A GUIDE TO USING DATA

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In Illinois, many families near or below the poverty line don't enroll their children in early learning programs.

Often, they face many obstacles such as language and/or cultural barriers, financial challenges, transportation issues, work schedules or simply have a misunderstanding of the early learning enrollment process or unaware of the benefits of early learning for their children.

This guide will help you understand the fundamentals of **collecting and using data** as the foundation for experimentation and decision-making.

Using data can help you remove the uncertainty from decision-making, basing it on objective, factual information rather than "gut feeling," whether you are engaging families directly or working with your community partners to reach families of young children.

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The importance of using data

The way decisions have traditionally been made was to try whatever came to mind and see what worked.

Fondly known as "The Spaghetti Method." Throw everything at the problem and see what sticks.

The problems with this method are that it lacks a deep understanding of the problem/issue we're trying to solve.

The importance of using data

Without a deeper consideration of the problem—from talking to the stakeholders, reviewing data, analyzing potential solutions—there often is a disconnect between the proposed solution and the ACTUAL solution.

You get the outcomes you design for. Create a better design and you get a better solution.
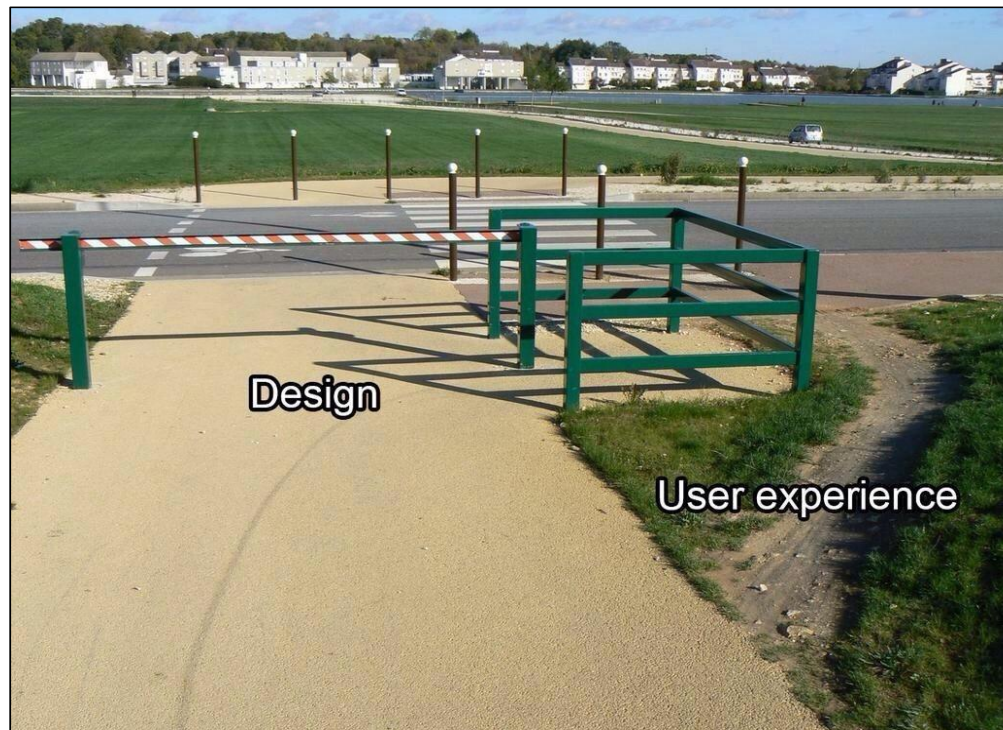
Data helps us learn.

A quick reminder…

The rooster might believe it causes the sun to rise…

"What you see is all there is…"

"Decisions without data are just feelings"

There are two primary types of data:

There is qualitative research and data, and there is quantitative research and data.

Qualitative data is descriptive information (it describes something), an anecdote or story. Also referred to as soft or descriptive data. Qualitative data categorizes and measures "types" of things or people.

Quantitative data is numerical information (numbers), statistics, measurable, comparable over time. Also referred to as hard or measurable data. Quantitative data measures values or counts and is expressed using numbers.

Both kinds of data enhance our work, and both are important. Used together they help us understand what is going on now, what we want to change and the results of our work.

Qualitative Data

Qualitative data helps us describe things, like what our target audience—in our case Priority Populations—"looks like" and their experiences.

Sources that describe behavior and experiences include:

- Anecdotes and stories.

- Answers to open-ended responses on surveys.

- Participant observations.

- Focus groups.

- Interviews.

Quantitative Data

We look at data…and facts.

Quantitative data helps us measure our results over time. It is expressed in numbers or percentages derived from measurements taken at specific points in time.

The data gathered at any point-in-time can be easily compared to the same data gathered at any other point in time.

The mathematical difference between data points—comparing either percentages or numbers—is the change that has been experienced between the two time periods.

Examples of data we frequently use to measure accomplishments within communities include

- the number of referrals received
- number of children enrolled in early learning programs
- number of children screened

On a larger scale, we may measure the percent of children in our community who come from poverty or deep poverty (see the next slide).

Our work strives to change our community through on-going experiments (Check out Action Learning Toolkit) that allow us to measure what is being achieved.

Where to find QUANTITATIVE data.

There are many sources of quantitative data available at little or no cost. They can be found on the Internet, at the library, from city and state governments.

- City and neighborhood maps

- Cultural information

- Enrollment data

- Surveys

- Illinois Early Childhood Asset Map

  - Education info

  - Available programs and capacity data

- U.S. Census

  - Income data

  - Education info

- Chapin Hall

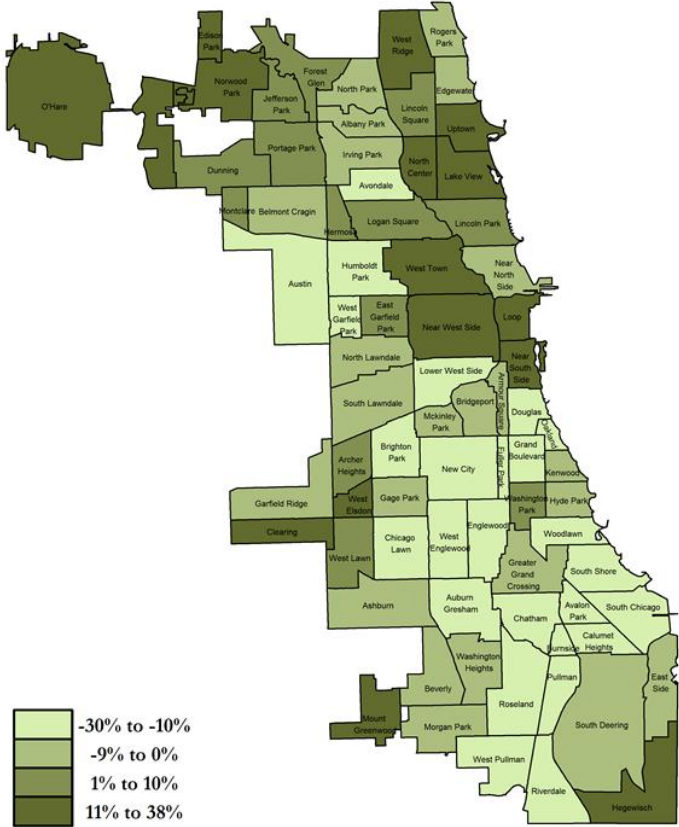 - Available programs and capacity data

Where can you get data about the priority children and families in your community?

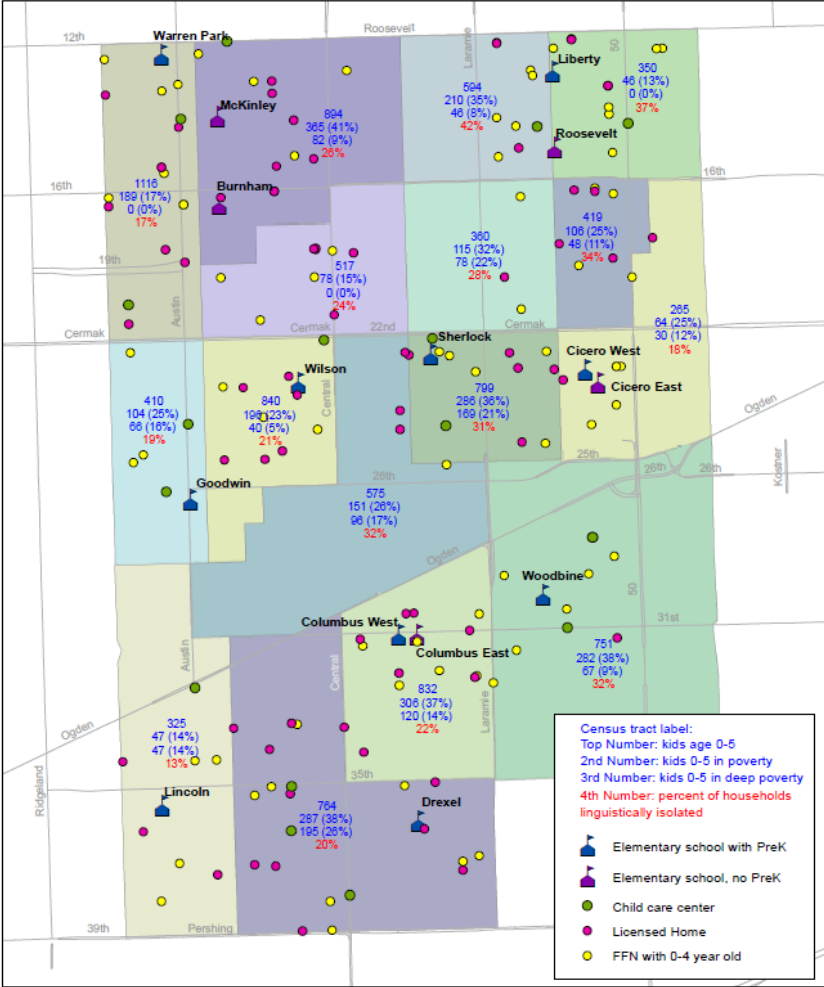| Priority population	Source
Homeless	IL School Board of Educations - ISBE
Teen parents	IAFC Internal Data
Child welfare system (foster care /intact family)	IL Dept of children and family serivces - DCFS
Developmental delays or disabilities	IL Dept Public Health - IDPH
Poverty and deep poverty	US Census Chapin Hall
Linguistically isolated, new immigrant, refugee	IECAM US Census
Other	

Maps Help Tell a Story

Maps can be a helpful source of information.

These maps help tell the story of where priority populations live and where they go to receive their services.

Percent Change in the Population of Children Ages 0 to 5, 2010 to 2014

-30% to -10%
-9% to 0%
1% to 10%
11% to 38%

Source: U.S. Census 2010 and Chapin Hall estimates

Census tract label:
Top Number: kids age 0-5
2nd Number: kids 0-5 in poverty
3rd Number: kids 0-5 in deep poverty
4th Number: percent of households linguistically isolated

Elementary school with PreK
Elementary school, no PreK
Child care center
Licensed Home
FFN with 0-4 year old

Illinois Action for Children, March 2014. Population and poverty data from ACS 2008-2012. Child care data from 2013. Schools from District 99 website March 2014.

Solutions are about simplicity.

A lot of people think big problems are solved with big complex solutions.

The opposite is true.

Big problems are solved by a series of small solutions.

Data helps to inform decisions around our small solutions and strategies.

Using data, we can go deeper into a big problem and find out what is really going on.

The Scientific Method in Action

We can take this data-informed approach to problem solving and break it down into four major steps:

1 Understand current conditions by asking questions and looking at numbers.
What is currently going on in the community?

2 Reflect on your data with your community partners to plan logically. Look at root causes. Go slow to go far.

3 Implement your plan using data. Make adjustments early and with your key stakeholders.

4 Move the plan forward and continue to collect data to improve outcomes. What obstacles arose during implementation? What can we do now?

The Scientific Method

Understand current conditions

Plan logically

Implement using data

Adjust plan based on observations

STEP
1
Make an observation.

STEP
2
Form a hypothesis.

$E=mc^2$

STEP
3
Perform the experiment.

STEP
4
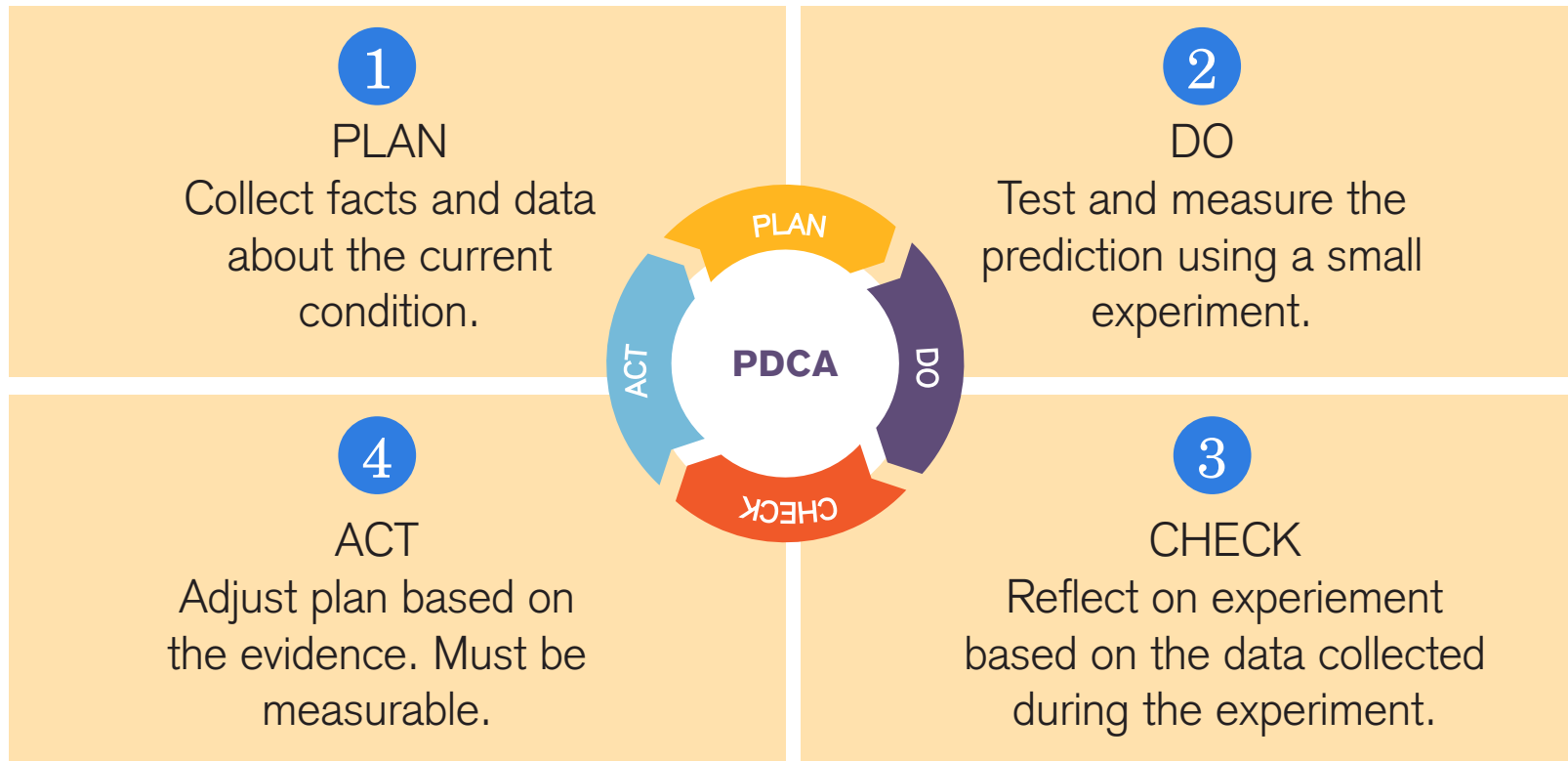Analyze the data.

STEP
5
Report your findings.

STEP
6
Invite others to reproduce the results.

The Action Learning Cycle

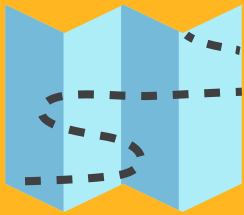The scientific process of acquiring knowledge and using knowledge

1 PLAN
Collect facts and data about the current condition.

2 DO
Test and measure the prediction using a small experiment.

4 ACT
Adjust plan based on the evidence. Must be measurable.

3 CHECK
Reflect on experiement based on the data collected during the experiment.

PLAN

DO

CHECK

ACT

PDCA

UNIVERSAL PROBLEM SOLVING

Planning Phase

1

Define your vision.

Planning Phase

2

Grasp the current condition.

YOU ARE HERE

Planning Phase

3

Establish the next target condition.

Doing Phase

4

Experiment toward the target condition.

Repeat

5

What did you learn?

Adapt the experiment.

Do it again.

STEP **1**

Define your vision

How to define your vision:

Ask others in your community for their input and invite diverse perspectives to help you decide the best vision for your community.

- Parents
- Providers
- Community partners
- Direct service staff

You are the expert. Parents are the experts. Providers and schools are the experts. People from the community are the experts. Ensure their voices are a part of this.

Your vision should:

- Engage diverse perspectives to define the challenge you will address

- Connecting this vision to the state's vision that more children begin kindergarten safe, healthy, eager to succeed and ready to learn is an great first step.

- Consider phrases such as:
  - Improved child development and school readiness
  - Improving outcomes for low birth weight babies
  - More children from priority populations enrolled in high quality early learning programs.

- Be attainable in the long-term future.

- Be clear to all partners involved in your work.

STEP **2**

Describe the
Current Condition

Gather data to define the existing situation and to help you form your experimental process.

Data helps us learn:

- Data provides an unbiased view of the current situation.

- Decisions without data are just feelings.

- We don't know what we don't know until we get outside and try.

- When something doesn't work, think of it as a data point. A piece of information we didn't have before.

STEP **2**

Look at the current condition

Questions to ask:

Gather data to define the existing situation and to help you form your experimental process.

Who are the highest need families in our community?
- How many?
- Where do they live?
- Where do they get care?

Are they being served in early childhood programs?
- Why or why not?

Who serves children and families from priority populations?
- What is our relationship to these organizations?

Check out our Creating an Effective Pipeline guide for more information about building partnerships

STEP **3**

Establish the next target condition.

Work with partners to refine the next target towards your vision.

Write these down.

Ask questions if something isn't clear.

What do you want to achieve first: choose a small goal you believe is likely achievable.

- Rather than focusing on the desired end result *(EX: Community Health Center refers 10 families a month)*, focus on an incremental goal that will get things started *(EX: Community Health Center refers 3 families a month).*

Once you have completed your experiment, compare the results to the Target Condition. (See See the Appendix for a fun way to sort and select your experiment. to play with a fun way to sort and select your experiments.)

- What did you learn?

- Adapt to what you learned

- Define a new Target Condition

- Complete a new experiment to help move another step toward your ultimate vision.

STEP **4**

Experimenting: Learning to improve

We measure our outcomes for a few reasons.

To keep us focused on our big goals.

To help us be data-informed; this information helps us adapt and improve.

To keep each other aligned, accountable and in a process of small experimental learning cycles.

Key points to notice with the data:

- You don't have to reach the big challenge right away.

- The path is not predictable or straight.

- You have to experiment to get to your next goal.

Sharing data within and across systems is at the heart of collective impact. Creating a shared agenda, shared measures and shared goals help us to align our work and move toward real systems change.

STEP **4**

Experiment
toward the target
condition.
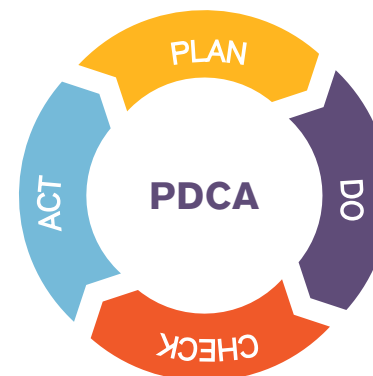
Plan, Do, Check, Act:

PDCA is a way to think about the experimentation and ongoing learning cycle. It is what you are really doing – over and over and over again. Achieving small successes through an iterative process that will lead to BIG RESULTS in the end. This is Action Learning:

Plan: Define what you expect to do and what you expect to happen. This is your hypothesis or prediction.

Do: Conduct an experiment to test your hypothesis.

Check: Compare the actual outcome with your expected outcome. What worked? What didn't work?

Act: What's next? Standardize and stabilize what works or begin the PDCA cycle again.

Simple questions to help you check-in on your strategies

	Basic Question	Clarifying Questions
1	What is our target condition?	• Is this measurable? • What do we expect to happen? • What is the pattern we are trying to achieve?
2	What is actually happening now? • What was our last step? • What did we expect? • What actually happened? • What did we learn?	• Do we have data? Let's look at it. • Exactly what did we do? • Do we have data? What did we see? • Why is this important? How will this help?
3	Which obstacles are preventing you from reaching the target for change?	• Were there any new obstacles we identified in our last experiment? • Have we overcome any obstacles?
4	What is your next step?	• Exactly what data will we collect? • Who and how will we collect it? Let's look at it.
5	When can we go and see what we've learned from taking that step?	• What date and time will we meet again? • When will we have the data?

Keys to success using experiments to learn.

Think about BIG things while you're doing small things, so all of the small things are leading you to a big solution.

Experimenting is not a process of good or bad.

Experimenting is not about compliance, or right or wrong.

Using data to define our work is a way of thinking about problems/issues/challenges and acting in ways that will help resolve them.

- It is about behavior routines.

- Creating habits that work.

- Providing a strategy for thinking and acting that harnesses human capability to improve and to solve problems in the most effective way possible.

Problems and discoveries should be expected and these create opportunities to more deeply understand and further develop work processes.

Sharing data with each other

We are working together as a community to identify, recruit and enroll very high need children—this is a win for everybody.

If community systems are working well, **schools and center-based programs** will share data with each other because it is a win-win!

Appendix

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Make it Crispy!

Work with your partners to be sure you all see the same vision and target conditions.

Here's a tip: ask, "who, will do what, how often, using what tool?"

This is a great way to reduce conflict and get your partners on the same page.

This helps your team see the same vision.

who **+** will do what **+** how often **+** using what tool **+** for how long **=** crispy
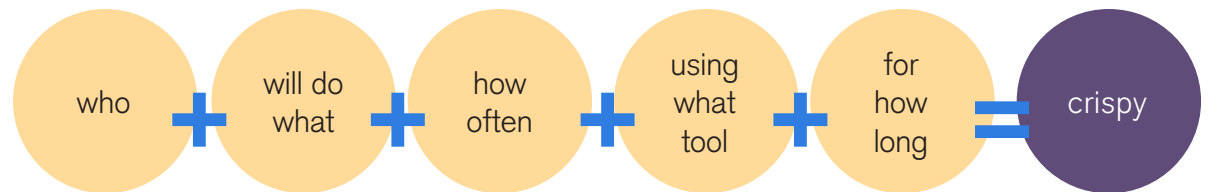
Vision: Partner organizations refer more families to us during each visit, using a common referral form every time.

Obstacle 1

Our partners don't understand what we do and why early learning is important.

Obstacle 2

Our partners have heavy workloads which makes it difficult to find time to talk to clients about early childhood education.

Obstacle 3

Our partners don't know what to say to families about early childhood education.

Obstacle 4

Our partners forget to ask families if their children are enrolled.

Obstacle 5

We don't have a method for tracking referrals so we know which partners are referring and how many.

First, prioritize what to focus on

Gather data with the community:

- Get diverse perspectives.

- Look at the numbers.

- Ask "Why" 5 times.

- Brainstorm with a "magic wand".

Then ask, what is feasible to tackle NOW?

Do we have a partner willing to work with us on a small experiment to address one of the obstacles?

Look at each obstacle and ask more questions.
"Tell me more about that…"

Obstacle 1

Our partners don't understand what we do and why early learning is important.

Why 1

They are not early childhood education providers.

Why 2

They have not been educated about our work and its importance.

Why 3

They don't have time to research early childhood education on their own.

Why 4

They don't understand that both or our organizations serve many of the same families.

Why 5

We have not reached out to them to explain our services and why they matter.

Then turn the "Whys" into experimental solutions you can try.

Why 1

They are not early childhood education providers.

EXPERIMENT: Host a meeting to share the what, whys about early childhood education.

Why 2

They have not been educated about our work and its importance.

EXPERIMENT: Share data with them about the community and the impact our organization has had.

Why 3

They don't have time to research early childhood education on their own.

EXPERIMENT: Host a meeting to share the what, whys about early childhood education.

Why 4

They don't understand that both or our organizations serve many of the same families.
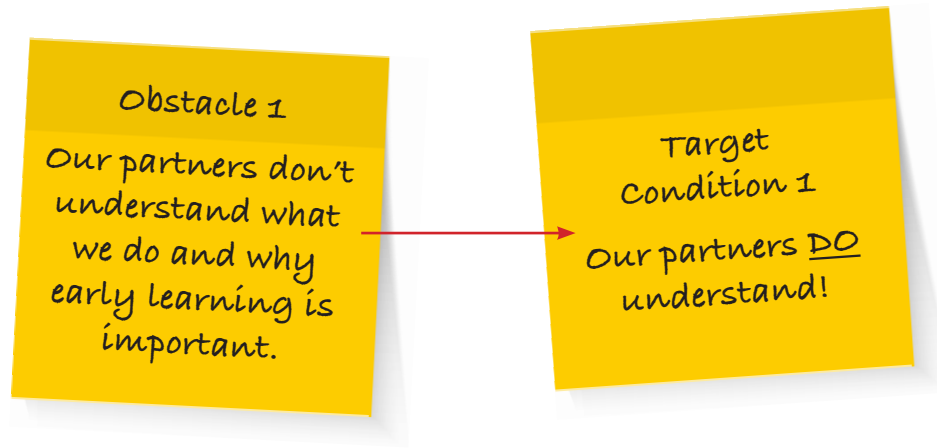
EXPERIMENT: Schedule a meeting with them to share the benefits to the community of working together.

Why 5

We have not reached out to them to explain our services and why they matter.

EXPERIMENT: Select a single person in your organization to conduct this outreach and engage partners.

Make the negative a positive to create new Target Conditions.

Obstacle 1

Our partners don't understand what we do and why early learning is important.

→

Target Condition 1

Our partners DO understand!

Sort the ideas: What would be most effective? Which can you do **NOW**?

Obstacle 1

Our partners don't understand what we do and why early learning is important.

Why 1

They are not early childhood education providers.

EXPERIMENT: Host a meeting to share the what, whys about early childhood education.

Why 2

They have not been educated about our work and its importance.

EXPERIMENT: Share data with them about the community and the impact our organization has had.

Why 3

They don't have time to research early childhood education on their own.

EXPERIMENT: Host a meeting to share the what, whys about early childhood education.

Why 4

They don't understand that both or our organizations serve many of the same families.

EXPERIMENT: Schedule a meeting with them to share the benefits to the community of working together.

Why 5

We have not reached out to them to explain our services and why they matter.

EXPERIMENT: Select a single person in your organization to conduct this outreach and engage partners.

Note that there is overlap with some of the experimental solutions.

Obstacle 1

Our partners don't understand what we do and why early learning is important.

Why 1

They are not early childhood education providers.

EXPERIMENT: Host a meeting to share the what, whys about early childhood education.

Why 2

They have not been educated about our work and its importance.

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They don't have time to research early childhood education on their own.

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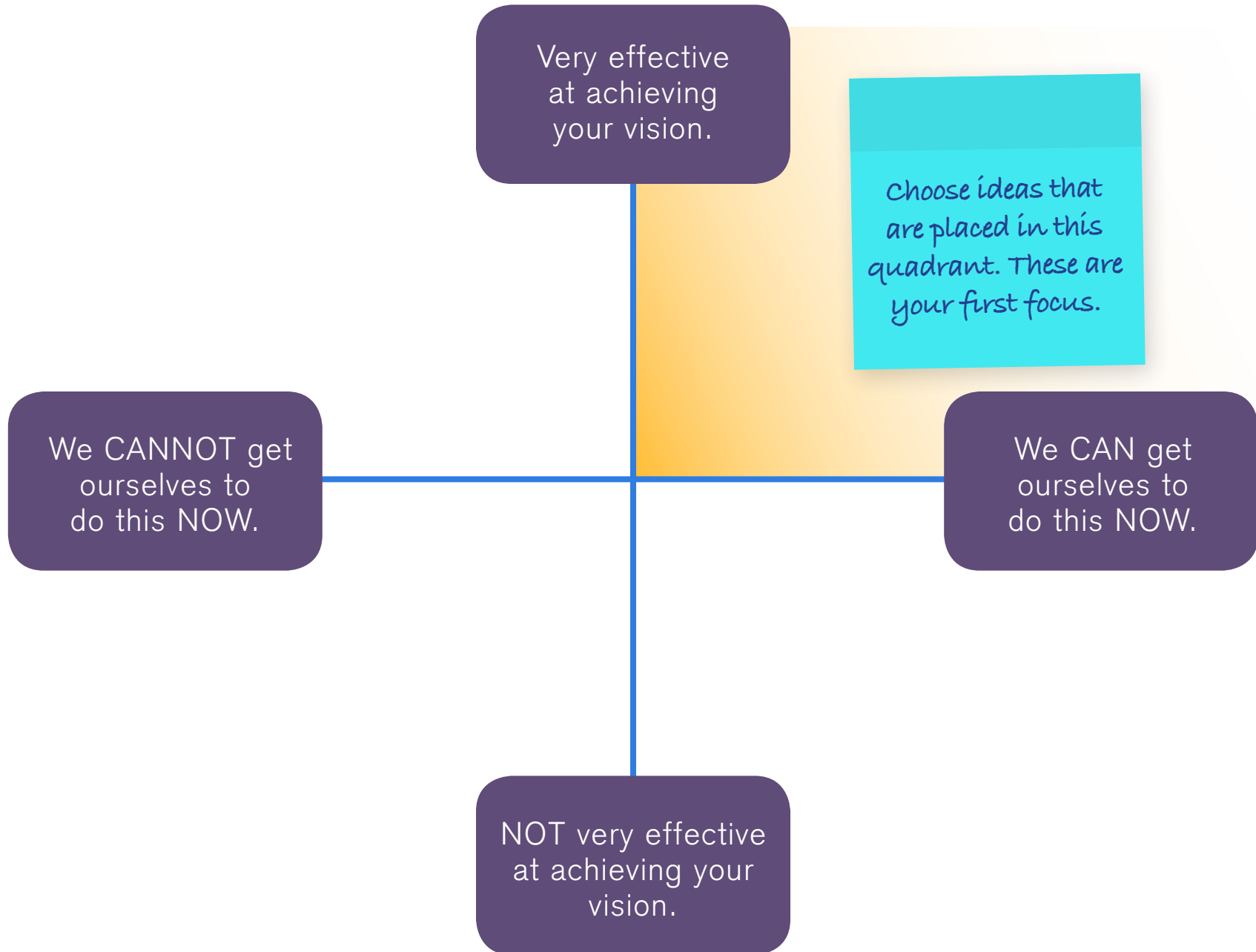
From the
exercise so far...

Obstacle 1: Our partners don't understand what we do and why early learning is important.

For Obstacle 1 you have identified three potential experimental activities:

1 Host a meeting to share the what, whys about early childhood education, your organization.

2 Share data with them about the community and the impact our organization has had.

3 Select a single person in your organization to connect with and engage partners.

Focus Mapping

Very effective at achieving your vision.

Choose ideas that are placed in this quadrant. These are your first focus.

We CANNOT get ourselves to do this NOW.

We CAN get ourselves to do this NOW.

NOT very effective at achieving your vision.

Create a Focus
Map to help you
prioritize which
activity you can
do NOW.

Using your post-it notes, consider each possible solution and use the focus map to rank them.

First, for each idea ask if it would be <u>very effective</u> or <u>not very effective</u> at increasing referrals from this partner.

• **Move ideas up and down (would *really* work, up top)**

Second, for each idea ask whether <u>yes, we can get the partner to participate or no, we can't get the partner to participate</u>.

• **Move ideas left to right (we *can* do to the right).**

Third, look at the ideas together.

• **Are they clear? Do they make sense where placed?**

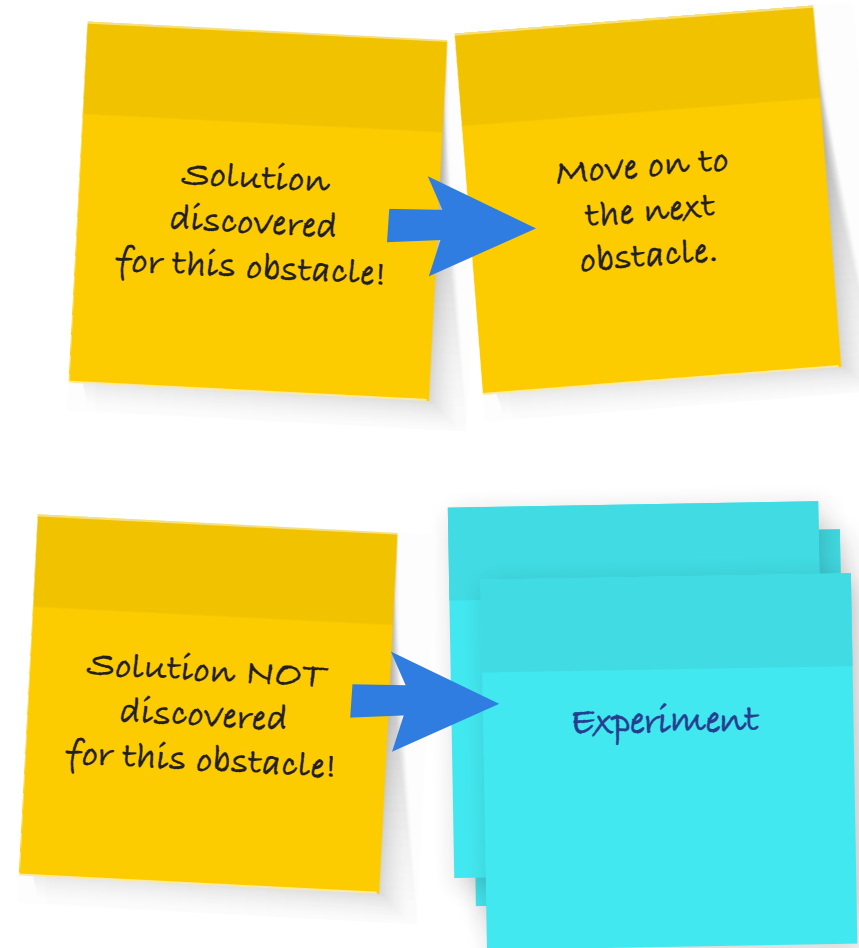Select from the ideas **in the top right quadrant.**

Now DO the experiment.

Did you accomplish the target condition?

- If yes, then continue to implement the solution/activity you tested.

- Use the five questions to reflect.

- If not, try a different experiment.

- No failure only learning!

- When something doesn't work, think of it as a data point… A piece of information you didn't have before.

More obstacles will come up on the road to victory.

- Track new obstacles that arise, ask more questions and create experiments to address them.

- Reflect early and often using the five questions.

- PLAN, DO, CHECK, ACT — over and over until the obstacle has been eliminated.

Solution discovered for this obstacle! → Move on to the next obstacle.

Solution NOT discovered for this obstacle! → Experiment

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