

**Impact Analysis – Proposed Rule Change
November 2020**

Agency: DHHS/Division of Child Development & Early Education
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Rule citations: 10A NCAC 09 .3013 NC PRE-K TEACHER ASSISTANT
EDUCATION AND CREDENTIALS

10A NCAC 09 .2828 ENHANCED PROGRAM STANDARDS
FOR A RATED LICENSE FOR FAMILY CHILD CARE
HOMES

Statutory Authority: G.S. 110-85; 110-88; 110-88(7); 110-90(4); 110-91(4); 143B-168.3; S.L. 2011-145, s. 10.7(a)

State Impact: Yes
Local Impact: Yes
Substantial Economic Impact: Yes
Private Sector Impact: Yes

I. Introduction:

The Child Care Commission and the Division of Child Development and Early Education (the Division or DCDEE) proposes to amend rules to increase the education and training requirements for Pre-K teacher assistants. The agency is also proposing to require that all Family Child Care Homes conduct a self-assessment and implement written operational policies and procedures.

Amendments

10A NCAC 09 .2828 ENHANCED PROGRAM
STANDARDS FOR A RATED
LICESNE FOR FAMILY CHILD
CARE HOMES

10A NCAC 09 .3013 NC PRE-K TEACHER ASSISTANT
EDUCATION AND CREDENTIALS

II. Impact Analysis:

.2828– Program Standards for a Rated License for Family Child Care Homes

Several changes were made to the Rule . The word “enhanced” was added to the title; the word “component” was removed; and most requirements were formatted into chart form for ease of use by the operator. The 2-point level in the program standards currently requires development and implementation of written operational policies and procedures. This is being moved to a minimum requirement for all

Family Child Care Homes. This Rule change is addressing a general concern that FCCH are regulated and accountable as any child care center. Parents will have the ability to research an FCCH, including its policies and assessment ratings, as they would any licensed child care center. The Rule change is intended to ensure consistent standards across child care facilities. It is estimated that two hours of administration time at \$23.89/hr would be necessary for the 132 one-star FCCH licensed facilities for a total of \$6,307.

A New 2-point level Requirement is being added to promote quality. FCCH operators will need to complete a self-study and self-assessment of the Family Child Care Home Rating Scale in order to earn 2 or more points in program standards. 1,377 FCCH programs would be affected by this change at the next scheduled rated license reassessment for their program following adoption of the rules. This would require a purchase of the Environment Rating Scale book from Teachers College Press for \$24.95 for a one-time cost of \$34,356. An estimated 5 hours of operator's time over a 3-month period would be necessary to complete this requirement at \$23.89/hr for a total of \$164,483. To maintain the point level, programs are reassessed every three years. In total, the cost to affected FCCH facilities is approximately \$370,000 over 5 years.

.3013 – NC Pre-K Teacher assistant education and credentials

Research consistently demonstrates that one of the essential elements of high-quality pre-k programs is teachers delivering high-quality instruction.ⁱ It is essential that all teachers in the classroom be educated in early childhood development and best practices for working with young children.

Rule language was amended to require Pre-K teaching assistants to have a Child Development Associate (CDA) credential in addition to the previously required HS diploma at time of employment if they do not hold an Associate Degree or higher in birth-through-kindergarten, child development, early childhood education, or an early childhood education related field. Also, the proposed rule adds a new requirement for a minimum of 15 hours of annual professional development training for teaching assistants.

North Carolina does not satisfy 2 of the 10 recommended standards for preschool policies related to quality established by Rutgers' National Institute for Early Education Research.ⁱⁱ The proposed rules align with NIEER's recommendation that entry teacher assistants hold a Child Development Associate Credential (CDA) and receive a minimum of 15 hours of annual professional development training. Few other states meet these standards (see Appendix B). Among our neighbors, Georgia meets both standards and South Carolina meets the professional development standard.

The CDA was developed as the entry-level qualification for the field. There has been limited research specific to the qualifications of assistant teachers, but evidence indicates that assistant teacher qualifications are associated with teaching quality.ⁱⁱⁱ The CDA is a National Credentialing Program designed to assess and credential early childhood education professionals in myriad early care and education programs, including Head Start and pre-k. The CDA is based on a core set of competency standards, which guide early care professionals as they work toward becoming qualified teachers of young children. In 1985, the National Association for the Education of Young Children (NAEYC) created the separate nonprofit organization the Council for Professional Recognition (CPR) to administer the CDA. The Council works to ensure the nationally-transferable CDA is a credible and valid credential, recognized by the profession as a vital part of professional development.

NIEER's review of recent research led to their recommendation for 15 hours of professional development training:

Research indicates regular professional learning, including coaching, supports teaching practices related to high-quality experiences for children.^{iv} Individualized professional development focused on helping teachers improve in their own classrooms has been found more effective than traditional workshops and general professional development.^v Good teachers actively engage in

learning and regular professional development, and there is some evidence for a 15-hour threshold.^{vi}

The Rule change was also initiated to make sure that the existing policy of requiring early childhood education credentials applied to all NC Pre-K teacher assistants. This specific change is intended to negate the public school policy that, under the No Child Left Behind Act, allowed teacher assistant years of experience to supplant the ECE Associate Degree education requirement. The intent behind enhancing teacher assistant qualifications overall is to inform teacher assistants through their education of child development and best practices for working with young children. By being better informed of how to interact with young children and families, the children and families are expected to benefit by being more likely to have their overall needs met as they prepare for Kindergarten than if the teacher assistants did not have higher qualifications. At the same time, while beneficial for children and families, the teacher assistants will incur the costs of lost wages and additional costs of tuition obtaining the additional educational requirements.

To apply for the initial CDA Credential, the cost is \$425 for online applications and \$500 for paper applications. Currently, an estimated 95 NC Pre-K TAs in public schools do not meet the credential requirement, which would result in an estimated initial cost of \$40,375. The CDA training meets the educational requirements of the National CDA Credential, which requires 120 hours of child care courses. Assuming 0.5 hours of homework per instruction hour brings the total hours for completion of an CDA to 180. The estimated cost of the time spent completing the hours of child care course with an estimated cost of time of \$14.19 per hour is estimated at \$242,649.

The initial cost to get these 95 teacher assistants to meet the CDA requirements totals approximately \$283,024 including both the application and the cost of their time. These same per-person costs would apply to future hires. The 2015 Workforce report estimates 13% turnover for TAs;^{vii} therefore, based on the current estimate of TAs in NC Pre-K classrooms without a CDA at 95, an annual turnover of 12 TAs would result in an additional \$35,750 (\$5,100+\$30,650) in annual costs compared to the current rules. The associated revenue benefits to education institutions could reach up to \$40,400 initially and \$5,550 annually thereafter.

The cost to TAs for the new requirement of 15 hours of annual professional development training is approximately \$688,378 per year, including training fees ($\$6 * 15\text{hrs} * 2273\text{TAs} = \$204,570$) and the TAs time ($\$14.19 * 15\text{hrs} * 2273\text{TAs} = \$483,808$). The associated revenue benefits to trainers is \$204,600 per year. These estimates assume a \$6 per hour training cost and TA hourly time costs of \$14.19.

While the changes to the requirements are intended to have beneficial effects for the quality of childcare received by children and families, the proposed new requirements will increase the cost of obtaining the necessary credentials for a teacher assistant in an NC Pre-K classroom by \$1 million initially and \$700,000 annually thereafter.

These costs will be shared by the individual TAs, the State, childcare facilities, and families receiving services. The TAs will incur the costs of increased tuition and the opportunity cost of their time. The State will potentially provide additional assistance to TAs (i.e. T.E.A.C.H. scholarships). TAs who do not meet the CDA requirement when they do not hold or are working toward an Associate degree will lose their jobs and the child care facilities will incur the costs of replacing these TAs. In addition, child care facilities may incur new employment costs if a more highly educated workforce demands a higher pay (an equivalent benefit to the TAs). These increases in facility costs could result in higher costs for the families receiving services and for state government child care subsidy payments. However, the agency is unable to determine the likelihood and magnitude of these outcomes.

III. Alternatives

.3013 – NC Pre-K Teacher assistant education and credentials

One alternative to the Rule presented was to include the further requirement that all NC Pre-K Teacher Assistants be working toward or hold an Associate’s Degree or higher in early childhood education or a related field. The intent behind enhancing the teacher assistant qualifications to obtain an Associate’s degree or higher would be to inform teacher assistants through their education of child development and best practices for working with young children. By being better informed of how to interact with young children and families, the children and families are expected to benefit by being more likely to have their overall needs met as they prepare for Kindergarten than if the teacher assistants did not have higher qualifications. After careful analysis of the potential costs for enacting this requirement of all TAs obtaining an Associate’s degree was determined to be too costly with a potential fiscal impact of anywhere from \$27-\$42 million.

Another alternative to the Rule presented was to leave the Rule .3013 as is and not require the alignment with NIEER’s recommendation that entry teacher assistants hold a Child Development Associate Credential (CDA) and receive a minimum of 15 hours of annual professional development training. However, as demonstrated above, while there is a sizable economic impact of increasing the TA requirements, the research supports that these requirements lead to beneficial effects for the quality of childcare received by children and families. Thoughtful consideration was given to the Rule language presented above. While alternative #1 was deemed too costly to consider, alternative #2 was rejected after the research supported that the relative minimal changes to the requirements at a more reasonable cost would have tremendous benefits for children and families.

IV. Summary

A. Benefits

Overall, the proposed rule changes are intended to improve child care for children and families by 1) requiring all FCCHs to meet the same administrative requirements as other licensed child care facilities; and 2) requiring all NC Pre-K Teacher Assistants meet the NIEER requirement of minimally holding a CDA. By clarifying existing policies and practices and incorporating them into Rule, there will be less room for misunderstanding.

However, the extent to which these rule amendments will improve the health, safety, and quality of child care for children enrolled in child care facilities is unknown. In many cases, the likelihood and potential magnitude of any benefits could not be estimated due to lack of research on the effect of the specific requirements on child outcomes and lack of program data.

One of the Rule changes is expected to benefit educational institutions in the form of tuition revenue. Education institutions can expect increased revenues from child care professionals seeking to satisfy the proposed coursework requirements. These benefits are estimated at up to \$250,000 initially and \$400,000 thereafter. Professional development trainers can expect increased annual revenues of approximately \$200K per year.

Benefits Center Rules with Fiscal Impact Totals					
Year 1	Year 2	Year 3	Year 4	Year 5	TOTAL (NPV, 2019 dollars)
\$ 250,000	\$ 200,000	\$ 180,000	\$ 170,000	\$ 160,000	\$ 960,000

B. Costs

The quantifiable costs of this rules package are estimated to be approximately \$3.8 million over five years in 2020 dollar terms.

The changes increase the cost of obtaining the necessary credentials for a teacher assistant in an NC Pre-K classroom by an estimated \$283,024 initially and \$35,750 annually thereafter. Costs for ongoing professional development is approximately \$300 per person for a total of \$688,378 annually.

The proposed rule amendments could affect the ability of providers to recruit qualified personnel, increase child care costs for families receiving services, and increase state government expenses for subsidies and TEACH scholarships; these potential outcomes could not be quantified.

Quantified costs projected over the next five years are categorized below by affected entity: private sector family child care home operators, local government operators, and state government operators. All estimated costs to family child care homes were included in the private sector. Because 26% of centers report that they are operated by public schools and less than 1% report they are operated by universities and community colleges (assumed to be state funded), 73.9% of center costs were estimated to be in the private sector, 26% were estimated to be local, and less than 1% were estimated to be state operated.

Cost Center Rules with Fiscal Impact					
Year 1	Year 2	Year 3	Year 4	Year 5	TOTAL (NPV, 2019 dollars)
\$ 1,200,000	\$ 680,000	\$ 630,000	\$ 720,000	\$550,000	\$ 3,800,000

Cost Summary

Estimated Private Sector Costs:	\$2,800,000
Estimated Local Costs:	\$ 1,000,000
Estimated State Costs:	\$ 3,800
Total Cost in 2019 dollars	\$3,800,000

Appendix A: Data Sources and Assumptions for Quantifying Facility Costs

Most of the fiscal cost estimated is due to the staff time for child care center employees and family child care home operators to develop new policies. This was estimated using average hourly rates of pay and adding benefits costs. Wages were based on a 2015 workforce study,^{viii} adjusted to current year equivalents and future projections using regional data from IHS Connect. ECW benefits were estimated using the U.S. Bureau of Labor Statistics' Employer Costs for Employee Compensation data from the National Compensation Survey, available through June 2019. Child Care Workers are part of the health care and social assistance industry group, occupational group 39-9011. Benefits were 30% of total compensation or 43% of salary for this group of workers, according to BLS data, accessed on Table 28 of the Historical Supplemental Tables located here: <https://www.bls.gov/iag/tgs/iag62.htm#about>. It is assumed that all programs impacted will pay for staff time.

Average Wages from Workforce Survey (2015)

Lead Teacher	\$11.25
Teacher Assistant	\$9.50
Administrator	\$16.00

Wage projections using IHS Connect NC industry wage growth rate projections for Health Care and Social Assistance occupation group

	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
Lead Teacher	\$11.25	\$ 11.37	\$ 11.59	\$ 11.68	\$ 11.73	\$ 11.75	\$ 11.92	\$ 12.06	\$ 12.23	\$ 12.41	\$ 12.63
Teacher Assistant	\$9.50	\$ 9.60	\$ 9.79	\$ 9.86	\$ 9.90	\$ 9.92	\$ 10.07	\$ 10.19	\$ 10.33	\$ 10.48	\$ 10.66
Administrator	\$16.00	\$ 16.17	\$ 16.48	\$ 16.61	\$ 16.68	\$ 16.71	\$ 16.95	\$ 17.16	\$ 17.39	\$ 17.66	\$ 17.96

Total Compensation using BLS national wage and benefits estimates for health care and social assistance occupation group, 2019

	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
Lead Teacher			\$ 16.57	\$ 16.70	\$ 16.76	\$ 16.80	\$ 17.04	\$ 17.25	\$ 17.48	\$ 17.75	\$ 18.05
Teacher Assistant			\$ 13.99	\$ 14.10	\$ 14.16	\$ 14.19	\$ 14.39	\$ 14.56	\$ 14.76	\$ 14.99	\$ 15.24
Administrator			\$ 23.56	\$ 23.75	\$ 23.84	\$ 23.89	\$ 24.24	\$ 24.53	\$ 24.86	\$ 25.24	\$ 25.67

It is important to note that these estimates of hourly time err on the side of overestimating the amount of time and number of facilities these changes would realistically impact. When we cannot estimate the number of facilities that will be impacted, we calculated for all facilities.

Although there has been a decrease in the numbers of centers and family child care homes since 2013, these fiscal estimates assume that the numbers of child care centers and family child care homes, the number of children enrolled in regulated care, and the proportion of facilities affected by each individual rule change, will remain stable in future years. It is possible the costs may be less in the future than estimated if the numbers of child care programs continue to decrease.

Year (January)	Centers	Homes	Total	Children
2019	4,446	1,551	5,997	241,780
2018	4,520	1,720	6,240	245,277
2017	4,632	1,966	6,598	247,729
2016	4,692	2,150	6,842	245,277
2015	4,761	2,291	7,052	250,842
2014	4,731	2,494	7,225	243,973
2013	4,809	2,763	7,572	251,526

Appendix B: State Comparison of NIEER Preschool Quality Standards

TABLE 5: 2017-2018 STATE PRESCHOOL QUALITY STANDARDS

STATE/ PROGRAM	Early learning & development standards	Curriculum supports	Teacher has BA	Specialized training in pre-K	Assistant teacher has CDA or equiv.	Staff professional development	Class size 20 or lower	Staff-child ratio 1:10 or better	Vision, hearing, & health screening & referral	Continuous quality improvement system	New Quality Standards Checklist Sum 2017-2018
Alabama	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	10
Alaska	✓	✓			✓						3
Arizona	✓	✓								✓	3
Arkansas	✓	✓		✓	✓		✓	✓	✓	✓	8
California CSPP	✓	✓		✓				✓	✓	✓	6
California TK		✓	✓								2
Colorado	✓	✓		✓			✓	✓			5
Connecticut CDCC	✓	✓		✓			✓	✓			5
Connecticut SR	✓	✓		✓			✓	✓			5
Connecticut Smart Start	✓	✓	✓	✓			✓	✓			6
Delaware	✓	✓		✓			✓	✓	✓	✓	7
District of Columbia		✓							✓	✓	3
Florida	✓						✓				2
Georgia	✓	✓	✓	✓	✓	✓			✓	✓	8
Hawaii	✓	✓	✓				✓	✓	✓	✓	7
Illinois	✓	✓	✓	✓			✓	✓	✓	✓	8
Iowa Shared Visions	✓	✓		✓			✓	✓	✓		6
Iowa SWVPP	✓	✓	✓	✓			✓	✓	✓	✓	8
Kansas Preschool Pilot	✓	✓	✓					✓			4
Kansas State Pre-K	✓	✓	✓					✓			4
Kentucky	✓	✓	✓	✓			✓	✓	✓		7
Louisiana B(g)	✓	✓	✓	✓	✓		✓	✓		✓	7
Louisiana LA 4	✓	✓	✓	✓			✓	✓	✓	✓	8
Louisiana NSECD	✓	✓	✓	✓	✓		✓	✓	✓	✓	9
Maine	✓	✓	✓	✓	✓		✓	✓	✓	✓	9
Maryland	✓	✓	✓	✓				✓	✓	✓	7
Massachusetts UPK	✓	✓		✓			✓	✓	✓	✓	7
Massachusetts Chapter 70	✓	✓	✓	✓					✓	✓	6
Michigan	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	10
Minnesota HdSt	✓	✓		✓	✓	✓	✓	✓	✓	✓	8
Minnesota VPK/SRP	✓	✓					✓	✓	✓		5
Mississippi	✓	✓	✓	✓	✓		✓	✓	✓	✓	9
Missouri	✓	✓	✓	✓			✓	✓	✓	✓	8
Montana		✓	✓	✓			✓	✓		✓	6
Nebraska	✓	✓	✓	✓	✓		✓	✓		✓	8
Nevada	✓	✓	✓	✓			✓	✓			6
New Jersey Abbott	✓	✓	✓	✓			✓	✓	✓	✓	8
New Jersey ECPA	✓	✓	✓	✓			✓	✓	✓	✓	8
New Jersey ELLI	✓	✓	✓	✓			✓	✓	✓	✓	8
New Mexico	✓	✓		✓	✓	✓	✓	✓	✓	✓	9
New York	✓	✓	✓	✓			✓	✓	✓	✓	7
North Carolina	✓	✓	✓	✓			✓	✓	✓	✓	8
North Dakota	✓		✓								2
Ohio	✓	✓		✓					✓	✓	5
Oklahoma	✓		✓			✓	✓	✓	✓	✓	9
Oregon HdSt	✓	✓		✓	✓	✓	✓	✓	✓		8
Oregon Preschool Promise	✓	✓		✓			✓	✓			5
Pennsylvania RTL	✓			✓			✓	✓			4
Pennsylvania HSSAP	✓			✓	✓		✓	✓	✓		6
Pennsylvania K4 & SBPK	✓		✓						✓		3
Pennsylvania PKC	✓	✓	✓	✓			✓	✓	✓	✓	8
Rhode Island	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	10
South Carolina	✓	✓		✓		✓	✓	✓	✓	✓	7
Tennessee	✓	✓	✓	✓			✓	✓	✓		7
Texas	✓		✓	✓					✓		4
Vermont	✓	✓		✓			✓	✓	✓	✓	7
Virginia	✓	✓		✓			✓	✓	✓		6
Washington	✓	✓		✓	✓		✓	✓	✓	✓	8
West Virginia	✓	✓	✓	✓	✓		✓	✓	✓	✓	9
Wisconsin 4K		✓	✓	✓							3
Wisconsin HdSt	✓	✓		✓	✓		✓	✓	✓		7
TOTAL	57	55	36	50	17	9	46	49	42	35	
Guam	✓	✓		✓			✓	✓		✓	6

1
2 **Amendment of Rules**
3

4 **10A NCAC 09 .2828 is proposed for amendment as follows:**

5
6 **10A NCAC 09 .2828 ENHANCED PROGRAM STANDARDS FOR A RATED LICENSE FOR FAMILY**
7 **CHILD CARE HOMES**

- 8 (a) This Rule shall apply to evaluating the program standards for a rated license for family child care homes.
9 (b) To achieve two through seven points for program standards, the operator shall meet the criteria listed in the
10 following chart:
11

FCCH Program Standards (.2828) Point Level	Criteria
2 points	Operator provides documentation of self-study and self-assessment using the Family Child Care Rating Scale over a 3-month time period. Documentation such as an ERS book with score sheets, self-assessments and program adjustments shall be reviewed by the Division as part of the rated license assessment.
3 points	<u>Provide documentation of the 3-month self-study AND have</u> Have a score of 4.0 or higher on the Family Child Care Rating Scale
4 points	<u>Provide documentation of the 3-month self-study AND have</u> Have a score of 4.25 or higher on the Family Child Care Rating Scale
5 points	<u>Provide documentation of the 3-month self-study AND have</u> Have a score of 4.5 or higher on the Family Child Care Rating Scale
6 points	<u>Provide documentation of the 3-month self-study AND have</u> Have a score of 4.75 or higher on the Family Child Care Rating Scale AND of the five preschoolers allowed to be enrolled, no more than four children shall be under one year of age
7 points	<u>Provide documentation of the 3-month self-study AND have</u> Have a score of 5.0 or higher on the Family Child Care Rating Scale AND of the five preschoolers allowed to be enrolled, no more than three children shall be under one year of age

12
13 *History Note:* Authority G.S. 110-88(7); 110-90(4); 143B-168.3;
14 *Eff. May 1, 2006;*
15 *Recodified from Rule .2821 Eff. August 1, 2012;*
16 *Readopted Eff. March 1, ~~2019~~ 2019;*
17 *Amended Eff. _____.*
18

19 **10A NCAC 09 .3013 is proposed for amendment as follows:**

20
21 **10A NCAC 09 .3013 NC PRE-K TEACHER ASSISTANT EDUCATION AND**
22 **CREDENTIALS**

- 23 (a) All teacher assistants ~~shall~~ shall have a high school diploma or its equivalent and shall either:
24 (1) hold a Child Development Associate (CDA) credential; or

1 (2) hold or be working toward an Associate Degree or higher in birth-through-kindergarten,
2 child development, early childhood education, or an early childhood education related
3 field. Teacher assistants working toward the Associate Degree shall make
4 progress by completing a minimum of six documented semester hours per year.

5 (1) ~~have a high school diploma or GED and shall hold, or be working toward, an Associate Degree in~~
6 ~~birth through kindergarten, child development, early childhood education, or an early childhood~~
7 ~~education related field or a Child Development Associate (CDA) credential. Teacher assistants~~
8 ~~working toward the minimum of an Associate Degree or CDA shall make progress by completing~~
9 ~~a minimum of six documented semester hours per year; or~~

10 (2) ~~meet the employment requirements outlined by the Every Student Succeeds Act (ESSA), Pub.L.~~
11 ~~114 95, and have one of the following:~~

12 (a) ~~six documented semester hours of coursework in early childhood education, or~~

13 (b) ~~two years of work experience in an early childhood setting.~~

14 (b) All teacher assistants shall complete at least 15 hours of annual in-service professional development. A
15 combination of college coursework, Continuing Education Units (CEUs) or clock hours may be used to complete the
16 requirements of this Rule.

17 (c) The site-level administrator shall maintain document the progress of any teacher assistants who are working toward
18 the required education. This documentation must be maintained in the individual's staff record available for review
19 by the Division. Division of the progress in accordance with this Rule.

21 *History Note: Authority G.S. 110-85; 110-88; S.L. 2011-145, s. 10.7(a);*

22 *Eff. November 1, 2012;*

23 *Readopted Eff. October 1, 2017. 2017;*

24 *Amended Eff. _____.*

1 ENDNOTES

ⁱ Burchinal, M.R., Roberts, J.E., Riggins, Jr., R., Zeisel, E.N., & Bryant, D. (2000). Relating quality of center-based child care to early cognitive and language development longitudinally. *Child Development*, 71(2), 339-357; Mashburn, A. J., Pianta, R. C., Hamre, B. K., Downer, J. T., Barbarin, O. A., Bryant, D., ... & Howes, C. (2008). Measures of classroom quality in prekindergarten and children's development of academic, language, and social skills. *Child Development*, 79(3), 732-749.

ⁱⁱ NIEER (2018): The State of Preschool 2018: State Preschool Yearbook. Accessible at http://nieer.org/wp-content/uploads/2019/08/YB2018_Full-ReportR3wAppendices.pdf

ⁱⁱⁱ Cited in NIEER (2018): Bowman et al. (2001). Institute of Medicine and National Research Council (2015). Han, J., & Neuharth-Pritchett, S. (2010). Beliefs about classroom practices and teachers' education level: An examination of developmentally appropriate and inappropriate beliefs in early childhood classrooms. *Journal of Early Childhood Teacher Education*, 31(4), 307-321. Heisner, M. J., & Lederberg, A. R. (2011). The impact of Child Development Associate training on the beliefs and practices of preschool teachers. *Early Childhood Research Quarterly*, 26(2), 227-236. Kagan, S. L., & Cohen, N. E. (1997). Not by chance: Creating an early care and education system for America's children [Abridged report]. New Haven, CT: Bush Center in Child Development and Social Policy, Yale University.

^{iv} Cited in NIEER (2018): Biancarosa, G., Bryk, A. S., & Dexter, E. R. (2010). Assessing the value-added effects of literacy collaborative professional development on student learning. *The Elementary School Journal*, 111(1), 7-34. Clements, D. H., & Sarama, J. (2008). Experimental evaluation of the effects of a research-based preschool mathematics curriculum. *American Educational Research Journal*, 45, 443-494. Hawley, W. & Valli, L. (1999). The essentials of effective professional development: A new consensus in L. Darling-Hammond & G. Sykes (Eds.). *Teaching as the Learning Profession. Handbook of Policy and Practice*, Jossey-Bass Publishers, San Francisco. Institute of Medicine and National Research Council (2015). Minervino (2014). Phillips et al. (2017). Pianta et al. (2009). Weber, R. & Trauten, M. (2008). A review of the research literature: Effective investments in child care and early education profession. Oregon State University, Family Policy Program, Oregon Childcare Research Partnership. Whitebook, M., & Bellm, D. (2013). *Supporting teachers as learners: A guide for mentors and coaches in early care and education*. Washington, DC: American Federation of Teachers. Weiland (2016). Yoshikawa et al. (2013).

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