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FSG REIMAGINING SOCIAL CHANGE

Program to Improve Private Early Education (PIPE)

IMPACT ASSESSMENT 2018 (DIPSTICK)

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

Agenda

1	**Objectives of the assessment**
2	Research design and methodology
3	Key assessment findings
4	Introduction to PIPE and FSG
5	Appendix

PIPE conducted assessments in APSs to assess the impact and sustainability of ABL

Objectives of the assessment

- **Assess impact of partner solutions** by comparing APSs with PIPE partner solutions, to APSs that have no external interventions
- **Assess sustainability of ABL** in APSs delivered by a PIPE partner

Agenda

PIPE developed a pre-school assessment tool and hired an external organization to conduct dipstick assessments in 58 APSs

- **PIPE developed the pre-school assessment tool (PAT)[1]** to assess the impact and sustainability of ABL in APSs
  - The **tool assesses schools across 5 key sections** namely classroom environment, student learning outcomes, parent interviews, teacher interviews and owner interviews
- **PIPE hired an external agency (Reniscience Education) and trained assessors** to conduct the assessments
- **PIPE developed a sampling plan** that included
  - 38 APSs with partner solutions and 20 APSs with no interventions
  - 26 APSs with partner solutions for 1 year and 12 APSs with partner solutions for 2 years
- **Reniscience Education conducted the assessments at 58 APSs**
- **PIPE ensured data consistency and accuracy** by independently conducting assessments in 2 APSs in each of the cities and comparing the data collected by external assessors and PIPE team
- **PIPE analyzed the data** to identify key findings which have been listed in this document

Assessment commissioned by

[1]To refer to the pre-school assessment tool and the approach to developing the tool click here

PAT contains 5 distinct steps to track impact and sustainability

	Sustainability			Impact	
Sections	**Parent interviews**	**Teacher interviews**	**Owner interviews**	**Classroom environment**	**Student learning outcomes**
Description	• Evaluating level of parent engagement • Checking if parents assess learning	• Checking if – TLMs are available – teachers are trained – teachers are capable	• Checking if owners – value ABL – share benefits with parents – plan to continue using ABL	• Assessing physical setup of classroom • Assessing culture through peer interactions and teacher-student engagement	• Measuring students' learning outcomes in English, Math and motor skills
Rationale	• Conducive home environment is essential to reinforce learning	• Logistical readiness and teacher training are essential to implementation of ABL	• Owner buy-in and understanding is essential for continued use of ABL	• Interactions & risk taking involved in ABL can happen only in safe learning environments	• ABL will improve students' understanding of concepts and learning outcomes
Examples[1]	• What would you ask your child to check if they are learning Math?	• How many training sessions have you attended?	• Are you planning to start /continue using ABL?	• Teachers asks open ended questions and responds positively to students	• Can you read "PIN"?

[1]To refer to the pre-school assessment tool and the approach to developing the tool click here

The findings in this document are based on assessment of 58 APSs across 5 cities

Assessed 58 APSs across 5 cities	• 38 APSs with partner solutions • 20 APSs with no interventions • Delhi, Mumbai, Hyderabad, Chennai and Bangalore
Assessed 290 children	• 190 students from APSs with partner solutions • 100 students from APSs with no interventions
Interviewed 232 parents	• 152 parents from APSs with partner solutions • 80 parents from APSs with no interventions
Interviewed 116 teachers and owners	• 58 owners (1 per APS) • 58 teachers (1 per APS)

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1 Objectives of the assessment

2 Research design and methodology

3 Key assessment findings

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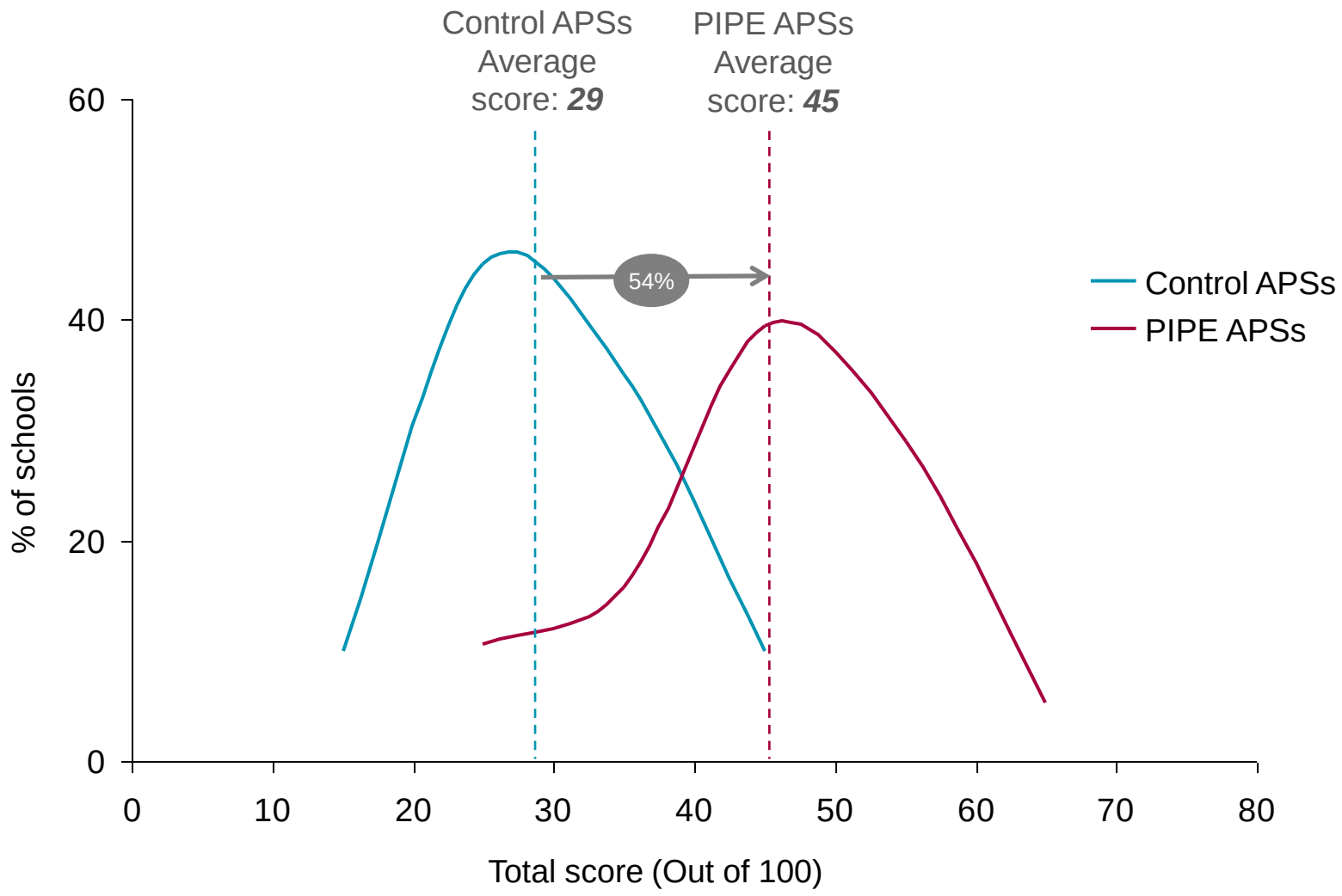
5 Appendix

PIPE APSs have scored better than control APSs on dipstick assessment of 38 PIPE and 20 control APSs

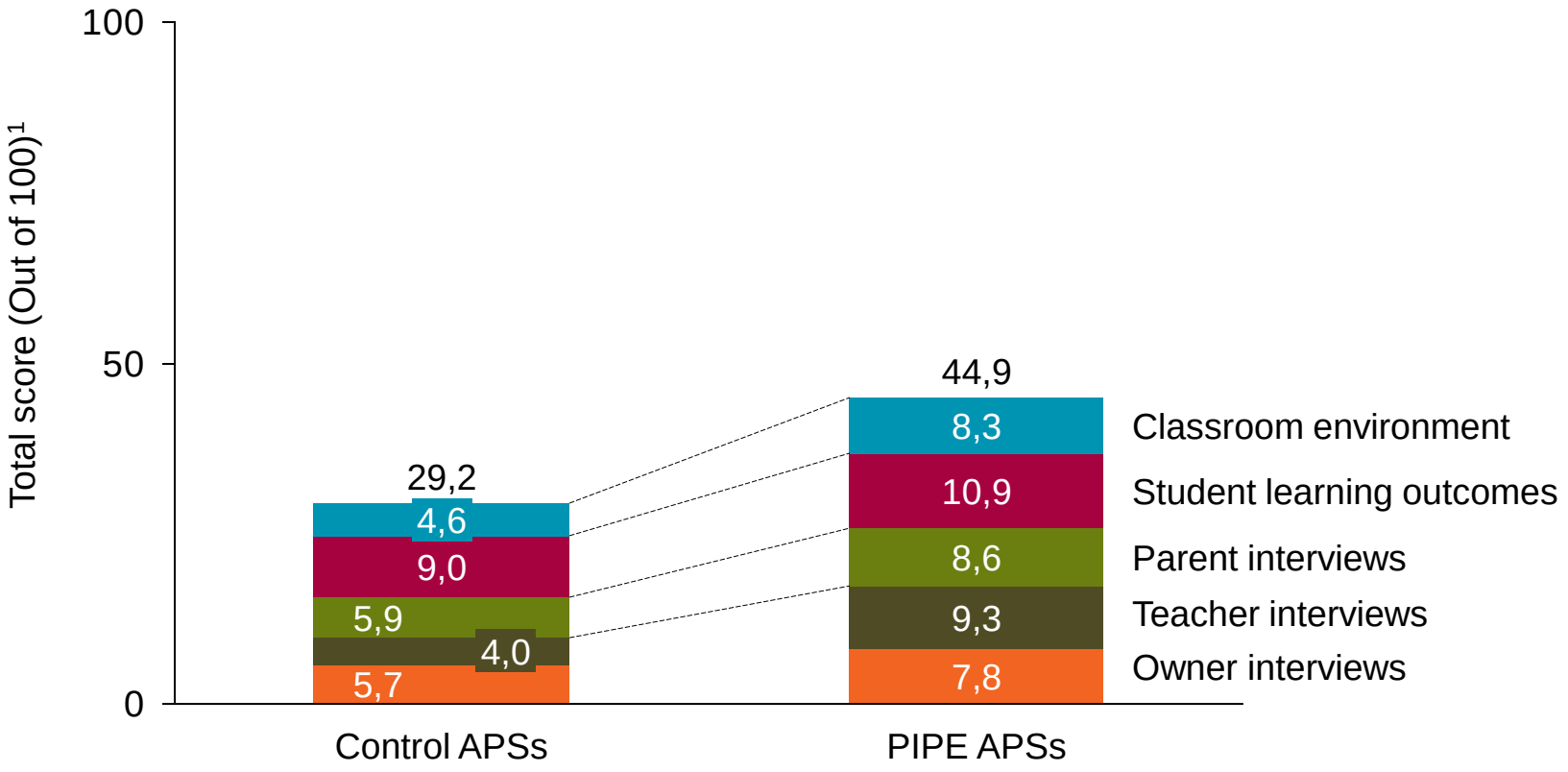
1. PIPE APSs scored 54% higher than control APSs, as ABL helps improve quality of education
2. PIPE APSs scored higher than control APSs across all sections, showcasing a marked improvement in classroom quality and stakeholder awareness of learning
3. PIPE APSs scored 80% higher than control APSs on classrooms being more interactive and conducive to student learning
4. Thrice as many teachers in PIPE APSs use materials (e.g., flashcards) correctly to teach concepts, as compared to control APSs
5. APSs with PIPE partner solutions for 2 years as compared to 1 year, scored 40% higher on teachers' engaging individually with children resulting in improved staff child interactions
6. APSs with PIPE partner solutions for 2 years as compared to 1 year, scored 105% higher on teachers' setting classroom norms or using routines resulting in increased student engagement during classes
7. In PIPE APSs, ~2.3x students can read new English words and ~1.3x students can name more than 6 animals as compared to control APSs
8. Children in PIPE APSs did not perform better than children in control APSs on Math learning outcomes
9. Twice as many parents in PIPE APSs identified one question to check for learning in English, as solution providers have made parents more aware about it

1 PIPE APSs scored 54% higher than control APSs, as ABL helps improve quality of education



2 PIPE APSs have scored higher than control APSs across all sections, showcasing a marked improvement in classroom quality and stakeholder awareness of learning

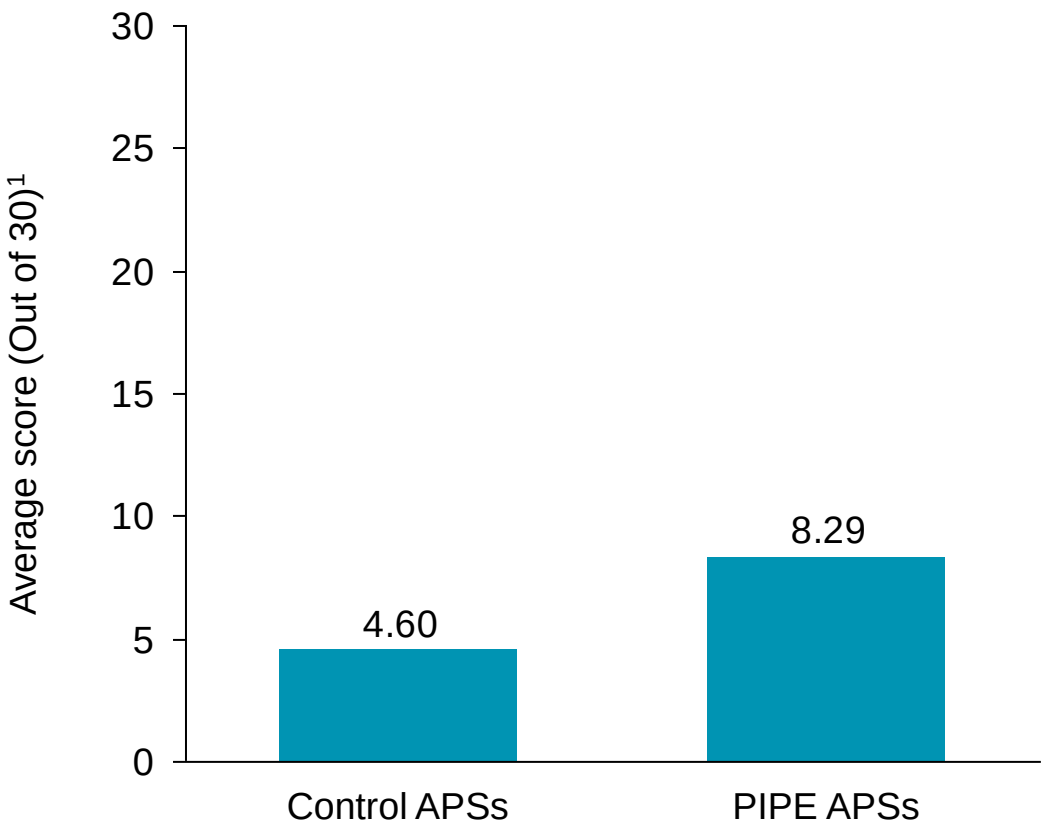
Section-wise scores



[1]Overall total score for PAT is 100. Total score for classroom environment is 30. Total score for student learning environment is 25. Total score for parent interviews is 20. Total score for teacher interviews is 13. Total score for owner interviews is 12.

3 PIPE APSs scored 80% higher than control APSs on classrooms being more interactive and conducive to student learning

Classroom environment scores

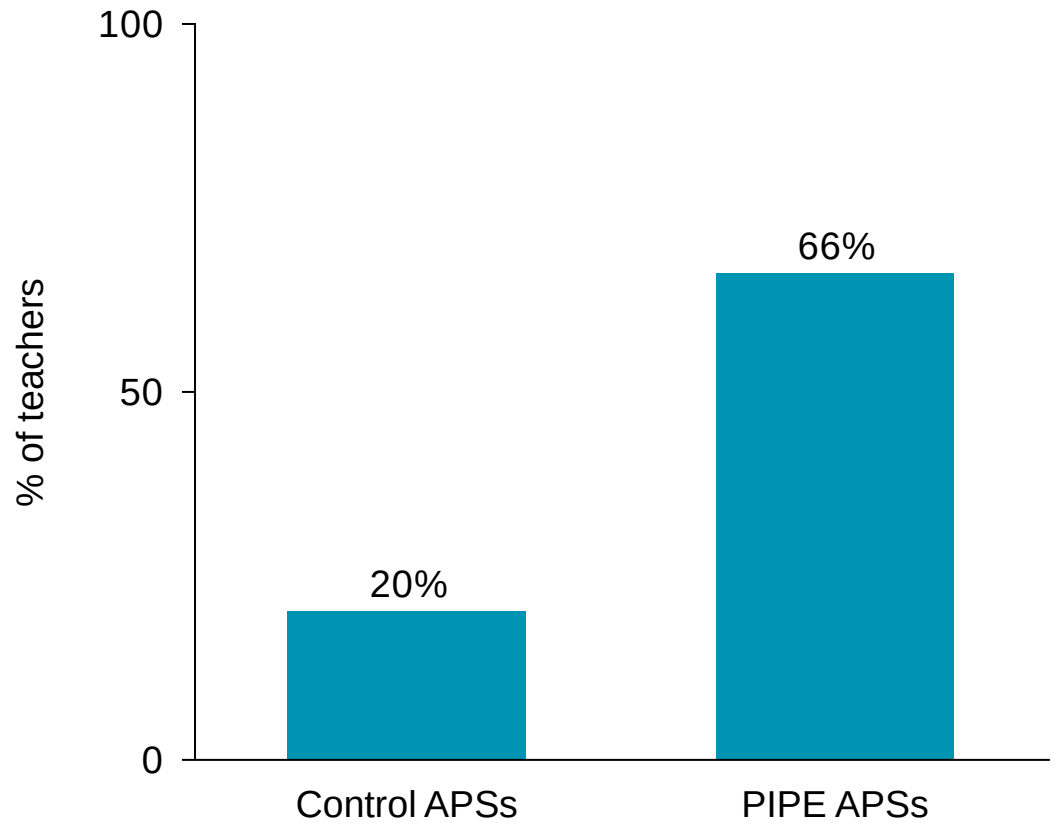


- PIPE APSs scored better than control APSs on
  - Staff-child interaction
  - Appropriate use of materials (e.g., flashcards)
  - Student engagement in class
  - Room arrangement to conduct activities
- PIPE and control APSs have scored poorly on
  - Peer interaction (amongst children)
  - Opportunity for students to express themselves in class

[1]Total score for classroom environment is 30. 10 parameters (e.g., room arrangement, displays etc.) have been rated on a scale of 0-3, each.

4 Thrice as many teachers in PIPE APSs use materials (e.g., flashcards) correctly to teach concepts, as compared to control APSs

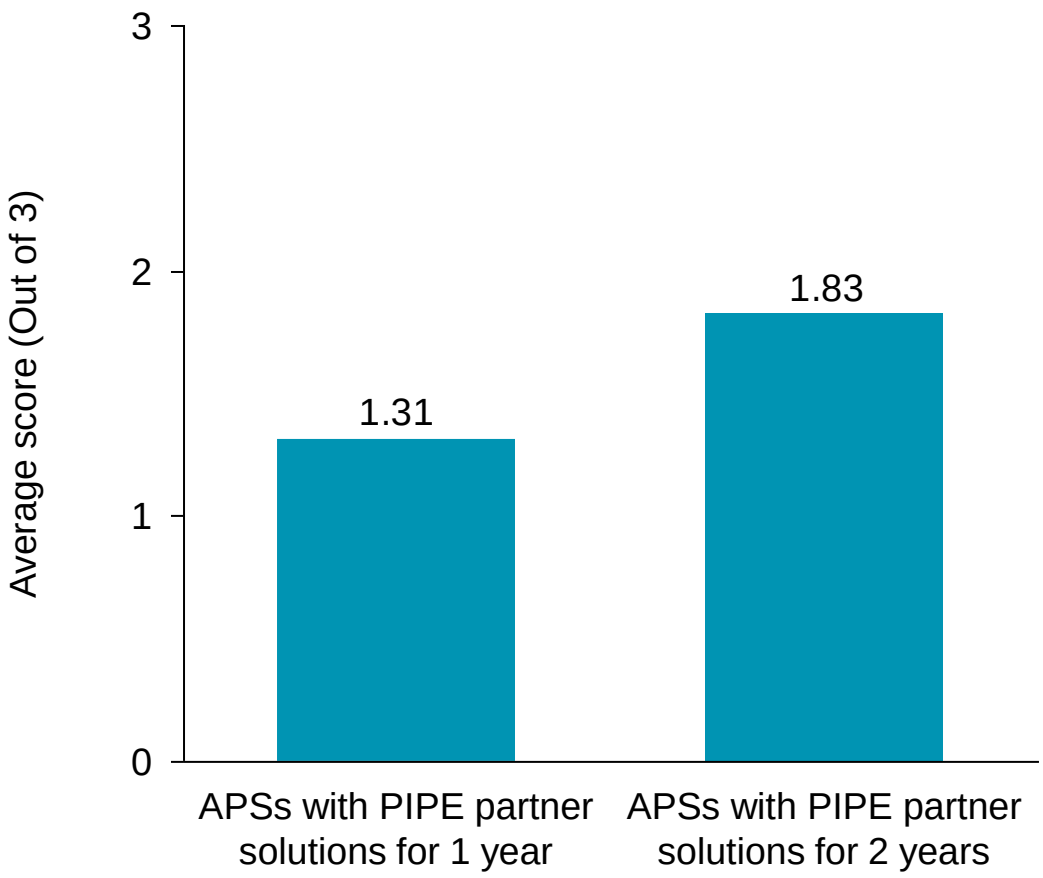
Teachers using at least 1 material in classrooms



- Compared to control APSs, most teachers in PIPE APSs conduct activities using materials with the entire class
- Across APSs, observed very few instances of students using material in small groups or individually

5 APS with PIPE partner solutions for 2 years as compared to 1 year, scored 40% higher on teachers' engaging individually with children resulting in improved staff child interactions

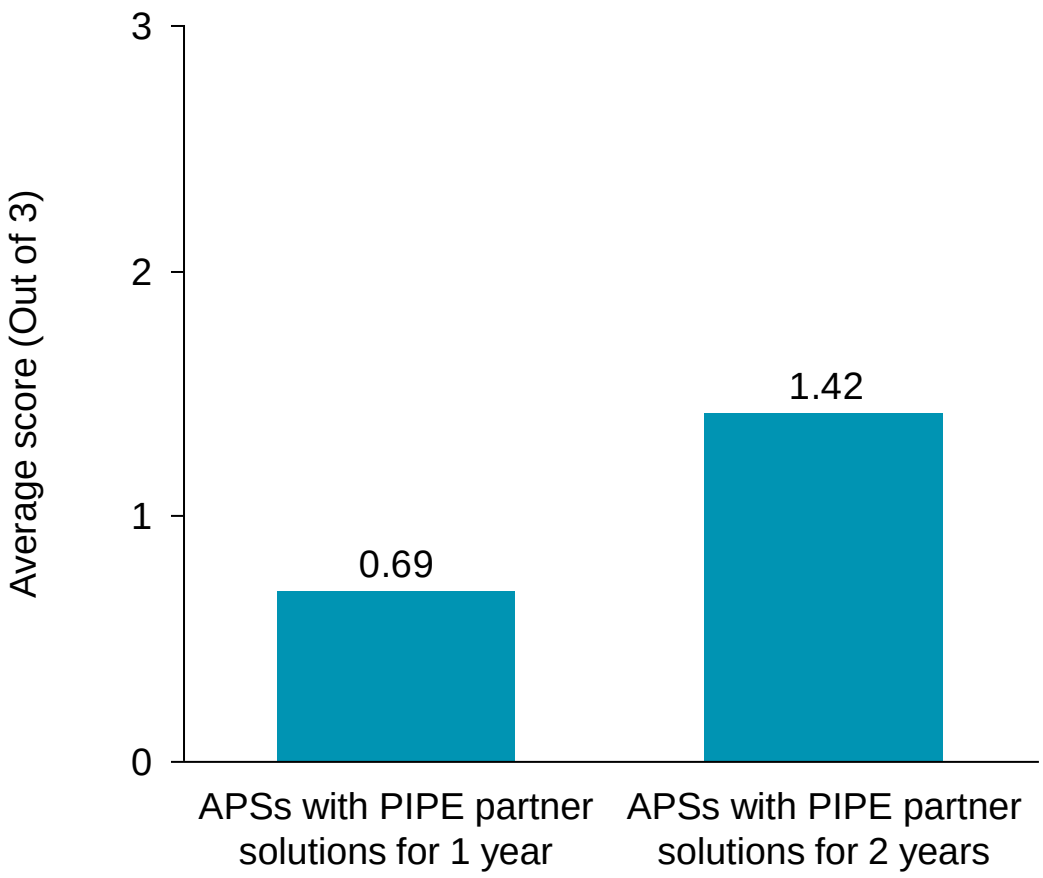
Staff-child interaction scores



Scores	
0	Staff are unresponsive or respond negatively to children
1	Staff interacts positively with the whole group and no negative physical contact
2	**Items in 1 +** Staff interacts positively with some individual children
3	**Items in 2 +** Staff are respectful to children and guide them positively

6 APSs with PIPE partner solutions for 2 years as compared to 1 year, scored 105% higher on teachers' setting classroom norms or using routines resulting in increased student engagement during classes

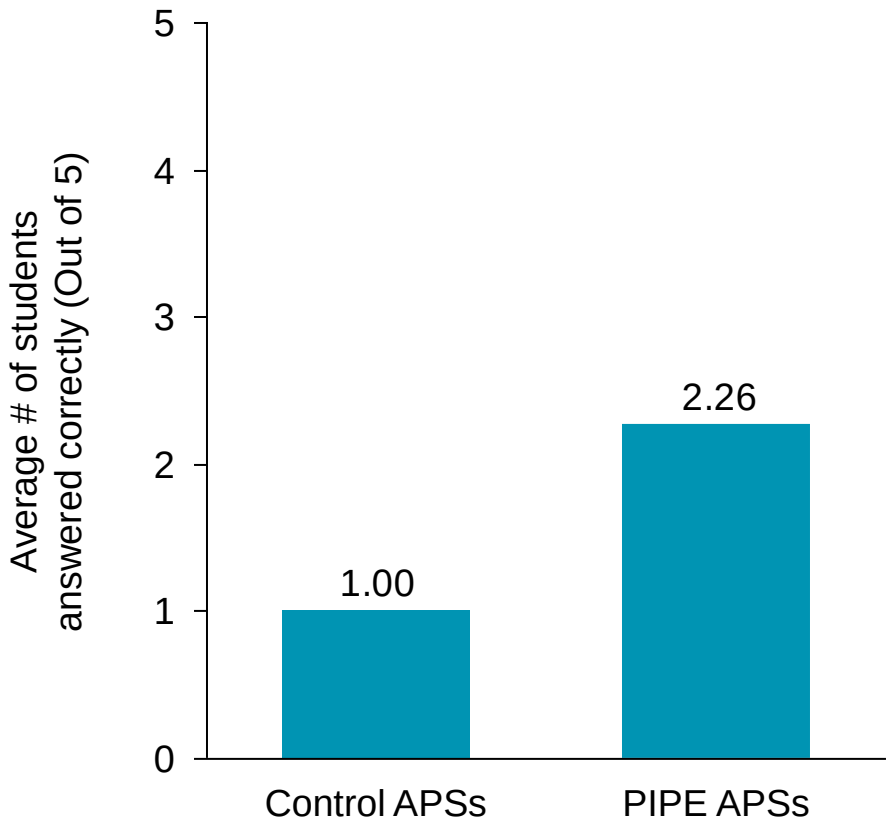
Classroom norms and routines scores



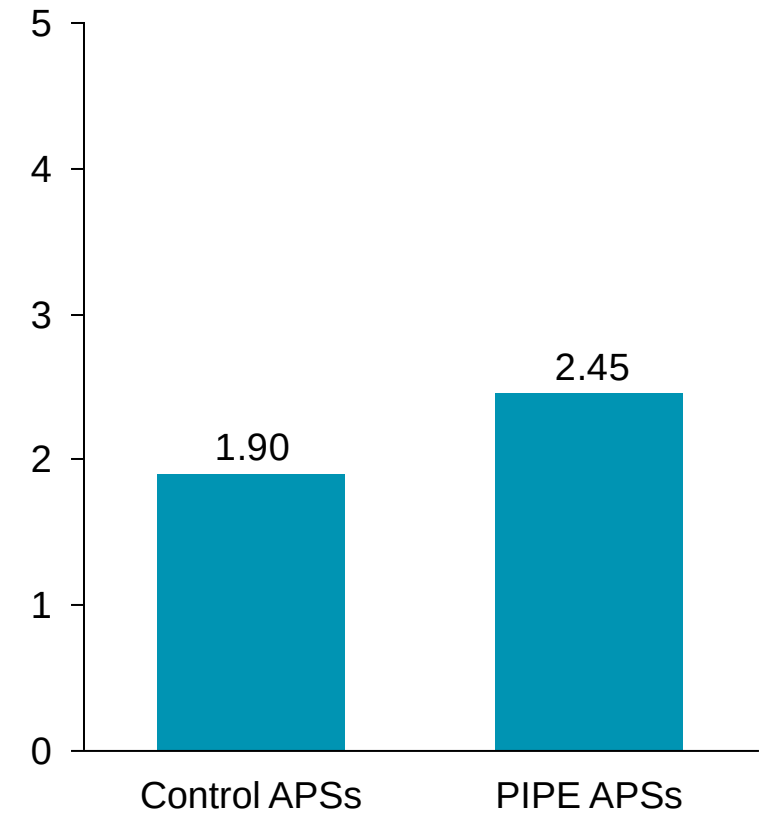
Scores	
0	Class is poorly managed with no norms, routines or expectations made visible or used and severe forms of discipline is used
1	Teachers use appropriate rules to manage class, and, staff do not hurt or intimidate children
2	**Items in 1 +** Children appear to be aware of class rules and expectations and teachers reinforce expectations gently
3	**Items in 2 +** Staff tries to involve children in solving their conflicts and problems

7 In PIPE APSs, ~2.3x students can read new English words and ~1.3x students can name more than 6 animals as compared to control APSs

Students able to read 'PIN'[1]

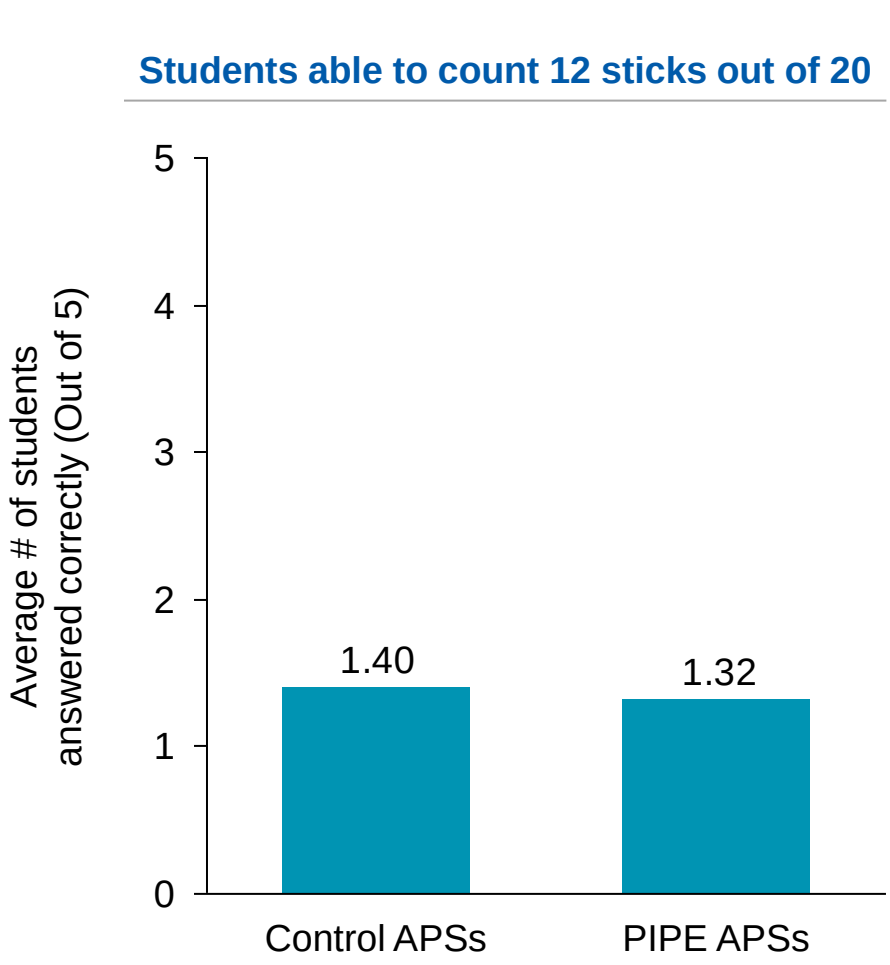


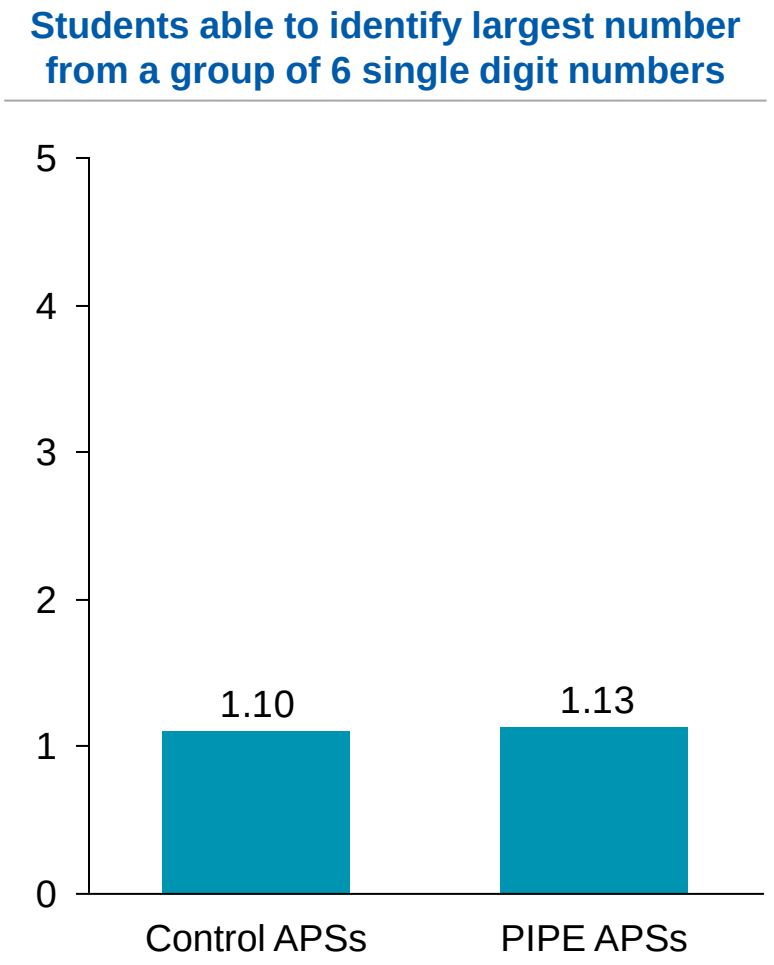
Students able to name >6 animals



[1]PIN is generally not taught as part of the regular curriculum and hence checks for ability to read new words

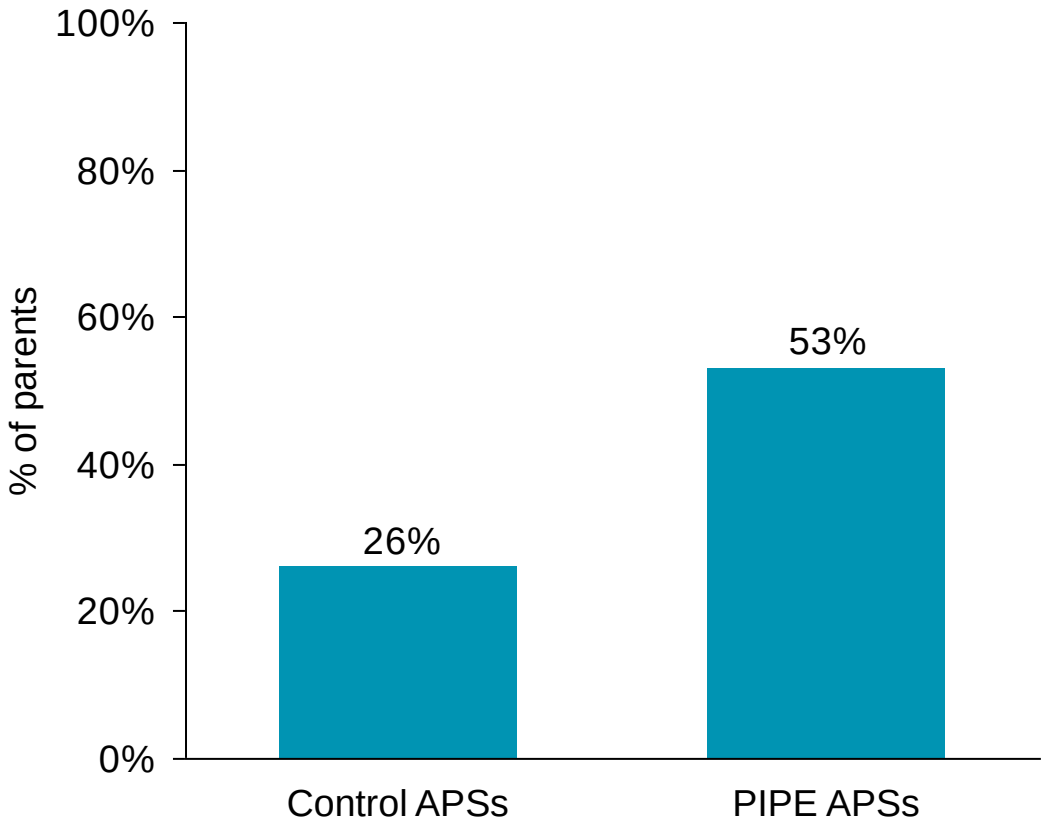
8 Children in PIPE APSs did not perform better than children in control APSs on Math learning outcomes





9 Twice as many parents in PIPE APSs identified one question to check for learning in English, as solution providers have made parents more aware about it

Parents identified question to check children's English skills



Typical correct responses

"My child has started speaking to the neighbors in English"

"My child is learning the sound of English alphabets and not just memorizing the letters"

"My child has started using phonics to read new English words"

Agenda

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

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

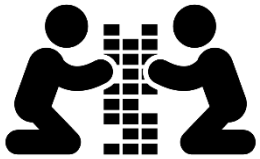
- Limited awareness of poor learning outcomes in children
- Limited awareness on the benefits of ABL
- Current rote memorization technique meets parents' demands

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



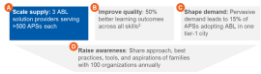
Mission	ABL solution providers **sell profitably and at scale** to APSs in India	ABL solution providers **make learning effective and enjoyable** for children	ABL solution providers **communicate the benefits of ABL** to stakeholders[1]
Goal by 2025	A **Scale supply:** 3 ABL solution providers serving >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

1. Stakeholders are APS administrators, teachers and parents
2. Skills include numeracy, early language skills, executive function, motor skills and socio-emotional skills

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



Goal

3 ABL solution providers >500 APSs each

Activities

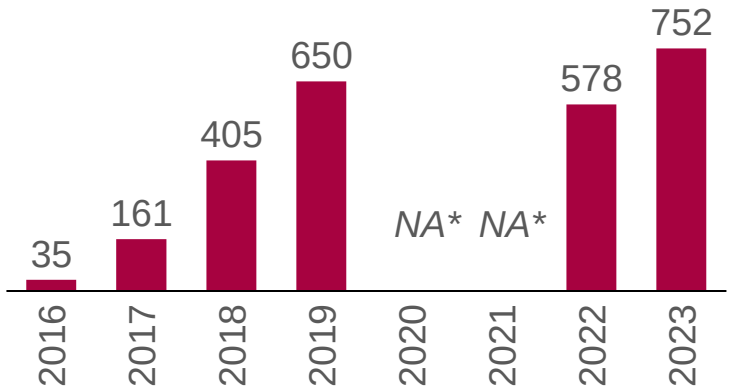
- Identified, convinced and **signed-up 8 partners** to the serve the APS market
- Developed a **profitable business model** for the APS market
- **Identified barriers and developed 23 best practices across 4 business functions** (i.e. product, sales, implementation and management) to support partners 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

chrysalis, kreedo, HIPPOCAMPUS Learning Centres, 321, Next Education Transforming Education, The Karadi Path Education Company, Chipper Sage, Gyan Shala, vikalp instrument of ideas

# of APSs using PIPE partner solutions[1]



**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

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

Goal

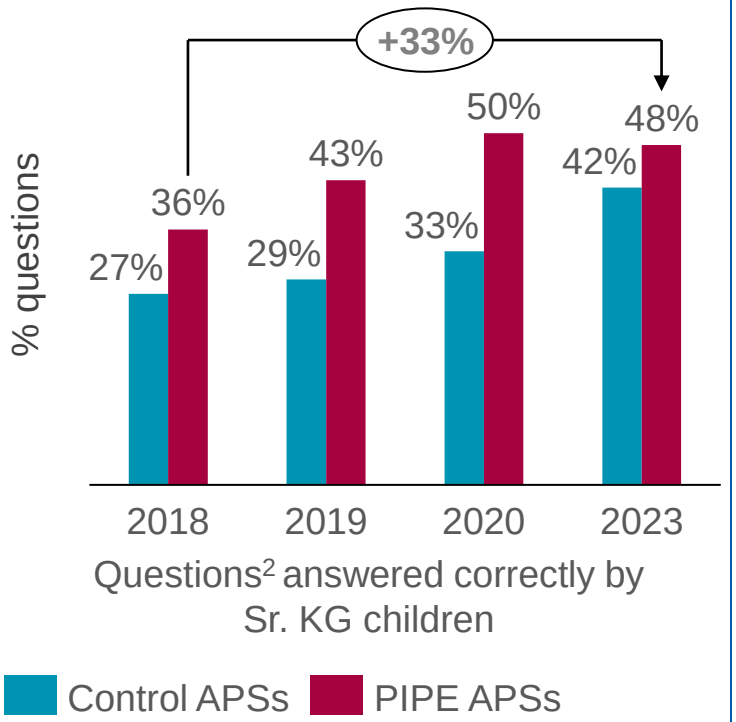
50% better learning outcomes across each skill

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]

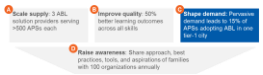
33% improvement Since 2018



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

1-Using the STARS tool. Sample sizes: 2018 (190 children in 38 PIPE APSs and 100 children in 20 control APSs), 2019 (636 children in 106 PIPE APSs and 168 children in 28 control APSs) , 2020 (492 children in 116 PIPE APSs and 210 children in 35 control APSs), 2023 (378 children in 63 PIPE APSs and 204 children in 34 control APSs) I 2- Represent 4 questions that were assessed from 2018-2023 – a. Can you read the word 'PIN'? b. Can you identify the largest number from a group of numbers? c. Can you count and give 12 sticks out of 20? d. Can you name any 6 animals?.

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



Goal

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

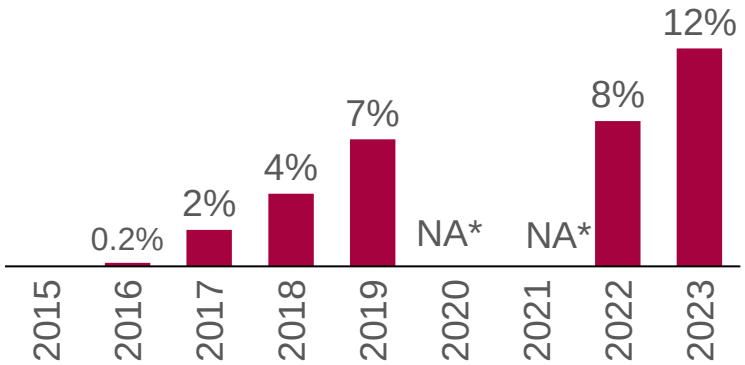
Activities

- 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

Impact to date

Disseminated parent engagement videos to 100K+ parents

% of APSs in Bangalore adopting ABL[1]



**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

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

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

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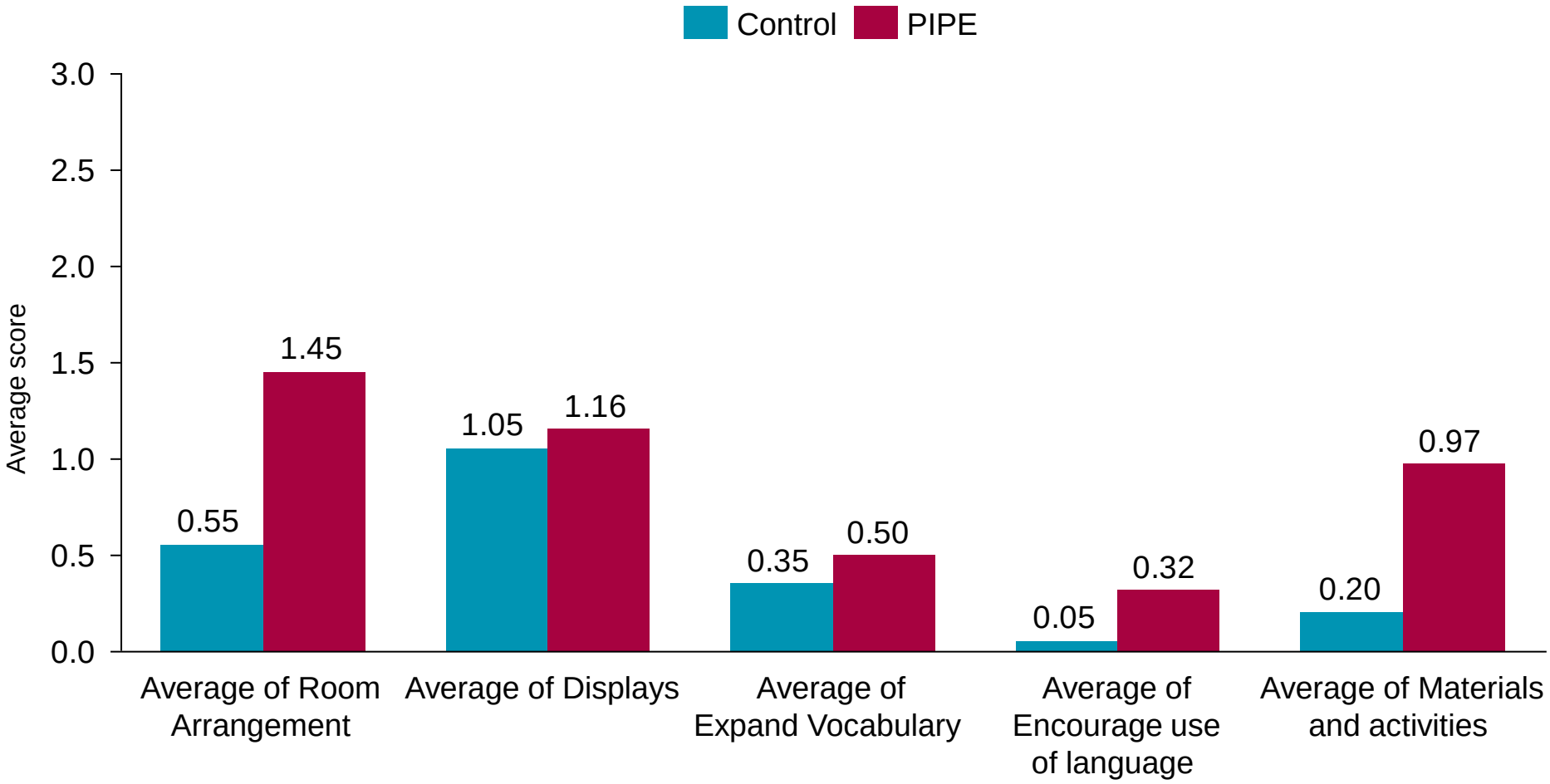
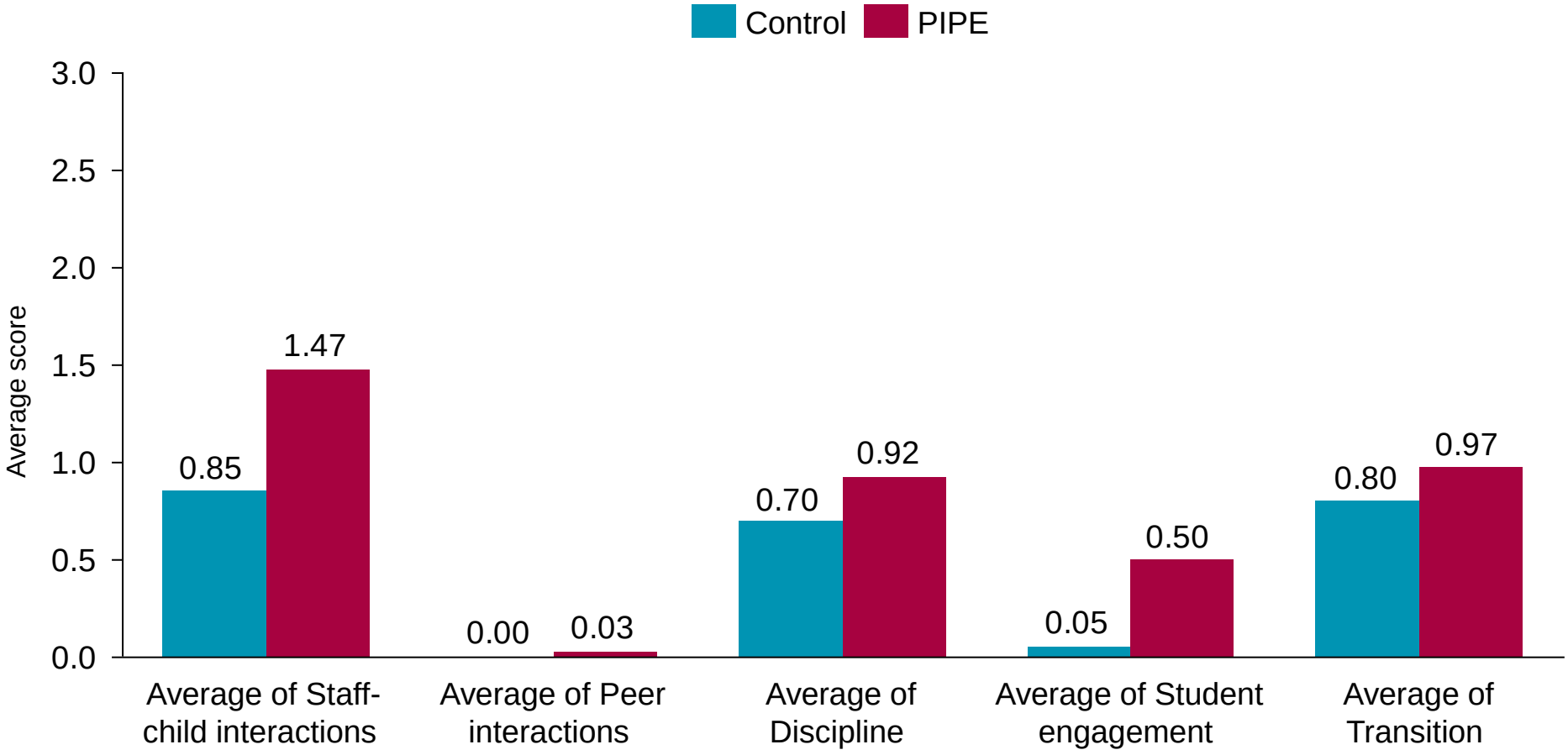
Classroom environment: PIPE vs Control APSs (1/2)



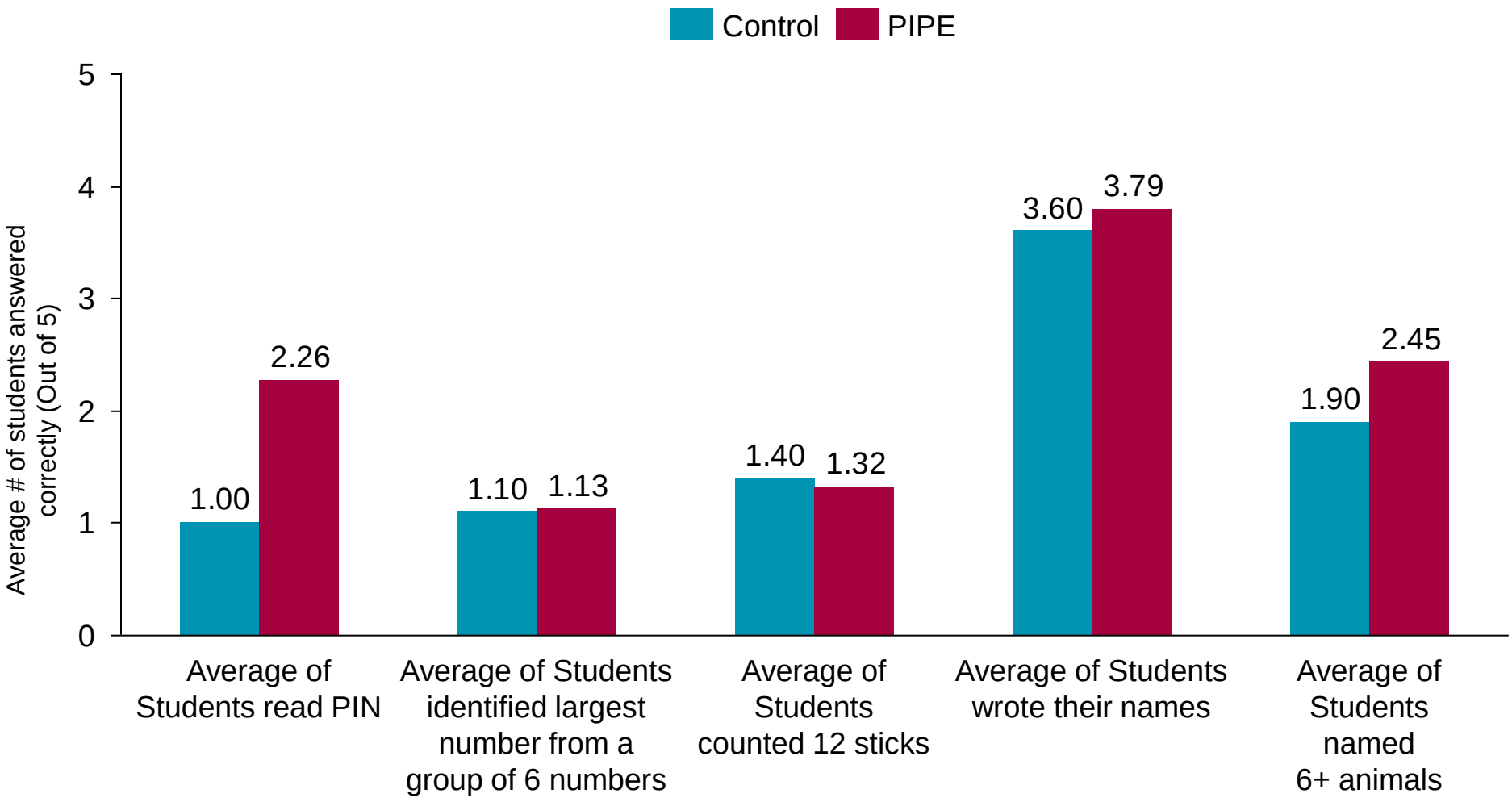
Note: Scores on a scale of 0-3

Classroom environment: PIPE vs Control APSs (2/2)



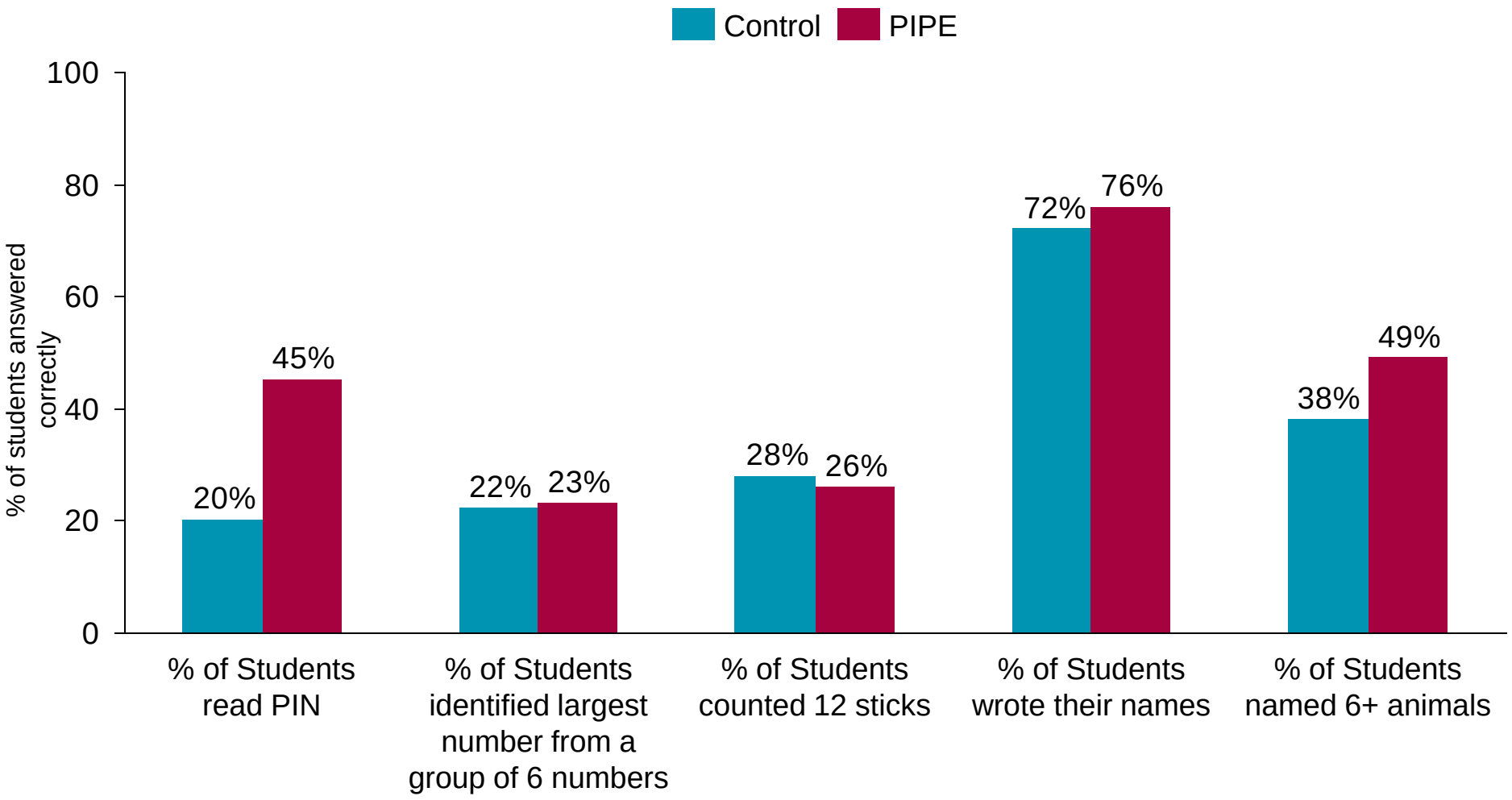
Note: Scores on a scale of 0-3

Student learning outcomes: PIPE vs Control APSs

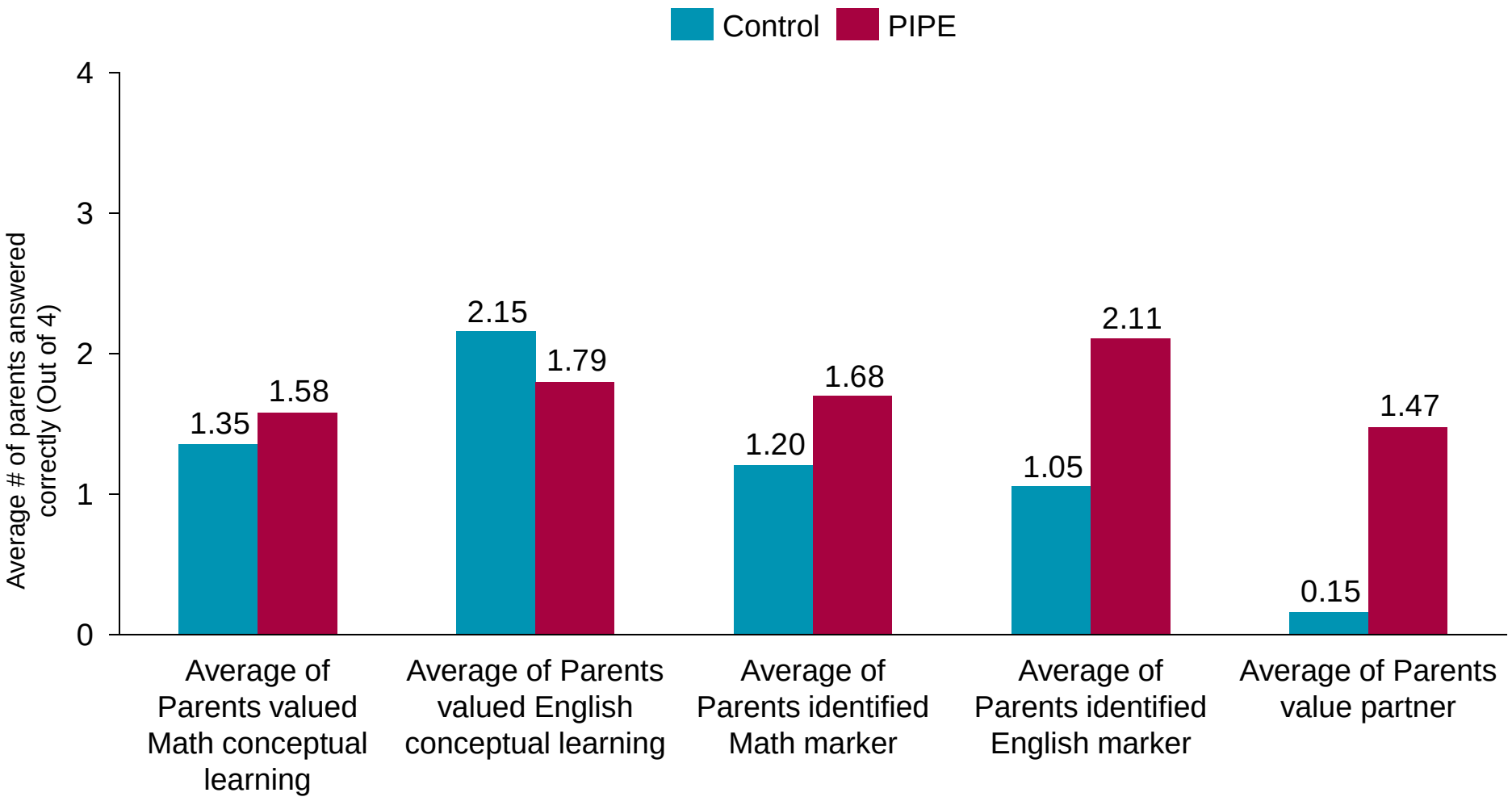


Note: Scores on a scale of 0-5

Student learning outcomes : PIPE vs Control APSs

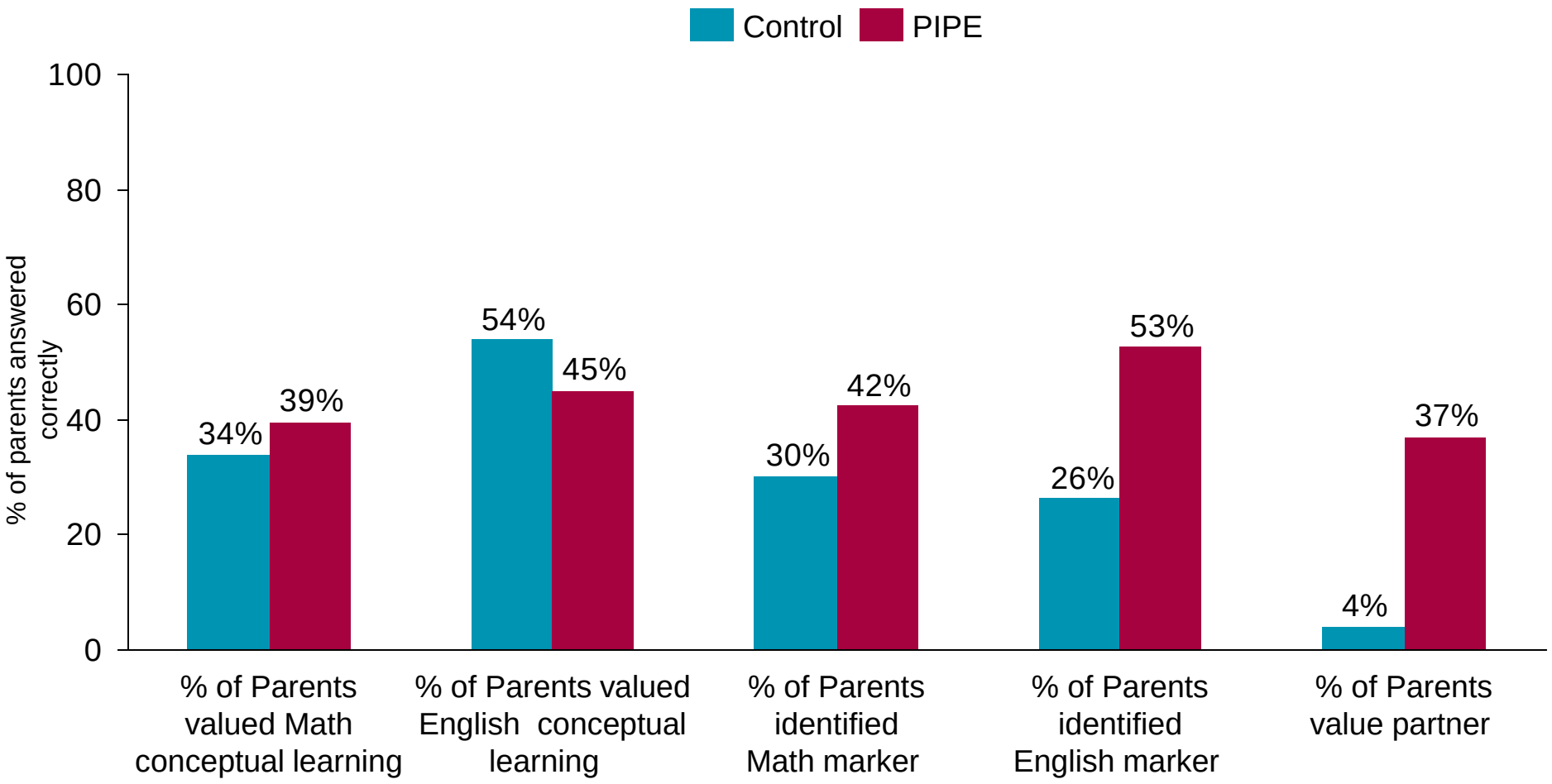


Parent interviews: PIPE vs Control APSs

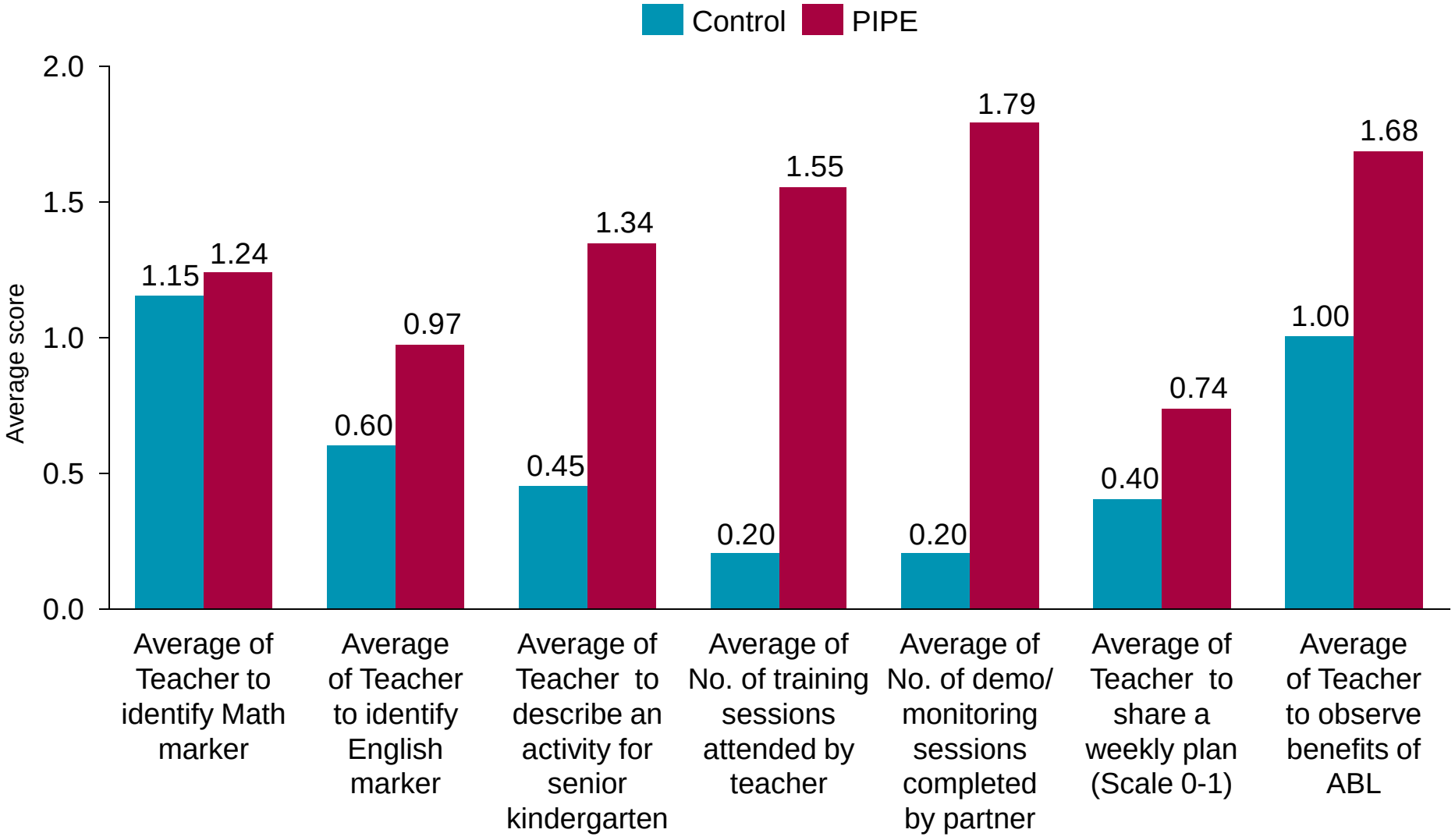


Note: Scores on a scale of 0-4

Parent interviews: PIPE vs Control APSs

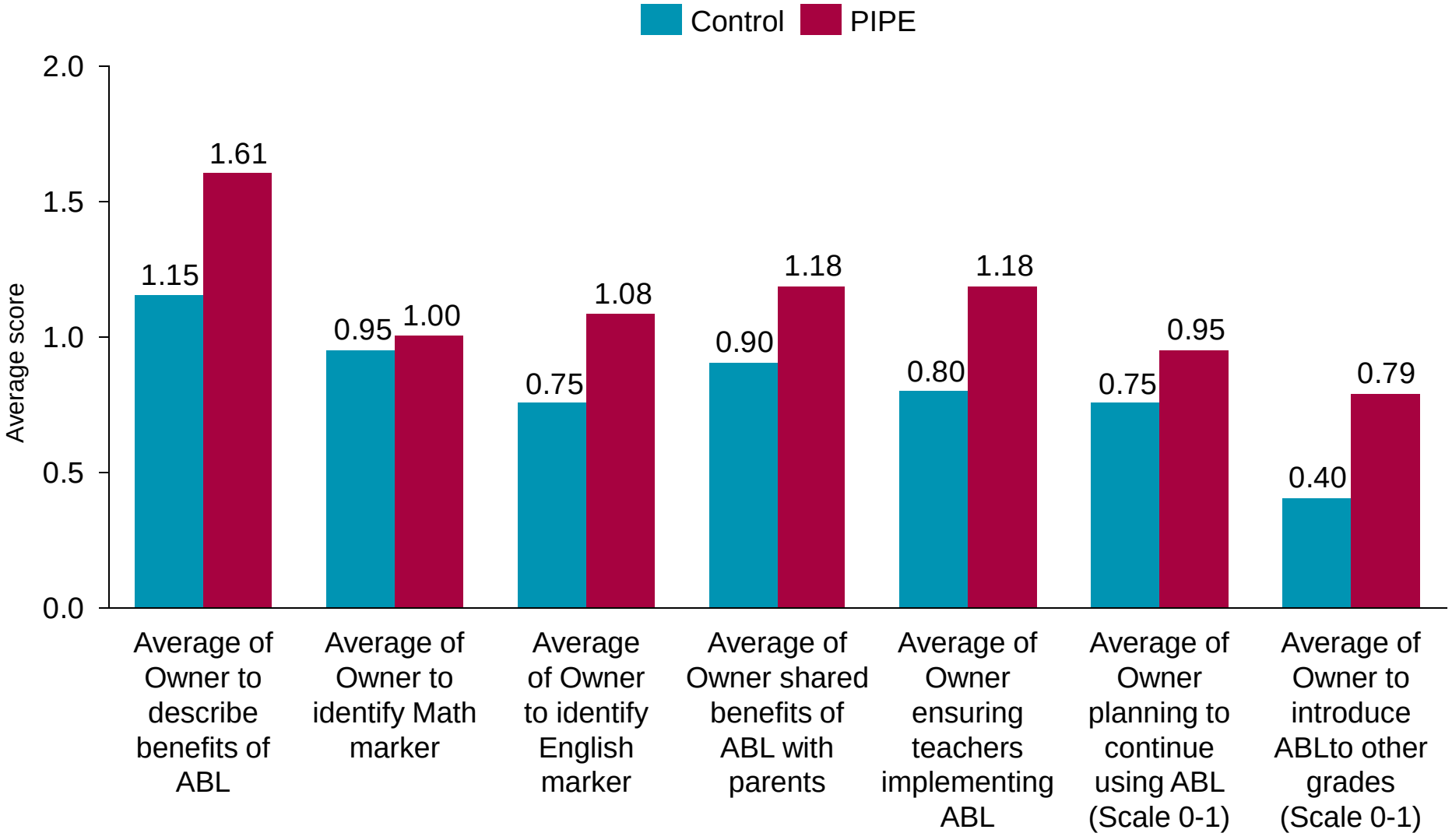


Teacher interviews: PIPE vs Control APSs



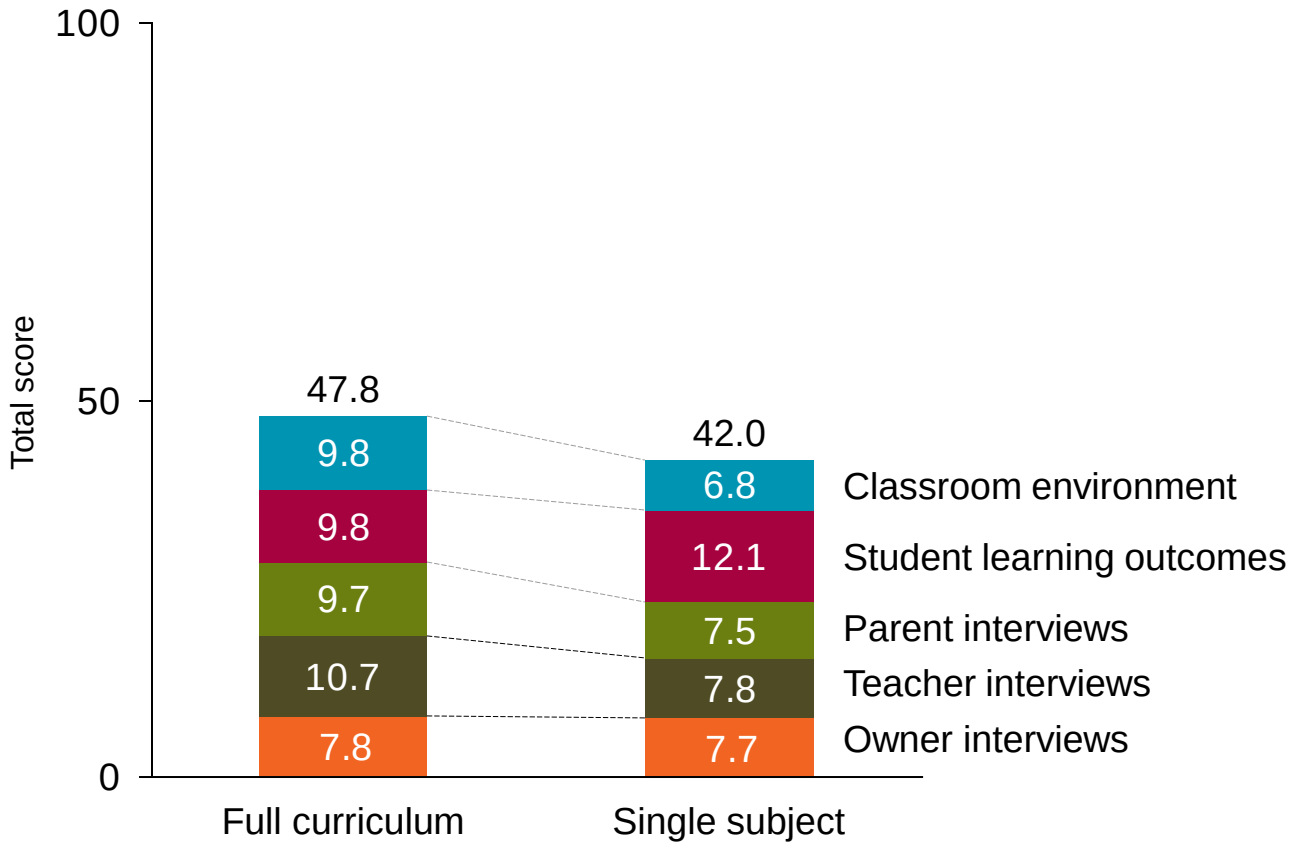
Note: Scores on a scale of 0-2, unless specified otherwise

Owner interviews: PIPE vs Control APSs



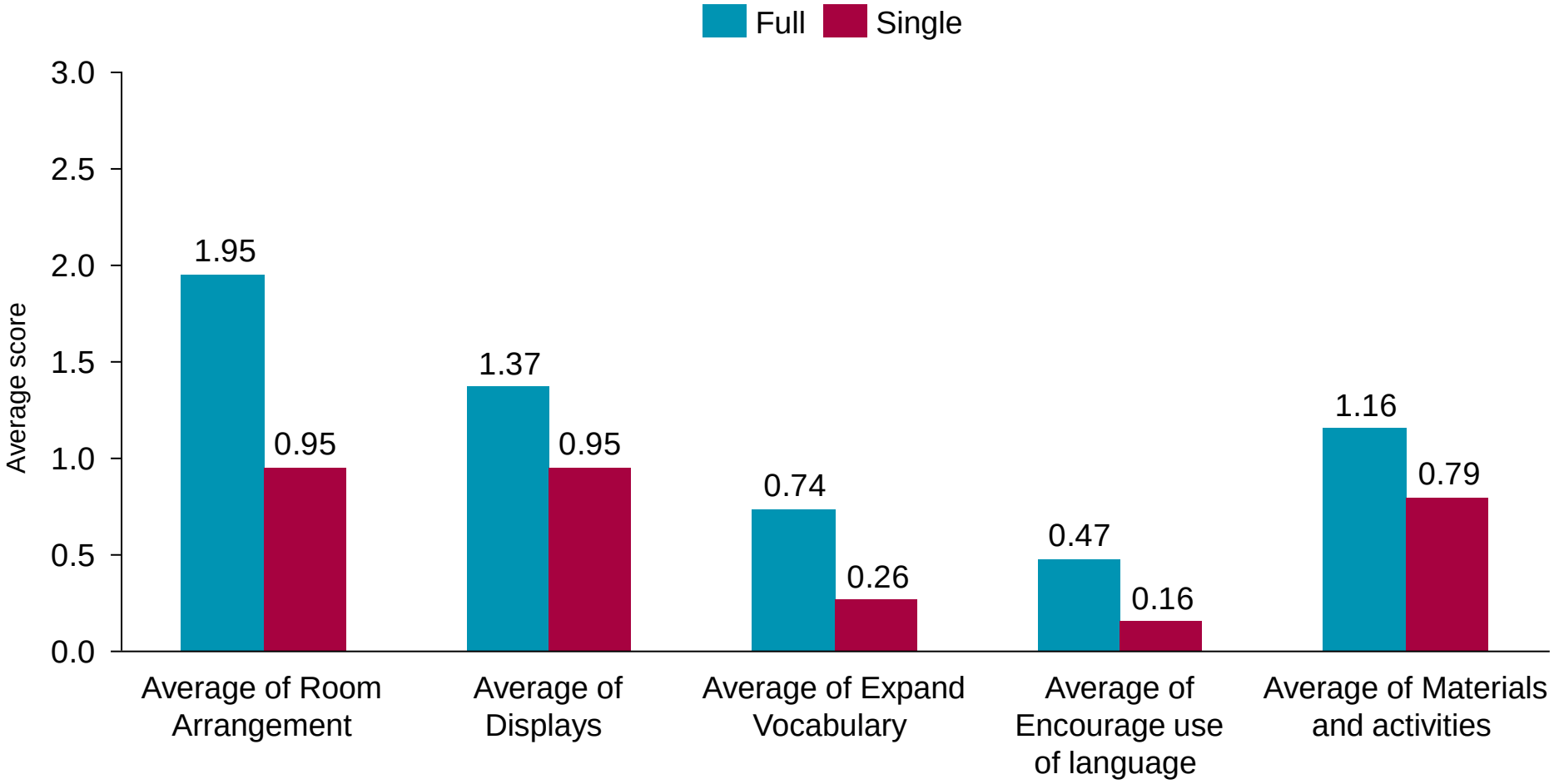
Note: Scores on a scale of 0-2, unless specified otherwise

Average score: Full curriculum vs Single subject PIPE APSs



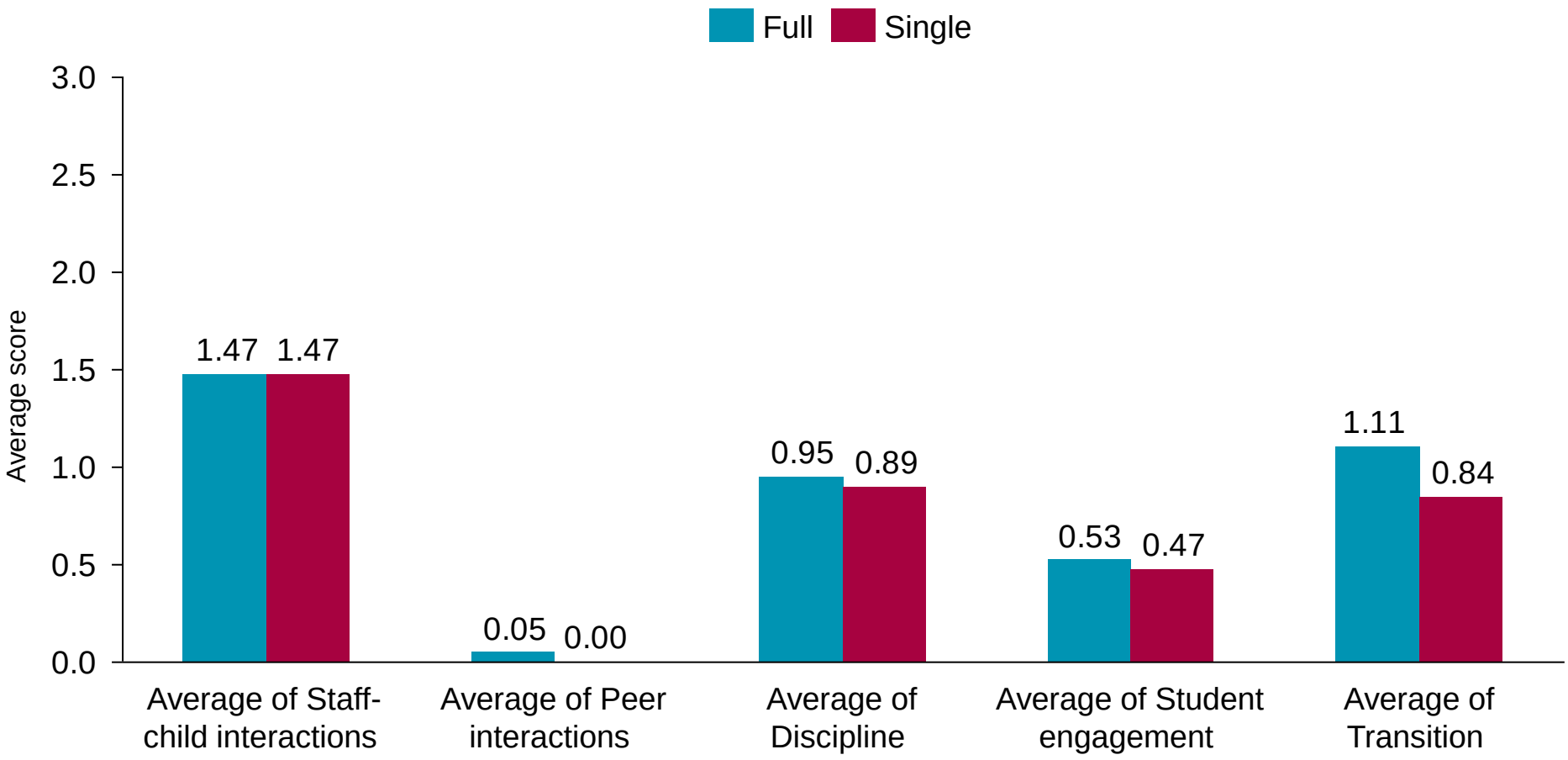
[1]Overall total score for PAT is 100. Total score for classroom environment is 30. Total score for student learning environment is 25. Total score for parent interviews is 20. Total score for teacher interviews is 13. Total score for owner interviews is 12.

Classroom environment: Full curriculum vs Single subject PIPE APSs (1/2)



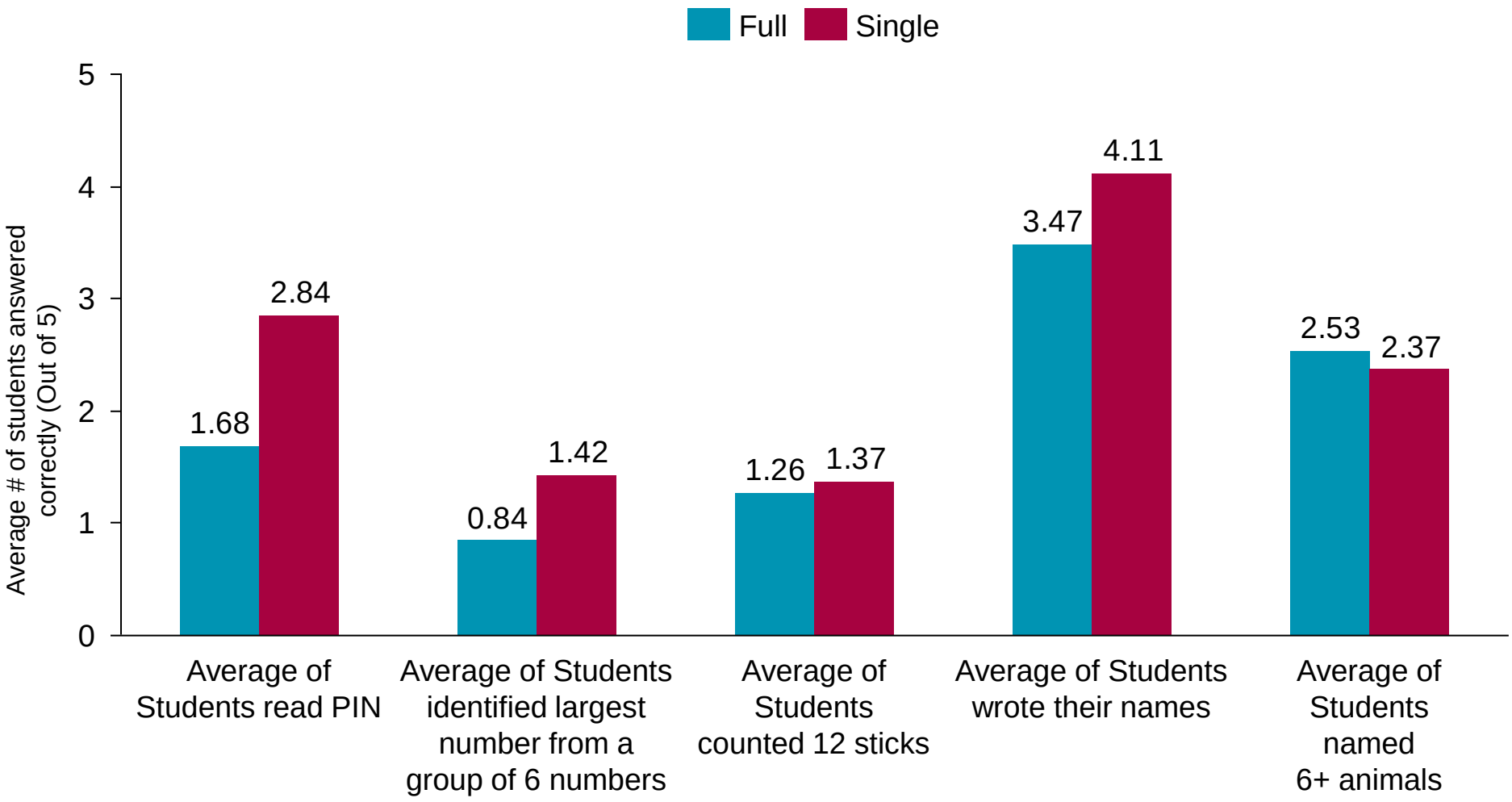
Note: Scores on a scale of 0-3

Classroom environment: Full curriculum vs Single subject PIPE APSs (2/2)



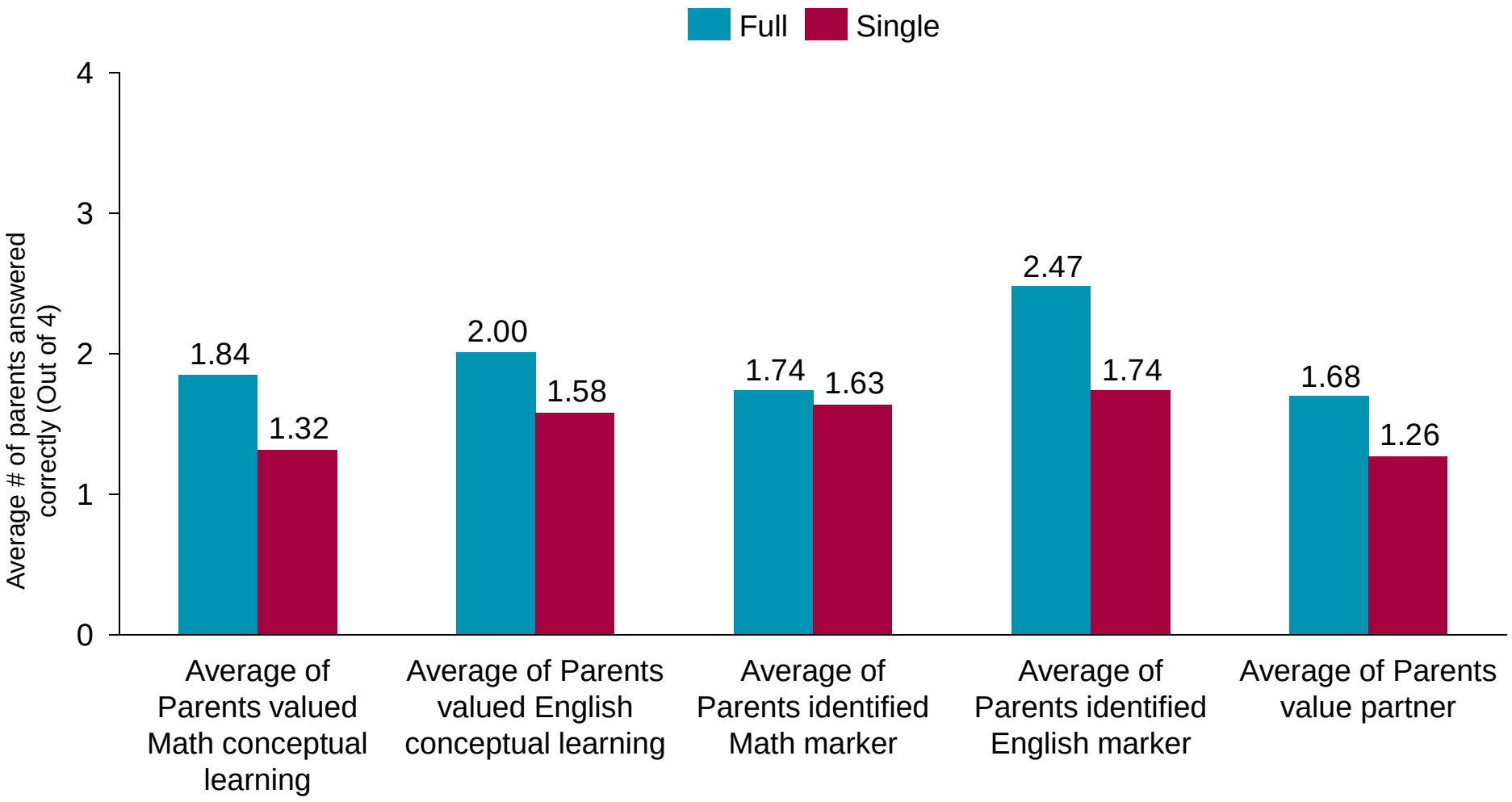
Note: Scores on a scale of 0-3

Student learning outcomes: Full curriculum vs Single subject PIPE APSs



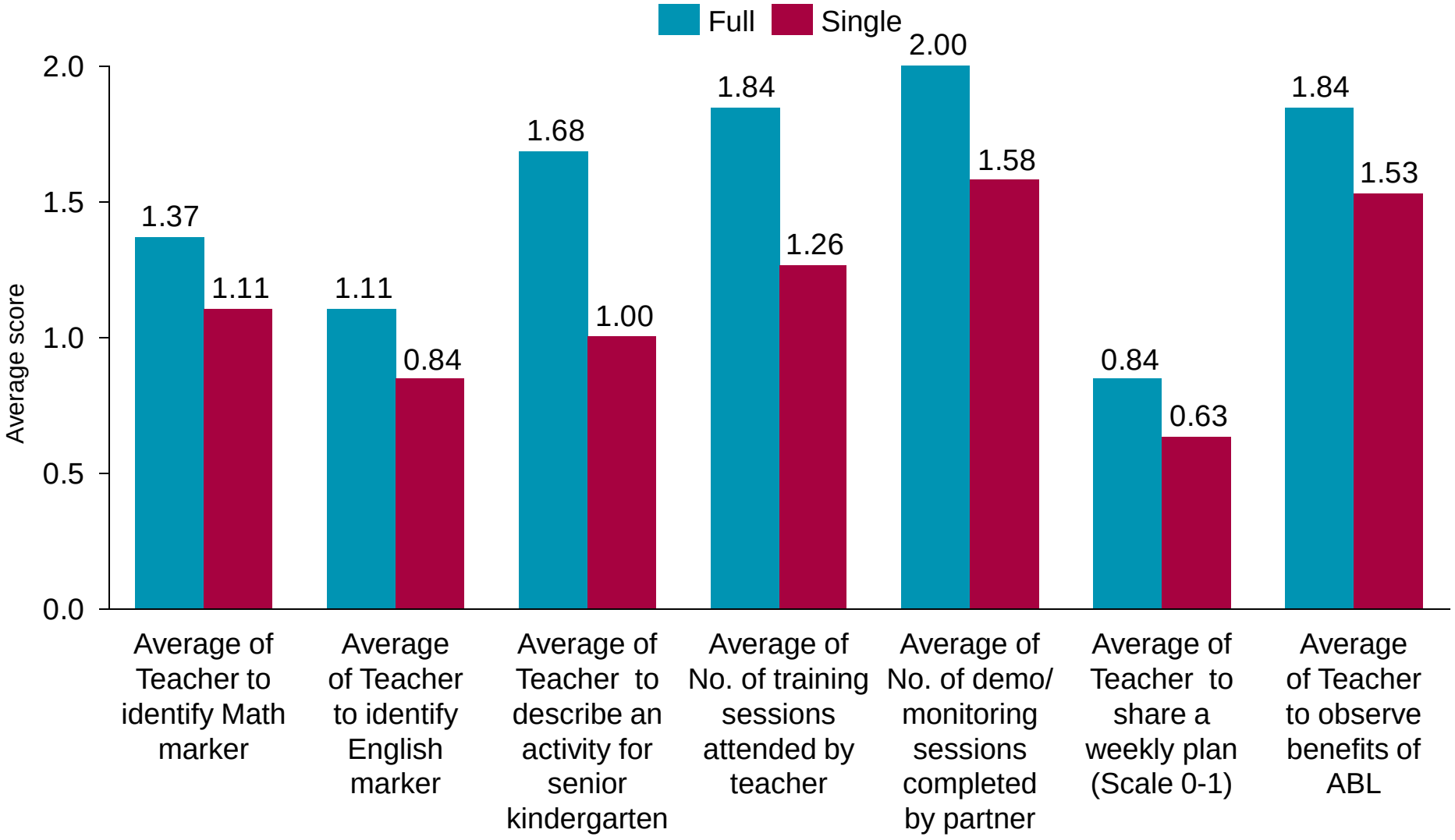
Note: Scores on a scale of 0-5

Parent interviews: Full curriculum vs Single subject PIPE APSs



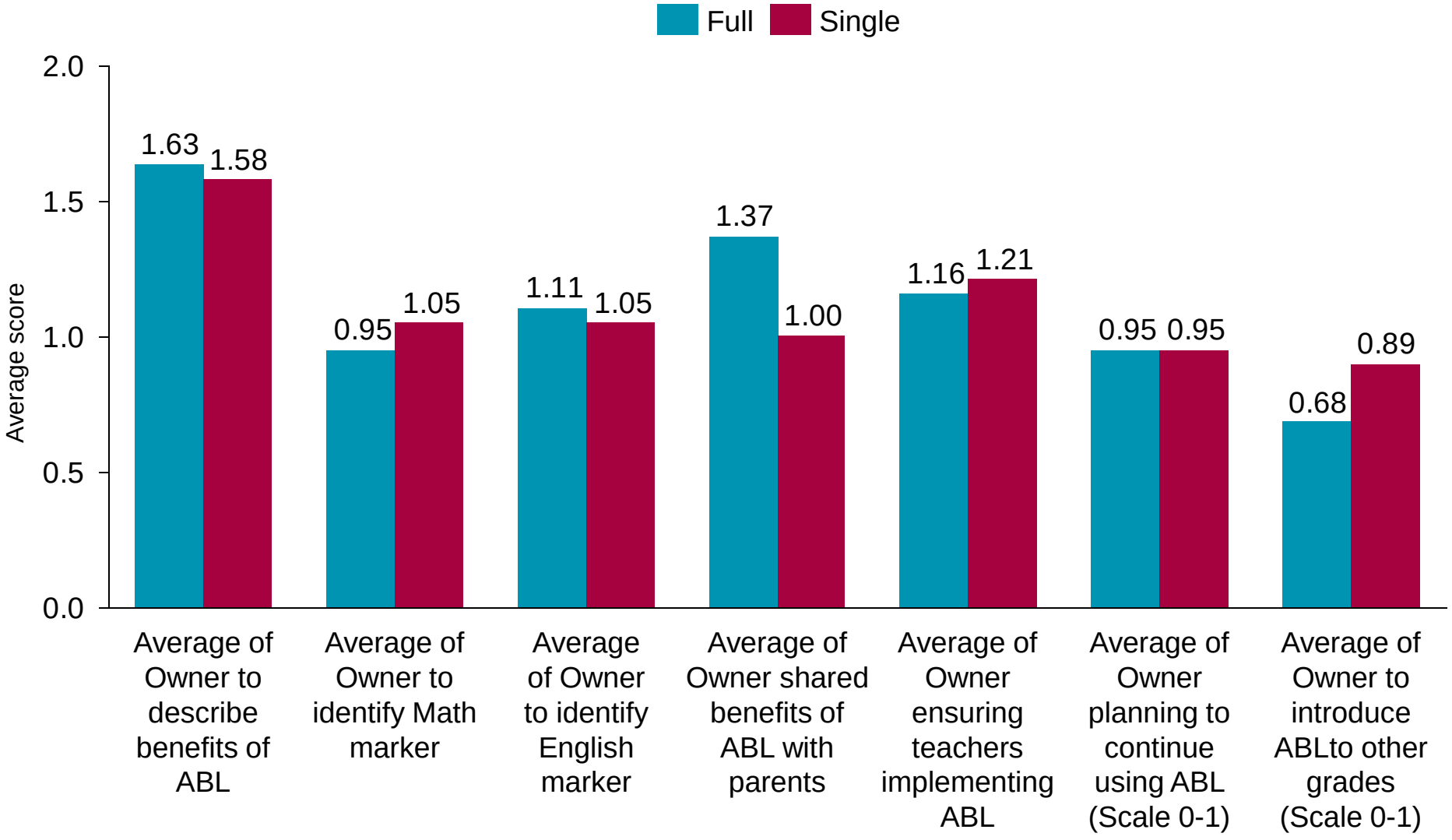
Note: Scores on a scale of 0-4

Teacher interviews: Full curriculum vs Single subject PIPE APSs



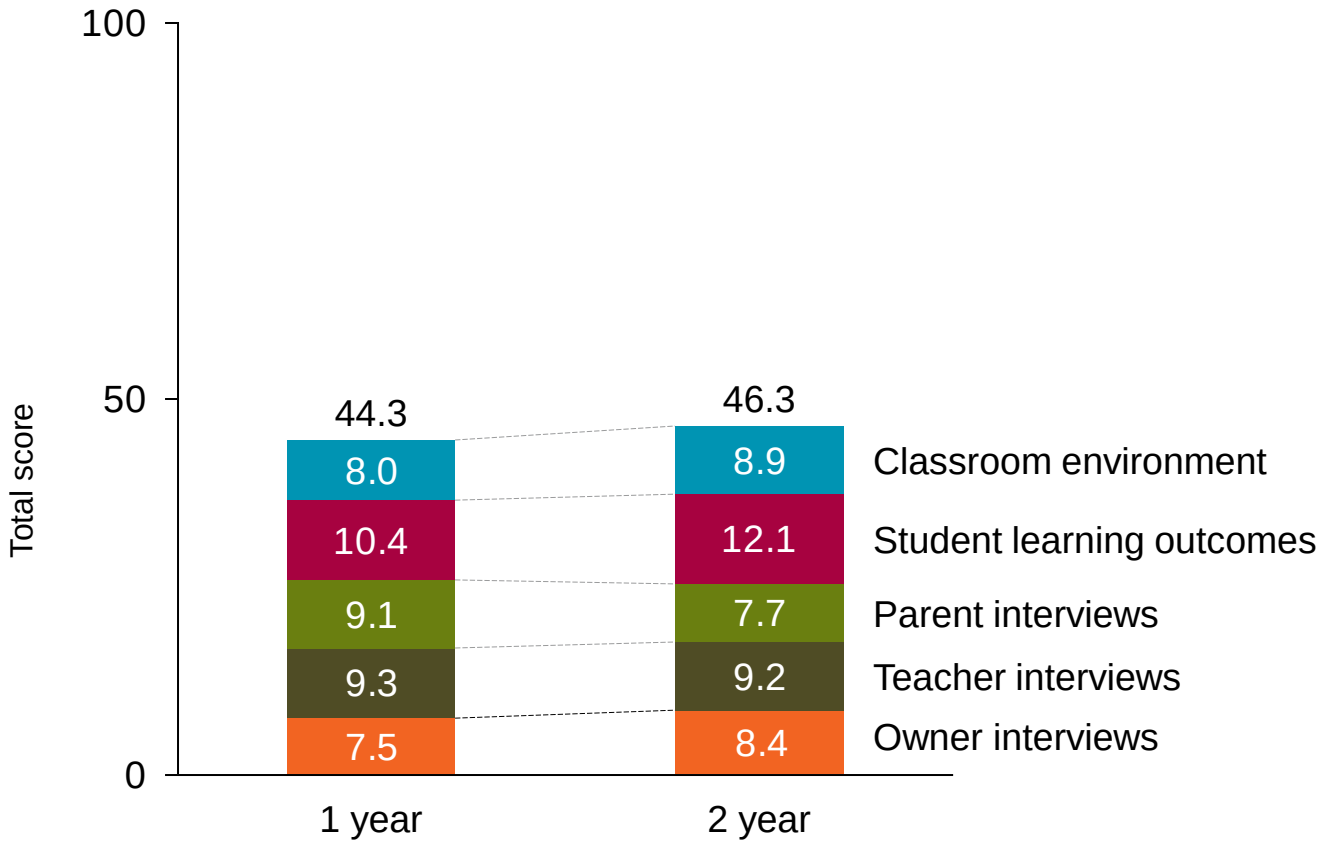
Note: Scores on a scale of 0-2, unless specified otherwise

Owner interviews: Full curriculum vs Single subject PIPE APSs



Note: Scores on a scale of 0-2, unless specified otherwise

Average score: 1 year vs 2 year PIPE APSs



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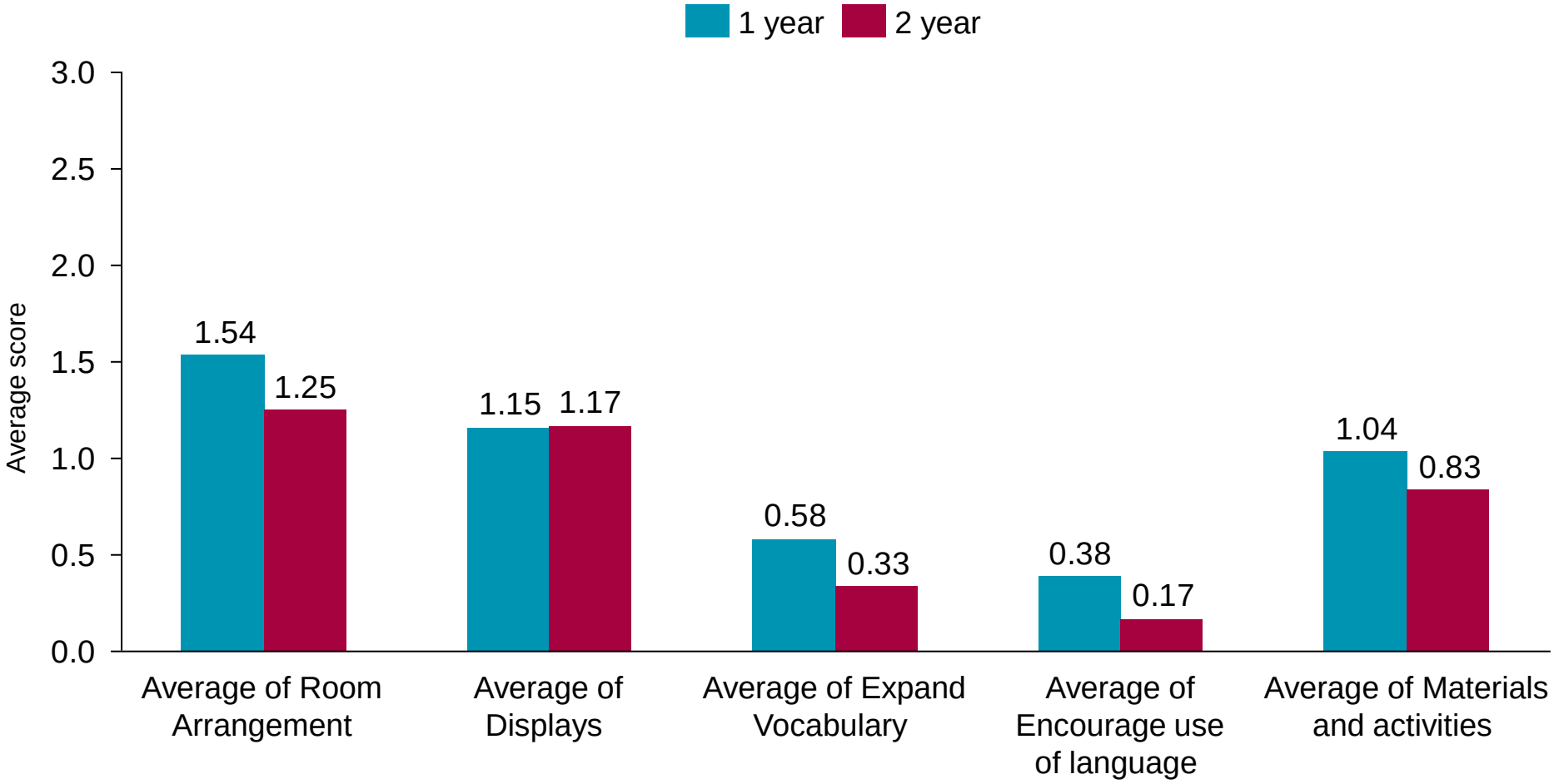
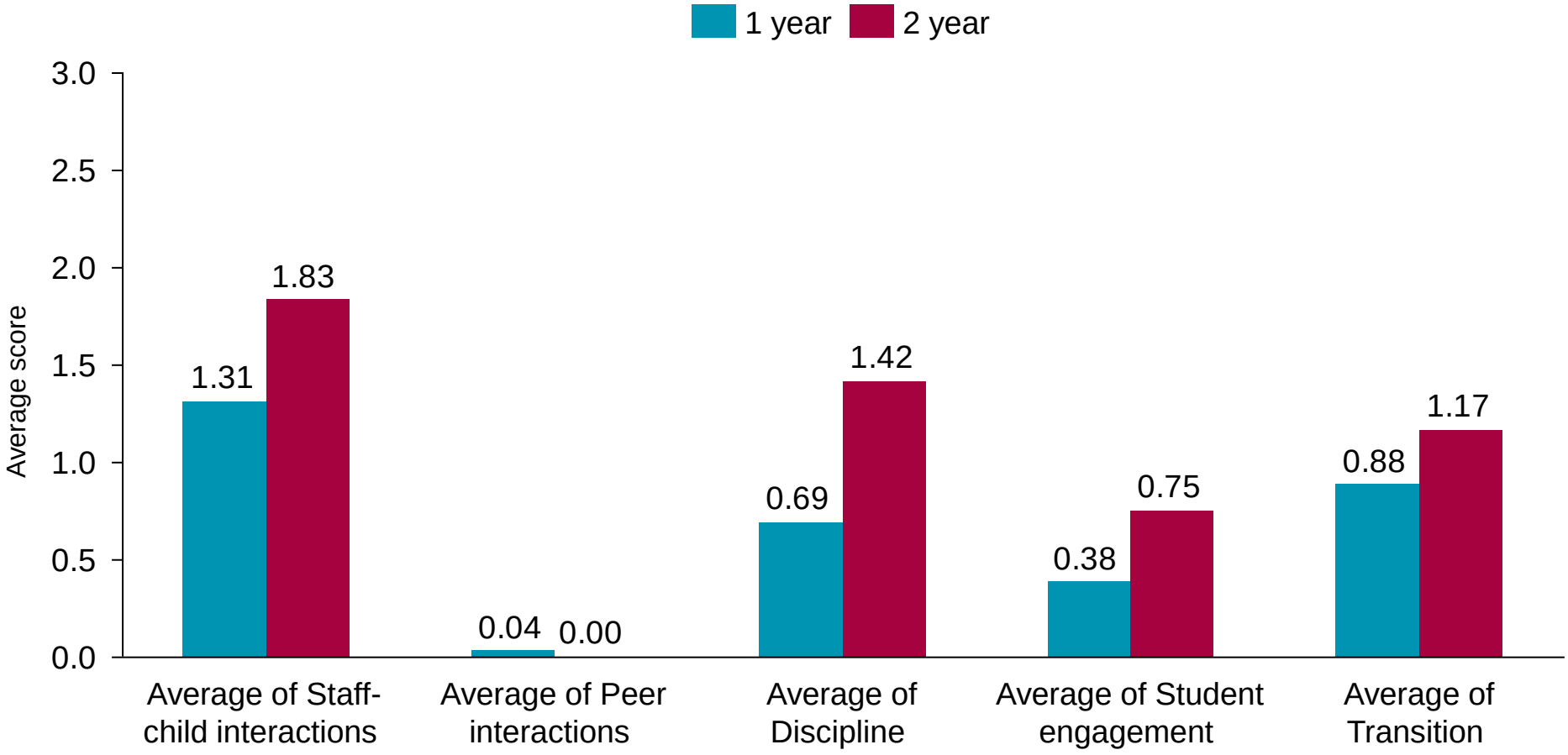
Classroom environment: 1 year vs 2 year PIPE APSs (1/2)



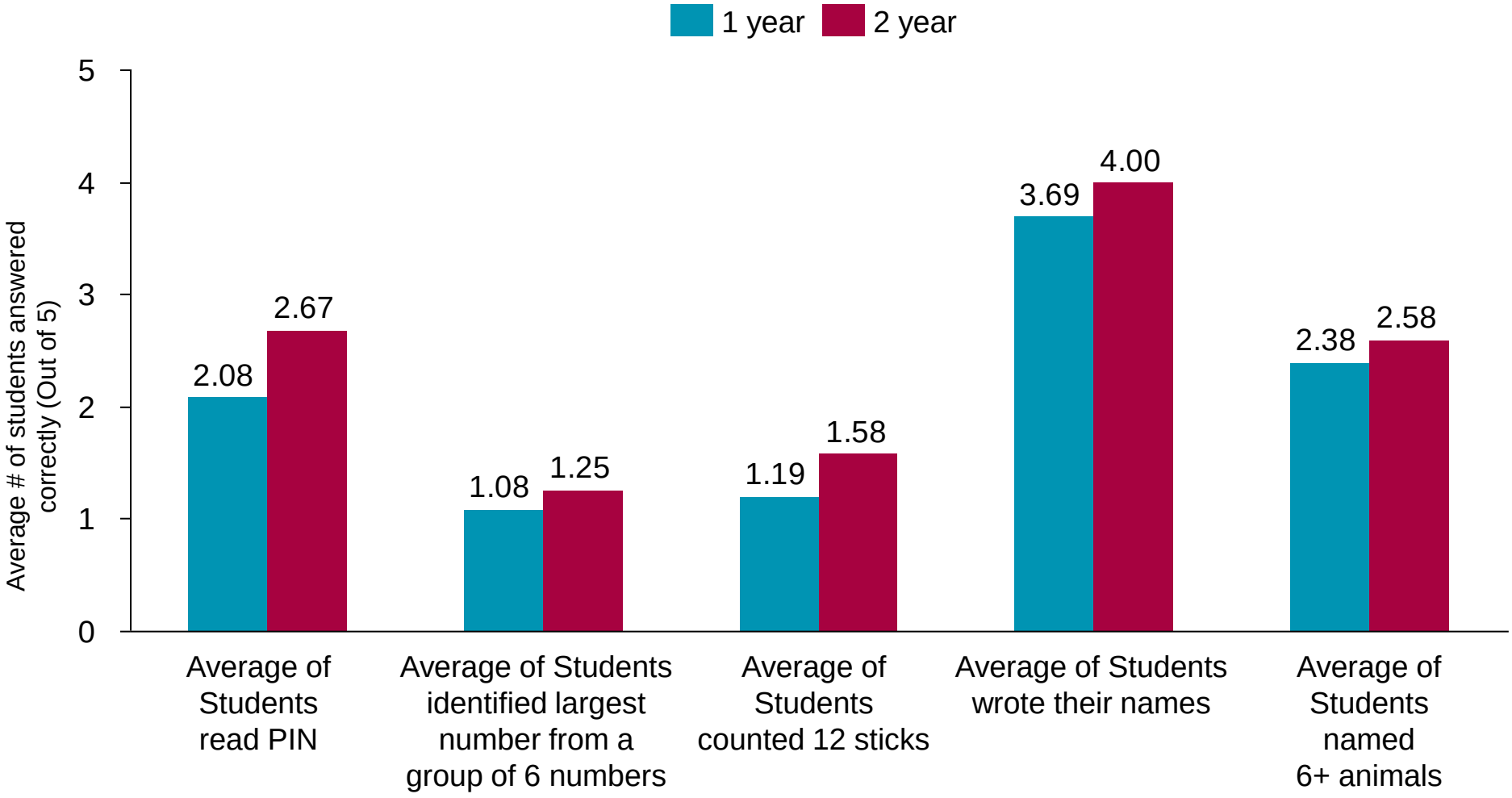
Note: Scores on a scale of 0-3

Classroom environment: 1 year vs 2 year PIPE APSs (2/2)



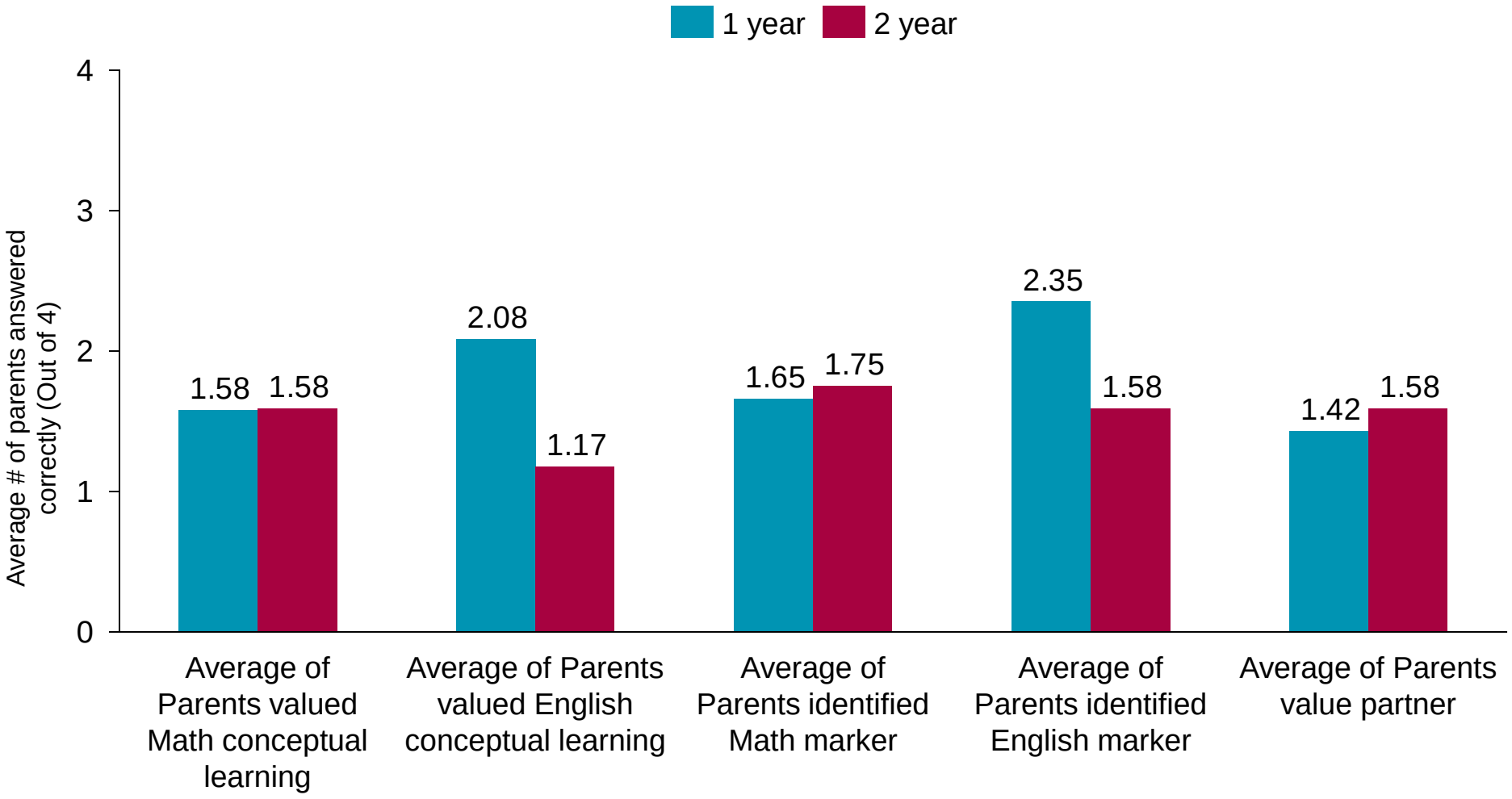
Note: Scores on a scale of 0-3

Student learning outcomes: 1 year vs 2 year PIPE APSs



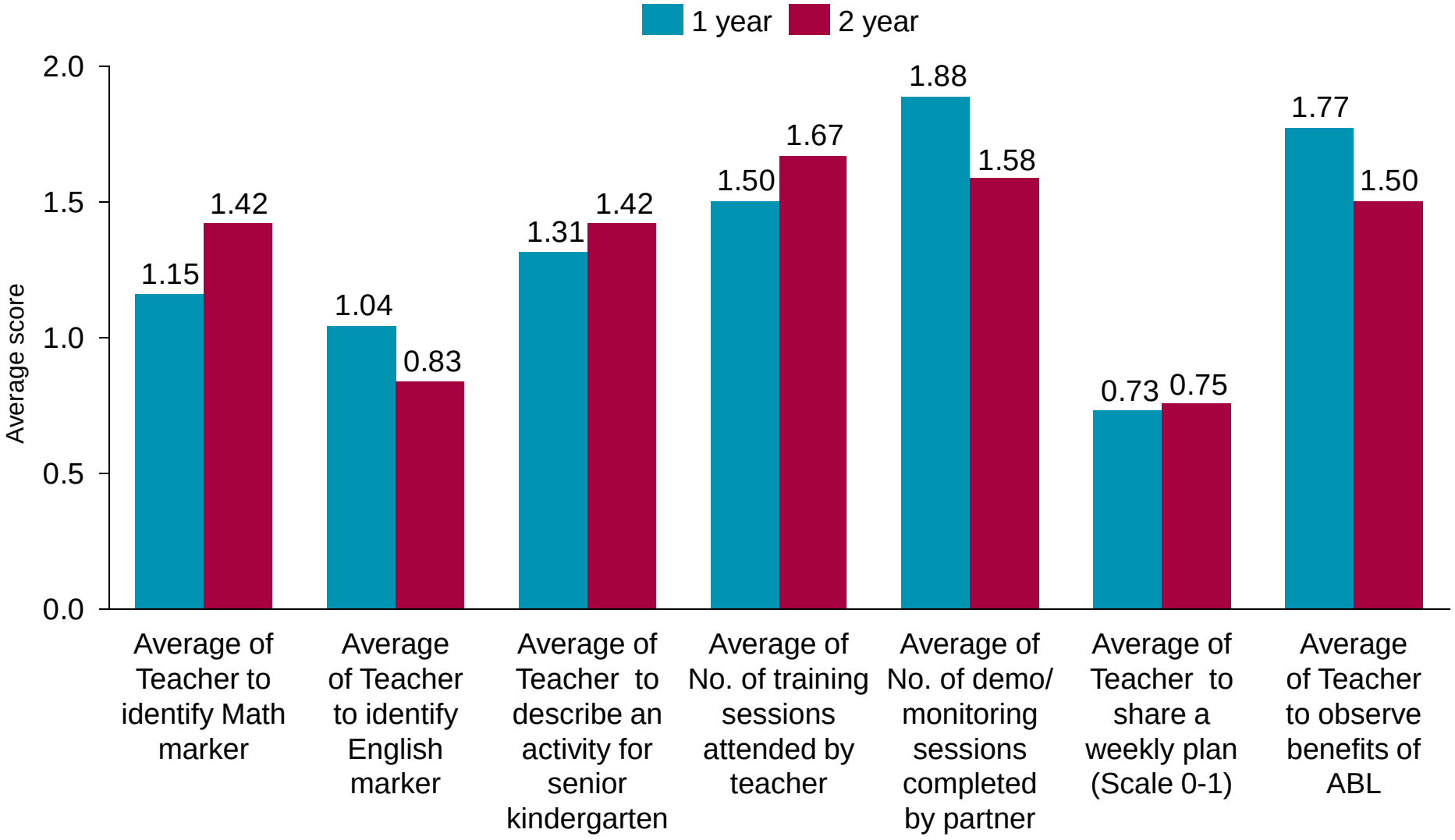
Note: Scores on a scale of 0-5

Parent interviews: 1 year vs 2 year PIPE APSs



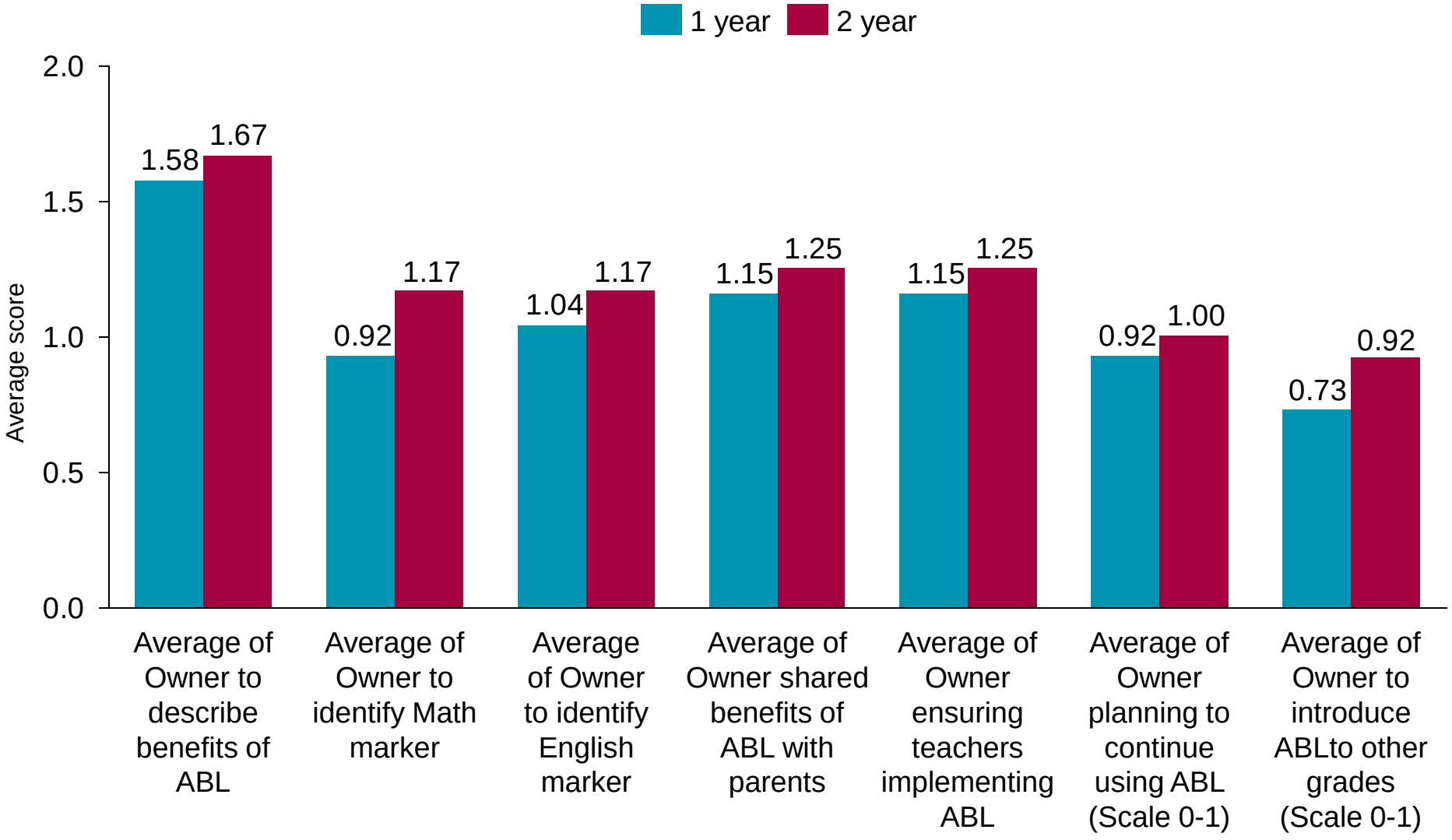
Note: Scores on a scale of 0-4

Teacher interviews: 1 year vs 2 year PIPE APSs



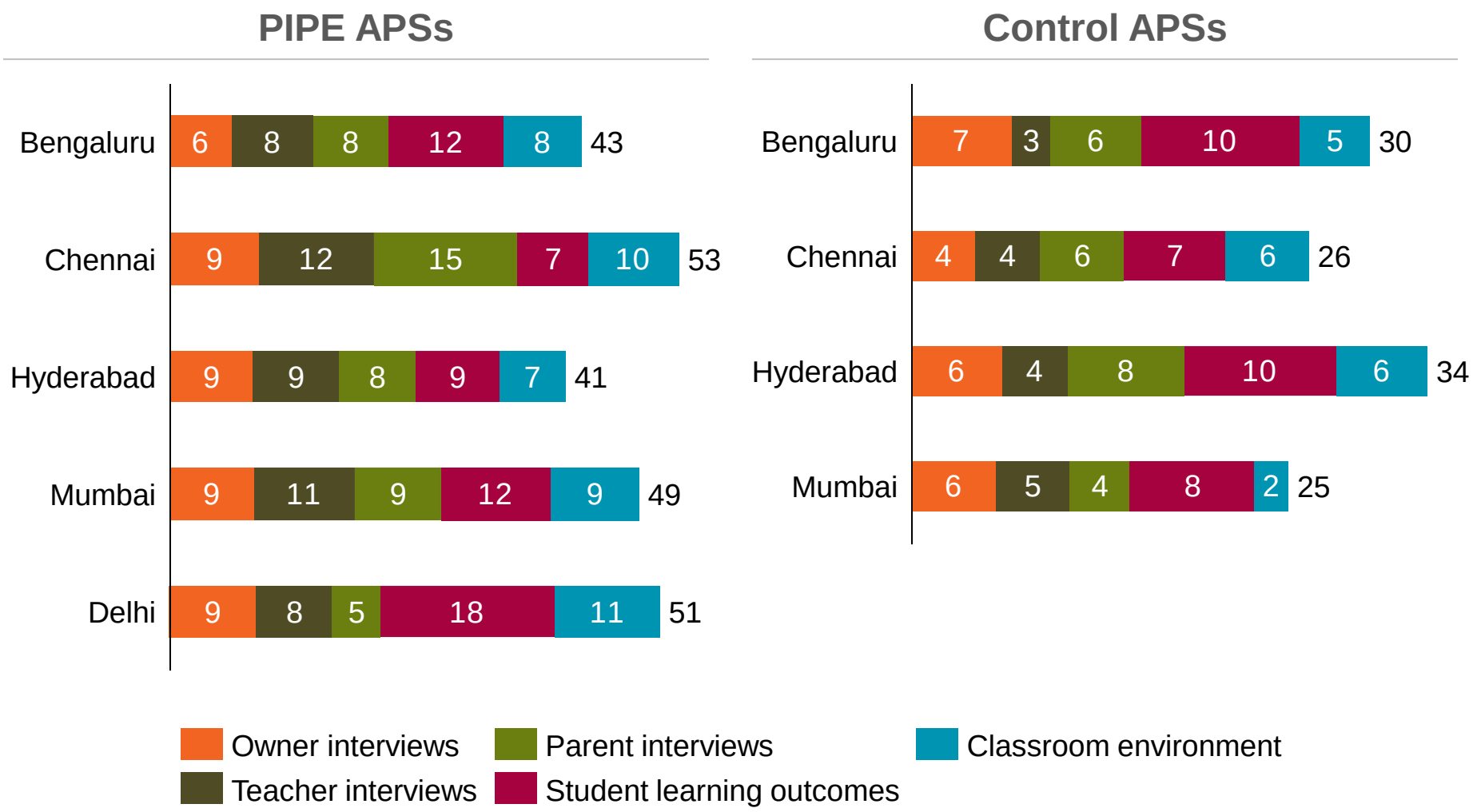
Note: Scores on a scale of 0-2, unless specified otherwise

Owner interviews: 1 year vs 2 year PIPE APSs



Note: Scores on a scale of 0-2, unless specified otherwise

Average score: By city



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REIMAGINING SOCIAL CHANGE