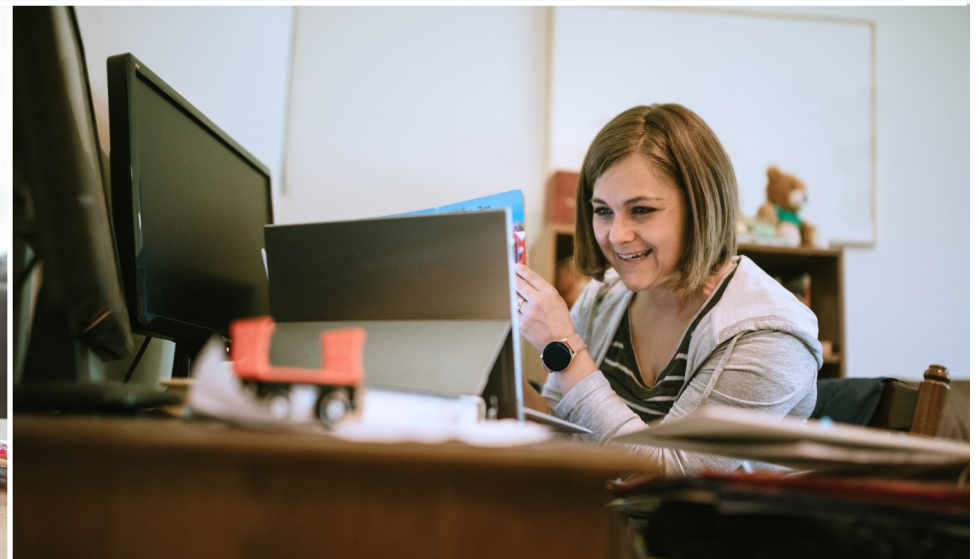


The North Carolina Pre-Kindergarten Program and Remote Learning Services During the COVID-19 Pandemic

Findings from a Statewide Survey of Teachers

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Introduction

In the spring of 2020, the COVID-19 pandemic dramatically altered the provision of early care and education programming for young children and their families across North Carolina and the nation. On March 23, 2020, North Carolina Governor Roy Cooper announced Executive Order No. 120 that closed all public schools across the state and closed some businesses. At this time, many early childhood education programs also closed—including those located in public schools—while some private programs continued to provide in-person services to the children of essential workers as defined in Governor Cooper’s Executive Order No. 121. Early childhood education professionals were faced with the task of serving children and families remotely. While some programs may have strictly provided remote learning services during this period, other program sites that remained open may have also provided remote learning services to some children and families who were quarantined at home.

A statewide survey was undertaken to understand how early childhood educators sought to navigate this transition to remote learning, focusing on the teachers who administer the North Carolina Pre-Kindergarten (NC Pre-K) program—North Carolina’s flagship early childhood education program. Building on a previous survey of NC Pre-K site administrators and contract administrators conducted in May 2020,¹ the current survey focused on the experiences of teachers who provided NC Pre-K program services. The survey was designed to collect information regarding (1) teachers’ transitions to remote learning, (2) the remote learning services teachers provided during the statewide quarantine, and (3) teachers’ efficacy in providing remote learning services. That information is summarized in this report. Survey results were also used to identify recommendations to further support teachers in providing remote learning services.

¹ North Carolina Department of Health and Human Services, North Carolina Division of Child Development and Early Education, & Carr, R. C. (May, 2020). NC Pre-K remote learning survey results: COVID-19 response. North Carolina Department of Health and Human Services. Retrieved from www.ncchildcare.ncdhhs.gov

Survey Administration

This survey was administered in partnership with the North Carolina Department of Health and Human Services (NCDHHS), Division of Child Development and Early Education (DCDEE). The survey was distributed to NC Pre-K teachers between May 26 and June 15, 2020. DCDEE sent an e-mail to all 91 NC Pre-K contract administrators on May 26 notifying them of an end-of-year survey to be completed by all lead teachers and teacher assistants who were employed at NC Pre-K program sites during the spring of 2020. Individual emails were also sent to those teachers who had been identified by NC Pre-K site administrators in the previous May 2020 survey. This survey was delivered via Qualtrics and included both multiple-choice and open-ended questions. Several reminder emails were sent before the survey window closed at 5 p.m. on June 15, 2020.

A total of 1,918 lead teachers (including long-term substitutes) and 1,474 teacher assistants (including long-term substitutes) completed the survey. This represents an estimated 89% of all lead teachers and 68% of all teacher assistants in NC Pre-K classrooms (based on estimated total of 2,155 NC Pre-K classrooms). Survey respondents represented NC Pre-K sites in all of North Carolina's 100 counties.

The North Carolina Pre-Kindergarten Program

Overview. Children’s earliest experiences shape their brain architecture and create the foundation for healthy development and future learning. Early Childhood Education programs aim to support children in meeting critical developmental milestones by providing classroom-based educational services, health and nutrition services, and family engagement. Research indicates that children who attend high-quality early childhood education programs are better prepared for success in school—academically, socially, and emotionally.²

North Carolina is recognized as a pioneer in early childhood programming. After creating the nation’s first early childhood system in 1993 (Smart Start), North Carolina established the NC Pre-K program in 2001. The NC Pre-K program was designed to provide high-quality educational experiences for eligible 4-year-old children to enhance their readiness for school. The NC Pre-K program has consistently maintained high standards and a strong record of quality, with evidence of the program’s effectiveness documented in numerous studies. Rigorous research at the University of North Carolina at Chapel Hill and Duke University demonstrates that the NC Pre-K program has produced both short-term and long-term benefits for children.³

Eligibility. A child is eligible to participate in the NC Pre-K program if he or she turns 4 years of age by August 31 of that program year and is from a family whose gross income is at or below 75% of the state median income (SMI). Children of certain military families are also eligible. In addition, up to 20% of age-eligible children enrolled may have family incomes in excess of 75% SMI if they have documented risk factors in specific categories, including developmental disability, limited English proficiency, educational need or a chronic health condition.⁴

²Yoshikawa, H., Weiland, C., Brooks-Gunn, J., Burchinal, M. R., Espinosa, L. M., Gromley, W. T., Ludwig, J., Magnuson, K. A., Phillips, D., & Zaslow, M. J. (2013). *Investing in our future: The evidence base on preschool education*. Society for Research in Child Development.

³Peisner-Feinberg, E. S., Zadrozny, S., Kuhn, L., & Van Manen, K. (2019). *Effects of the North Carolina Pre-Kindergarten Program: Findings through pre-K of a small-scale RCT study*. The University of North Carolina, FPG Child Development Institute.

Bai, Y., Ladd, H. F., Muschkin, C. G., & Dodge, K. A. (2020). Long-term effects of early childhood programs through eighth grade: Do the effects fade out or grow? *Children and Youth Services Review, 112*(1).

⁴North Carolina Division of Child Development and Early Education. (2019). *North Carolina Pre-Kindergarten (NC Pre-K) program requirements and guidance. Effective SFY 2019–2020*. Retrieved from <https://ncchildcare.ncdhhs.gov/Home/DCDEE-Sections/North-Carolina-Pre-Kindergarten-NC-Pre-K>

Program Administration. At the state level, DCDEE administers the NC Pre-K program, coordinating service delivery of NC Pre-K through 91 contracting agencies (a mix of local Smart Start partnerships, local education agencies, and Head Start programs), representing all 100 North Carolina counties, which are, in turn, responsible for recruiting and placing eligible children, subcontracting with local child care programs or schools with a classroom or classrooms that meet the NC Pre-K program requirements, monitoring classroom compliance with NC Pre-K standards, and fiscal oversight.

NC Pre-K classrooms are located in three types of settings: elementary schools, federally funded Head Start programs, and private child care centers, both for-profit and non-profit. Under typical operating circumstances, about 48% percent of NC Pre-K children are served through public schools, 14% through NC Pre-K classrooms located in Head Start programs, and 38% percent through private child care centers.⁵ Some counties serve children almost exclusively using public schools, while others primarily use private centers. A site administrator for programs in public school settings would be a school principal, while a site administrator for programs in Head Start and private settings is typically the center director or manager.

Requirements. Eligible children receive the same high-quality educational experiences in a NC Pre-K classroom, whether the program is located within public schools, Head Start programs, or private for-profit or non-profit child care centers.

All NC Pre-K classrooms must meet the following requirements of the NC Pre-K program:

- Instruction is provided for 10 months (36 weeks) a year for a minimum of 6.5 hours per day, not including transportation time
- Class size does not exceed 18 children per class, with one lead teacher and one assistant teacher, or a 1-to-9 staff-to-child ratio
- Lead teachers in NC Pre-K classrooms must hold or be working toward a North Carolina Birth-through-Kindergarten Continuing License or Preschool Add-on Continuing License issued by the North Carolina Department of Public Instruction
- Teacher assistants must hold a minimum of a GED and must be working toward or hold an associate degree in early childhood education/child development or a Child Development Associate (CDA) Credential
- Children receive health assessments and developmental screenings
- Staff complete formative assessments of children’s growth and development
- Programs engage in family engagement activities
- Programs develop and implement written transition plans for children as they transition into Pre-Kindergarten and then into Kindergarten.

⁵Data provided by NCDHHS, DCDEE. Most readily accessible data available from December 2019.

Classrooms serving children with disabilities may have lower than a 1-to-9 staff-to-child ratio. NC Pre-K must provide breakfast or a snack along with lunch that meets USDA requirements. Parents or guardians cannot be charged for the cost of a NC Pre-K slot but can be charged for child care services before or after the instructional day has begun or ended and during the holidays and summer months. Classroom activities must align with state-established early learning standards and an approved curriculum.

Changes due to the COVID-19 pandemic. Since the second week of March 2020, DCDEE has provided ongoing guidance to all licensed child care programs across North Carolina, including NC Pre-K site administrators and contracting agencies. Guidance has included expectations for the physical environment on-site to preserve the health and safety of children, families and staff; flexibility in policy and regulatory requirements; payment information; and expectations for remote learning.

On April 22, 2020, DCDEE provided specific guidance for remote learning and engagement for all NC Pre-K lead teachers and teacher assistants, site administrators, and contracting agencies.⁶ The minimum expectations outlined for NC Pre-K lead teachers and teacher assistants included (1) engaging in real-time communication with each child and their parent/primary caregiver at least two times per week, and (2) providing updates and new resources through e-mail or other form of communication to each parent/primary caregiver at least once per week. These expectations applied to all NC Pre-K programs, whether the program site remained open or closed.

⁶NC Department of Health and Human Services, North Carolina NC Pre-K Prekindergarten Program. (April, 2020). *NC Pre-K Program Guidance – COVID-19 Crisis: Providing Remote NC Pre-K Learning Opportunities for Children*

Definitions

Remote learning: services that teachers provide to children and families to facilitate learning that would otherwise take place in the classroom, which can take place through phone calls, emails, texting, video-based communication (e.g., Zoom), or sending home learning or activity packets

NC Foundations for Early Learning and Development: A document that outlines developmental indicators in five domains: Approaches to Play and Learning, Emotional and Social Development, Health and Physical Development, Language Development and Communication, and Cognitive Development

County Distress Rankings (Tiers): The North Carolina Department of Commerce annually ranks each of the state's 100 counties based on economic well-being and assigns each county a tier designation. For more information see: <https://www.nccommerce.com/grants-incentives/county-distress-rankings-tiers>

χ^2 : Chi-square tests of independence were used to test for statistically significant differences between the categorical variable information provided by lead and assistant teachers. Statistical significance was assessed by probability values less than 0.05

t : t -test statistics were used to test for statistically significant differences between the continuous variable information provided by lead and assistant teachers. Statistical significance was assessed by probability values less than 0.05

p : probability value

N : The total number of individuals who responded to a section of the survey

M : Mean, or average value

SD : Standard deviation

Background Information on Survey Respondents: NC Pre-K Site Type

Of those responding to the survey, the majority of lead teachers and teacher assistants were employed in public school settings (54% and 63%, respectively), followed by private/nonpublic settings (33% and 24%, respectively) and Head Start programs (13%, respectively). The percent of lead teachers in public school settings was reliably lower compared to teacher assistants, and the percent of lead teachers in private/nonpublic settings was reliably higher compared to teacher assistants.

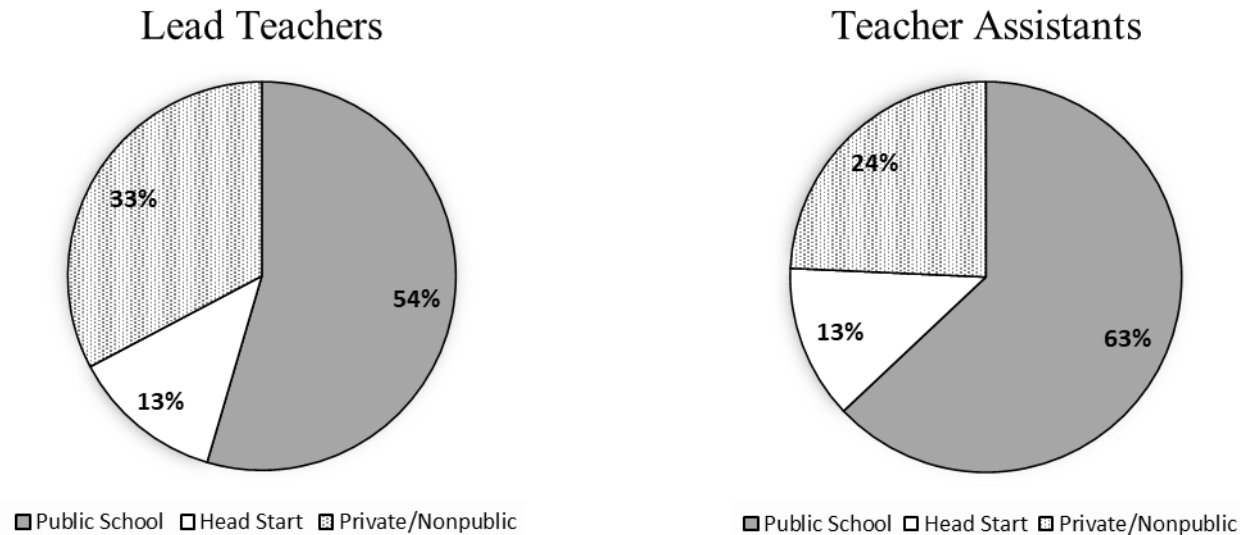


Figure 1. The percent of lead teachers ($N = 1918$) and teacher assistants ($N = 1474$) teachers by site type. $\chi^2(2,3392) = 30.20, p = <.001$

Background Information on Survey Respondents: *County Distress Rankings*

Over one-third of lead teachers and teacher assistants were employed in North Carolina's most economically distressed counties (i.e., Tier 1 counties; 36% and 39%, respectively), followed by distressed counties (i.e., Tier 2 counties; 35% and 34%, respectively), and then least distressed counties (i.e., Tier 3 counties; 29% and 27%, respectively). These percentages were not reliably different between lead teachers and teacher assistants.

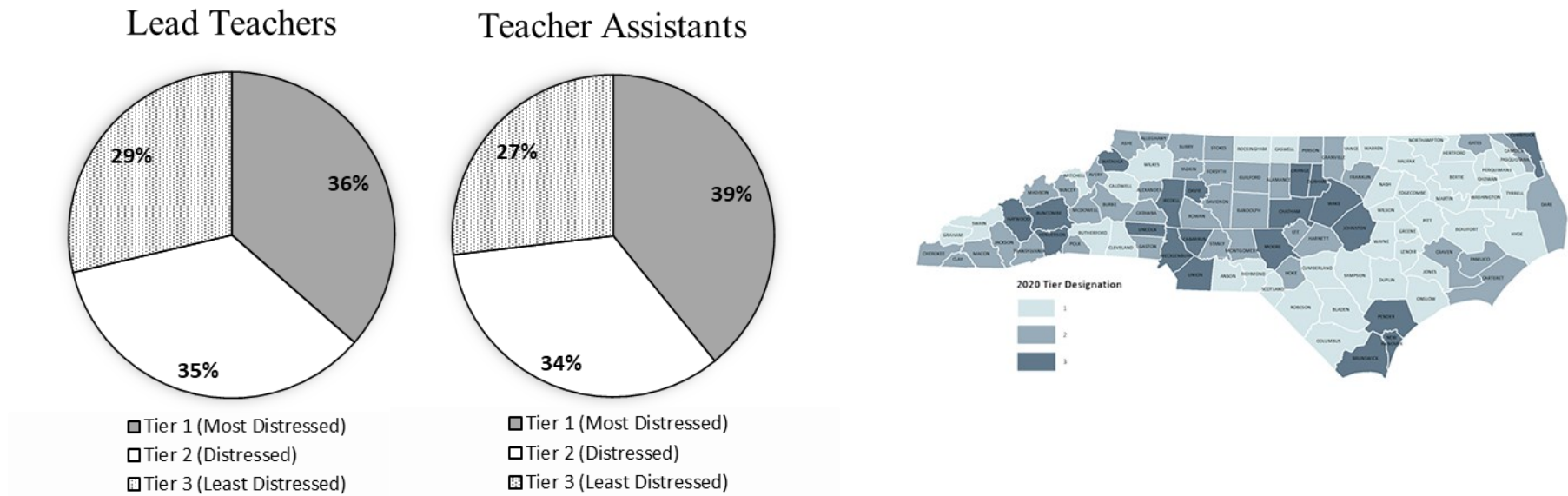


Figure 2. The percent of lead teachers ($N = 1918$) and teacher assistants ($N = 1474$) teachers by county distress level. $\chi^2(2,3392) = 2.79, p = .25$. Map source: www.nccommerce.com

Background Information on Survey Respondents: Race

The majority of lead teachers and teacher assistants identified as White (61% and 56% respectively) followed by African American (35% and 39%, respectively). A small percentage of lead teachers and teacher assistants identified as some other race category (4% and 5% respectively). The percentage of teachers in each race category was reliably different between lead teachers and teacher assistants.

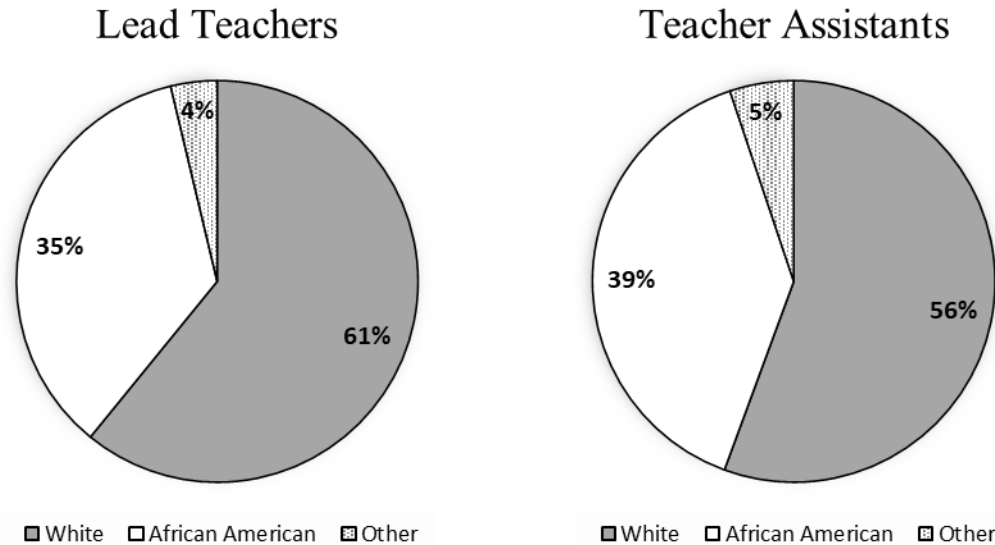


Figure 3. The percent of lead teachers ($N = 1741$) and teacher assistants ($N = 1304$) by racial identity. Lead teachers in the “Other” race category identified as American Indian, Alaska Native, Native Hawaiian, or Other Pacific Islander (3%), Asian American (< 1%), or biracial (< 1%). Teacher assistants in the “Other” race category identified as American Indian, Alaska Native, Native Hawaiian, or Other Pacific Islander (3%), Asian American (1%), or biracial (1%). $\chi^2(2, 3045) = 9.98, p = .007$

Background Information on Survey Respondents: *Ethnicity, Sex, and Age*

The great majority of lead teachers and teacher assistants identified as not Hispanic/Latino/a (96% and 93%, respectively). The percentage of Hispanic/Latino/a lead teachers reliably lower compared to teacher assistants.

Almost all lead teachers and teacher assistants identified as female (99%, respectively).

On average, lead teachers were ~ 42 years old and teacher assistants were ~ 44 years old. Lead teachers were reliably younger compared to teacher assistants.

Table 1

	<i>N</i> missing	Lead Teachers		Teacher Assistants		Test Statistic
		<i>N</i> = 1918		<i>N</i> = 1474		
		<i>M</i> /%	(<i>SD</i>)	<i>M</i> /%	(<i>SD</i>)	
Hispanic/Latino/a	137					$\chi^2 (1,3135) = 16.69, p = <.001$
<i>Yes</i>		4%		7%		
<i>No</i>		96%		93%		
Sex	74					$\chi^2 (1,3248) = .75, p = .39$
<i>Female</i>		99%		99%		
<i>Male</i>		1%		1%		
Age (in years)	136	42.22	(10.48)	43.50	(11.98)	$t (3128) = -3.19, p = .002$

Workforce Information on Survey Respondents: *Educational Level*

The majority of lead teachers held a bachelor’s degree (76%), followed by a master’s degree or higher (24%). The majority of teacher assistants held an associate degree (59%), followed by a bachelor’s degree (23%), high school diploma (15%), and a master’s degree or higher (3%).

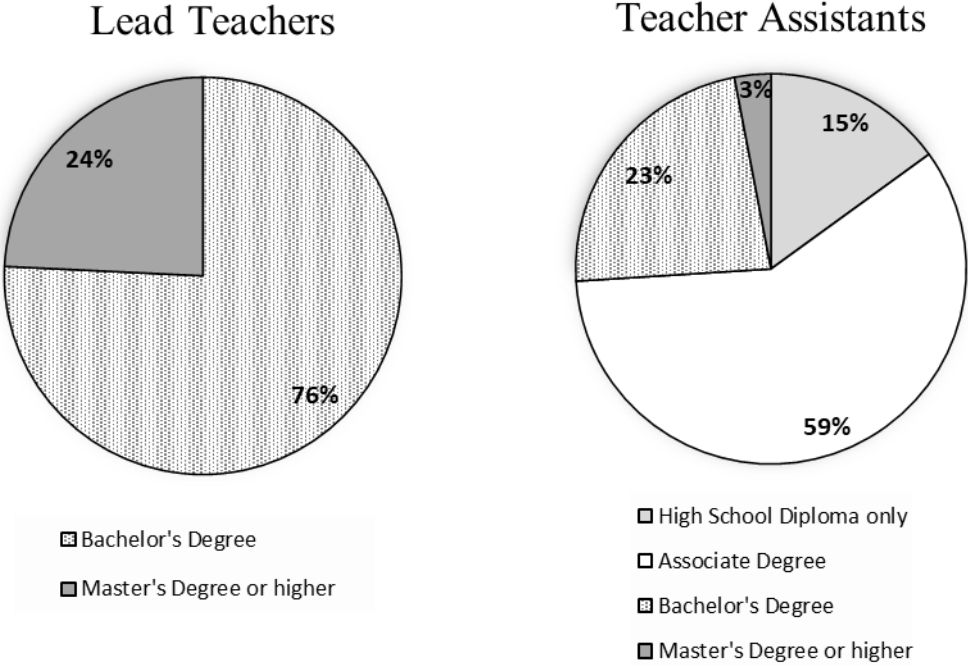


Figure 4. Percent of lead teachers (N = 1918) and teacher assistants (N = 1474) by education level.

Workforce Information on Survey Respondents: *Lead Teacher Licensure*

Over half of lead teachers held a continuing professional Birth-Kindergarten (BK) license or an initial professional BK license (36% and 20%, respectively). The remaining lead teachers held a lateral entry BK license (13%), some other initial or continuing professional license with BK add-on (12%), a residency BK license (8%), some other initial or continuing professional license with pre-K or kindergarten add-on (7%), an emergency BK license (3%), or were currently working toward their licensure (2%).

Table 2

	<i>N</i> missing	Lead Teachers		Teacher Assistants		Test Statistic
		<i>M</i> /%	(<i>SD</i>)	<i>M</i> /%	(<i>SD</i>)	
Licensure	36					N/A
<i>Continuing Professional BK License</i>		36%		N/A		
<i>Initial Prof. BK License</i>		20%		N/A		
<i>Lateral Entry BK License</i>		13%		N/A		
<i>Other Initial or Cont. Prof. License w/ BK Add-On</i>		12%		N/A		
<i>Residency BK License</i>		8%		N/A		
<i>Other Initial or Cont. Prof. License w/ Pre-K/K Add-On</i>		7%		N/A		
<i>Emergency BK License</i>		3%		N/A		
<i>Currently working toward a license</i>		2%		N/A		

Note. BK = Birth through kindergarten.

Workforce Information on Survey Respondents: *Experience in Education and Experience at Current Pre-K Site*

On average, lead teachers and teacher assistants reported having ~14 years and ~13 years of experience working as educators, respectively, and lead teachers had reliably more years of experience compared to teacher assistants.

On average, lead teachers and teacher assistants reported having ~6 years and ~5 years of experience working at their current site, respectively.

Table 3

	N missing	Lead Teachers		N missing	Teacher Assistants		Test Statistic
		N = 1918			N = 1474		
		M/%	(SD)		M/%	(SD)	
Years of experience	0	14.27	(8.20)	0	13.10	(8.46)	$t(3390) = 4.07, p = <.001$
Years at current pre-K site	0	5.76	(5.76)	0	5.37	(5.88)	$t(3390) = 1.04, p = .42$

Workforce Information on Survey Respondents: *Employment Status during the Statewide Quarantine*

During the statewide quarantine, the large majority of lead teachers and teacher assistants remained employed and provided NC Pre-K services (98% and 93%, respectively). The remaining lead teachers and teacher assistants either remained employed but did not provide NC Pre-K services (1% and 6%, respectively), resigned from their position as an NC Pre-K teacher (< 1%, respectively) or were laid off from their position as an NC Pre-K teacher (< 1%, respectively). The percentage of individuals in these categories were reliably different between lead teachers and teacher assistants.

Table 4

	Lead Teachers		Teacher Assistants		Test Statistic
	<i>N</i> missing	<i>M</i> /% (<i>SD</i>)	<i>N</i> missing	<i>M</i> /% (<i>SD</i>)	
Employment status	0		0		$\chi^2(3,3392) = 62.57, p = <.001$
<i>Remained employed, provided NC Pre-K services</i>		98%		93%	
<i>Remained employed, did NOT provide NC Pre-K</i>		1%		6%	
<i>Resigned from position as an NC Pre-K teacher</i>		< 1%		< 1%	
<i>Laid off from position as an NC Pre-K teacher</i>		< 1%		< 1%	

⁷It is possible that these values could be biased by nonresponses from teachers who resigned or were laid off during the statewide quarantine. However, these values are consistent with a May 2020 survey of NC Pre-K site administrators in which < 1% of NC Pre-K Site Administrators reported that a teacher at their site had laid off during the COVID-19 emergency (see footnote 1)

The Transition to Remote Learning: *Student Enrollment*⁸

Both lead teachers and teacher assistants reported an average classroom enrollment of ~16 children at the start of the statewide quarantine, with only minor, but reliable differences observed between lead teachers and teacher assistants (note: while NC Pre-K funds individual children within classrooms, these values pertain to all children in classrooms, regardless of funding source). On average, lead teachers reported that children with individualized education plans (IEPs) comprised ~15% of their total classroom enrollment, and dual language learners (DLLs) comprised ~14% of total enrollment, and these values were not reliably different for teacher assistants.

Table 5

	<i>N</i> missing	Lead Teachers		<i>N</i> missing	Teacher Assistants		Test Statistic
		<i>N</i> = 1904			<i>N</i> = 1461		
		<i>M</i> /%	(<i>SD</i>)		<i>M</i> /%	(<i>SD</i>)	
Student enrollment							
<i>Total # of children enrolled</i>	0	15.83	(3.03)	0	16.12	(2.77)	<i>t</i> (3363) = -2.80, <i>p</i> = .005
<i>Children with IEPs (% of total enrollment)</i>	1	0.15	(0.18)	6	0.16	(0.19)	<i>t</i> (3357) = -1.68, <i>p</i> = .09
<i>DLLs (% of total enrollment)</i>	1	0.14	(0.17)	6	0.13	(0.17)	<i>t</i> (3357) = 1.12, <i>p</i> = .26

Note. DLL = Dual language learner. IEP = Individualized education plan.

⁸Note: The section on the *transition to remote learning* excludes teachers who resigned or were laid off from their position as an NC Pre-K teacher.

The Transition to Remote Learning: *Classroom Closures*

The large majority of lead teachers and teacher assistants experienced classroom closures at the start of the statewide quarantine, and their classrooms remained closed for the duration of the program year (89% and 85%, respectively), and this percentage was reliably higher for lead teachers.

Table 6

	N missing	Lead Teachers		N missing	Teacher Assistants		Test Statistic
		M/%	(SD)		M/%	(SD)	
Classroom closures	0			0			$\chi^2 (2,3365) = 10.44, p = .005$
<i>Closed and remained closed</i>		89%			85%		
<i>Closed then reopened</i>		2%			3%		
<i>Stayed open</i>		9%			12%		

The Transition to Remote Learning: *Providing Remote Learning Services*

During the statewide quarantine, the overwhelming majority of lead teachers and teacher assistants provided remote learning services to children and families (>99% and 95%, respectively), and this percentage was reliably higher for lead teachers.

Table 7

	<i>N</i> missing	Lead Teachers		<i>N</i> missing	Teacher Assistants		Test Statistic
		<i>N</i> = 1904			<i>N</i> = 1461		
		<i>M</i> %	(<i>SD</i>)		<i>M</i> %	(<i>SD</i>)	
Remote learning services provided?	0			0			$\chi^2 (2,3365) = 75.13, p = <.001$
<i>Yes</i>		> 99%			95%		
<i>No</i>		< 1%			5%		

The Transition to Remote Learning: *Providing Remote Learning Services*

The overwhelming majority of lead teachers and teacher assistants served at least one child through remote learning services only (94% and 92%, respectively), and this percentage was reliably higher for lead teachers. A small percentage of lead teachers and teacher assistants served at least one child through some combination of in-person and remote learning services (13% and 10%, respectively), and this percentage was reliably higher for lead teachers. A small percentage of lead teachers and teacher assistants served at least one child through in-person services only (4%, respectively). Finally, a moderate percentage of lead teachers and teacher assistants were not able to serve at least one child at all through either in-person or remote learning services during the statewide quarantine (22% and 20%, respectively).

In total, lead teachers reported serving 30,144 children during the statewide quarantine, with 88% of children served through remote learning services only, 7% of children served through some combination of in-person and remote learning services, 1% of children served through in-person services only, and 4% of children were not served at all (note: while NC Pre-K funds individual children within classrooms, these values pertain to all children in classrooms, regardless of funding source). In total, teacher assistants reported serving 23,546 children during the statewide quarantine, with 87% of children served through remote learning services only, 7% of children served through some combination of in-person and remote learning services, 1% of children served through in-person services only, and 5% of children were not served at all.

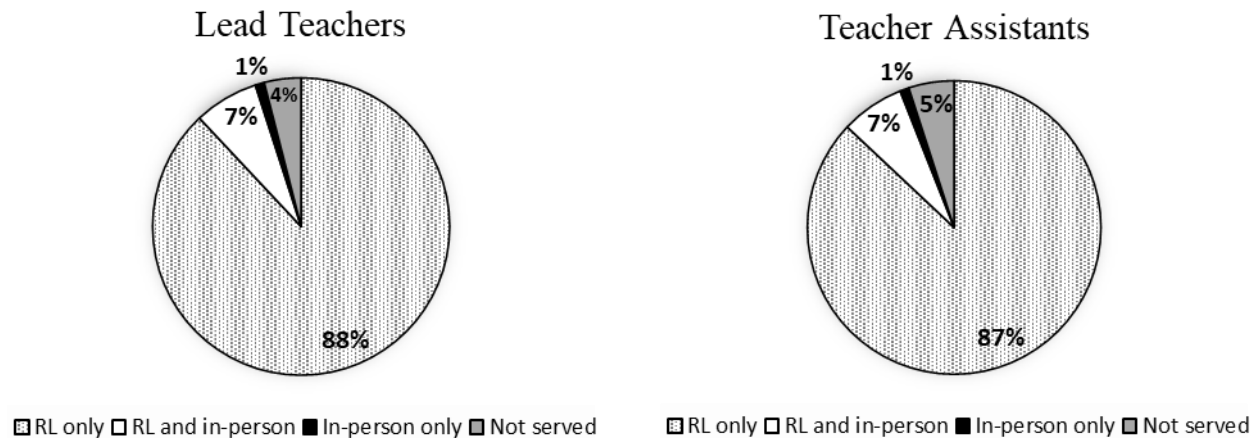


Figure 5. The percentage of all children served by lead teachers and teacher assistants.

Table 8

	<i>N</i> missing	Lead Teachers		<i>N</i> missing	Teacher Assistants		Test Statistic
		<i>N</i> = 1904			<i>N</i> = 1461		
		<i>M</i> /%	(<i>SD</i>)		<i>M</i> /%	(<i>SD</i>)	
Served ≥ 1 child RL only	0			0			$\chi^2 (1,3365) = 5.86, p = .02$
<i>No</i>		6%			8%		
<i>Yes</i>		94%			92%		
Served ≥ 1 child RL and in-person	0			0			$\chi^2 (1,3365) = 4.35, p = .04$
<i>No</i>		87%			90%		
<i>Yes</i>		13%			10%		
Served ≥ 1 child in-person only	0			0			$\chi^2 (2,3365) = 0.29, p = .59$
<i>No</i>		96%			96%		
<i>Yes</i>		4%			4%		
Not able to serve ≥ 1 child	0			0			$\chi^2 (2,3365) = 1.98, p = .16$
<i>No</i>		78%			80%		
<i>Yes</i>		22%			20%		

Note. While NC Pre-K funds individual children within classrooms, these values pertain to all children in classrooms, regardless of funding source. RL = remote learning.

Remote Learning Services Provided: *The Content of Remote Learning*⁹

On average, lead teachers and teacher assistants often or always addressed each of the five developmental domains outlined in the North Carolina Foundations for Early Learning and Development when providing remote learning services to children and families. These developmental domains include *Approaches to Play and Learning*, *Emotional and Social Development*, *Health and Physical Development*, *Language Development and Communication*, and *Cognitive Development*. Lead teachers reported reliably higher rates compared to teacher assistants across each developmental domain, although these differences were small.

Table 9

	<i>N</i> missing	Lead Teachers		<i>N</i> missing	Teacher Assistants		Test Statistic
		<i>N</i> = 1899			<i>N</i> = 1393		
		<i>M</i> / <i>%</i>	(<i>SD</i>)		<i>M</i> / <i>%</i>	(<i>SD</i>)	
Frequency of teaching the developmental domains							
<i>Approaches to Play and Learning</i>	0	4.38	(0.73)	0	4.23	(0.85)	$t(3290) = 5.37, p < .001$
<i>Emotional and Social Development</i>	0	4.32	(0.81)	0	4.21	(0.90)	$t(3290) = 3.67, p < .001$
<i>Health and Physical Development</i>	0	4.31	(0.79)	0	4.13	(0.94)	$t(3290) = 5.99, p < .001$
<i>Language Development and Communication</i>	0	4.61	(0.59)	0	4.40	(0.81)	$t(3290) = 8.93, p < .001$
<i>Cognitive Development</i>	0	4.60	(0.59)	0	4.37	(0.81)	$t(3290) = 9.22, p < .001$

Note. Learning domains align with the five developmental domains outlined in the North Carolina Foundations for Early Learning and Development. Scale: 1 = Never, 2 = Rarely, 3 = Sometimes, 4 = Often, 5 = Always.

⁹Note: The sections on *remote learning services provided* and *teacher efficacy in providing remote learning services* exclude teachers who did not provide remote learning services.

Remote Learning Services Provided: *The Frequency of Remote Learning*

On average, lead teachers and teacher assistants reported that the highest percentage of children in their classrooms received remote learning services weekly (58% and 62%, respectively), followed by daily (33% and 27%, respectively), less than weekly (4% and 6%, respectively), and then not at all (5%, respectively) (note: while NC Pre-K funds individual children within classrooms, these values pertain to all children in classrooms, regardless of funding source). Lead teachers reported reliably higher rates of serving children daily and lower rates of serving children weekly and less than weekly, compared to teacher assistants.

Table 10

	<i>N</i> missing	Lead Teachers		<i>N</i> missing	Teacher Assistants		Test Statistic
		<i>N</i> = 1899			<i>N</i> = 1393		
		<i>M</i> /%	(<i>SD</i>)		<i>M</i> /%	(<i>SD</i>)	
Percent of children who received RL services:							
Daily	1	0.33	0.42	4	0.27	0.40	$t(3285) = 3.83, p < .001$
Weekly	1	0.58	0.42	4	0.62	0.42	$t(3285) = -2.55, p = .01$
Less than weekly	1	0.04	0.13	4	0.06	0.18	$t(3285) = -3.53, p = .001$
Not at all	1	0.05	0.13	4	0.05	0.13	$t(3285) = 0.28, p = .78$

Note. RL = remote learning.

Remote Learning Services Provided: *The Delivery of Remote Learning*

Teachers were asked about the frequency with which they used various strategies to deliver remote learning services to children/families. On average, lead teachers and teacher assistants often used phone calls and text messages as well as learning or activity packets; lead teachers often used email and teacher assistants sometimes used email; lead teachers and teacher assistants sometimes used newsletters (paper or digital); lead teachers and teacher assistants sometimes used video-based communication platforms such as Zoom and ClassDojo—while rarely using Google Hangouts; lead teachers and teacher assistants never met in person, on average; and lead teachers and teacher assistants rarely used other strategies. Lead teachers generally reported reliably higher rates of strategy use compared to teacher assistants, excluding Zoom, ClassDojo, and meeting in person.

Table 11

	<i>N</i> missing	Lead Teachers		<i>N</i> missing	Teacher Assistants		Test Statistic
		<i>N</i> = 1899			<i>N</i> = 1393		
		<i>M</i> / <i>%</i>	(<i>SD</i>)		<i>M</i> / <i>%</i>	(<i>SD</i>)	
Frequency of using strategies to deliver RL services ^a							
Zoom	0	3.09	1.63	0	3.10	1.64	<i>t</i> (3290) = -0.11, <i>p</i> = .92
ClassDojo	0	2.70	1.91	0	2.58	1.82	<i>t</i> (3290) = 1.80, <i>p</i> = .07
Google Hangouts	0	1.60	1.21	0	1.73	1.32	<i>t</i> (3290) = -2.92, <i>p</i> = .04
Email	0	3.63	1.31	0	3.27	1.46	<i>t</i> (3290) = 7.44, <i>p</i> < .001
Phone call/texting	0	4.11	0.89	0	3.87	1.18	<i>t</i> (3290) = 6.89, <i>p</i> < .001
Learning or activity packets	0	3.99	1.20	0	3.84	1.25	<i>t</i> (3290) = 3.53, <i>p</i> < .001
Paper or digital newsletter	0	2.79	1.56	0	2.58	1.55	<i>t</i> (3290) = 3.69, <i>p</i> < .001
Met in person	0	1.34	0.67	0	1.32	0.66	<i>t</i> (3290) = 0.83, <i>p</i> = .41
Other	0	2.34	1.76	0	1.87	1.50	<i>t</i> (3290) = 8.12, <i>p</i> < .001

Note. RL = remote learning. Scale: 1 = Never, 2 = Rarely, 3 = Sometimes, 4 = Often, 5 = Always.

Remote Learning Services Provided: *Barriers to Family Engagement with Remote Learning*

The largest percentage of lead teachers and teacher assistants identified time to engage with remote learning as the biggest barrier in families' engagement with remote learning services (43% and 45%, respectively), followed by reliable access to technology (22% and 23%, respectively), reliable internet access (16% and 21%, respectively), and some other barrier (19% and 11%, respectively). Reliable differences were observed in the responses between lead teachers and teacher assistants.

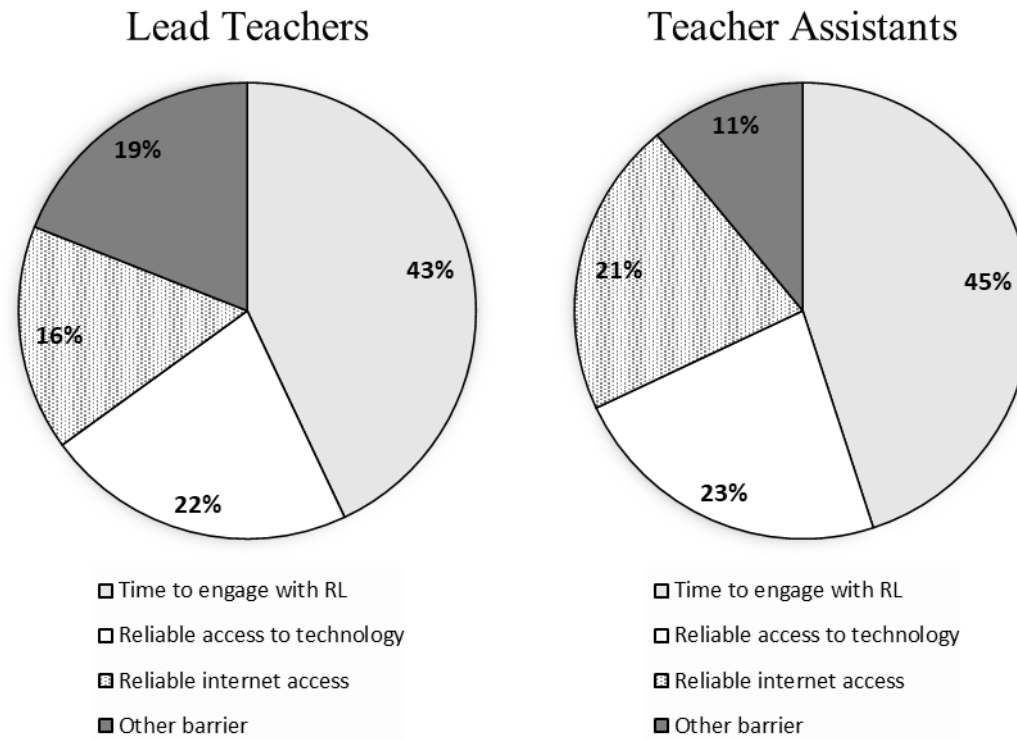


Figure 6. Lead teachers ($N = 1899$) and teacher assistants ($N = 1393$) identified the biggest barrier to family engagement in remote learning (RL). $\chi^2(3,3292) = 42.46, p < .001$.

Teacher Efficacy in Providing Remote Learning Services: *Teachers' Perceived Efficacy*

The majority of lead teachers and teacher assistants somewhat or strongly agreed with the following statement: “I was able to effectively deliver remote learning instruction” (73% and 70%, respectively).

Table 12

	<i>N</i> missing	Lead Teachers		<i>N</i> missing	Teacher Assistants		Test Statistic
		<i>N</i> = 1899			<i>N</i> = 1393		
		<i>M</i> / <i>%</i>	(<i>SD</i>)		<i>M</i> / <i>%</i>	(<i>SD</i>)	
Teacher efficacy in delivering RL (continuous)	0	3.78	(1.12)	0	3.74	(1.14)	<i>t</i> (3290) = 0.86, <i>p</i> = .39

Note. RL = remote learning.

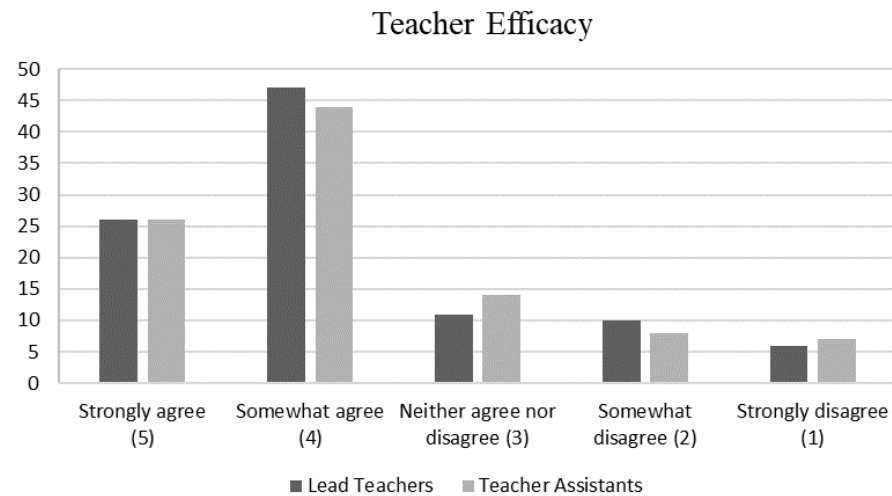


Figure 7. Teacher efficacy in delivering remote learning (categorical) among lead teachers (*N* = 1899) and teacher assistants (*N* = 1393)

Teacher Efficacy in Providing Remote Learning Services: *The Most Difficult Domain to Teach Remotely*

The largest percentage of lead teachers and teacher assistants identified Emotional and Social Development as the most difficult learning domain to teach remotely (42% and 41%, respectively), followed by *Approaches to Play and Learning* (23% and 20%, respectively), *Health and Physical Development* (15% and 17%, respectively), *Cognitive Development* (10% and 12%, respectively), and *Language Development and Communication* (10% and 11%, respectively). Reliable differences were observed in the responses between lead teachers and teacher assistants.

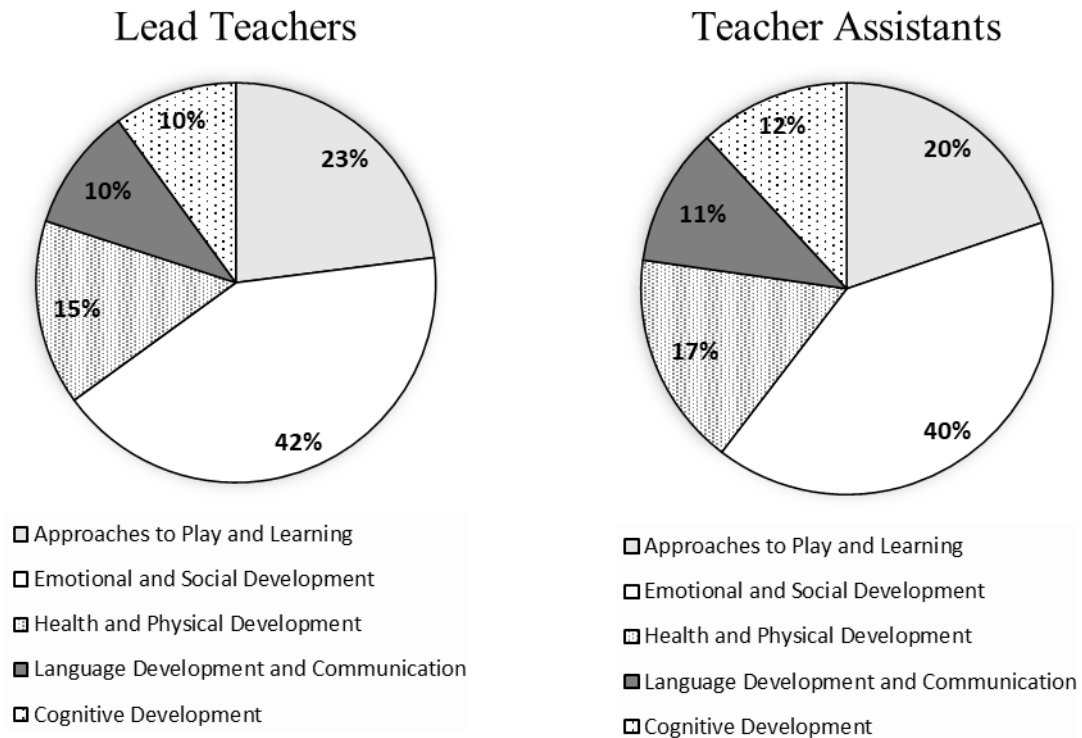


Figure 8. Lead teachers ($N = 1899$) and teacher assistants ($N = 1393$) identified the most difficult learning domain to teach remotely. $\chi^2(4,3292) = 10.32$, $p = .04$

Teacher Efficacy in Providing Remote Learning Services: A Successful Teaching Moment

The largest percent of lead teachers and teacher assistants identified *video-based communication* as the strategy that they were using to deliver remote learning services during the teaching moment in which they felt most successful in connecting with a family (46% and 45%, respectively).

Table 13

	N missing	Lead Teachers		N missing	Teacher Assistants		Test Statistic
		N = 1899			N = 1393		
		M/%	(SD)		M/%	(SD)	
Strategy used to deliver RL during a successful teaching moment	0			0			$\chi^2 (5,3292) = 7.30, p = .20$
Video		46%			45%		
Phone call		21%			24%		
In person		12%			12%		
Other		10%			8%		
Text messaging		8%			7%		
Email		3%			4%		

Note. RL = remote learning.

Key Findings and Policy Recommendations for Future Periods of Remote Learning

During the statewide quarantine in the spring of 2020, all NC Pre-K programs were expected to provide remote learning services to NC Pre-K children and families in place of in-person services.¹⁰ The results of a statewide survey of NC Pre-K teachers described in this report illustrated how teachers navigated the transition to remote learning, the remote learning services teachers provided during the statewide quarantine, as well as teachers' feelings of efficacy in providing remote learning services. The survey responses identified points of success in delivering remote learning services as well as opportunities for improvement during future periods of remote learning instruction. Key findings and policy recommendations were drawn from this survey and highlighted below.

Key Findings:

- The overwhelming majority of NC Pre-K teachers reported they had provided remote learning services to children and families during the statewide quarantine (lead teachers: >99%; teacher assistants: 95%). These percentages appear to align with findings from a nationally representative survey that indicated 95% of primary grade teachers reported personally facilitating distance learning with their students after the coronavirus outbreak began.¹¹
- The majority of NC Pre-K teachers *somewhat* or *strongly* agreed with the following statement: “I was able to effectively deliver remote learning instruction” (lead teachers: 73%; teacher assistants: 70%). Once again, these percentages appear to align with finds from a nationally representative survey that indicted 73% of K-12 teacher felt successful teaching students remotely.¹²
- When providing remote learning services to children and families, NC Pre-K teachers *often* or *always* addressed each of the five developmental domains outlined in the North Carolina Foundations for Early Learning and Development, including *Approaches to Play and Learning*, *Emotional and Social Development*, *Health and Physical Development*, *Language Development and Communication*, and *Cognitive Development*. However, a large percentage of teachers identified *Emotional and Social Development* as the most difficult learning domain to teach remotely. These findings were unique to this survey.

¹⁰ NC Department of Health and Human Services, North Carolina NC Pre-K Prekindergarten Program. (April, 2020). *NC Pre-K Program Guidance – COVID-19 Crisis: Providing Remote NC Pre-K Learning Opportunities for Children*

¹¹ Educators for Excellence. (2020). Voices from the classrooms: A survey of America's teachers on COVID-19-related education issues. Retrieved from www.e4e.org

¹² Kraft, M. A., & Simon, N. S. (2020). *Teachers' experiences working from home during the COVID-19 pandemic*. Upbeat. Retrieved from www.teachupbeat.com

Key Findings (continued):

- NC Pre-K teachers most frequently used phone calls, text messages, and (to a lesser extent) emails to deliver remote learning services. These findings were unique to this survey.
- The largest percentage of teachers felt most successful in delivering remote learning services through video-based communication, but only sometimes used video-based communication. Zoom was the video-based communication platform used most frequently to deliver remote learning services. These findings were unique to this survey.
- NC Pre-K reported that the highest percentage of children in their classrooms received remote learning services weekly (lead teachers: 58%; teacher assistants: 62%) or daily (lead teachers: 33%; teacher assistants: 27%), with few children receiving services less than weekly (lead teachers: 4%; teacher assistants: 6%) or not at all (lead teachers and teacher assistants: 5%) (note: while NC Pre-K funds individual children within classrooms, these values pertain to all children in classrooms, regardless of funding source). These percentages appear comparable with findings from a nationally representative survey that indicated 67% of primary grade teachers reported that >50% of students in their classroom participated in distance learning daily.¹³
- Lead teachers and teacher assistants reported that a large percentage of children in their classrooms received remote learning services on a daily basis (lead teachers: 33%; teacher assistants: 27%) (note: while NC Pre-K funds individual children within classrooms, these values pertain to all children in classrooms, regardless of funding source).

¹³ Educators for Excellence. (2020). Voices from the classrooms: A survey of America's teachers on COVID-19-related education issues. Retrieved from www.e4e.org

Policy Recommendations for Future Periods of Remote Learning :

1. Teachers should receive formal guidance and training regarding the adaptation of classroom curriculum for remote learning, focusing on curriculum related to emotional and social development
2. Teachers should receive guidance and training regarding the effective use of phone calls, text messages, and emails to deliver remote learning services
3. Teachers should receive guidance and training regarding the effective use of video-based communication platforms to deliver remote learning services
4. Teachers should provide remote learning services to all children and families at least twice per week
5. Teachers should identify a select number of children and families who desire remote learning services on a daily basis, focusing on children with special learning needs (i.e., exceptional children, dual language learners)