OPRE Research Brief

Ann Li, Sally Atkins-Burnett, and Tutrang Nguyen

We Grow Together Professional Development System: Professional Development Experiences in Infant-Toddler Care

The quality of infant-toddler care matters for children's development and long-term outcomes.[1] Half of all infants and toddlers receive care in nonparental settings such as centers and family child care (FCC) homes. On average, infants and toddlers spend more hours per week in care than preschoolers do.[2] Yet infant-toddler care has been identified as lower quality than care for older children, suggesting that professional development (PD) for caregivers could improve care and interactions.[3,4] Available research on coaching and PD has focused on teachers for preschool or school-age children, with very few studies examining PD strategies for infant-toddler caregivers.[5]

The goal of this brief is to describe PD experiences from a field test of the We Grow Together (WGT) Professional Development System.[6] Specifically, this brief addresses the following questions:

- Who were the PD providers in the WGT field test?
- Who were the caregivers in the WGT field test?
- What types of relationships and experiences did the PD providers and caregivers have before the WGT field test?
  - What types of relationships did PD providers have with their caregivers before the WGT field test?

Box 1. We Grow Together terms

Caregivers refer to nonparental caregivers and teachers in Early Head Start, community-based child care centers, and family child care (FCC) homes.

PD providers refer to a range of early care and education (ECE) staff who provide professional development, both program staff within programs and those employed by outside entities, such as managers and education directors, supervisors, mentors, coaches, employees of technical assistance (TA) networks or centers, and master teachers in the ECE setting.

Classrooms refer to center-based and FCC settings serving infants and toddlers.

- What types of experiences did PD providers have with coaching before the WGT field test?
- What types of experiences did caregivers have with PD before the WGT field test?

/ How did PD providers engage with caregivers in the WGT field test?

/ How did caregivers respond to PD provider support in the WGT field test?

WGT is aligned with the principles and practices of the Quality Care for Infants and Toddler (QCIT),[7,8] an evidence-based observational measure of caregiver quality with a focus on the following domains:

/ Support for Social-Emotional Development

/ Support for Language and Literacy Development

/ Support for Cognitive Development

The WGT system includes materials to enable trained local PD providers to support caregivers in learning to implement QCIT aligned practices with the young children in their care. The WGT PD strategies are based on available evidence about PD from early care and education (ECE),[9] organizational psychology, and behavioral science.

Box 2. About the We Grow Together Field Test

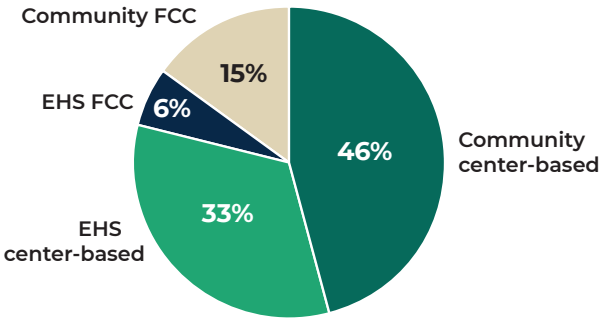
The goal of the WGT system is to improve the quality of caregiving in ECE settings by helping infant-toddler caregivers use daily interactions to support the development of young children. We designed the WGT field test to examine whether a diverse sample of caregivers, working in concert with their local PD providers, could use the WGT system to change their beliefs about and knowledge of evidence-based practices, and improve the quality of their practices with infants and toddlers. For the field test, caregivers and their PD providers used the WGT system between January and April 2019, in real world conditions. The field test used existing local PD providers and sampled from a range of early care and education (ECE) settings serving infants and toddlers across multiple localities.

We developed the field test using a pretest-posttest design. Findings from these analyses should not be interpreted as causal because we did not include a comparison group.

Pairs of caregivers and PD providers (271 caregivers received PD from 168 providers) participated in the WGT field test. These field test participants remained in the field test as of March 1, 2019, eight weeks after implementation began.[10] Their settings included 214 center-based classrooms and 57 family child care (FCC) classrooms; 105 classrooms were Early Head Start (EHS) and 166 classrooms were community-based classrooms. Based on the ages of the children on the day of the fall classroom observations, there were 68 infant classrooms and 146 toddler classrooms in center-based settings.[11]

This group of WGT field test participants does not represent PD providers and caregivers nationally. Therefore, readers should not use these data to draw conclusions about the experiences of PD providers and caregivers nationally. PD providers and caregivers agreed to participate in an online PD program for about four months with an additional month for PD provider remote training. They reported they could read materials written in English.

WGT field test participants, by type of caregiver setting and affiliation



Source: Fall 2018 WGT roster
EHS = Early Head Start; FCC = family child care.

Data collection and measures

This brief includes findings based on data from the WGT background surveys, the WGT feedback surveys, and web use data. Both caregivers and PD providers completed the background survey in fall 2018 (before starting WGT) and the feedback survey in spring 2019 (after implementation was completed).

In the background survey, caregivers reported their readiness for change, as measured by the Stages of Change measure.[12] Higher scores on this measure indicate greater openness to improvement.

Analyses

The goal of the analyses was to describe PD providers' and caregivers' characteristics and experiences. We conducted descriptive analyses by examining the means, standard deviations, and the range of responses. We conducted significance tests for comparisons between fall and spring responses, and to identify any subgroup differences by type of setting (between center-based classrooms and FCCs), type of affiliation (between EHS and community-based settings), or PD provider characteristics (for example, between PD providers with a previous relationship to the caregiver and those who did not).[13] The setting type and affiliation subgroups are not mutually exclusive. Differences reported in the text and exhibits are statistically significant ($p \leq 0.05$). We also describe findings with similar rates between subgroups that are not statistically significant. ◢

Who were the PD providers in the WGT field test?

Relative to PD for the preschool and K–12 workforces, PD for the infant-toddler workforce must account for lower levels of education and training, less time and support for planning and PD, lower levels of compensation and benefits, and higher turnover rates.[14] The infant-toddler workforce is also more diverse in terms of race, ethnicity, and language(s) spoken.[15] PD should account for the ways this diversity may help caregivers better meet the needs of the increasingly diverse children and families served.

Most of the PD providers in the WGT field test (75.8 percent) had attained a bachelor's degree or higher and most commonly studied ECE (Exhibit 1). In addition, about one-quarter (25.5 percent) had earned a master's degree or higher. ECE was the field of the primary degree for close to half (42.8 percent), and more than half (56.5 percent) reported membership in a professional organization or network. More than half of PD providers (57.1 percent) reported they worked full time.

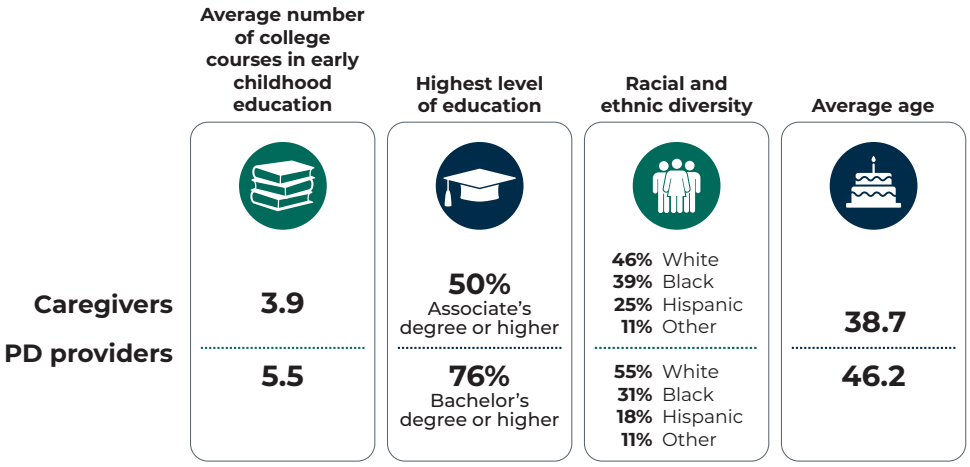
Fifty-five percent of PD providers identified as White, 31 percent as Black or African American, 18 percent as Hispanic or Latino, and 11 percent as other racial or ethnic groups. Almost all (98 percent) of the PD providers were female and ranged from 22 to 72 years in age (average age of 46.2 years).

Who were the caregivers in the WGT field test?

Nearly half of caregivers in the WGT field test (49.8 percent) had attained an associate's degree or higher, and caregivers most commonly studied ECE (Exhibit 1). In addition, more than one-third (35.7 percent) of caregivers reported having a current Child Development Associate credential, and less than half reported membership in a professional organization or network (43.9 percent). About 95 percent of caregivers worked full time with an average of more than 11 years of experience in ECE.

The caregivers were also racially and ethnically diverse. Forty-six percent of caregivers identified as White, 39 percent as Black or African American, 25 percent as Hispanic or Latino, and 11 percent as other racial or ethnic groups. They were also predominantly female (98.8 percent) and ranged in age from 18 to 73 years (average age of 38.7 years).

Exhibit 1. Who were the PD providers and caregivers in the WGT field test?



Source: Fall 2018 WGT Caregiver and PD Provider Background Surveys.
Note: Data presented in this exhibit are descriptive, and have not been tested for significant differences.

A higher percentage of Early Head Start (EHS) caregivers reported having a mentor, coach, or other PD provider before the WGT field test than did community-based caregivers (81.8 and 67.3 percent, respectively). Almost three-fourths of all caregivers (72.9 percent) reported that they had a mentor, coach, or other PD provider before the field test. Similar percentages of center-based and FCC caregivers reported having a mentor, coach, or other PD provider before the field test (75.4 and 63.6 percent, respectively).

What types of relationships did PD providers have with their caregivers before the WGT field test?

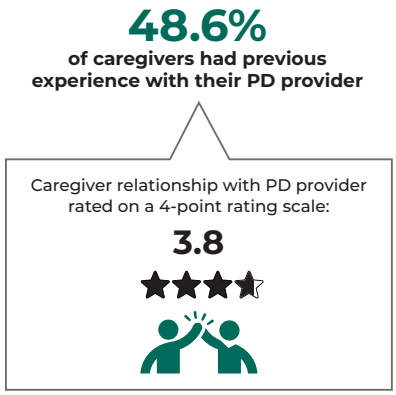
Coaching is most effective when it is sustained, actively engages caregivers, and emphasizes positive and respectful coach–caregiver relationships.[16, 17, 18, 19, 20] Therefore, developing positive provider–caregiver relationships is critical to PD efforts.[21, 22, 23] To facilitate sustained coach–caregiver relationships in the WGT field test, caregivers paired with a local PD provider.

Nearly half of caregivers (48.6 percent) had a previous relationship with the PD provider they worked with during the field test. Of those with a previous relationship, caregivers had worked with their PD provider for an average of 4.6 years (ranging from 0 to 30 years). Comparing by setting type, more FCC caregivers reported previously working with their PD provider than center-based caregivers did (61 and 45 percent, respectively). Comparing by affiliation, EHS and community-based caregivers reported previous relationships with their PD provider at similar rates (48 and 49 percent, respectively).

On average, caregivers who had previously worked with their PD provider reported having a positive relationship with them (average of 3.8 on a 4-point rating scale; Exhibit 2). FCC caregivers reported a more positive relationship with their PD provider than did center-based caregivers (average rating of 3.9 out of 4.0, compared with 3.8). EHS and community-based caregivers reported similarly positive relationships with their PD provider (average ratings of 3.8 and 3.9 out of 4.0, respectively).

Of the PD providers working with center-based caregivers, most were supervisors of the caregivers with whom they were paired in the WGT field test (68 percent). More center-based caregivers than FCC caregivers reported their WGT field test PD provider was also their supervisor (68 and 45 percent, respectively). Similar percentages of EHS and community-based caregivers reported their PD provider was also their supervisor (66 and 61 percent, respectively).

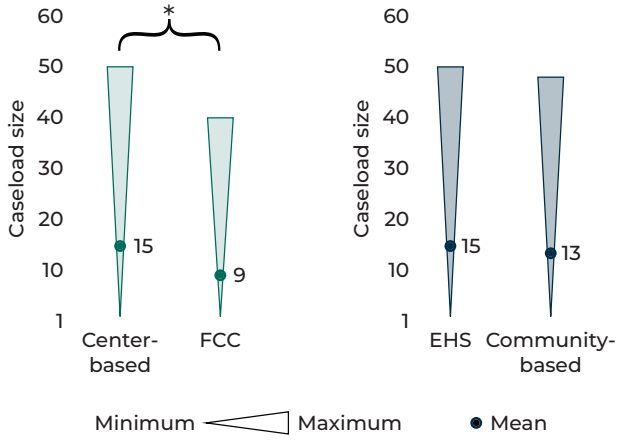
Exhibit 2. Caregivers who had previously worked with their PD provider reported having a positive relationship with this provider



Source: Fall 2018 WGT Caregiver Background Survey.

Note: Items adapted from QCIT Caregiver self-administered questionnaire. Reliability of caregiver–provider relationship scale is 0.92 with a total of 8 items. Score is the average of the caregiver's ratings across the items. The possible range is 1–4, with higher scores indicating a more positive relationship.

Exhibit 3. PD providers who worked with center-based caregivers reported higher caseloads than those working with FCC caregivers



Source: Fall 2018 WGT PD Provider Background Survey.

Note: * indicates a significant difference between estimates for caregivers in each group (* $p < 0.05$; ** $p < 0.01$; *** $p < .001$). We compared groups by type of setting (center-based and FCC) and type of affiliation (EHS and community-based). The four subgroups (center-based, FCC, EHS, and community-based) are not mutually exclusive.

EHS = Early Head Start; FCC = family child care.

What types of experiences did PD providers have with coaching before the WGT field test?

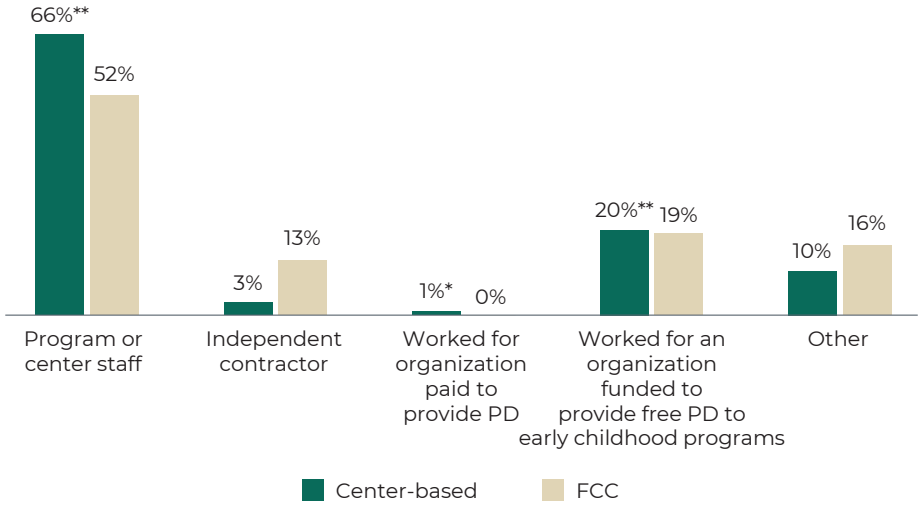
In fall 2018, most PD providers reported working with many caregivers on an ongoing basis and had some previous experience providing PD.

PD providers reported working on an ongoing basis with between 1 and 50 caregivers. PD providers who worked with center-based caregivers reported higher average caseloads than those working with FCC caregivers (average of 15 and 9 caregivers, respectively; Exhibit 3). PD providers who worked with EHS caregivers and community-based caregivers reported working with similar caseloads of caregivers (Exhibit 3).

Most PD providers reported they received reflective supervision (65.2 percent) within the last year and were members of a PD provider support network (74.4 percent). PD providers who worked with EHS caregivers reported receiving more reflective supervision than PD providers who worked with community-based caregivers (88 and 53 percent, respectively). Similar percentages of PD providers who worked with center-based and FCC caregivers reported receiving reflective supervision (69 and 61 percent, respectively).

Most PD providers (59.2 percent) were internal coaches in their setting. More PD providers who worked with center-based caregivers were internal to their own program or center compared with PD providers who worked with FCC caregivers (Exhibit 4). More PD providers who worked with center-based caregivers also worked for an organization paid to provide PD or funded to provide free PD to ECE settings. PD providers who worked with EHS caregivers and community-based caregivers were funded by similar types of sources.

Exhibit 4. Compared with PD providers who worked with FCC caregivers, more PD providers who worked with center-based caregivers were (1) internal to their own program or center, (2) worked for an organization paid to provide PD, and/or (3) worked for an organization funded to provide free PD



Source: Fall 2018 WGT PD Provider Background Survey.

Note: * indicates a significant difference between estimates for caregivers in each group (* $p < 0.05$; ** $p < 0.01$; *** $p < .001$).

FCC = family child care.

What types of experiences did caregivers have with PD before the WGT field test?

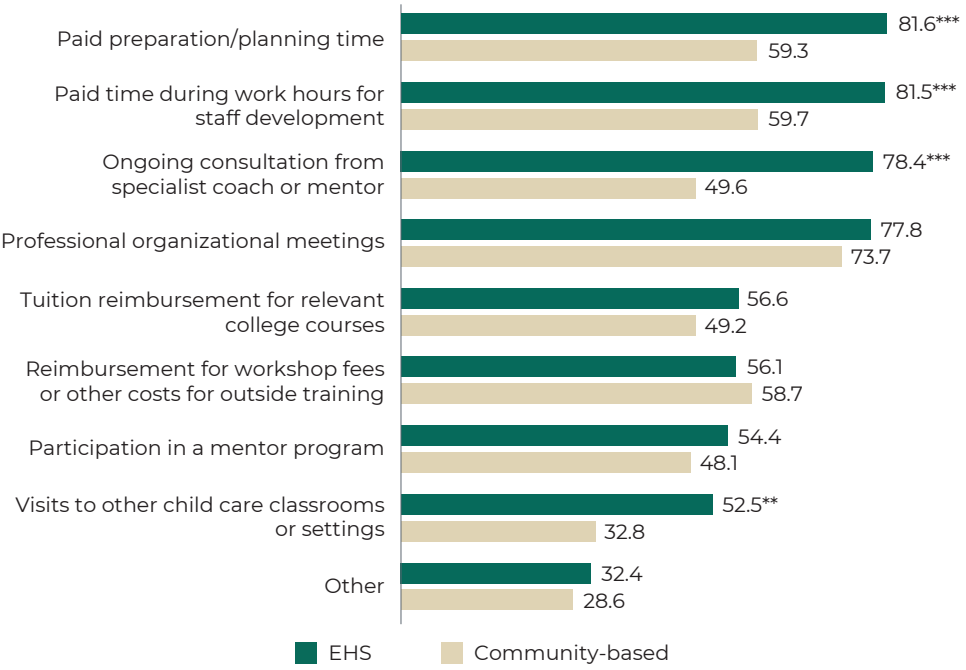
In fall 2018, before the WGT field test, caregivers reported receiving PD needs assessments in various ways. Although most received paid preparation or planning time, and paid time during work hours for staff development, caregivers' access to these resources differed across settings.

Caregivers most commonly reported having classroom observations (90.8 percent) and being asked directly about their PD needs (89.0 percent). A higher percentage of EHS caregivers cited the following methods of PD needs assessment than their community-based counterparts: having an individual career or PD plan (61.2 percent compared with 48.4 percent), reviewing classroom observation data (90.2 percent compared with 74.4 percent), reviewing child assessment data (91.3 percent compared with 74.8 percent), and receiving surveys or questionnaires (81.6 percent compared with 57.9 percent). Similar percentages of center-based and FCC caregivers reported using each of the PD needs assessment methods.

Across all settings, caregivers most commonly reported that their organizations provided PD activities through (1) professional organization meetings (75.3 percent), (2) paid time during work hours for staff development (68.2 percent), and (3) paid preparation or planning time (68.0 percent). Compared with their community-based counterparts, a higher percentage of EHS caregivers reported their organizations provided PD activities (Exhibit 5).

A higher percentage of center-based caregivers reported receiving paid preparation or planning time (73 percent) and paid time during work hours for staff development (74 percent), than their FCC counterparts (45 and 43 percent, respectively). Center-based and FCC caregivers did not differ significantly in receiving other types of PD activities.

Exhibit 5. A higher percentage of EHS caregivers than their community-based counterparts reported their organizations provided PD activities



Source: Fall 2018 WGT Caregiver Background Survey.

Note: Items adapted from QCIT Caregiver self-administered questionnaire. Items in this section called for a yes or no response. Some participants only responded to items to which they answered "yes" and skipped the other items. * indicates a significant difference between estimates for caregivers in each group (* $p < 0.05$; ** $p < 0.01$; *** $p < .001$).

EHS = Early Head Start

In fall 2018, caregivers reported receiving training on a range of teaching strategy topics in the previous year. On average, caregivers reported receiving training on 40 percent of the teaching strategies the study asked about (2.8 out of 7 topics).[24] EHS caregivers reported receiving training on more teaching strategy topics than their community-based counterparts (3.2 compared to 2.5, out of 7), whereas center-based and FCC caregivers reported receiving training on similar numbers of teaching strategy topics (2.6 and 3.3, out of 7 respectively).

Although fewer than half of caregivers (43.9 percent) said they were members of a professional organization or network, most caregivers said they were part of a support network of other caregivers (76.9 percent). Compared with center-based caregivers (71.3 percent), a higher percentage of FCC caregivers (92.9 percent) reported that they met with a support network of other caregivers. Similar percentages of EHS and community-based caregivers reported participating in support network activities (78.4 percent and 76.1 percent, respectively).

Most caregivers (91.6 percent) reported being open to change or actively engaged in change to improve their practice. Of the five possible change stages,[25] a higher percentage of FCC caregivers indicated they were actively engaged in change than did center-based caregivers (63.6 percent and 41 percent, respectively). EHS and community-based caregivers did not differ in their openness to change, across the five change stages.

Box 3. PD provider training and implementation supports

Based on a literature review of professional development in early care and education, adult learning, and behavior change, the WGT team created materials and tools to support PD providers in implementing WGT with caregivers. The materials included a manual and training program for delivering PD and tools such as reflective exercises, recorded webinars, and a discussion board. PD providers were guided to support their caregivers in the following ways:

- PD providers were encouraged to build trusting relationships and guide caregivers in a collaborative goal-setting process based on key practices within a selected module.
- Within each key practice, we recommended that PD providers work collaboratively with caregivers to set goals and develop action plans, and help caregivers select recommended and supplemental tools to support learning.
- PD providers were encouraged to communicate with caregivers at least weekly and attend a longer meeting at least monthly. ◢

How did PD providers engage with caregivers in the WGT field test?

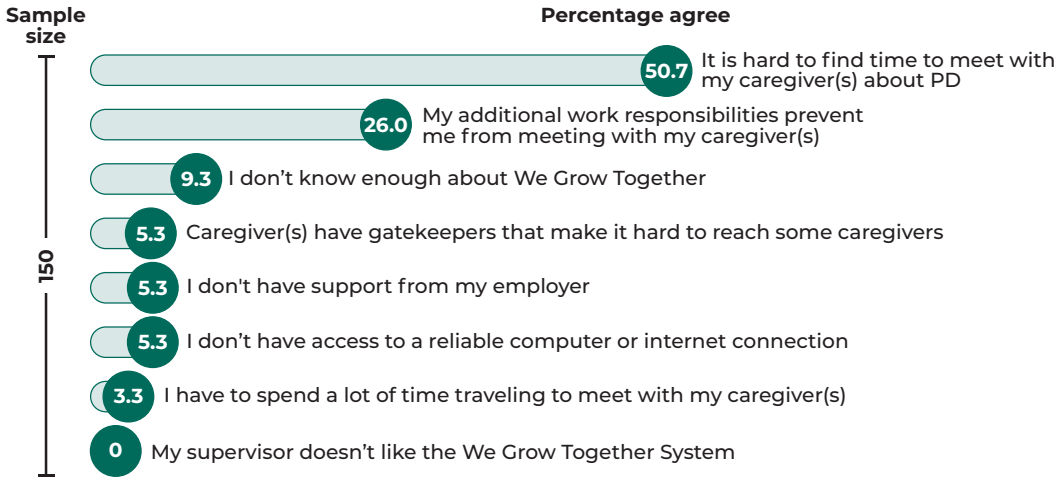
PD providers spent most of their time on the WGT website accessing the PD provider materials related to coaching and coaching practices. They spent 68 percent of their total average time on the WGT website accessing pages with materials such as the PD provider manual and action plan template.[26] The pages PD providers visited most demonstrate that, despite their professional experience, providers might have been most interested in learning more about or seeking further support in mentoring and coaching practices. They spent comparatively less time in the content-based modules, including their caregivers' recommended caregiving practice modules.

PD providers most commonly reported challenges related to time. They reported challenges meeting with their caregiver(s) about WGT, including finding time (50.7 percent) and having additional work responsibilities (26.0 percent). PD providers might have felt challenged by the need to balance multiple roles, including supervisory duties for caregivers, in addition to balancing time across the caregivers with whom they worked. Fewer than 10 percent of PD providers reported experiencing any of the other challenges (Exhibit 6). More than one of every five caregivers (21.5 percent) reported their PD provider's being too busy was a challenge or barrier to implementing WGT. Other PD interventions in ECE from the literature have also found coaching efforts faced challenges when coaches lacked adequate time for the work and when the coaching role involved too many responsibilities.[29]

Box 4. Key topics in PD provider manual

- Applying adult learning principles and "ways of knowing"[27, 28]
- Building trusting, supportive relationships
- Motivation and focusing on change in children
- Key coaching activities
- Additional coaching strategies, including behavioral science approaches and strategies from business and organizational psychology ◢

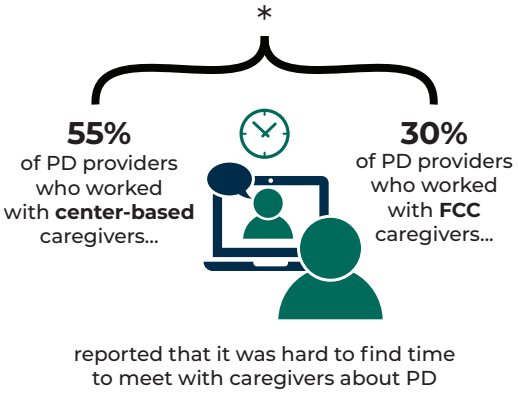
Exhibit 6. PD providers' most commonly reported challenges related to time



Source: Fall 2018 WGT PD Provider Feedback Survey.
Note: Thirty-two percent of PD providers reported they experienced "none" of the challenges in the exhibit.

More PD providers working with center-based caregivers reported that it was a challenge for them to find time to meet with their caregivers about WGT, compared with those working with FCC caregivers (Exhibit 7). Similarly, more center-based caregivers reported that their PD provider was too busy to meet compared with FCC caregivers. PD providers and caregivers in EHS and community-based settings reported similar challenges. PD providers did not differ in reporting other challenges.

Exhibit 7. More PD providers reported challenges finding time to meet with center-based caregivers

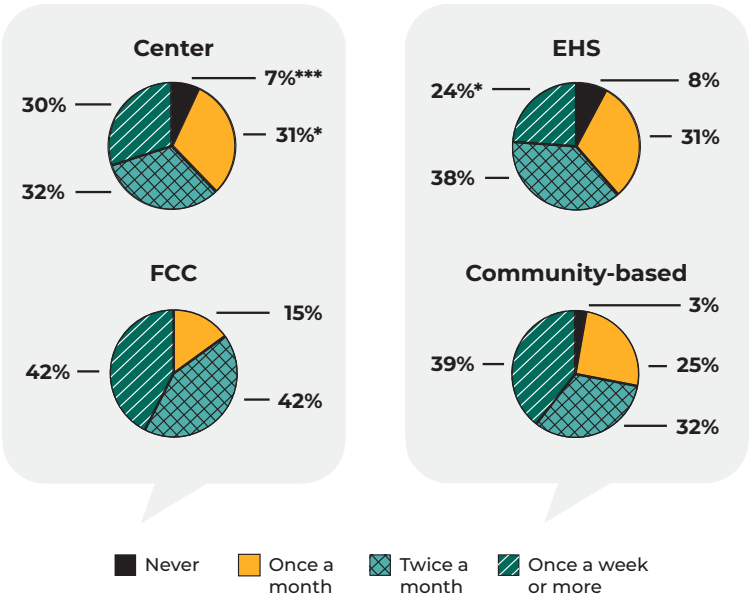


Source: Fall 2018 WGT PD Provider Feedback Survey.
Note: * indicates a significant difference between estimates for caregivers in each group (* $p < 0.05$).

Despite these challenges, PD provider and caregiver pairs across all settings persisted in communicating and using the WGT materials together. Most pairs met more than once a month (67.4 percent), including in-person and virtual meetings. Caregivers reported communicating with their PD provider most frequently in person (89.2 percent), followed by via email (39.0 percent), phone calls (33.3 percent), and text (26.5 percent).

A greater percentage of center-based caregivers reported never communicating with their PD providers or communicating with their PD providers once a month compared with FCC caregivers (Exhibit 8). More community-based caregivers than EHS caregivers reported communicating once a week or more with their PD providers (39 percent compared with 24 percent; Exhibit 8). There were no differences in frequency of communication between caregivers and PD providers who had a previous relationship and those who did not, or between caregivers and PD providers who were their supervisors compared with those who were not.

Exhibit 8. A greater percentage of center-based caregivers reported never communicating with their PD providers or communicating with their PD providers once a month compared with FCC caregivers



Source: Spring 2019 WGT Caregiver Feedback Survey.

Note: Items created by the QCIT PD team. FCCs are not included in the EHS versus community-based comparisons. * indicates a significant difference between estimates for caregivers in centers compared with FCCs, or for caregivers in EHS compared with caregivers in community-based settings (* $p < 0.05$; ** $p < 0.01$; *** $p < .001$).

EHS = Early Head Start; FCC = family child care.

How did caregivers respond to PD provider support in the WGT field test?

PD providers built positive and trusting relationships with their caregivers. In addition, caregivers who reported having a previous coaching relationship with their PD provider reported having a more positive goal-setting experience than those who did not have a previous relationship.

Caregivers reported having positive and trusting relationships with their PD providers at the end of the field test. On a 4-point scale of how frequently the statement is true,[30] caregivers reported it was usually true that their PD provider was someone who showed them respect (average rating 3.9), whom they trusted (average rating 3.8), and with whom they felt comfortable asking questions when unsure about something (average rating 3.8).

Most caregivers also reported the resources and feedback provided by their PD provider has contributed to their professional effectiveness (average rating 3.6).

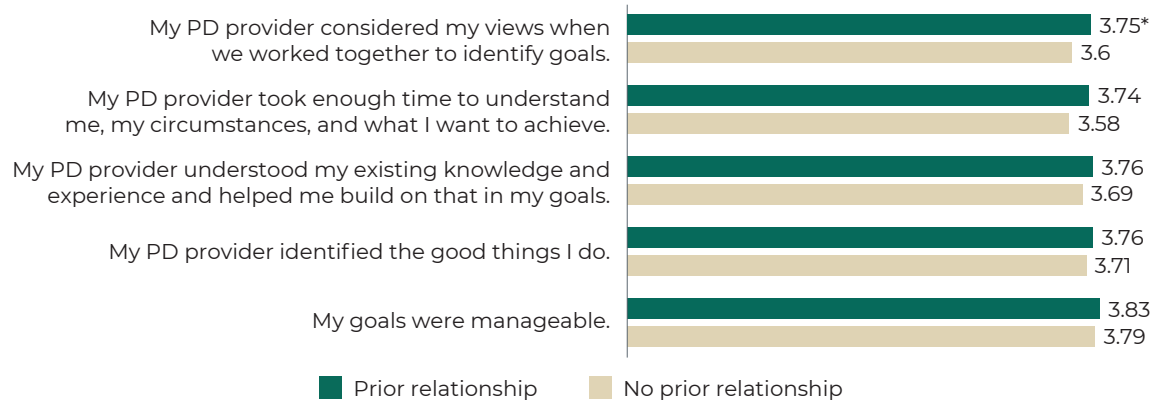
Visit the project website for more information about findings from the WGT field test including *The We Grow Together Professional Development System: Final Report of the 2019 Field Test*

Most caregivers reported working collaboratively with their PD providers. Caregivers agreed that they worked collaboratively with their PD provider to set goals (average rating 4.9 on a 5-point scale) or set goals by themselves (average rating 4.4), as opposed to using goals from their center director

(average rating 2.9). In addition, caregivers reported their goals were almost always individualized to their experience or needs (average rating 4.1).

Caregivers who reported having a previous coaching relationship with their PD provider reported having a more positive goal-setting experience. More of the caregivers with previous relationships with their PD provider agreed that their PD provider considered their views when working together to identify goals (Exhibit 9). Similar percentages of caregivers with and without previous relationships reported their PD providers set goals in other ways, including identifying the good things caregivers did in the classroom (Exhibit 9).

Exhibit 9. Caregivers who reported having a previous coaching relationship with their PD provider reported having a more positive goal-setting experience



Source: Spring 2019 WGT Caregiver Feedback Survey.

Note: Adapted from the Universal Preschool Child Outcomes Study, Phase 5 (UPCOS-5) Teacher Interview. Response scale was 1 (Never true), 2 (Rarely true), 3 (Sometimes true), and 4 (Usually true). * indicates a significant difference between estimates for caregivers in each group (* $p < 0.05$; ** $p < 0.01$; *** $p < .001$).

Lessons learned about providing professional development to infant and toddler caregivers

Results from the WGT field test can inform future studies about providing professional development (PD) to infant and toddler caregivers across various settings. Lessons learned and areas for further investigation include the following:

- Before WGT, caregivers were already participating in various PD activities provided by their organizations. Understanding how existing PD activities and demands influence caregivers' time and ability to focus on an intensive PD system might be important for scheduling and designing new PD interventions.
- There are differences across settings in caregivers' ability to use paid preparation or planning time, and paid time during work hours for staff development.
- Caregivers benefit from having a trusting relationship with their PD providers. Caregivers who reported having a previous coaching relationship with their PD provider reported having a more positive goal-setting experience.
- Most PD providers reported time as a challenge to implementing WGT, although this was less of an issue for PD providers serving FCCs. PD providers in center-based settings might be more challenged by balancing various job responsibilities and higher case-loads of caregivers.
- It is important for PD providers and their caregivers to have enough time to fully engage in new evidence-based interventions that might be available. More time for professional development might become available by providing additional supports and incentives or aligning new interventions like WGT with existing system requirements and supports.

Endnotes

[1] Vandell, D.L., J. Belsky, M. Burchinal, L. Steinberg, N. Vandergrift, and NICHD Early Child Care Research Network. "Do Effects of Early Child Care Extend to Age 15 Years? Results from the NICHD Study of Early Child Care and Youth Development." *Child Development*, vol. 81, no. 3, 2010, pp. 737–756.

[2] Forry, N., R. Madill, E. Shuey, T. Halle, G. Ugarte, and J. Borton. "Snapshots from the NSECE: How Much Did Households in the United States Pay for Child Care in 2012? An Examination of Differences by Child Age." OPRE Report #2018-110. Washington, DC: Office of Planning, Research, and Evaluation, Administration for Children and Families, U.S. Department of Health and Human Services, 2018.

[3] Atkins-Burnett, Sally, Shannon Monahan, Louisa Tarullo, Yange Xue, Elizabeth Cavadel, Lizabeth Malone, and Lauren Akers. "Measuring the Quality of Caregiver-Child Interactions for Infants and Toddlers (Q-CCIIT)." OPRE Report #2015-13. Washington, DC: Office of Planning, Research, and Evaluation, Administration for Children and Families, U.S. Department of Health and Human Services, 2015.

[4] IOM and NRC. "Transforming the Workforce for Children Birth Through Age 8: A Unifying Foundation." Washington, DC: The National Academies Press, 2015.

[5] Aikens, N., L. Akers, and S. Atkins-Burnett. "Professional Development Tools to Improve the Quality of Infant and Toddler Care: A Review of the Literature." OPRE Report #2016-96. Washington, DC: Office of Planning, Research, and Evaluation, Administration for Children and Families, U.S. Department of Health and Human Services, 2016.

[6] Atkins-Burnett, Sally, Louisa Tarullo, Shannon Monahan, Felicia Hurwitz, Timothy Bruursema, Ann Li, Elizabeth Blesson, Judy Cannon, Ayesha De Mond, and Anna Heckler. "The We Grow Together Professional Development System Final Report of the 2019 Field Test." OPRE Report #2020-170. Washington, DC: Office of Planning, Research, and Evaluation, Administration for Children and Families, U.S. Department of Health and Human Services, 2020.

[7] IOM and NRC, 2015.

[8] The QCIT was formerly known as the Quality of Caregiver-Child Interactions for Infants and Toddlers (Q-CCIIT).

[9] Aikens et al. 2016.

[10] The field test participant pairs included in analysis comprise all caregivers who remained in a caregiver–PD provider pair, completed either the background survey or the fall 2018 QCIT observation, and remained in the field test at least until March 1, 2019. In the final report, we refer to this group as the "final analytic sample."

[11] We used the classroom roster from the day of the QCIT observation to determine whether the majority of the children were younger than 18 months (infant classroom) or 18 months and older (toddler classroom).

[12] Peterson, S.M., A.C. Baker, and M.R. Weber. *Stages of Change Scale for Early Education and Care 2.0: Professional Manual*. Rochester, NY: Children's Institute, 2010.

[13] For all significance tests with more than two groups, we first conducted an analysis of variance (ANOVA) to determine whether there were any statistically significant differences between groups. If the overall ANOVA was significant, we ran independent sample t-tests to compare all groups to determine which were significantly different from one another.

[14] Aikens et al. 2016.

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[24] These topics included (1) supporting positive parent–child relationships, (2) supporting teacher–child interactions, (3) supporting a positive classroom environment, (4) engaging parents and families in program activities and children's learning, (5) supporting early learning in math and science, (6) supporting language and literacy development, and (7) supporting social-emotional development.

[25] The five stages of change include: Stage 1: Not ready to change; Stage 2: Thinking about change but overwhelmed by obstacles; Stage 3: Ready to change; Stage 4: Actively engaged in change; Stage 5: Maintaining change.

[26] This measure does not capture the amount of time professional development providers might have spent reviewing or using the coaching materials offline.

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[30] Caregiver ratings were on a scale of 1 (Never true), 2 (Rarely true), 3 (Sometimes true), and 4 (Usually true).

Ann Rivera and Jenessa Malin, project officers
Office of Planning, Research, and Evaluation
Administration for Children and Families
U.S. Department of Health and Human Services

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Louisa Tarullo, project director
Mathematica
1100 First Street, NE
12th Floor
Washington, DC 20002-4221