FSG REIMAGINING SOCIAL CHANGE

Approach to developing 'Right' markers

PROGRAM TO IMPROVE PRIVATE EARLY EDUCATION (PIPE)

Glossary of terms (1/2)

- **Affordable Private Schools (APSs):** Schools that charge fees up to INR 28,500 per annum, and typically provide education up to grade 10

- **Early Childhood Education (ECE):** The formal education a child receives between the ages two through five. Typically early childhood is considered to range from birth to age six, this narrower definition has been chosen to reflect the research's interest in the years when formal pre-primary education is typically provided in India

- **English-medium education:** Education where the language of instruction is English

- **Markers:** Indicators or signs that parents use to assess whether their child is learning

  - **Markers to test recall:** Questions used by parents to assess their children for content memorized using rote methods (e.g., asking the child to recite numbers)

  - **Markers to test concepts:** Questions used by parents to assess their children's conceptual understanding of any topic (e.g., asking the child to count items)

- **Preschooling/ Pre-primary classes:** All formal educational classes prior to first grade

- **Program to Improve Private Early Education (PIPE):** Program that aims to replace rote with activity based learning in all 300,000 APSs in India

- **Activity based learning (ABL):** Learning through structured play-based activities, games, and experiences that provide developmental benefits across the cognitive, physical, and socio-emotional domains

- **ABL solution provider:** Private companies providing ABL solutions including curriculum materials, teacher training and continuous support for proper implementation of the program

- **Partner:** Private companies that have partnered with PIPE and provide high-quality ABL solutions to APSs

- **Partner solutions:** Play/ activity based programs including curriculum materials and continuous support for proper implementation of the program, provided by PIPE partners

Glossary of terms (2/2)

- **PIPE teachers:** Teachers teaching in APSs served by PIPE partners

- **STARS:** Scoring Tool for Assessing Readiness at School to assess the impact of ABL in APSs

- **PIPE APSs:** APSs using PIPE partner solutions

- **Control APSs:** APSs using no external interventions

- **Full curriculum PIPE APSs:** PIPE APSs using full school curriculum

- **Single subject PIPE APSs:** PIPE APSs using single subject curriculum

- **1 year PIPE APSs:** APSs with partner solutions for 1 year

- **2 year PIPE APSs:** APSs with partner solutions for 2 years

- **3 year PIPE APSs:** APSs with partner solutions for 3 year

- **4 year PIPE APSs:** APSs with partner solutions for 4 years
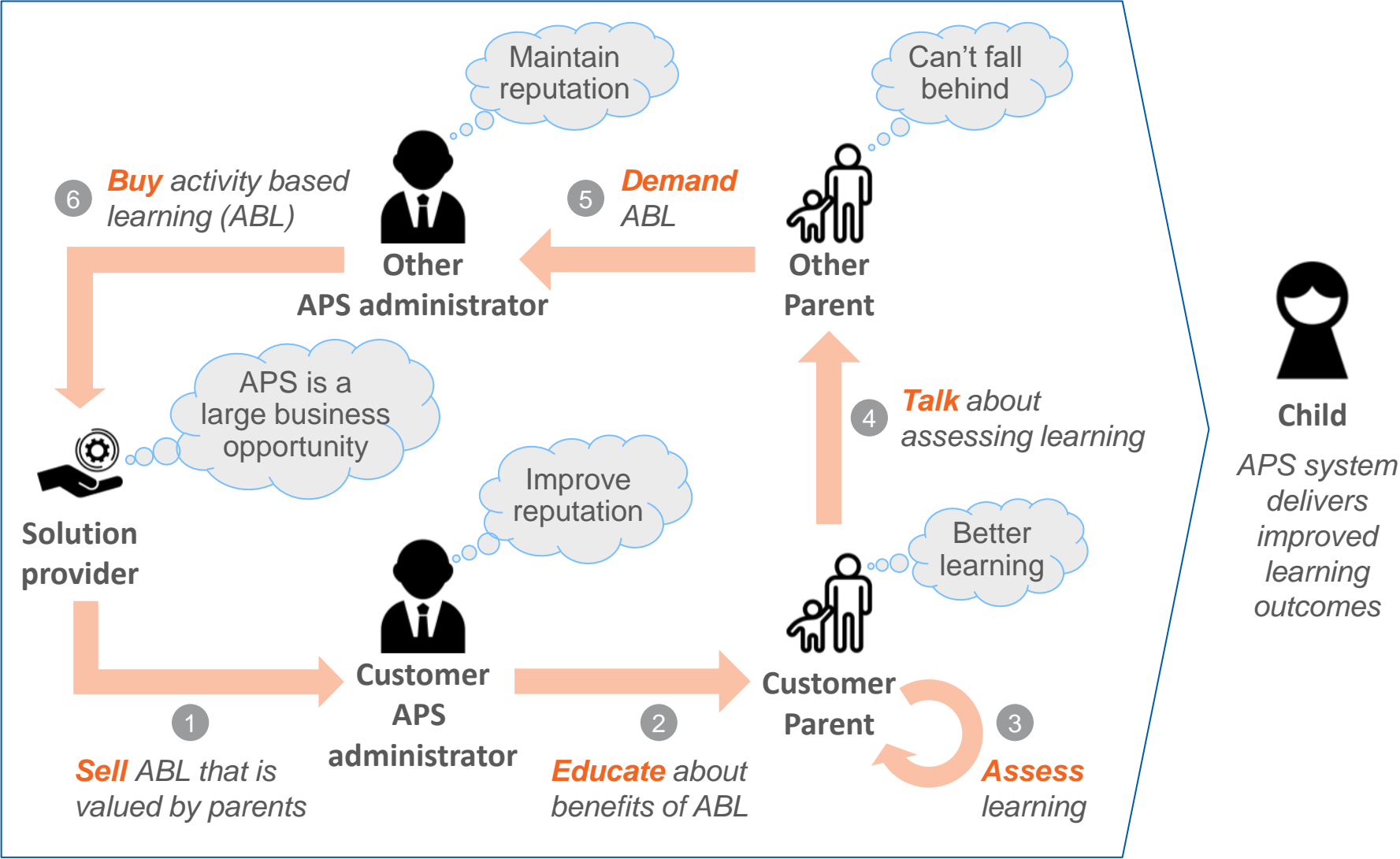
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Multiple stakeholders are involved in the affordable private school (APS) system and parents play a pivotal role

Buy activity based learning (ABL)
6

Maintain reputation

Other APS administrator

5 *Demand* ABL

Can't fall behind

Other Parent

APS is a large business opportunity

Solution provider

Improve reputation

Talk about assessing learning
4

Better learning

Child

APS system delivers improved learning outcomes

Customer APS administrator

1 *Sell* ABL that is valued by parents

2 *Educate* about benefits of ABL

Customer Parent

3 *Assess* learning

However, most parents use 'wrong' markers[1] to assess learning

'Wrong markers' parents currently use to assess memorization	**'Right markers' parents should use to assess learning**
• Writing and reciting numbers till 100	• Counting items e.g., pencils up to 20
• Reciting English rhymes	• Speaking in English about familiar themes e.g., daily routine, favorite cartoon
• Reciting and writing all letters of the English alphabet	• Reading new English words on their own
• Copying work from blackboard	• Completing 4 piece puzzles

[1] Markers are questions parents ask children to assess their learning outcomes. 'Wrong markers' are questions which check for memorization and 'right markers' are questions which check for learning

APS administrators and teachers cater to this demand of memorization from parents resulting in weak foundation and poor learning outcomes

Learning outcomes of children in secondary school are poor[1]…	…because of weak foundation in early years[2]
In grade 10: • Only 35% students can read at grade 4 level • Only 32% students can place decimal numbers in increasing order • Only 24% can calculate area of a circle	**In grade 1:** • 78% can't read simple three-letter words • 54% can't pick 12 pencils from a stack of 20 • 82% can't complete a simple 4-piece puzzle

PIPE identified the need to educate parents about quality of learning, using 'right markers' which …

- Are *activity based tasks or questions* that parents can use with children to check for learning

- *Test understanding of concepts* that rote memorization techniques cannot deliver

- *Can be used by parents of any background* irrespective of technical knowledge or education qualification

- *Highlights gaps in ECE* to help parents realize the need for good ECE

- Are *easy to administer* so parents can use them at home with readily available resources

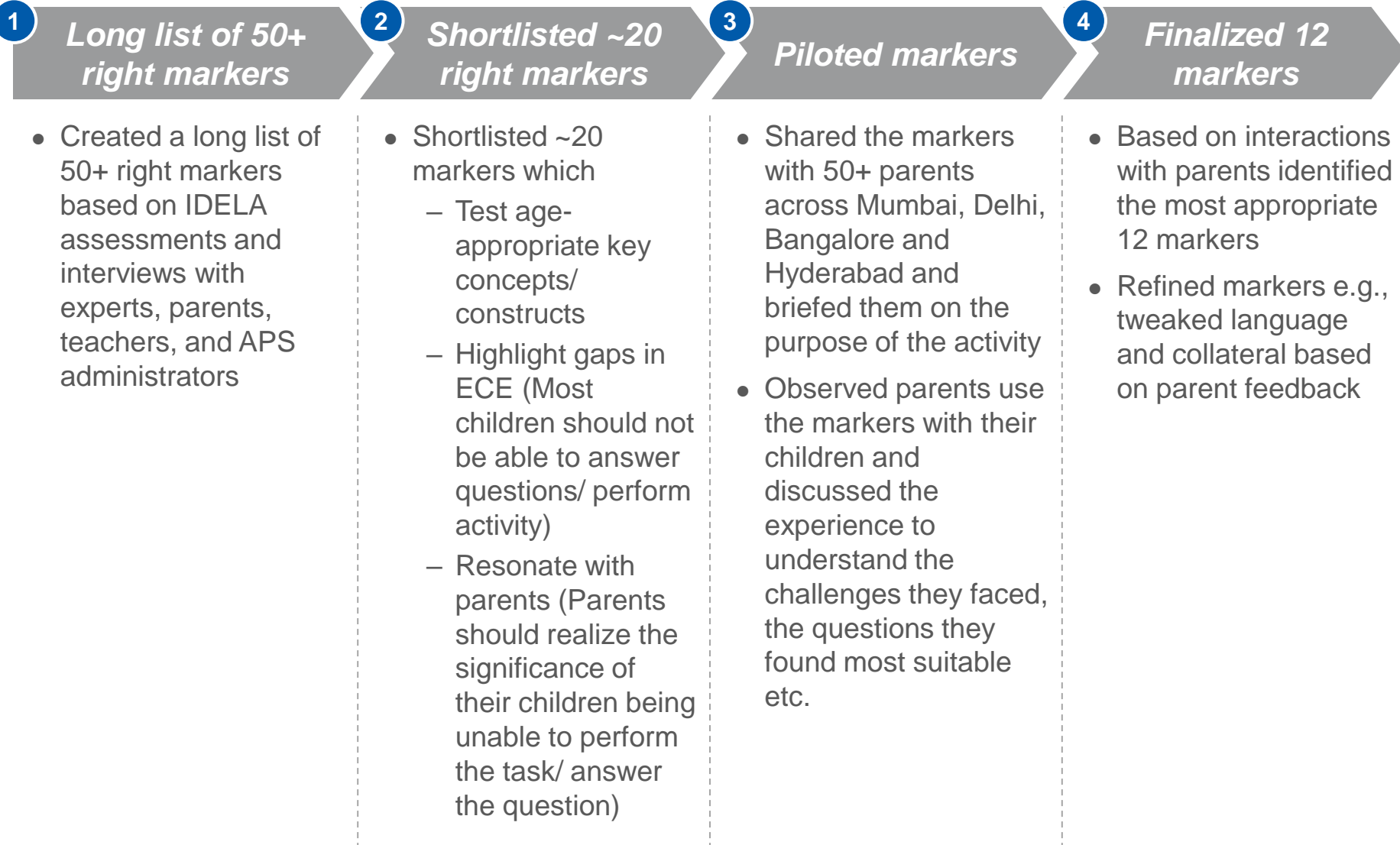- Are *age-appropriate* and customized for target children

Contents

Using a staged approach piloted and shortlisted a set of 'right' markers

1	**2**	**3**	**4**
Long list of 50+ right markers	**Shortlisted ~20 right markers**	**Piloted markers**	**Finalized 12 markers**

- Created a long list of 50+ right markers based on IDELA assessments and interviews with experts, parents, teachers, and APS administrators

- Shortlisted ~20 markers which
    - Test age-appropriate key concepts/ constructs
    - Highlight gaps in ECE (Most children should not be able to answer questions/ perform activity)
    - Resonate with parents (Parents should realize the significance of their children being unable to perform the task/ answer the question)

- Shared the markers with 50+ parents across Mumbai, Delhi, Bangalore and Hyderabad and briefed them on the purpose of the activity

- Observed parents use the markers with their children and discussed the experience to understand the challenges they faced, the questions they found most suitable etc.

- Based on interactions with parents identified the most appropriate 12 markers

- Refined markers e.g., tweaked language and collateral based on parent feedback

S No.	Marker/ Activity	Construct
1	Can you label your drawing?	Draw/ write
2	Can you name all your toys?	Expressive vocabulary
3	Can you tell me all the children who were in class today?	Expressive vocabulary
4	Can you tell me the names of the different vegetables that you know?	Expressive vocabulary
5	Tell the child a simple story. Ask a few questions (who, what, where, when, why).	Follow a story
6	Can you find the letter "a" for me on this page?	Letter identification/ recognition
7	What is this letter? (point and ask)	Letter identification/ recognition
8	Show me how you will read this book?	Print awareness
9	Can you read this sentence for me?	Read simple sentences
10	Let's look at this book together. Can you see any words you can read?	Read simple sentences
11	Can you read this word for me?	Reading 3 letter words
12	Can you tell me what you did at school today?	Retell a story/event
13	Can you tell me what you saw on TV today?	Retell a story/event
14	Can you tell me what you were doing with your friends this evening?	Retell a story/event
15	Can you give me more words that start with the sound "---"?	Sound matching
16	My name Gauri starts with the sound 'ga' What sound does your name start with?	Sound matching
17	Can you tell me a little about your toy?	Speak simple sentences

Based on IDELA assessments and interviews with experts, parents, teachers, and APS administrators PIPE created a long list of markers (2/4)

1

S No.	Marker/ Activity	Construct
18	Can you tell me about your best friend in school?	Speak simple sentences
19	Write your name.	Write (name)
20	Can you draw something nice for me? What is it?	Draw/ write
21	Have four marbles in your hand and have the child count them. Now move them into your other hand and ask child how many are there. He should not need to count again.	Conservation of number
22	Can you copy this shape?	Copy shapes
23	Can you count for me? Count as high as you can.	Counting
24	Can you count from 6-9?	Counting onwards
25	Can you tell me what number is missing here?	Missing numbers
26	Which number is this?	Number identification/ recognition
27	Can you find the number ____ for me on this page.	Number identification/ recognition
28	How many plates/spoons are on the table?	One to one correspondence
29	Can you give me four vegetables/ beans from the bag please? (can increase the number)	One to one correspondence
30	Can you count how many people are in the room?	One to one correspondence

S No.	Marker/ Activity	Construct
31	Who is the tallest child in your class?	Others
32	Can you give me the bigger bowl please?	Others
33	Who is older – you or your brother/sister?	Others
34	Can you complete this pattern for me? (Layout a pattern with spoon, plate, cup, spoon, plate, cup, spoon)	Patterns
35	Who is standing behind/next to/in front of the table?	Positionality
36	What is on the table?	Positionality
37	Complete this puzzle.	Puzzle completion
38	Which bag has more vegetables?	Quantity/number comparison
39	Can you show me something that has a square shape/circle shape?	Shape recognition/ identification
40	If I have 3 pencils and I get 3 more, how many will II have all together?	Simple operations
41	There are 4 apples in this box. If 2 more apples were put in, how many would there be?	Simple operations
42	I have 6 mangoes. If I eat 2 mangoes how many are left?	Simple operations
43	I have some beans mixed up here. Can you sort them for me please? Can you sort them in any other way? (color and size)	Sorting
44	Observe if the kid feels motivated.	Others

Based on IDELA assessments and interviews with experts, parents, teachers, and APS administrators PIPE created a long list of markers (4/4)

S No.	Marker/ Activity	Construct
45	Please put the spoons on the plate and take them to the kitchen and put them on the platform?	Follow multistep instructions
46	Listen to the following numbers / words and repeat them after me in the same order: 6,2,9 8,4,7,3 4, 1, 7, 9, 5	Memory - sequential
47	Look at this picture. Can you draw it.	Memory - visual
48	Observe if the kid can work independently.	Others
49	Observe if the kid can complete tasks.	Others
50	Observe if the kid is happy to go to school.	Others
51	Observe if the kid can has developed social skills and manners.	Others
52	Observe if the kid is confident.	Others
53	Observe if kid helps at home	Others
54	Observe if kid cooperates with siblings / friends	Others

Based on personal experiences while interacting with different stakeholder and expert inputs, PIPE team members shortlisted 20 most appropriate markers (1/4)

S No.	Marker	Construct	Domain	Step 1: Shortlisting	Step 2: Eliminating	
				Shortlisted in group brainstorm	*Shortlisted for marker pilot*	*Rationale for eliminating from marker pilots*
1	Can you try to read these words for me? [Cat, Set, Nap]	Reading 3 letter words	Early language and literacy	Yes	Yes	NA
2	Can you give me 4 beans from the bag please? Can you give me 7 beans from the bag please? Can you give me 13 beans from the bag please?	One to one corresponde nce	Early numeracy and problem solving	Yes	Yes	NA
3	Can you tell me in English what is happening in this picture? [Photo of park with children playing badminton, cycling and flying kites]	Speaking in English	Early language and literacy	Yes	Yes	NA
4	There are 4 apples in this box. If 2 more apples were put in, how many would there be? [Photo of box with 4 apples]	Simple operations	Early numeracy and problem solving	Yes	Yes	NA
5	Can you do this puzzle for me? [Simple four piece puzzle of a car/ zebra/ biscuit packet cut into 3 pieces]	Puzzle completion	Early numeracy and problem solving	Yes	Yes	NA

S No.	Marker	Construct	Domain	Step 1: Shortlisting	Step 2: Eliminating	
				Shortlisted in group brainstorm	*Shortlisted for marker pilot*	*Rationale for eliminating from marker pilots*
6	Can you point to the biggest number? [4-5 numbers written on a page]	Number comparison	Early numeracy and problem solving	Yes	Yes	NA
7	Can you name as many toys as you have? [Any language]	Expressive vocabulary	Early language and literacy	Yes	Yes	NA
8	Can you tell me what number is missing here? [Show: 10,11,12,___, 14]	Missing numbers	Early numeracy and problem solving	Yes	Yes	NA
9	Can you count from 6-9?	Counting onwards	Early numeracy and problem solving	Yes	Yes	NA
10	Among car, tiger and banana, which word contains the sound 'ba'?	Letter identification / recognition	Early language and literacy	Yes	Yes	NA
11	Please open your bag, take out the English book and open it to page 10	Follow multistep instructions	Executive functioning	Yes	Yes	NA
12	Does your child feel confident talking to visitors/ relatives/ cousins? [For parents]	Others	Socio-emotional development	Yes	Yes	NA

Note: [1]Criteria for shortlisting listed on slide 5

Based on personal experiences while interacting with different stakeholder and expert inputs, PIPE team members shortlisted 20 most appropriate markers (3/4)

S No.	Marker	Construct	Domain	Step 1: Shortlisting	Step 2: Eliminating	
				Shortlisted in group brainstorm	Shortlisted for marker pilot	Rationale for eliminating from marker pilots
13	Does your child complete his homework on his own? [For parents]	Others	Socio-emotional development	Yes	Yes	NA
14	What did you do in since you woke up this morning?	Retell a story/event	Early language and literacy	Yes	Yes	NA
15	How many plates/spoons are on the table?	One to one corresponde nce	Early numeracy and problem solving	Yes	Yes	NA
16	Listen to the following numbers / words and repeat them after me in the same order: 6,2,9 8,4,7,3 4, 1, 7, 9, 5	Memory - sequential	Executive functioning	Yes	Yes	NA
17	Listen to the following numbers / words and repeat them after me in the reverse order: 6,2,9	Memory - sequential	Executive functioning	Yes	Yes	NA
18	Do you enjoy going to schools?	Others	Socio-emotional development	Yes	Yes	NA

S No.	Marker	Construct	Domain	Step 1: Shortlisting	Step 2: Eliminating	
				Shortlisted in group brainstorm	*Shortlisted for marker pilot*	*Rationale for eliminating from marker pilots*
19	What is this letter?	Letter identification / recognition	Early language and literacy	Yes	No	- Most children could answer in IDELA
20	Tell the child a simple story. Ask a few questions [Who, what, where, when, why]	Follow a story	Early language and literacy	Yes	No	- Most children could answer in IDELA
21	If I have 3 pencils and I get 3 more, how many will I have all together?	Simple operations	Early numeracy and problem solving	Yes	No	- Most children could answer in IDELA

③ Piloted shortlisted markers with parents

| Long list of 50+ right markers | Shortlisted ~20 right markers | **Piloted markers** | Finalized 12 markers |

- Created 3 sets of markers, with 7 markers each (total 21 shortlisted markers)
  - Ensured that each set covered key constructs and was of the same difficulty level
  - Some markers may be repeated across multiple sets to ensure balance
- Visited 1 school on each day to test 1 set of marker with ~9 parents of UKG children
- Gave the parents a brief introduction of the program, and role of markers
  - For the first 3 parents gave a detailed explanation for each question explaining how to ask and then rationale for including that question
  - For rest of parents only handed over the sheet with instructions and markers and observed parents
- Called the child and observed as the parents tried the markers
- Had a detailed discussion with the parent post this exercise; based on the observations probed on question where the parent or child faced difficulties

③ Piloted these shortlisted markers: Marker set 1 (1/3)

Question	What went right	What went wrong	Alternate ways of asking questions
Can you tell me in English what is happening in this picture? *[Photo of children playing cricket]*	• Parents want their child to be able to speak in English • Parents expect their child to be able to speak about cricket since most of them play it on a regular basis and are surprised when children are unable to say anything about the photo	• In spite of highlighting English, parents tend to miss out on it and do not realize that the child needs to say a complete sentence in English. Parents are satisfied even if the child mentions a few words like bat, ball and cricket in English. • Parents are very focused on getting the child to use the word cricket; the photo needs to be more busy where no one English word describes the photo • Words like bat and ball that children generally use are commonly used in Hindi as well, so these words do not really test their English vocabulary; words describing the photo should be very different in Hindi and English	Can you tell me in English what is happening in this picture? *[Photo of park with children playing badminton, cycling and flying kites]*
Can you try to read these words for me? It's okay if you are not able to. [Cat, Set, Nap]	• Parents were able to ask this question easily • Parents were very surprised when children were unable to answer correctly		

Question	What went right	What went wrong	Alternate ways of asking questions
Book starts with the sound 'ba'. Now listen to the words I say and tell me which one starts with the same sound 'ba': car, tiger, banana?	- It takes parents some time to understand the question and execute properly - Many children answered 'book'	- Parents would just point towards the words written on the paper and ask the child to read rather than expecting the kids to hear and match sounds - Parents do not realize the importance of children being able to match the sound	Among car, tiger, banana, which word contains 'ba'?
Can you give me 4 beans from here? Point to the stack of beans. Now can you give me 7 beans? Now can you give me 13 beans?	- Parents could easily understand and execute the question - Parents expected their child to be able to perform, and were shocked when children could not count properly		

Question	What went right	What went wrong	Alternate ways of asking questions
Can you tell me what number is missing here? [12, __,14]	• Parents expected their child to be able to perform, and were shocked when children could not count properly		What comes after 12 and before 14? (add 10 and 11 as well to make the question clearer: 10,11, 12, __, 14]
Listen to the following words and repeat them after me in the same order: • cat, ball, bag • apple, bat, shirt, mango, milk, • bus, taxi, book, class		• Relevance of the question not clear to parents • Parents find the questions too complicated and at times skipped it • Parents don't realize the different strings/ sets of word • Parents show the words to the children and start asking the child to read the words one by one	Use numbers instead of words
Does your child enjoy going to school?		• Parents do not associate children enjoying school with god ECE	

Question	What went right	What went wrong	Alternate ways of asking questions
Can you tell me in 2-3 sentences, what you did in school today?		• Many children had not done anything in school all day so the conversation did not go anywhere	What have you done today since you got up?
How many spoons are on the table?	• Parents were able to understand and ask the question easily	• Most children were able to count correctly since there was a finite quantity	Add a line saying ' Count and tell me ,….' For counting the question with beans is more effective
There are 4 apples in this box. If I were to add two more, how many would be left?		• Parents would indicate the number with their fingers	
Now listen carefully to the numbers I say, and then repeat them in reverse order, e.g., if I say 5,8,9, then the reverse order will be 9,8,5. Listen carefully : 7,3,2		• Parents could not understand the question or ask it correctly • Parents do not understand the relevance of the question • Parents would point towards the numbers on the sheet and the kids to read them in the required order	

Note: Some questions were common across sets. Questions from set 2 which have not already been covered previously

Question	What went right	What went wrong	Alternate ways of asking questions
Does your child complete his homework on his own?		• Parents do not see the relevance of the connection • Whether or not children do their homework on their own can also be a function of the locality they live in – some places the norm is to admit your child in tuitions	

Question	What went right	What went wrong	Alternate ways of asking questions
Can you name as many games and toys as you like to play with?	• While parents expected their child to answer this question easily, children needed a lot of probing to be able to name 5-6 toys/ games which surprised parents	• Parents do not see the relevance of this questions	Can you name as many games and toys as you have?
Amongst all these numbers can you identify the number greater than the number in the box? ⑥ ③ [7] ⑤ ④ ⑨	• Parents could easily understand and ask the question • Many children were unable to answer correctly in one go without probing and leading questions		Which is the biggest number among these?

③ Piloted these shortlisted markers: Marker set 3 (2/2)

Question	What went right	What went wrong	Alternate ways of asking questions
Can you count from 6-9?	• Parents understood the relevance of this questions • Some children were unable to answer the question	• Many parents very specifically asked the child to say what comes after 6? Then what comes after 7 etc. and if the child answered all the questions correctly felt satisfied with their performance	
Can you complete this puzzle?	• Parents see the relevance of this question • Many children were unable to complete the puzzle	• Would be hard for parents to implement at home if no puzzle is provided beforehand – parents would not want to invest time in making the puzzle, would not be able to figure what photo might be appropriate for the child	First show the child the completed puzzle then break it and ask him to complete it again so he has some reference point
Please put the spoons on the plate and put them next to the pencil		• Parents do not understand the relevance of the questions • Directions were not very clear	Open your bag, take out your English book and open it to page 9
Does your child feel confident talking to his/ her friends and relatives	• In one specific case the parent was very proud that the child could speak to her colleagues thanks to what was being taught in school	• Most parents associate confidence with the child's personality	Does your child talk to shopkeepers or strangers?

Construct	Marker / Questions	Expectation
1 English reading	"Can you try to read these words for me?" *[Show words cat, set and nap]*	Child should be able to read new and unfamiliar 3 letter phonic words correctly
2 English speaking	"Can you tell me in English what is happening in this photo / picture?" *[Show a picture of park with 2-3 children playing different games]*	Child should be able to say at least one sentence using English words about a familiar topic/ theme
3 Phonological awareness	"Among car, banana and tiger, which word starts with the sound 'ba'?"	Child should be able to match initial sounds without referring to letters
4 English speaking	"In English, can you tell me what all you have done since morning?"	Child should be able to say at least one sentence using English words about a familiar topic/ theme

Construct	Marker / Questions	Expectation
5 One-to-one correspondence	"Can you give me 7 beans? Now can you give me 13 beans?" *[Ask while pointing to a bowl with 20 beans]*	Child should be able to count up to 20 beans correctly
6 Comparing numbers	"Can you identify the greatest number here?" *[Show numbers 6, 3, 5, 9, 4, and 7 arranged randomly]* ⑥ ③ ⑦ ⑤ ④ ⑨	Child should be able to identify the greatest single digit number from a random group of numbers
7 Abstract addition	"There are 4 apples in this box. If I were to add 2 more, how many would be there in total?" *[Point towards a photo of 4 apples. Do not indicate the numbers with fingers or otherwise]*	Child should be able to do abstract addition with single digit numbers
8 Executive function	"Can you complete this puzzle?" *[Give the child a familiar biscuit pack cut into 4 distinct pieces]*	Child should be able to complete up to 4 piece puzzles

Question	What went right	What went wrong
Can you draw something nice for me? What is it?	• Parents could understand and ask the question very easily • Parents expected their child to be able to do this and were surprised when children were unable to draw anything without specific instructions	
Can you show me something that has a square shape/circle shape?	• Parents could understand and ask the question very easily • Parents saw the relevance of this question and expected their child to be able to answer	
I have some cards here. Can you sort them for me? Now can you sort them in another way for me?		• While parents understood the question they struggled to ask the child appropriately and ended up hinting the answer or giving too many directions in the process
I will show you a picture. Now can you draw that photo from your memory?	• Parents could understand and ask the question very easily • Parents see the relevance of this question and expected their child to be able to answer	• Most parents associate confidence with the child's personality

Team felt the need to include more markers covering executive function and hence piloted additional 6 question using the same pilot design (2/2)

Question	What went right	What went wrong
Can you organize these photos in the correct order? 		• While parents understood the question they struggled to ask the child appropriately and ended up hinting the answer or giving too many directions in the process
Can you make this photo using these blocks? 	• Parents could understand and ask the question very easily • Parents see the relevance of this question and expected their child to be able to answer	

Based on these pilots shortlisted additional 4 questions

4

Construct	Marker / Questions	Expectation
9 **Motor and language skills**	"Can you draw something nice for me? What is it?"	Child should be able to draw something and explain the drawing
10 **Shape identification**	Can you show me something that has a square shape/circle shape in this room?	Child should be able to identify shapes in real life
11 **Copying shape and memory**	I will show you a picture. *[Show the child 3 simple shapes]* Now can you draw that photo from your memory?	Child should be able to recreate the shapes in correct order
12 **Shape recognition and fine motor skills**	Can you make this photo using these blocks?	Child should be able to recreate the photo using block by picking and joining the appropriate colors and shapes

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Shortlisted markers for UKG children - Early language and literacy

	Construct	Marker/ Questions	Expectation
1	English reading	"Can you try to read these words for me?" [Show words cat, set and nap]	Child should be able to read new and unfamiliar 3 letter phonic words correctly
2	English speaking	"Can you tell me in English what is happening in this photo/ picture?" [Show a picture of park with 2-3 children playing different games]	Child should be able to say at least one sentence using English words about a familiar topic/ theme
3	Phonological awareness	"Among car, banana and tiger, which word starts with the sound 'ba'?"	Child should be able to match initial sounds without referring to letters
4	English speaking	"In English, can you tell me what all you have done since morning?"	Child should be able to say at least one sentence using English words about a familiar topic/ theme

Shortlisted markers for UKG children - Early numeracy and problem solving

Construct	Marker/ Questions	Expectation
5 One-to-one correspondence	"Can you give me 7 beans? Now can you give me 13 beans?" [Ask while pointing to a bowl with 20 beans]	Child should be able to count up to 20 beans correctly
6 Comparing numbers	"Can you identify the greatest number here?" [Show numbers 6, 3, 5, 9, 4, and 7 arranged randomly] ⑥ ③ ⑦ ⑤ ④ ⑨	Child should be able to identify the greatest single digit number from a random group of numbers
7 Abstract addition	"There are 4 apples in this box. If I were to add 2 more, how many would be there in total?" [Point towards a photo of 4 apples. Do not indicate the numbers with fingers or otherwise]	Child should be able to do abstract addition with single digit numbers

Shortlisted markers for UKG children - Others

Construct	Marker/ Questions	Expectation
8 Executive function	"Can you complete this puzzle?" [Give the child a familiar biscuit pack cut into 4 distinct pieces]	Child should be able to complete up to 4 piece puzzles
9 Motor and language skills	"Can you draw something nice for me? What is it?"	Child should be able to draw something and explain the drawing
10 Shape identification	Can you show me something that has a square shape/circle shape in this room?	Child should be able to identify shapes in real life
11 Copying shape and memory	I will show you a picture. [Show the child 3 simple shapes] Now can you draw that photo from your memory?	Child should be able to recreate the shapes in correct order
12 Shape recognition and fine motor skills	Can you make this photo using these blocks?	Child should be able to recreate the photo using block by picking and joining the appropriate colors and shapes

Contents

Overview of FSG Inclusive Markets (IM)

Mission	**To improve opportunities, agency, and choice for families with low-income** by working with companies to serve families as customers (and not with non-profits to serve them as beneficiaries)
Vision	**To demonstrate profitability of offering inclusive products, services, or practices** (e.g., housing, education, employment) that benefit families with low-income
Approach	• **Run multiyear programs to address barriers** that prevent companies from offering inclusive products, services or practices • **Talk to thousands of families to understand their needs**, aspirations, and challenges • **Talk to hundreds of CXOs and managers to understand their business**, ecosystem, regulatory and operational challenges • **Co-create, pilot and rollout solutions with companies** to address barriers and profitably scale inclusive products, services, or practices • **Publish and disseminate public goods** (e.g., primary research, best practices, business model) to get more companies to offer the product, service or practice • **Address ecosystem barriers** (e.g., policy suggestions) to make the market more conducive

Overview of PIPE

Please view in slide show mode. Please click on the image to open a video link. Requires internet connectivity

Replacing rote[1] with activity based learning[2] in affordable private schools[3] could improve learning outcomes for ~50% of children

~50% of children in India are enrolled in affordable private schools

- 40% of children in rural India are in private schools[4]

- 86% of families with low-incomes in urban India send their children to affordable private schools (APSs)[5]

- 54% of children in South Asia are enrolled in private schools for pre-primary education[6]

Current learning outcomes are poor due to rote teaching

- 35% of Grade 10 students can read at Grade 4 level[7]

- 84% of Grade 1 students can't read at grade level[8]

- Most private preschools follow mainly rote teaching with no age appropriate activities[9]

Adopting activity based learning in early years can provide the right educational foundation

- Poor learning outcomes in the early years leads to poor learning and life outcomes later[10]

- Children learn best using activity based learning (ABL) in the early years (ages 3-8)[11]

- Intervening in the early years gives the highest return on investments[12]

1. See example of rote teaching here
2. Learning through structured play-based activities, games, and experiences
3. Schools that typically charge fees under INR 1,500 (USD 23) per month, and offer classes from nursery to grade 10 or 12
4. ASER 'Early Years' Report (2019)
5. PIPE research based on 4400 interviews with families with low-incomes (2015)
6. UNICEF 'A world ready to learn' (2019)
7. Education Initiatives research based on an assessment of 50,000 students in Gujarat, Maharashtra and Rajasthan (2013-14)
8. ASER 'Early Years' Report (2019)
9. CECED, ASER, and UNICEF 'The India Early Childhood Education Impact Study (2017); PIPE research
10. S Lockhart, Play: An Important Tool for Cognitive Development (2010)
11. M. Hohmann, D.P. Weikart, 'Educating Young Children: Active Learning Practices for Preschool and Child Care Programs' (1999)
12. J Heckman and D. Masterov, The Productivity Argument for Investing in Young Children (2004)

Barriers to adoption of ABL are lack of demand and low willingness to serve APS market

**APS administrators, teachers and parents** are not demanding ABL

- Limited awareness of poor learning outcomes in children

- Limited awareness on the benefits of ABL

- Current rote memorization technique meets parents' demands

Solution providers[1] don't see a business opportunity to sell in the APS market

- Unclear business model to acquire and sell to APSs

- Fragmented market

- Unclear proposition for APS customers

- Lack of quality standards/ robust tools to assess quality

1. Solution providers are existing private companies currently providing ABL solutions including curriculum materials, teacher training and ongoing support to schools serving students from families with mid or high incomes

PIPE's vision is to replace rote with ABL in all 300,000 APSs in India
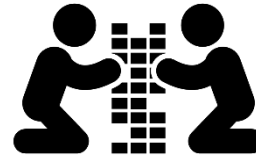
Mission	ABL solution providers **sell profitably and at scale** to APSs in India	ABL solution providers **make learning effective and enjoyable** for children	ABL solution providers **communicate the benefits of ABL** to stakeholders[1]
Goal by 2025	**A** **Scale supply:** 3 ABL solution providers serving >500 APSs each	**B** **Improve quality**: 50% better learning outcomes across all skills[2]	**C** **Shape demand:** Pervasive demand leads to 15% of APSs adopting ABL in one tier-1 city

D **Raise awareness**: Share approach, best practices, tools, and aspirations of families with 100 organizations annually

Detailed next

Scale supply: PIPE partners are providing ABL to >150,000 children across 750+ APSs
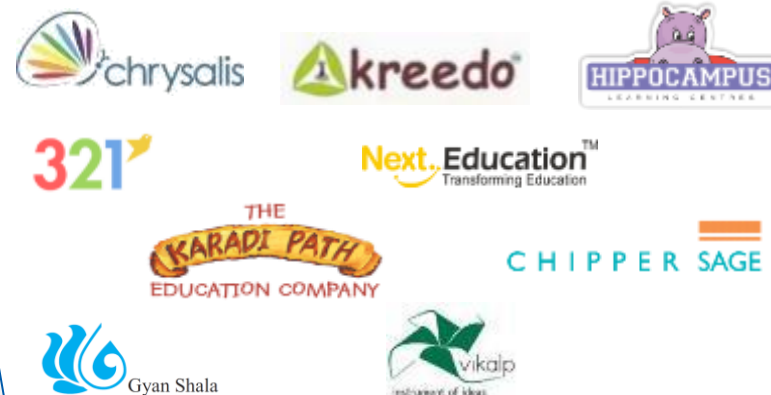
Goal

3 ABL solution providers >500 APSs each

Activities

- Identified, convinced and **signed-up 8 partners** to the serve the APS market

- Developed a **profitable business model** for the APS market

- **Identified barriers and developed 23 best practices across 4 business functions** (i.e. product, sales, implementation and management) to support partners to profitably scale in the APS market

- Supported PIPE **partners to co-develop an effective organization structure and team to scale** (e.g., building a strong 2nd line of management)

- Supported PIPE partners to **embed managing by objectives** through a set of annual and monthly dashboards and metrics which determine business health

Impact to date

9 partners signed up

# of APSs using PIPE partner solutions[1]

Year	Value
2016	35
2017	161
2018	405
2019	650
2020	NA*
2021	NA*
2022	578
2023	752
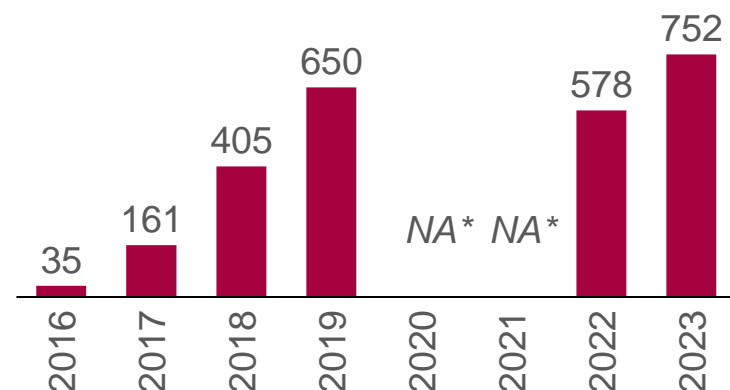
as schools were closed due to COVID-19[2]

1 –Based on data collected from partners I 2-Schools were physically shut due to COVID-19, and only remote learning products were offered by the partners to APSs during academic years 2020-21 and 2021-22 The PIPE team has been unable to verify children's extent of engagement with these remote learning products due to school closures and COVID travel restrictions

Improve quality: Children in PIPE APSs responding correctly to numeracy and literacy questions increased by 33%
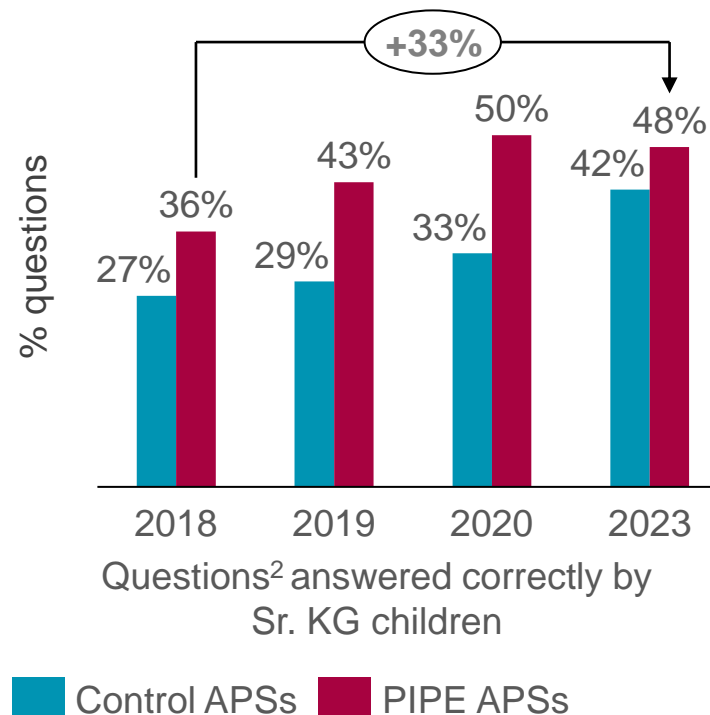
Goal

50% better learning outcomes across each skill

Activities

- **Developed public goods** based on research with 4400 parents, 28 APS administrators, 40 teachers, 167 ABL solution providers to:
  - Understand the **reasons for poor learning outcomes**
  - Leverage motivations of stakeholders to improve quality
- **Supported partners in adapting their product** for the APSs market and in improving teacher training
- Developed **'STARS', a tool to assess education quality** (including learning outcomes) in APS
- **Annually assessed and published learning outcomes** in PIPE APSs
- Supporting partners to **develop remote learning strategies to ensure learning continues** during the pandemic

Impact to date[1]

33% improvement Since 2018

+33%

Year	Control APSs	PIPE APSs
2018	27%	36%
2019	29%	43%
2020	33%	50%
2023	42%	48%

% questions

Questions[2] answered correctly by Sr. KG children

■ Control APSs ■ PIPE APSs

PIPE could not conduct assessments in AY 2020-21 and AY 2021-22 as schools were shut due to COVID-19

Shape demand: Created and disseminated collateral to educate parents on the benefits of ABL

C

Activities

- Developed '**markers to test concepts**' to shape parental demand

- Developed **video and print collaterals** to educate stakeholders on key skills that children should be learning by age

- **Developed 8 videos to educate parents** about their child's current poor learning outcomes, and help them engage in simple activities with their children at home

- Supported partners in organizing '**learning exhibitions**' for parents, to showcase child learning outcomes due to ABL

- Developed '**Toys in a box**', an engaging set of 6-8 developmentally appropriate affordable toys that engage children on key developmental outcomes
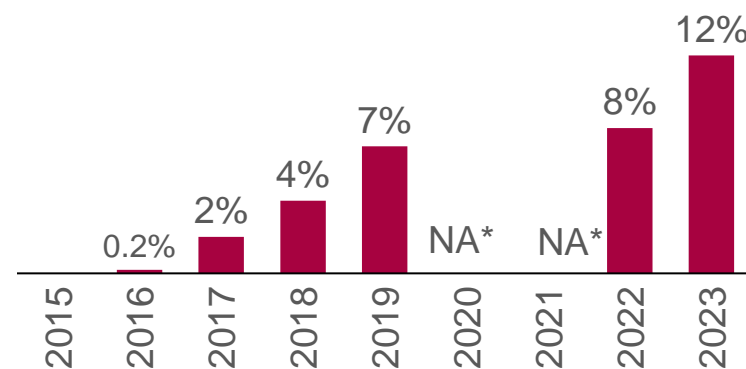
Goal

Pervasive demand leads to 15% of APSs adopting ABL in one tier-1 city

Impact to date

Disseminated parent engagement videos to 100K+ parents

www. ratta-ya-samajh.com

% of APSs in Bangalore adopting ABL[1]

2015	2016	2017	2018	2019	2020	2021	2022	2023
	0.2%	2%	4%	7%	NA*	NA*	8%	12%

as schools were closed due to COVID-19[2]

1 – Per PIPE's estimates, Bangalore has ~3,000 APSs Calculated based on the data reported by partners in July every year | 2 – Schools were physically shut due to COVID-19, and only remote learning products were offered by the partners to APSs during academic years 2020-21 and 2021-22

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Raise awareness: Shared the importance of early education and the APS market with ~180 organizations

D

Goal

Share approach, best practices, tools, and aspirations of families with 100 organizations annually

Activities

- **21 publications** including ANYAS, IDELA Equity

- **~50 presentations** at national and global conferences (e.g., Global Philanthropy Forum)

- **Whitepapers** highlighting program research (e.g. the PreschoolPromise)

- **9 best practices sharing sessions attended by ~20 organizations** (e.g. MSDF investee's)

- **10+ Videos** highlighting sales process, parent engagement etc.

- **~180 annual 1-1 update calls with people** from foundations, NGOs and other organizations working in the education space to share PIPE's approach

Impact to date

- **Companies have used PIPEs best practices and business model** to better target the APS market

- **Godrej** developed a program to support ABL solution providers by providing grants to APSs to "trial" the solution

- **AVPN** set up 'Early Learning Collective' as they realized that ECE can have high impact

- **Central Square Foundation** added a vertical that focuses on ECE based on PIPE research

- **Aga Khan Education Service, India** using videos developed by PIPE to communicate benefits of ABL to teachers and parents