2,417,356



**IS AN ROI OF -26%
GOOD?**



- Someone asking about an ROI of -26%,
probably

REVIEW THE BENEFIT

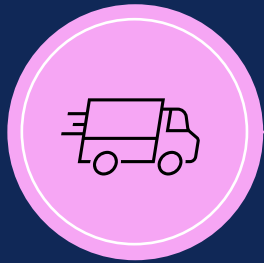
- We found that 501 students grew on NWEA after using Edgenuity. We determined the exact cost of this benefit. But what about the kids who didn't take NWEA?
 - In this case, if we have statistical significance in our score model, we can generalize (extrapolate) the growth to all students
 - If every student grew at this rate, the benefit would be \$2,417,357

$$\$2,417,357 + \$1,276,111 = \$3,693,468$$

$$\$3,693,468 - \$2,417,356$$

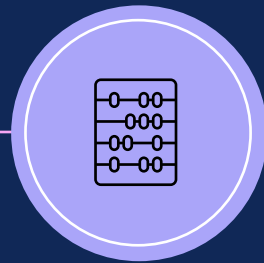
$$\frac{\$3,693,468 - \$2,417,356}{\$2,417,356} = 0.53 \times 100 = 53\% \text{ ROI}$$

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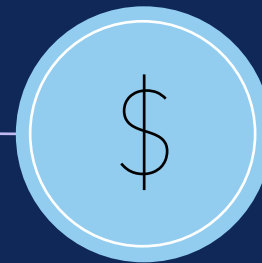
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OTHER OSCEOLA ROI FINDINGS

- Beable: -27% ROI
- Edgenuity: 53% ROI
- Achieve3000: 45% ROI
- Lexia: 65% ROI
- Discover Ed: 104% ROI
- Teacher Mentoring Program: -112%