

Analysis of North Carolina Community College Early Childhood Education Coursework on Nutrition, Health, and Physical Activity

Carl J. Dunst Melinda Raab Deborah W. Hamby

Orelena Hawks Puckett Institute
Asheville and Morganton, North Carolina

Anna Lauren Long

University of North Carolina–Asheville
Asheville, North Carolina

The results from a content analysis of coursework required and offered at the 58 North Carolina Community Colleges to obtain an Associate in Applied Sciences Degree in early childhood education are described. The analyses were conducted to determine the likelihood that the courses could include content knowledge or practice on 12 infant and child health, nutrition, obesity, and physical activity indicators; and two adult wellness indicators. Thirty courses were identified that included descriptions pertaining to one or more of the 14 indicators. Approximately half of the courses were judged as having a higher likelihood of including health and physical activity content, and seven of these courses were required at all or most of the community colleges. Four of the six courses were methods courses, but only one required course was a field placement. The results, taken together, showed that a considerable amount of content knowledge could be included in the existing early childhood curriculum.

Introduction

This report includes the analyses of the courses required or offered as part of the Early Childhood Education Associate Degree Program at the 58 North Carolina Community Colleges to determine which coursework and field placements (labs, practicum, and internships) could include knowledge and practice on infant and child health, nutrition, obesity, and physical activity; and adult wellness. The analyses were conducted in response to the North Carolina Institute of Medicine (2013) Task Force recommendations for information on

“curricula used to teach upcoming child care and early education professionals about early childhood health and obesity prevention strategies” (p. 137). The analyses were performed in order to determine whether current coursework include or could include information on:

- Obesity trends among infants and young children,
- Impact of obesity on health,
- Infant feeding and signs of satiety,
- Healthy food and beverage procurement and preparation and best nutrition practices,
- Strategies to promote healthy and appropriate sleep duration,
- The importance of reducing screen time,
- Age appropriate movement and physical activity,
- Outdoor learning environments and edible landscapes,
- Breastfeeding support,
- Staff wellness to support role modeling, and
- Strategies to educate parents and other caregivers about best practices to implement at home in order

Report prepared for the North Carolina Center for Health and Wellness, Asheville, and the North Carolina Institute of Medicine, Morrisville. The opinions expressed, however, are those of the authors and do not necessarily reflect the views or policies of either organization.

to promote healthy weight (North Carolina Institute of Medicine, 2013, p. 138).

The results were expected to provide baseline information with regard to the scope of content knowledge acquisition and experiences community college students could be afforded as part of early childhood education professional preparation on topics related to health, nutrition, obesity, physical activity, and wellness.

North Carolina Community Colleges

Fifty-eight community colleges serve all 100 North Carolina counties. All 58 colleges offer an Associate in Applied Sciences Degree in early childhood education. Fifty-five community colleges offer certificates in early childhood education, and 41 offer certificates in infant and toddler education. The early childhood education degree program is offered as either an on-campus or on-line program or both.

The Associate Degree program is designed to prepare students to work with children from infancy through early childhood in different types of learning settings and environments (North Carolina Community Colleges, 2015b). Requirements for the degree range from 64 to 76 semester credit hours in the 58 institutions in the State.

The required credit hours are usually acquired over a four-to-five semester period of time by completing a combination of general education and early childhood courses included in the *Combined Course Library* (North Carolina Community Colleges, 2015a) approved by the State Board of Community Colleges. Courses in the early childhood major cover theory, content knowledge, methods, and practices on a wide range of early childhood topics including, but not limited to, child guidance strategies; child physical, cognitive, and social-emotional growth and development; preparation and implementation of developmentally appropriate learning activities; adult-child interactions; and the physical and nutritional needs of children. Each early childhood program must include a number of State Board of Community College required courses, whereas other courses required or offered vary from college to college.

The number of students awarded an Associate Degree in early childhood education between 2004/2005 and 2012/2013 is shown in Figure 1. A progressively larger number of students were awarded an Associate Degree in early childhood education between 2004/2005 and 2010/2011. The change during this seven year period of time represents a 25% increase in the number of students awarded an Associate Degree. For the most recent three years for which data were available, between 990 and 1100 students graduated each year with a degree in early childhood education.

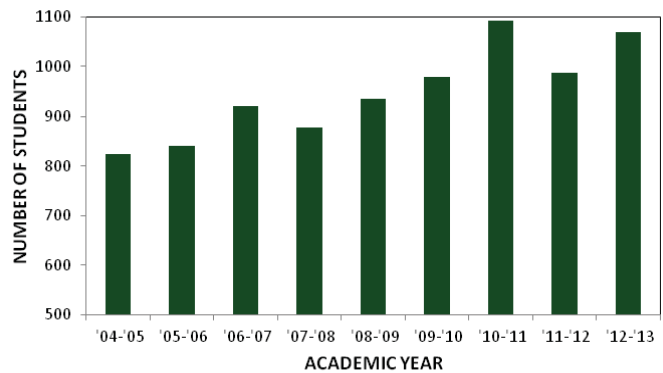


Figure 1. Number of students completing the early childhood Associate Degree in the North Carolina Community College system.

Procedure

The analysis of the early childhood education coursework was accomplished by (1) developing operationalized indicators (Babbie, 2009) for the topics listed in the Task Force recommendations listed above, (2) identifying required and offered coursework in early childhood education and other departments, and (3) rating the extent to which coursework content for these particular courses included information (theory, content knowledge, methods) or experiences that could provide students learning opportunities on health, nutrition, obesity, physical activity, or wellness. The data generated through these three steps were then used to determine the degree to which students would likely be taught about infant and child health, nutrition, obesity, and physical activity; and adult wellness.

Coursework

All of the education course descriptions in the *Combined Course Library* (North Carolina Community Colleges, 2015a) were first examined to identify those courses that could include content knowledge or experiences on infant and child health, nutrition, obesity, or physical activity; or adult wellness. Seventy-two courses were classified as early childhood education in the course library. In addition, the course descriptions from the *Combined Course Library* (North Carolina Community Colleges, 2015a) in other Departments which were listed in the early childhood coursework at any of the 58 community colleges were examined to identify additional relevant courses. Eight courses were identified that could include health, nutrition, and physical activity content. The total coursework pool was 80 courses.

Thirty courses out of the 80 course pool were identified as having course descriptions that include or could likely include information on health, nutrition, or physical activity topics for one or more of the 14 indi-

cators. The courses are listed in Table 1 and the course descriptions are included in Appendix A. Twenty-three courses were in early childhood education, three were psychology courses, and one each were biology, health, and physical education courses.

Health and Physical Activity Indicators

Information in *Promoting Healthy Weight for Children* (North Carolina Institute of Medicine, 2013), the list of topics for Community/Environment Strategy 2 in that document, and other evidence-based information (e.g., Hinkley et al., 2014; Jennings, McEvoy, & Corish, 2011; Kreichauf et al., 2012), were used to develop 14 indicators in five categories of health, nutrition, exercise and movement, obesity, and wellness. The indicators are shown in Table 2. The scale used to evaluate coursework

descriptions is included in Appendix B.

Each of the course descriptions were rated by two of the report evaluators in terms of the probability that information or practice on each indicator could be included in a course. The ratings were *probably not covered*, *maybe could be covered* (low probability), or *quite likely could be covered* (higher probability). Disagreements were resolved through discussions about the course descriptions and how information about the indicators could or could not be included or covered.

Coursework Categorization

A review of the early childhood education degree programs on each community college's website and their most current catalogs were used to identify and code the 30 courses as required, required among a number

Table 1
Community College Courses Included in the Analysis of Coursework Content

Course Number	Course Title
EDU 119	Introduction to Early Childhood Education
EDU144	Child Development I
EDU 145	Child Development II
EDU 151	Creative Activities
EDU 151A	Creative Activities Lab
EDU 152	Music, Movement, and Language
EDU 152A	Music, Movement, and Language Lab
EDU 153	Health, Safety, and Nutrition
EDU 153A	Health, Safety, and Nutrition Lab
EDU 157	Active Play
EDU 158	Healthy Lifestyles – Youth
EDU 188	Issues in Early Childhood Education
EDU 234	Infants, Toddlers, and Twos
EDU 234A	Infants, Toddlers, and Twos Lab
EDU 243	Learning Theory
EDU 244	Human Growth and Development
EDU 251	Exploration Activities
EDU 251A	Exploration Activities Lab
EDU 253	Music for Children
EDU 254	Music and Movement for Children
EDU 259	Curriculum Planning
EDU 284	Early Childhood Capstone Practicum
EDU 285	Internship Experience – School Age
EDU 286	Early Childhood Issues
BIO 155	Nutrition
HEA 110	Personal Health and Wellness
PED 110	Fit and Well for Life
PSY 241	Developmental Psychology
PSY 244	Child Development I
PSY 245	Child Development II

Table 2
Nutrition, Health, Physical Activity, and Wellness Items for Coding Community College Course Content

Infant Health and Nutrition

1. Providing new parents support to encourage breastfeeding
2. Effects of breastfeeding on healthy child development
3. Promoting appropriate child sleep patterns (sleep routines and duration)

Child Health and Nutrition

1. Obtaining and preparing healthy food and beverages for child consumption
2. Encouraging children to eat healthy foods (nutrition practices)
3. Providing children opportunities to grow and sample vegetables and other foods

Exercise and Movement

1. Encouraging healthy age appropriate child movement and physical activity
2. Designing outdoor environments to encourage child physical activity
3. Limiting child TV watching and other screen time (e.g., computers, iPads)

Infant and Child Obesity

1. Understanding the effects of obesity on healthy child development
2. Identifying current trends in obesity among infants and young children
3. Using appropriate infant feeding practices and recognizing signs that a child is full

Adult Wellness

1. Adopting personal wellness practices and providing children and parents role models
2. Educating parents and other caregivers about healthy development and weight

of options, an elective, offered but not required, or not offered. For purposes of analysis in this report, required, required among options, and electives were coded as **Required** coursework and the other two options were coded as **Not Required** coursework.

Results

Coursework Content

Table 3 shows how many of the 30 courses were rated as having different probability levels of including information or experiences on the 14 health and physical activity indicators. Appendix C includes the particular courses that were rated as having either a low or higher probability of including information for each of the 14 indicators.

As shown in Table 3, few of the 30 courses were rated as having a higher likelihood or probability of including course content on the majority of the 14 indicators except for two exercise and movement topics (Encouraging Child Movement and Physical Activity, Outdoor Environments and Physical Activity). Nine of

the 14 indicators (64%) were judged as having either a low or higher probability of course content on health, nutrition, or physical activity being included for at least one third (N = 10) of the 30 courses. Two Infant Health and Nutrition indicators and the two Adult Wellness indicators were judged as having very little likelihood of coursework content being included in most courses.

The pattern of results was not unexpected since certain courses were more likely to include content for some but not other indicators (e.g., Health, Safety, and Nutrition vs. Music and Movement for Children). Except for the adult wellness indicators, and to a lesser extent the infant health and nutrition indicators, the fact that so many courses were rated as having at least some probability of including information on so many indicators is both encouraging and promising (see especially Appendix C).

Health, Nutrition, and Physical Activity Course Content

One measure of the likelihood of information or experiences on each of the 14 health and physical activity indicators being included in early childhood educa-

Table 3

Number of Courses Rated as Having a Probability of Including Coursework for the Health, Nutrition, and Physical Activity Indicators

Health and Physical Activity Indicators	Probability Level		
	None	Lower	Higher
Infant Health and Nutrition			
Providing parents breastfeeding support	28	2	0
Breastfeeding and healthy child development	19	9	2
Promoting appropriate child sleep patterns	21	8	1
Child Health and Nutrition			
Healthy food and beverage preparation	19	7	4
Encouraging healthy child food consumption	15	12	3
Children growing and sampling vegetables	13	17	0
Exercise and Movement			
Encouraging child movement and physical activity	4	13	13
Outdoor environments and physical activity	10	11	9
Limiting child screen time	9	21	0
Infant and Child Obesity			
Effects of obesity on child health	13	15	2
Obesity trends among infants and young children	16	13	1
Appropriate infant feeding practices	22	7	1
Adult Wellness			
Modeling personal wellness practices	27	1	2
Educating adults about healthy development	26	4	0

tion coursework are the number of courses that were given low or higher probability ratings on the 14 indicators. In order to determine the overall likelihood of a course including content on health, nutrition, or physical activity, a course was given a score of one each time an indicator was given a low probability rating, and a course was given a score of two each time an indicator was given a higher probability rating. These two scores were then summed for all coursework to obtain a total course score.

Table 4 shows the total course scores for each course. Examination of the scores shows that a number of courses “stood out” as having a greater likelihood of including health or physical activity content. These included EDU 144, EDU 153, EDU 153A, EDU 158, EDU 188, EDU 234, EDU 234A, and EDU 284. In addition to these eight courses, five other courses had total course scores of 8 or 9 (EDU 145, EDU 244, EDU 285, BIO 155, PSY 245). Thus, half of the courses were rated as having some likelihood of including course content on many of

Table 4
Number of Health, Nutrition, Physical Activity, and Wellness Indicators Rated as Having a Low or Higher Probability of Being Included in Each Course

Course Number	Course Title	Probability Rating		Total Score
		Low	Higher	
EDU 119	Introduction to Early Childhood Education	2	0	2
EDU144	Child Development I	10	0	10
EDU 145	Child Development II	8	0	8
EDU 151	Creative Activities	3	2	7
EDU 151A	Creative Activities Lab	2	2	6
EDU 152	Music, Movement, and Language	3	1	5
EDU 152A	Music, Movement, and Language Lab	2	1	4
EDU 153	Health, Safety, and Nutrition	4	6	16
EDU 153A	Health, Safety, and Nutrition Lab	7	4	15
EDU 157	Active Play	2	2	6
EDU 158	Healthy Lifestyles –Youth	5	4	13
EDU 188	Issues in Early Childhood Education	11	0	11
EDU 234	Infants, Toddlers, and Twos	11	1	13
EDU 234A	Infants, Toddlers, and Twos Lab	9	1	11
EDU 243	Learning Theory	3	0	3
EDU 244	Human Growth and Development	9	0	9
EDU 251	Exploration Activities	2	0	2
EDU 251A	Exploration Activities Lab	3	0	3
EDU 253	Music for Children	1	0	1
EDU 254	Music and Movement for Children	2	1	4
EDU 259	Curriculum Planning	2	2	6
EDU 284	Early Childhood Capstone Practicum	6	2	10
EDU 285	Internship Experience – School Age	5	2	9
EDU 286	Early Childhood Issues	2	2	6
BIO 155	Nutrition	5	2	9
HEA 110	Personal Health and Wellness	4	1	6
PED 110	Fit and Well for Life	4	1	6
PSY 241	Developmental Psychology	4	0	4
PSY 244	Child Development I	3	0	3
PSY 245	Child Development II	6	1	8

the health and physical activity indicators. Inspection of the course ratings in Appendix C shows which health and physical activity indicators could likely be included in course content. EDU 153 (Health, Safety, and Nutrition), for example, tended to be judged as possibly including content on the health and nutrition indicators, whereas EDU 284 (Early Childhood Capstone Practicum) tended to be judged as possibly including content on the exercise and movement indicators.

Methods and Field Placement Coursework

Effective preservice preparation of teachers in general (Lewis et al., 1999) and early childhood educators in particular (Hyson & Biggar, 2006) has been found to include a mixture of theory, content knowledge, and methods courses, and different types of field placements (Clift & Brady, 2005; Early & Winton, 2001; Horm-Wingerd, Hyson, & Karp, 2000; Ray, Bowman, & Robbins, 2006). Recent research has shown that coursework on theory and content knowledge alone does not result in high quality teacher preparation, and that methods courses and lab experiences, practicum, and internships (among other types of field placements) provide students with the types of authentic learning opportunities to ensure high quality teacher preparation (Clift & Brady, 2005; Darling-Hammond, Chung, & Frelow, 2002; Isikoglu, 2008; Recchia, Beck, Esposito, & Tarrant,

2009; Ronfeldt, Schwartz, & Jacob, 2014).

About half of the 30 courses were classified as either methods courses (N = 7) or field placements courses (N = 7). The total course scores for the indicators considered possible course content are shown in Table 5. EDU 153 and EDU 234 were the two methods courses rated as having the greatest probability of including content knowledge on health, nutrition, or physical activity. Four field placement courses (EDU 153A, EDU 234A, EDU 284, EDU 285) were rated as having the greatest probability of including experiences on health, nutrition, or physical activity. These results suggest that both the methods and field placement courses could provide considerable opportunity to promote student understanding and use of practices that include infant and child health, nutrition, obesity, and physical activity; and adult wellness content and experiences.

Required and Not Required Courses

Perhaps the best measure of the likelihood of early childhood education courses including content knowledge and experiences on health, nutrition, obesity, physical activity, or wellness is whether the 30 courses listed in Table 2, and especially those courses judged to have a greater likelihood of including relevant course content, are required or not required as part of completing an Associate Degree. To do so, the coursework in Table 4 were

Table 5
Methods and Field Placement Courses Having a Probability of Including Content and Experiences on Health, Nutrition, and Physical Activity

Coursework	Course Title	Probability Rating		Total Course Score
		Low	Higher	
Methods Courses				
EDU 151	Creative Activities	3	2	7
EDU 152	Music, Movement, and Language	3	1	5
EDU 153	Health, Safety, and Nutrition	4	6	16
EDU 157	Active Play	2	2	6
EDU 234	Infants, Toddlers, and Twos	11	1	13
EDU 251	Exploration Activities	2	0	2
EDU 259	Curriculum Planning	2	2	6
Field Placements				
EDU 151A	Creative Activities Lab	2	2	6
EDU 152A	Music, Movement, and Language Lab	2	1	4
EDU 153A	Health, Safety, and Nutrition Lab	7	4	15
EDU 234A	Infants, Toddlers, and Twos Lab	9	1	11
EDU 251A	Exploration Activities Lab	3	0	3
EDU 284	Early Childhood Capstone Practicum	6	2	10
EDU 285	Internship Experience – School Age	5	2	9

rank ordered using the total course score for the indicators for each course as the measure of overall likelihood of coverage. The number of community college courses that are required or not required as part of completing an Associate Degree in early childhood education was then identified. Table 6 shows the courses rank ordered from those that could include the most (EDU 153) to the least (EDU 253) health, nutrition, or physical activity content. Eight courses are required at all or most of

the community colleges (EDU 119, EDU 144, EDU 145, EDU 151, EDU 153, EDU 234, EDU 259, EDU 284), and one course (EDU 251) is required at 67% of the community colleges.

Using the course content rank-order score as the benchmark for overall likelihood of inclusion of information on health, nutrition, or physical activity, four of the courses ranked in the top one-third of all 30 courses are required as part of completion of an Associate De-

Table 6

Distribution of Required and Not Required Courses Rated as Potentially Including the Most to Least Health, Nutrition, and Physical Activity Content

Course Number	Course Title	Rank Course Content Score	Number of Community Colleges	
			Required	Not Required
EDU 153	Health, Safety, and Nutrition	1.00	58	0
EDU 153A	Health, Safety, and Nutrition Lab	2.00	4	54
EDU 158	Healthy Lifestyles – Youth	3.50	5	53
EDU 234	Infants, Toddlers, and Twos	3.50	58	0
EDU 188	Issues in Early Childhood Education	5.50	6	52
EDU 234A	Infants, Toddlers, and Twos Lab	5.50	7	51
EDU144	Child Development I	7.50	57	1
EDU 284	Early Childhood Capstone Practicum	7.50	58	0
EDU 244	Human Growth and Development	10.00	0	58
EDU 285	Internship Experience – School Age	10.00	1	57
BIO 155	Nutrition	10.00	0	58
EDU 145	Child Development II	12.50	57	1
PSY 245	Child Development II	12.50	4	54
EDU 151	Creative Activities	14.00	58	0
EDU 151A	Creative Activities Lab	17.50	10	48
EDU 157	Active Play	17.50	13	45
EDU 259	Curriculum Planning	17.50	50	8
EDU 286	Early Childhood Issues	17.50	1	57
HEA 110	Personal Health and Wellness	17.50	2	56
PED 110	Fit and Well for Life	17.50	4	54
EDU 152	Music, Movement, and Language	21.00	5	53
EDU 152A	Music, Movement, and Language Lab	23.00	0	58
EDU 254	Music and Movement for Children	23.00	6	52
PSY 241	Developmental Psychology	23.00	5	53
EDU 243	Learning Theory	26.00	1	57
EDU 251A	Exploration Activities Lab	26.00	8	50
PSY 244	Child Development I	26.00	4	54
EDU 119	Introduction to Early Childhood Education	28.50	58	0
EDU 251	Exploration Activities	28.50	36	22
EDU 253	Music for Children	30.00	1	57

gree (EDU 153, EDU 234, EDU 144, EDU 284). Two additional courses ranked in the top half of the 30 courses are also required (EDU 145, EDU 151). Taken together, six of the eight required courses (75%) were judged as having the greatest likelihood of including course content on health, nutrition, or physical activity.

Further examination of the results in Table 6 finds that four methods courses (EDU 151, EDU 153, EDU 234, EDU 259) are required at all or most community colleges, but only one field placement course is required (EDU 284). This suggests that students are likely to take courses that include content knowledge on instructional methods on health and physical activity content, but that students are not likely to take many courses that involve direct experiences using the instructional methods.

Conclusions

Results reported in this paper indicated that 30 courses that are required or offered as part of an Associate Degree in early childhood education at the 58 North Carolina Community Colleges could include information and practice on health, nutrition, or physical activity, and that 8 of the 30 courses are required in order to obtain the Associate Degree. Of the eight courses, six were judged as having a greater likelihood of including information on infant and child health, nutrition, obesity, and physical activity; and adult wellness.

The fact that certain courses were judged as having a greater likelihood of including coursework on certain indicators but not others was not unexpected. This was the case because course descriptions (see Appendix A) tended to include either implicit or explicit information on certain clusters of health, nutrition, or physical activity indicators but not others. What was especially encouraging was the fact that content knowledge of so many of the 14 health and physical activity indicators, with only a few exceptions, could be included in existing coursework required or offered as part of an early childhood education degree.

There were differences in terms of which categories of health, nutrition, and physical activity indicators were most likely to be included in early childhood education coursework. The rank order of the five categories of health and physical activity indicators from the most likely to least likely to include content on health, nutrition, and physical activity were *Exercise and Movement*, *Child Health and Nutrition*, *Infant and Child Obesity*, *Infant Health and Nutrition*, and *Adult Wellness* (see Table 3). This was not surprising given the purposes and goals of the Associate in Applied Sciences Degree in Early Childhood Education which are to prepare students

to teach and provide care to infants, toddlers, and preschoolers in child care programs, preschool programs, and other educational settings and environments (North Carolina Community Colleges, 2015b).

It was especially promising to find that seven early childhood methods courses could include information on instructional practices and that four of these courses were required at all or most community colleges. It was also promising to find that seven field placement courses could include experiences on health or physical activity. It was, however, discouraging to find that only one field placement course is required. This would most certainly provide limited opportunity for students to learn how to use content knowledge in practice.

There is at least one reason field placement experiences were found to be so limited in terms of required coursework opportunities. Many of the Associate Degree programs and courses at the 58 North Carolina community colleges are offered online which precludes the inclusion of many field placement experiences and especially coursework labs (see Table 6). This certainly poses a challenge to any effort to provide students “hands on” experiences involving infant and child health, nutrition, obesity, and physical activity as part of completing an Associate Degree in early childhood education.

The findings in this report have proven useful for a number of purposes. On the one hand, the findings provide baseline information on the “curricula used to teach upcoming childcare and early education professionals about early childhood health and obesity” (North Carolina Institute of Medicine, 2013, p. 137). On the other hand, the findings provided useful information for the next phase in gathering additional information about students’ knowledge and experiences on child health and physical activity. Results were used to inform the development of a survey of community college faculty to obtain their input about how much emphasis is placed on infant and child health, nutrition, obesity, and physical activity; and adult wellness as part of their community college Associates Degree program. This information should add to the results found thus far and provide an even clearer picture of which faculty teaching which courses include information on health, nutrition, and physical activity.

References

- Babbie, E. R. (2009). *The practice of social research* (12th ed.). Belmont, CA: Wadsworth.
- Clift, R. T., & Brady, P. (2005). Research on methods courses and field experiences. In M. Cochran-Smith & K. M. Zeichner (Eds.), *Studying teacher*

- education: The report of the AERA Panel on Research and Teacher Education* (pp. 309-424). Mahwah, NJ: Lawrence Erlbaum.
- Darling-Hammond, L., Chung, R., & Frelow, F. (2002). Variation in teacher preparation: How well do different pathways prepare teachers to teach? *Journal of Teacher Education*, 53, 286-302. doi: 10.1177/0022487102053004002
- Early, D. M., & Winton, P. J. (2001). Preparing the workforce: Early childhood teacher preparation a 2- and 4-year institutions of higher education. *Early Childhood Research Quarterly*, 16, 285-306.
- Hinkley, T., Teychenne, M., Downing, K. L., Ball, K., Salmon, J., & Hesketh, K. D. (2014). Early childhood physical activity, sedentary behaviors and psychosocial well-being: A systematic review. *Preventive Medicine*, 62, 182-192. doi: 10.1016/j.ypmed.2014.02.007
- Horm-Wingerd, D. M., Hyson, M., & Karp, N. (Eds.). (2000). *New teachers for a new century: The future of early childhood professional preparation*. Jessup, MD: National Institute on Early Childhood Development and Education.
- Hyson, M., & Biggar, H. (2006). NAEYC's standards for early childhood professional preparation: Getting from here to there. In M. Zaslow & I. Martinez-Beck (Eds.), *Critical issues in early childhood professional development*. Baltimore, MD: Brookes.
- Isikoglu, N. (2008). The effects of a teaching methods course on early childhood preservice teachers' beliefs. *Journal of Early Childhood Teacher Education*, 29, 190-203. doi: 10.1080/10901020802275260
- Jennings, A., McEvoy, S., & Corish, C. (2011). Nutritional practices in full-day-care pre-schools. *Journal of Human Nutrition and Dietetics*, 24, 245-259. doi: 10.1111/j.1365-277X.2011.01153.x
- Kreichauf, S., Wildgruber, A., Krombholz, H., Gibson, E. L., Vögele, C., Nixon, C. A. (2012). Critical narrative review to identify educational strategies promoting physical activity in preschool. *Obesity Reviews*, 13(s1), 96-105. doi: 10.1111/j.1467-789-X.2011.00973.x
- Lewis, L., Parsad, B., Carey, N., Bartfai, N., Farris, E., Smerdon, B. (1999). *Teacher quality: A report on the preparation and qualifications of public school teachers*. Washington, DC: U.S. Department of Education, National Center for Education Statistics.
- North Carolina Community Colleges. (2015a). *Combined course library: Education course information*. Retrieved from <https://webadvisor.nccommunity-colleges.edu/WebAdvisor/WebAdvisor?TOKENID X=2415201781&SS=2&APP=ST&CONSTITUEN CY=WB>.
- North Carolina Community Colleges. (2015b). *Education catalog: Early childhood education*. Retrieved from http://www.nccommunitycolleges.edu/sites/default/files/basic-pages/academic-programs/attachments/education_catalog_16jan2015.pdf.
- North Carolina Institute of Medicine. (2013). *Promoting healthy weight for young children: A blueprint for preventing early childhood obesity in North Carolina*. Morrisville, NC: Author.
- Ray, A., Bowman, B., & Robbins, J. (2006). *Preparing early childhood teachers to successfully educate all children: The contribution of four-year undergraduate teacher preparation programs*. Chicago: Erikson Institute.
- Recchia, S. L., Beck, L., Esposito, A., & Tarrant, K. (2009). Diverse field experiences as a catalyst for preparing high quality early childhood teachers. *Journal of Early Childhood Teacher Education*, 30(2), 105-122. doi: 10.1080/10901020902885604
- Ronfeldt, M., Schwartz, N., & Jacob, B. (2014). Does pre-service preparation matter? Examining an old question new ways. *Teachers College Record*, 116(10), 1-46.

Appendix A

Coursework Descriptions for Courses Included in the Content Analysis

- EDU 119 Introduction to Early Childhood Education
This course covers the foundations of the education profession, the diverse educational settings for young children, professionalism and planning developmentally appropriate programs for all children. Topics include historical foundations, program types, career options, professionalism and creating inclusive environments and curriculum responsive to the needs of all children and families. Upon completion, students should be able to design career plans and develop schedules, environments and activity plans appropriate for all children.
- EDU 144 Child Development I
This course includes the theories of child development, needs, milestones, and factors that influence development, from conception through approximately 36 months. Emphasis is placed on developmental sequences in physical/motor, emotional/social, cognitive, and language domains and the impact of multiple influences on development and learning. Upon completion, students should be able to compare/contrast typical/atypical developmental characteristics, explain environmental factors that impact development, and identify strategies for enhancing development.
- EDU 145 Child Development II
This course includes the theories of child development, needs, milestones, and factors that influence development, from preschool through middle childhood. Emphasis is placed on developmental sequences in physical/motor, emotional/social, cognitive, and language domains and the impact of multiple influences on development and learning. Upon completion, students should be able to compare/contrast typical/atypical developmental characteristics, explain environmental factors that impact development, and identify strategies for enhancing development.
- EDU 151 Creative Activities
This course covers planning, creation and adaptation of developmentally supportive learning environments with attention to curriculum, interactions, teaching practices and learning materials. Emphasis is placed on creating and adapting integrated, meaningful, challenging and engaging developmentally supportive learning experiences in art, music, movement and dramatics for all children. Upon completion, students should be able to create, adapt, implement and evaluate developmentally supportive learning materials, experiences and environments.
- EDU 151A Creative Activities Lab
This course provides a laboratory component to complement EDU 151. Emphasis is placed on practical experiences that enhance concepts introduced in the classroom. Upon completion, students should be able to demonstrate a practical understanding of the development and implementation of appropriate creative activities.
- EDU 152 Music, Movement, and Language
This course introduces a historical perspective of music and movement and integrates the whole language concept with emphasis on diversity. Emphasis is placed on designing an environment that emphasizes language development through developmentally and culturally appropriate music and movement. Upon completion, students should be able to design an environment that develops language through a music and movement curriculum that emphasizes diversity.
- EDU 152A Music, Movement, and Language Lab
This course provides a laboratory component to complement EDU 152. Emphasis is placed on practical experiences that enhance concepts introduced in the classroom. Upon completion, students should be able to demonstrate a practical understanding of the development and implementation of appropriate music, movement, and language activities.
-

- EDU 153 Health, Safety, and Nutrition
This course covers promoting and maintaining the health and well-being of all children. Topics include health and nutritional guidelines, common childhood illnesses, maintaining safe and healthy learning environments, recognition and reporting of abuse and neglect and state regulations. Upon completion, students should be able to demonstrate knowledge of health, safety, and nutritional needs, safe learning environments, and adhere to state regulations.
- EDU 153A Health, Safety, and Nutrition Lab
This course provides a laboratory component to complement EDU 153. Emphasis is placed on practical experiences that enhance concepts introduced in the classroom. Upon completion, students should be able to demonstrate a practical understanding of the development and implementation of safe indoor/outdoor environments and nutrition education programs.
- EDU 157 Active Play
This course introduces the use of indoor and outdoor physical activities to promote the physical, cognitive, and social/emotional development of children. Topics include the role of active play, development of play skills, playground design, selection of safe equipment, and materials and surfacing for active play. Upon completion, students should be able to discuss the stages of play, the role of teachers in play, and the design of appropriate active play areas and activities.
- EDU 158 Healthy Lifestyles-Youth
This course introduces the topics of health, safety, nutrition, physical activities and environments for the school-age child/youth that promote development, fitness and healthy lifestyles. Topics include the use of physical and nutritional/cooking activities (indoor/outdoor, teacher-directed/youth-directed) appropriate for youth developing typically/atypically; safe/healthy menu planning; safe/healthy environmental design, assessment and supervision. Upon completion, students should be able to plan/facilitate safe/healthy physical and nutritional/cooking activities, discuss safety policies/regulations and identify health/safety/nutritional needs of youth.
- EDU 188 Issues in Early Childhood Education
This course covers topics and issues in early childhood education. Emphasis is placed on current advocacy issues, emerging technology, professional growth experiences, and other related topics. Upon completion, students should be able to list, discuss, and explain current topics and issues in early childhood education.
- EDU 234 Infants, Toddlers, and Twos
This course covers the unique needs and rapid changes that occur in the first three years of life and the inter-related factors that influence development. Emphasis is placed on recognizing and supporting developmental milestones through purposeful strategies, responsive care routines and identifying elements of quality, inclusive early care and education. Upon completion, students should be able to demonstrate respectful relationships that provide a foundation for healthy infant/toddler/twos development, plan/select activities/materials, and partner with diverse families.
- EDU 234A Infants, Toddlers, and Twos Lab
This course focuses on practical applications that support the healthy development of very young children by applying principles of quality inclusive early care and education. Emphasis is placed on recognizing the interrelated factors that impact children's development through planning, evaluating and adapting quality environments, including activities and adult/child interactions. Upon completion, students should be able to demonstrate the ability to engage in respectful, responsive care that meets the unique needs of individual children/families
- EDU 243 Learning Theory
This course provides lateral entry teachers an introduction to learning theory, various styles of learning, and motivational factors involved in the learning process. Emphasis is placed on the development of
-

cognitive skills using the eight types of intelligence and applying these to practical classroom situations. Upon completion, students should be able to describe theories and styles of learning and discuss the relationship between different types of intelligence to learning motivation.

EDU 244 Human Growth and Development

This course introduces lateral entry teachers to theories and ages and stages related to human growth and development from birth through adolescence. Emphasis is placed on development through the stages of a child's life in the areas of physical, emotional, social, intellectual, and moral development. Upon completion, students should be able to identify and describe milestones of each stage in all areas of development and discuss factors that influence growth.

EDU 251 Exploration Activities

This course covers discovery experiences in science, math, and social studies. Emphasis is placed on developing concepts for each area and encouraging young children to explore, discover, and construct concepts. Upon completion, students should be able to discuss the discovery approach to teaching, explain major concepts in each area, and plan appropriate experiences for children.

EDU 251A Exploration Activities Lab

This course provides a laboratory component to complement EDU 251. Emphasis is placed on practical experiences that enhance concepts introduced in the classroom. Upon completion, students should be able to demonstrate a practical understanding of the development and implementation of appropriate science, math, and social studies activities for children.

EDU 253 Music for Children

This course covers theory, methods, and integration of music into a total early childhood experience. Topics include music theory, musical instruments, song design, and performance on the keyboard and autoharp. Upon completion, students should be able to play and sing a song and integrate musical skills into the curriculum.

EDU 254 Music and Movement for Children

This course covers the use of music and creative movement for children. Topics include a general survey of the basic elements of music and planning, designing, and implementing music and movement experiences for creative learning. Upon completion, students should be able to use voice and various musical instruments to provide musical and movement activities for children.

EDU 259 Curriculum Planning

This course is designed to focus on curriculum planning for three- to five-year-olds. Topics include philosophy, curriculum models, indoor and outdoor environments, scheduling, authentic assessment, and planning developmentally appropriate experiences. Upon completion, students should be able to evaluate children's development, critique curriculum, plan for individual and group needs, and assess and create quality environments.

EDU 284 Early Child Capstone Practicum

This course is designed to allow students to apply skills in a three stars (minimum) or NAEYC accredited or equivalent, quality early childhood environment. Emphasis is placed on designing, implementing and evaluating developmentally appropriate activities and environments for all children; supporting/involving families; and modeling reflective and professional practices. Upon completion, students should be able to demonstrate developmentally appropriate plans/assessments, appropriate guidance techniques and ethical/professional behaviors as indicated by assignments and onsite faculty visits.

EDU 285 Internship Experience - School Age

This course is designed to allow students to apply skills in a quality public or private school environment. Emphasis is placed on designing, implementing and evaluating developmentally appropriate activities and environments for all children; supporting/involving families; and modeling reflective and profes-

sional practices. Upon completion, students should be able to demonstrate developmentally appropriate lesson plans/assessments, appropriate guidance techniques, ethical/professional behaviors as indicated by assignments and onsite faculty visits.

EDU 286 Early Childhood Issues

This course provides an opportunity to discuss the application of skills in a developmentally appropriate early childhood environment. Emphasis is placed on developing strategies for reaching competency goals and objectives and on planning and developing curriculum. Upon completion, students should be able to demonstrate competence in classroom management skills and in developing, implementing, and evaluating curriculum plans.

BIO 155 Nutrition

This course covers the biochemistry of foods and nutrients with consideration of the physiological effects of specialized diets for specific biological needs. Topics include cultural, religious, and economic factors that influence a person's acceptance of food, as well as nutrient requirements of the various life stages. Upon completion, students should be able to identify the functions and sources of nutrients, the mechanisms of digestion, and the nutritional requirements of all age groups.

HEA 110 Personal Health and Wellness

This course provides an introduction to basic personal health and wellness. Emphasis is placed on current health issues such as nutrition, mental health, and fitness. Upon completion, students should be able to demonstrate an understanding of the factors necessary to the maintenance of health and wellness.

PED 110 Fit and Well for Life

This course is designed to investigate and apply the basic concepts and principles of lifetime physical fitness and other health-related factors. Emphasis is placed on wellness through the study of nutrition, weight control, stress management, and consumer facts on exercise and fitness. Upon completion, students should be able to plan a personal, lifelong fitness program based on individual needs, abilities, and interests.

PSY 241 Developmental Psychology

This course is a study of human growth and development. Emphasis is placed on major theories and perspectives as they relate to the physical, cognitive, and psychosocial aspects of development from conception to death. Upon completion, students should be able to demonstrate knowledge of development across the life span.

PSY 244 Child Development I

This course provides an introduction to the study of child development and examines the growth and development of children from conception through early childhood. Topics include historical and theoretical perspectives, terminology, research and observation techniques as well as physical, cognitive, and psychosocial growth and change. Upon completion, students should be able to demonstrate an understanding of the early stages of child development.

PSY 245 Child Development II

This course examines the growth and development of children during early and middle childhood. Emphasis is placed on factors influencing physical, cognitive, and psychosocial growth and change. Upon completion, students should be able to demonstrate an understanding of early and middle child development.

Appendix B

Rating Scale for Assessing the Likelihood that Course Content Would Include Information on Health and Physical Activity Indicators

Course Number _____ Course Title _____

Health and Physical Activity Indicators	Probably Not Included	Maybe Included	Quite Likely Included
Infant Health and Nutrition			
1. Providing new parents support to encourage breastfeeding	0	1	2
2. Effects of breastfeeding on healthy child development	0	1	2
3. Promoting appropriate child sleep patterns (sleeping routines and duration)	0	1	2
Child Health and Nutrition			
1. Obtaining and preparing healthy food and beverages for child consumption	0	1	2
2. Encouraging children to eat healthy foods (nutrition practices)	0	1	2
3. Providing children opportunities to grow and sample vegetables and other foods	0	1	2
Exercise and Movement			
1. Encouraging healthy age appropriate child movement and physical activity	0	1	2
2. Designing outdoor environments to encourage child physical activity	0	1	2
3. Limiting child TV watching and other screen time (e.g., computers, iPads)	0	1	2
Obesity			
1. Understanding the effects of obesity on healthy child development	0	1	2
2. Identifying current trends on obesity among infants and young children	0	1	2
3. Using appropriate infant feeding practices and recognizing signs that a child is full	0	1	2
Adult Wellness			
1. Adopting personal wellness practices and providing children and parents role models	0	1	2
2. Educating parents and other caregivers about healthy development and weight	0	1	2

Appendix C

Courses Rated as Having a Low or Higher Probability of Including Health and Physical Activity Content

Health and Physical Activity Indicators		Probability	
		Low	Higher
Providing New Parents Breastfeeding Support			
EDU 234	Infants, Toddlers, and Twos	✓	
EDU 284	Early Childhood Capstone Practicum	✓	
Breastfeeding and Healthy Child Development			✓
EDU 153	Health, Safety, and Nutrition		✓
BIO 155	Nutrition		
Promoting Appropriate Child Sleep Patterns			
EDU144	Child Development I	✓	
EDU 145	Child Development II	✓	
EDU 153	Health, Safety, and Nutrition	✓	
EDU 153A	Health, Safety, and Nutrition Lab	✓	
EDU 188	Issues in Early Childhood Education	✓	
EDU 234	Infants, Toddlers, and Twos		✓
EDU 234A	Infants, Toddlers, and Twos Lab	✓	
EDU 244	Human Growth and Development	✓	
PSY 245	Child Development II	✓	
Healthy Food and Beverage Preparation			
EDU 153	Health, Safety, and Nutrition		✓
EDU 153A	Health, Safety, and Nutrition Lab		✓
EDU 158	Healthy Lifestyles –Youth		✓
EDU 188	Issues in Early Childhood Education	✓	
EDU 234	Infants, Toddlers, and Twos	✓	
EDU 234A	Infants, Toddlers, and Twos Lab	✓	
EDU 244	Human Growth and Development	✓	
EDU 284	Early Childhood Capstone Practicum	✓	
EDU 285	Internship Experience – School Age	✓	
BIO 155	Nutrition		✓
PED 110	Fit and Well for Life	✓	
Encouraging Healthy Food Consumption			
EDU144	Child Development I	✓	
EDU 145	Child Development II	✓	
EDU 153	Health, Safety, and Nutrition		✓

Health and Physical Activity Indicators		Probability	
		Low	Higher
Encouraging Healthy Food Consumption, continued			
EDU 153A	Health, Safety, and Nutrition Lab		✓
EDU 158	Healthy Lifestyles –Youth		✓
EDU 188	Issues in Early Childhood Education	✓	
EDU 234	Infants, Toddlers, and Twos	✓	
EDU 234A	Infants, Toddlers, and Twos Lab	✓	
EDU 244	Human Growth and Development	✓	
EDU 284	Early Childhood Capstone Practicum	✓	
BIO 155	Nutrition	✓	
HEA 110	Personal Health and Wellness	✓	
PED 110	Fit and Well for Life	✓	
PSY 245	Child Development II	✓	
Child Opportunities to Grow and Sample Vegetables			
EDU144	Child Development I	✓	
EDU 145	Child Development II	✓	
EDU 151	Creative Activities	✓	
EDU 151A	Creative Activities Lab	✓	
EDU 153	Health, Safety, and Nutrition	✓	
EDU 153A	Health, Safety, and Nutrition Lab	✓	
EDU 157	Active Play	✓	
EDU 158	Healthy Lifestyles –Youth	✓	
EDU 188	Issues in Early Childhood Education	✓	
EDU 234	Infants, Toddlers, and Twos	✓	
EDU 251	Exploration Activities	✓	
EDU 251A	Exploration Activities Lab	✓	
EDU 259	Curriculum Planning	✓	
EDU 284	Early Childhood Capstone Practicum	✓	
EDU 285	Internship Experience – School Age	✓	
EDU 286	Early Childhood Issues	✓	
BIO 155	Nutrition	✓	
Encouraging Healthy Child Movement and Physical Activity			
EDU 119	Introduction to Early Childhood Education	✓	
EDU144	Child Development I	✓	
EDU 145	Child Development II	✓	
EDU 151	Creative Activities		✓

Health and Physical Activity Indicators		Probability	
		Low	Higher
Encouraging Healthy Child Movement and Physical Activity, continued			
EDU 151A	Creative Activities Lab		✓
EDU 152	Music, Movement, and Language		✓
EDU 152A	Music, Movement, and Language Lab		✓
EDU 153	Health, Safety, and Nutrition	✓	
EDU 153A	Health, Safety, and Nutrition Lab		✓
EDU 157	Active Play		✓
EDU 158	Healthy Lifestyles –Youth		✓
EDU 188	Issues in Early Childhood Education	✓	
EDU 234	Infants, Toddlers, and Twos	✓	
EDU 234A	Infants, Toddlers, and Twos Lab		✓
EDU 243	Learning Theory	✓	
EDU 244	Human Growth and Development	✓	
EDU 251	Exploration Activities	✓	
EDU 251A	Exploration Activities Lab	✓	
EDU 253	Music for Children	✓	
EDU 254	Music and Movement for Children		✓
EDU 259	Curriculum Planning		✓
EDU 284	Early Childhood Capstone Practicum		✓
EDU 285	Internship Experience – School Age		✓
EDU 286	Early Childhood Issues		✓
PSY 241	Developmental Psychology	✓	
PSY 245	Child Development II	✓	
Outdoor Environments and Physical Activity			
EDU 119	Introduction to Early Childhood Education	✓	
EDU144	Child Development I	✓	
EDU 145	Child Development II	✓	
EDU 151	Creative Activities		✓
EDU 151A	Creative Activities Lab		✓
EDU 152	Music, Movement, and Language	✓	
EDU 152A	Music, Movement, and Language Lab	✓	
EDU 153A	Health, Safety, and Nutrition Lab		✓
EDU 157	Active Play		✓
EDU 158	Healthy Lifestyles –Youth		✓

Health and Physical Activity Indicators		Probability	
		Low	Higher
Outdoor Environments and Physical Activity, continued			
EDU 188	Issues in Early Childhood Education	✓	
EDU 234	Infants, Toddlers, and Twos	✓	
EDU 234A	Infants, Toddlers, and Twos Lab	✓	
EDU 243	Learning Theory	✓	
EDU 251	Exploration Activities	✓	
EDU 254	Music and Movement for Children	✓	
EDU 259	Curriculum Planning		✓
EDU 284	Early Childhood Capstone Practicum		✓
EDU 285	Internship Experience – School Age		✓
EDU 286	Early Childhood Issues		✓
Limiting Screen Time			
EDU144	Child Development I	✓	
EDU 145	Child Development II	✓	
EDU 151	Creative Activities	✓	
EDU 151A	Creative Activities Lab	✓	
EDU 152	Music, Movement, and Language	✓	
EDU 152A	Music, Movement, and Language Lab	✓	
EDU 153	Health, Safety, and Nutrition	✓	
EDU 153A	Health, Safety, and Nutrition Lab	✓	
EDU 157	Active Play	✓	
EDU 158	Healthy Lifestyles – Youth	✓	
EDU 188	Issues in Early Childhood Education	✓	
EDU 234	Infants, Toddlers, and Twos	✓	
EDU 234A	Infants, Toddlers, and Twos Lab	✓	
EDU 243	Learning Theory	✓	
EDU 244	Human Growth and Development	✓	
EDU 254	Music and Movement for Children	✓	
EDU 259	Curriculum Planning	✓	
EDU 284	Early Childhood Capstone Practicum	✓	
EDU 285	Internship Experience – School Age	✓	
EDU 286	Early Childhood Issues	✓	
PSY 245	Child Development II	✓	

Health and Physical Activity Indicators		Probability	
		Low	Higher
Effects of Obesity on Child Development			
EDU144	Child Development I	✓	
EDU 145	Child Development II	✓	
EDU 151	Creative Activities	✓	
EDU 152	Music, Movement, and Language	✓	
EDU 153	Health, Safety, and Nutrition		✓
EDU 153A	Health, Safety, and Nutrition Lab	✓	
EDU 158	Healthy Lifestyles –Youth	✓	
EDU 188	Issues in Early Childhood Education	✓	
EDU 234	Infants, Toddlers, and Twos	✓	
EDU 234A	Infants, Toddlers, and Twos Lab	✓	
EDU 244	Human Growth and Development	✓	
BIO 155	Nutrition	✓	
HEA 110	Personal Health and Wellness	✓	
PED 110	Fit and Well for Life	✓	
PSY 241	Developmental Psychology	✓	
PSY 244	Child Development I	✓	
PSY 245	Child Development II		✓
Obesity Trends Among Infants and Young Children			
PSY 244	Child Development I	✓	
EDU 145	Child Development II	✓	
EDU 153	Health, Safety, and Nutrition		✓
EDU 153A	Health, Safety, and Nutrition Lab	✓	
EDU 158	Healthy Lifestyles –Youth	✓	
EDU 188	Issues in Early Childhood Education	✓	
EDU 234	Infants, Toddlers, and Twos	✓	
EDU 234A	Infants, Toddlers, and Twos Lab	✓	
EDU 244	Human Growth and Development	✓	
BIO 155	Nutrition	✓	
HEA 110	Personal Health and Wellness	✓	
PSY 241	Developmental Psychology	✓	
PSY 244	Child Development I	✓	
PSY 245	Child Development II	✓	

Health and Physical Activity Indicators		Probability	
		Low	Higher
Appropriate Infant Feeding Practice			
EDU144	Child Development I	✓	
EDU 153	Health, Safety, and Nutrition		✓
EDU 153A	Health, Safety, and Nutrition Lab	✓	
EDU 188	Issues in Early Childhood Education	✓	
EDU 234	Infants, Toddlers, and Twos	✓	
EDU 234A	Infants, Toddlers, and Twos Lab	✓	
EDU 244	Human Growth and Development	✓	
BIO 155	Nutrition	✓	
Modeling Personal Wellness Practices			
EDU 158	Healthy Lifestyles –Youth	✓	
HEA 110	Personal Health and Wellness		✓
PED 110	Fit and Well for Life		✓
Eudcation Adults About Healthy Development			
EDU 284	Early Childhood Capstone Practicum		✓
EDU 285	Internship Experience – School Age		✓
HEA 110	Personal Health and Wellness		✓
PED 110	Fit and Well for Life		✓