# Early Childhood Environmental Education Rating Scale

A formative evaluation process to assist programs enhance nature-based education

**Second Edition**

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**In partnership with the
North American Association for Environmental Education**

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## Foreword

For many of us, connecting young children to nature makes intuitive sense – it's just natural. Young children are active and inquisitive. They love to explore with all of their senses. They love to play. But our advocacy for connecting young children to nature is based on more than our intuition. More and more research evidence points to the importance of providing nature rich experiences for young children to enhance their development. Through experiences with nature, young children are given the opportunity to not only develop knowledge of the natural world, but emotional connections and skills. They are given the opportunity to develop a sense of wonder and an appreciation for the beauty and mystery of the natural world. They are provided opportunities for social and emotional growth, for the development of curiosity, and for the development of motor skills and healthy habits. They are given opportunities to play and explore.

It was with this research in mind that Early Childhood Environmental Education Programs: Guidelines for Excellence (NAAEE 2010, 2016) was published. These guidelines, produced through a wide-based process of critique and consensus involving literally thousands of educators, offer a tool to help educators develop and administer high quality environmental education programs for young children. The overall goal of these guidelines is to chart an appropriate and positive process whereby educators can start young children on a lifelong journey towards becoming environmentally responsive youth and adults. These guidelines build off internationally accepted notions of environmental education and early childhood education. They focus on developmentally appropriate activities and settings, as well as appropriate teaching strategies and learning opportunities. They focus on allowing young children to forge a bond between themselves and nature.

The Early Childhood Environmental Education Rating Scale takes the guidelines in one more important step. The ECEERS provides a collaborative tool for educators and others to discuss their program goals, consider its strengths and areas of needed improvement, and chart a future direction for development. The ECEERS is easy to use while encouraging deep discussions about program philosophy, design and implementation. It is a much welcomed addition to the early childhood environmental education tool kit.

Bora Simmons, Director
National Project for Excellence in Environmental Education
Eugene, Oregon

**Purpose**

The Early Childhood Environmental Education Rating Scale (ECEERS) is a formative evaluation tool designed to assist programs in improving their environmental education curriculum. Private and public early childhood programs, be it center-based child development or family day care centers, can all benefit by making needed improvements in the quality of activities, experiences, interactions, and instruction pertaining to the world of nature and its value in society. Environmental education centers, too, may benefit through improvements in curriculum that better respond to the abilities, interests, learning styles, and motivations for learning of young children.

Based on six key characteristics of high quality early childhood environmental education programs (North American Association for Environmental Education, 2010, 2016), the procedures for using the rating scale emphasize a collaborative approach in evaluation, through the sharing of differing perspectives (as represented by program board members, administrative officials, teaching staff, family members of the children participating in the program, and community partners), and the development of consensus in the rating of each specific guideline or recommendation.

**Benefits**

While voluntary, the benefits of using this rating scale are particularly salient in several regards. The evaluation process is an invaluable professional development activity. Professional development benefits include attaining knowledge about effective practices in both early childhood education and environmental education; and developing skills in leading discussions, negotiating, articulating evidence, consensus building, writing action plans, and collaborating in the realization of the written plans. The findings of the rating scale, on the other hand, can assist in the identification of priorities or facets of program practice that can be improved or made more effective. Identification of program strengths and existing resources and talents, which can be leveraged as appropriate to bring about needed improvements or progress, are imbedded within the process of evaluation. And, at the strategic planning level, directors may include the rating scale as a data gathering tool that will facilitate decision making about programmatic changes that may be required.

The rating scale is a self-assessment tool requiring open and honest conversations. The process can be personally satisfying for the individual team members involved and, with ongoing evaluation utilizing the rating scale, can lead to meaningful program success over time.

**Helpful Hints and Procedures for Using the Rating Scale**

An evaluation of the program's early childhood environmental education curriculum is suggested for every 2-3 years. The same rating scale should be used each time in order to determine areas of strengths, identify policies, procedures, and practices needing improvement, and chart improvements made over time.

A team of evaluators will meet, discuss, and rate a score for each specific guideline based on consensus, represented on a scale from 1 to 7. The following steps are suggested in the formation of the team of evaluators:

### A. COLLABORATIVE TEAM BUILDING

1. Any member of the program, the families served by the program, as well as its community partners may initiate a formative evaluation project to determine the program's quality of early childhood environmental education curriculum (identifying both areas of strengths and needs);

2. The initiation should start with the formation of a team of interested individuals, ideally with representation from the program's board of directors, administration, teaching staff, parents or family members of children attending the program, and community partners; as some programs may not have a board of directors or community partners who have provided early childhood environmental education resources or support, it is alright that these perspectives might not be represented; there is no set recommendation for the size of the team, with the ultimate decision being something that the vested team members can themselves determine given their particular program circumstances and knowledge of the interest, commitment, and availability of other relevant stakeholders;

3. While it is ideal to maintain the same participants for continuity and growth of the team, it is likely that the team membership will change over time; it is suggested that all stakeholders be invited (board members, program staff and teachers, parents, community partners) to participate as each evaluation project is being organized. In the invitation, it is important to describe the collaborative nature of the evaluation process, as well as the necessity of contributing about two to three hours, at the discretion of the organizer; and

4. Specific representatives may be invited, too, on different occasions should the need arise to hear about particular perspectives, or the collaborative team membership be too small or lacking a diversity of opinions; this can be a strategic decision made by the organizer or the team of existing members or evaluators.

## B. RATING SCALE DESCRIPTORS

As each guideline is reviewed and discussed, a rating score based on consensus is recorded. The following descriptors may be helpful to collaborative teams in the determination of the guideline rating scores:

| Implementation Stage and Rating Score: | Description: |
|---|---|
| Not implemented: Rating Score of 1 | No discussions have been had about this practice. |
| Not implemented: Rating Score of 2 | Discussions have been initiated, but there has been no impact on the practice. |
| Partially implemented: Rating Score of 3 | There is recognition of the importance of the practice; changes are being discussed and are starting to be implemented. |
| Partially implemented: Rating Score of 4 | There is recognition of the importance of the practice; changes are being made but it is not widespread. |
| Partially implemented: Rating Score of 5 | The practice is widespread, although there may be gaps or issues that need to be resolved. |
| Fully implemented: Rating Score of 6 | The practice is widespread and has been in place for less than a year. |
| Fully implemented: Rating Score of 7 | The practice is widespread and has been in place for a year or more. |

## C. TEAM EVALUATION PROCESS

1. The evaluation process should be a thoughtful process, where everyone feels free and safe to voice their perspectives, and where negotiation and consensus building leads to a common score for each specific guideline;

2. Discuss the "scope" of the evaluation early in the process; it will be important to discuss which programs will be included in the conversation; once the determination is made, it will be important to consider all programmatic perspectives before consensus scores are decided;

3. As the conversation proceeds, it will be useful to discuss the meaning of certain terminologies, should questions arise about the terminologies, to ensure a common understanding; a glossary of terms in provided in Appendix A to assist, where needed; teams may also define the terms themselves or look to other sources for definitions;

4. A recorder should be designated to write down the main ideas derived from comments, examples, and perspectives of the team members, as well as record the consensus rating score for each specific guideline; the main ideas and the consensus scores should be recorded on the rating scale itself; copies of the original rating scale may be made for current and future use;

5. A timekeeper may be designated based on the experience of the team's discussions; it may be helpful to set a time limit of three or four minutes for each specific guideline and, at the same time, maintain flexibility for questions that require lengthier discussions;

6. It may be necessary to have a discussion about consensus building, depending on the team's experience and need; it may be useful to adopt conventions or rules that are agreeable to all, such as asking questions to clarify understanding of a perspective, determining level of concern or objection (minimal to great), and straw polling when specific situations arise;

7. It will be necessary to consult the Early Childhood Environmental Education Programs: Guidelines for Excellence (NAAEE, 2010, 2016) in order to more precisely determine the available evidence, or the lack of it, based on the examples provided in the guidelines; copies of the guidelines can be obtained for free on NAAEE's website (https://eepro.naaee.org/sites/default/files/eepro-post-

files/early_childhood_ee_guidelines.pdf) and should be made available during the collaborative team meetings; there is a limit of 100 copies that can be reproduced for noncommercial educational purposes only; and

8. Comfort and needs, as well as psychological safety, of collaborative team members must be met; psychological safety includes the freedom for team members to speak and have their perspectives heard and respected; a discussion about meeting these needs should be discussed and ground rules be determined, if it is helpful.

## D. PROGRAM PROFILE

1. Once the rating scale has been completed, a program profile should be completed for review by the collaborative team of evaluators; a form for program profile is available in Appendix B; and

2. Based on the profile, areas of strengths, areas needing improvement, and possible priorities should be identified.

## E. ACTION PLANS FOR IMPROVEMENT

1. Based on the possible set of priorities, action plans should be written to address those priorities; it is suggested that collaborative teams work on three to five plans at a time;

2. Typically, each action plan should clearly identify the outcome that needs to be achieved, along with a breakdown of the steps that need to be completed toward achieving the outcome, persons responsible for working on the plan, resources needed, and timeline for reaching the goal; it may also be necessary to collect documentation of the outcome;

3. A format for the action plan is suggested in Appendix C;

4. A team leader, or a smaller group of the collaborative team, should be designated to review the action plans at least once a year; review activities may include consulting with members of the collaborative to obtain progress reports, identify successes, determine challenges, and delineate changes that may be required;

5. Following the consultation with collaborative team members, action plans may be revised or cancelled at any time during the continuous improvement process, and new action plans may be written to replace cancelled plans; be sure to send copies of any revised plans to the collaborative team members; and

6. As priorities are met, celebrate accomplishments, recognize individual and collective contributions, and write new action plans.

# Examples of completed rating score forms

EXAMPLE A:

**GUIDELINE 1.1—Focus on nature and the environment**

The program's philosophy, goals, and objectives related to nature and the environment are established and clearly articulated. A coherent environmental philosophy and set of practices are articulated for all aspects of the program, including staff development, teaching, curriculum, evaluation, site design, indoor and outdoor classroom design, maintenance and materials.

| **Today's Date:** |
|---|
| **Not implemented**            **Partially implemented**            **Fully implemented** |
| I--------------------------------------------------------------------------------------------------------------------------I |
|  ①         2         3         4         5         6         7 |
| **Write comments or list of evidence for the rating score here:** |
| *Never really thought about this – it's not in any of our written documents.* |
| *We support teachers in whatever training they want; we don't require training in environmental education.* |
| *We have plenty of books about nature.* |
| *Our indoor and outdoor environments don't reflect focus on nature.* |
| *The teachers may not like the idea of nature education.* |
| *We assess science knowledge, but not sure about nature. What is considered nature? What do we assess?* |
| |
| **Participating team evaluators:** |
| *Becki R., parent; Tricia P., preschool teacher; Trulia, education coordinator; Kammi, school director;* |
| *Anu, librarian; and Sheila, secretary.* |

EXAMPLE B:

**GUIDELINE 1.2—Focus on education of young children**

Program philosophy, goals, and objectives related to the education of young children are clearly articulated.

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**Today's Date:**

**Not implemented**            **Partially implemented**                    **Fully implemented**

|----------------------------------------------------------------------------------------------------|

1                    2                    3                    4                    (5)                    6                    7

**Write comments or list of evidence for the rating score here:**

We are known for using the Project Approach, and it is explained on our website and written materials.

We don't discriminate — our center is open to children of all backgrounds and abilities.

I think some of our parents may not fully understand the program goals — like they ask why we don't send more homework.

The teachers, for the most part, have a good idea of their teaching objectives.

Most people in the community, and even parents, don't care what we do — they think it's just another center.

**Participating team evaluators:**

Jen V., kindergarten teacher; Tim C., assessment coordinator; David Z., board member; Tina E., preschool director; Julia H., preschool teacher; and Katia B., preschool teacher.

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# KEY CHARACTERISTIC 1

## PROGRAM PHILOSOPHY, PURPOSE, AND DEVELOPMENT

## GUIDELINE 1.1 - FOCUS ON NATURE AND THE ENVIRONMENT

The program's philosophy, goals, and objectives related to nature and the environment are established and clearly articulated. A coherent environmental philosophy and set of practices are articulated for all aspects of the program, including staff development, teaching, curriculum, evaluation, site design, indoor and outdoor classroom design, maintenance and materials.

**Today's Date:**

| **Not implemented** | | **Partially implemented** | | | **Fully implemented** | |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 |

**Write comments or list of evidence for the rating score here:**

**Participating team evaluators:**

## GUIDELINE 1.2 - FOCUS ON EDUCATION OF YOUNG CHILDREN

Program philosophy, goals, and objectives related to the education of young children are clearly articulated.

**Today's Date:**

**Not implemented**          **Partially implemented**                          **Fully implemented**

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**Write comments or list of evidence for the rating score here:**

**Participating team evaluators:**

# GUIDELINE 1.3 - CULTURALLY APPROPRIATE GOALS, OBJECTIVES, AND PRACTICES

The program's philosophy, goals, and objectives reflect the need for the early childhood program to incorporate, mirror, and accommodate the cultural traditions of the audiences served.*

**Today's Date:**

| Not implemented | Partially implemented | Fully implemented |
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**Write comments or list of evidence for the rating score here:**




**Participating team evaluators:**

*\* This guideline differs slightly from NAAEE's Guidelines for Excellence.*

## GUIDELINE 1.4 - ENVIRONMENTAL LITERACY: BOARD, STAFF, AND PROVIDERS

The program's philosophy, goals, and objectives promote the environmental literacy of board, staff, and providers.

**Today's Date:**

| Not implemented | | Partially implemented | | | Fully implemented | |
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**Write comments or list of evidence for the rating score here:**

**Participating team evaluators:**

## GUIDELINE 1.5 - HEALTH AND SAFETY

The program's philosophy, goals, and objectives are designed to ensure the health and safety of the children served.

**Today's Date:**

**Not implemented**                    **Partially implemented**                                    **Fully implemented**
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**Write comments or list of evidence for the rating score here:**

**Participating team evaluators:**

## GUIDELINE 1.6 - ONGOING EVALUATION AND ASSESSMENT

The early childhood education program has an evaluation and assessment plan that is instrumental to teaching and learning, program, and facility improvement.*

**Today's Date:**

| Not implemented | | Partially implemented | | | Fully implemented | |
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**Write comments or list of evidence for the rating score here:**




**Participating team evaluators:**




*\* This guideline differs slightly from NAAEE's Guidelines for Excellence.*

## GUIDELINE 1.7 - PARTNERSHIPS

The program maintains active communication with a variety of interested individuals and organizations to support networking, resource sharing, enhanced program development, and expanded audience outreach.  Partnership activities strengthen their respective organizations.

**Today's Date:**

| **Not implemented** | | **Partially implemented** | | | **Fully implemented** | |
|---|---|---|---|---|---|---|
| **1** | **2** | **3** | **4** | **5** | **6** | **7** |

**Write comments or list of evidence for the rating score here:**




**Participating team evaluators:**

## GUIDELINE 1.8 - INTERPERSONAL AND INTERGENERATIONAL RELATIONSHIPS

The program believes positive relationships among children and between children and adults are essential for developing a sense of personal responsibility, building a sense of being a community member, and promoting a feeling of personal worth.

**Today's Date:**

| **Not implemented** | | **Partially implemented** | | | **Fully implemented** |
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**Write comments or list of evidence for the rating score here:**

**Participating team evaluators:**

DEVELOPMENTALLY APPROPRIATE PRACTICES

## GUIDELINE 2.1 - BASED ON RESEARCH AND THEORY

Educators understand and apply appropriate research and learning theory.

**Today's Date:**

| Not implemented | Partially implemented | Fully implemented |
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**Write comments or list of evidence for the rating score here:**

**Participating team evaluators:**

# GUIDELINE 2.2 - AUTHENTIC EXPERIENCES

The program responds to children's needs to explore, discover, and discuss their experiences in the environment.*

**Today's Date:**

| Not implemented | | Partially implemented | | | Fully implemented | |
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**Write comments or list of evidence for the rating score here:**

**Participating team evaluators:**

*\* This guideline differs slightly from NAAEE's Guidelines for Excellence.*

## GUIDELINE 2.3 - CHILD-CENTERED AND INQUIRY-BASED*

The program is child-centered and inquiry-based.*

**Today's Date:**

**Not implemented**                    **Partially implemented**                                      **Fully implemented**

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**Write comments or list of evidence for the rating score here:**




**Participating team evaluators:**



* *This guideline differs from NAAEE's Guidelines for Excellence. The change represents a substantive conceptual difference.*

# GUIDELINE 2.4 - THE WHOLE CHILD

The program is planned with the whole child in mind.*

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**Today's Date:**

**Not implemented**                               **Partially implemented**                          **Fully implemented**

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**Write comments or list of evidence for the rating score here:**




**Participating team evaluators:**

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* This guideline differs slightly from NAAEE's Guidelines for Excellence.

# PLAY AND EXPLORATION

## GUIDELINE 3.1 - USE OF THE NATURAL WORLD AND NATURAL MATERIALS

The program uses the natural world to provide many play and exploration activities that will benefit the child's development.*

**Today's Date:**

**Not implemented**　　　　　　　　　**Partially implemented**　　　　　　　　　**Fully implemented**

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**Write comments or list of evidence for the rating score here:**



**Participating team evaluators:**

*\* This guideline differs from NAAEE's Guidelines for Excellence.  It represents a somewhat substantive change or difference.*

# GUIDELINE 3.2 - PLAY AND THE ROLE OF ADULTS

Adults, including formal and non-formal educators, parents, and caregivers, provide the context and supervision that maximizes the learning and development possibilities from play and exploration.

**Today's Date:**

**Not implemented**          **Partially implemented**                              **Fully implemented**

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**Write comments or list of evidence for the rating score here:**

**Participating team evaluators:**

## CURRICULUM FRAMEWORK FOR ENVIRONMENTAL LEARNING

# GUIDELINES 4.1 - SOCIAL AND EMOTIONAL GROWTH

The program provides opportunities for young children to participate in a variety of social interactions, including play and exploration in the outdoors that allow them to grow as contributing members of their community.*

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| **Today's Date:** | | |

**Not implemented**            **Partially implemented**                    **Fully implemented**

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**Write comments or list of evidence for the rating score here:**




**Participating team evaluators:**

*\* This guideline differs slightly from NAAEE's Guidelines for Excellence.*

## GUIDELINE 4.2 - CURIOSITY AND QUESTIONING

Young children learn about their environment in a mixture of ways. Much of this learning takes place through direct experiences, exploration, and discovery.  The program provides children with opportunities to develop curiosity, ask their own questions, and begin to develop reasoning and problem-solving skills.*

**Today's Date:**

**Not implemented**                                **Partially implemented**                                        **Fully implemented**

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**Write comments or list of evidence for the rating score here:**

**Participating team evaluators:**

*\* This guideline differs slightly from NAAEE's Guidelines for Excellence.*

## GUIDELINE 4.3 - DEVELOPMENT OF ENVIRONMENTAL UNDERSTANDINGS

As children explore their environment, they begin to develop understandings of how the world works.  The program provides children with opportunities to develop knowledge related to environmental and social systems*, including the place where they live.

**Today's Date:**

**Not implemented**                    **Partially implemented**                                   **Fully implemented**
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**Write comments or list of evidence for the rating score here:**




**Participating team evaluators:**

*Although environmental and social systems are demarcated as two different ideas, the guideline is also about children's understandings of the world in the combined sense (or understanding about the many relationships among and between environmental and social systems).*

# GUIDELINE 4.4 - SKILLS FOR UNDERSTANDING THE ENVIRONMENT

Young children increasingly develop their ability to investigate, analyze, and respond to environmental changes, situations, and concerns.  The program provides opportunities for children to experience a variety of environmental conditions and encourage them to investigate topics of their own choosing. These investigations may, when appropriate, lead to the development of action strategies.*

**Today's Date:**

**Not implemented**                                  **Partially implemented**                                           **Fully implemented**
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**Write comments or list of evidence for the rating score here:**




**Participating team evaluators:**



*\* This guideline differs slightly from NAAEE's Guidelines for Excellence.*

# GUIDELINE 4.5 - A PERSONAL SENSE OF RESPONSIBILITY AND CARING

As young children develop empathy and increased self-reliance, they demonstrate a sense of personal responsibility toward others and their environment.  The program models environmentally responsible actions and provide opportunities for children to make decisions about their own activities.

**Today's Date:**

| Not implemented | Partially implemented | Fully implemented |
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**Write comments or list of evidence for the rating score here:**

**Participating team evaluators:**

*\* This guideline differs slightly from NAAEE's Guidelines for Excellence.*

# GUIDELINE 4.6 - PHYSICAL HEALTH AND DEVELOPMENT

Young children connect to the world through their bodies, developing motor skills and healthy habits.  The program provides young children with a wide variety of physically challenging experiences, including opportunities to run, jump, and climb in the natural environment.  Early learning programs also provide young children with opportunities to explore ways they can improve their own health.*

**Today's Date:**

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**Write comments or list of evidence for the rating score here:**

**Participating team evaluators:**

*\* This guideline differs slightly from NAAEE's Guidelines for Excellence.*

# PLACES AND SPACES

# GUIDELINE 5.1 - SPACES AND PLACES TO ENHANCE DEVELOPMENT

The program provides indoor and outdoor places and spaces that support children's development across social, emotional, physical, and cognitive development domains.*

| | |
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| **Today's Date:** | |

**Not implemented**                    **Partially implemented**                    **Fully implemented**

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**Write comments or list of evidence for the rating score here:**




**Participating team evaluators:**



*\* This guideline differs slightly from NAAEE's Guidelines for Excellence.*

# GUIDELINE 5.2 - NATURAL COMPONENTS

Natural components are integrated throughout places and spaces for learning opportunities and development to be maximized.

**Today's Date:**

**Not implemented**                          **Partially implemented**                          **Fully implemented**

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**Write comments or list of evidence for the rating score here:**

**Participating team evaluators:**

## GUIDELINE 5.3 - COMFORTABLE FOR BOTH CHILDREN AND ADULTS

Comfortable and inviting places and spaces are provided for learning and development to occur.  Without a sense of comfort, it is very difficult for adults or children to benefit from the learning experience.

**Today's Date:**

**Not implemented**                      **Partially implemented**                                **Fully implemented**
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**Write comments or list of evidence for the rating score here:**




**Participating team evaluators:**

# GUIDELINE 5.4 - MAINTENANCE AND USABILITY

The program's places and spaces are well maintained to provide a safe, Americans with Disabilities Act–compliant, exemplary environment for the program.  The program models best practices and ensures that the children are protected from harmful situations that can be prevented through appropriate maintenance.*

**Today's Date:**

**Not implemented**                                      **Partially implemented**                                                      **Fully implemented**
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**Write comments or list of evidence for the rating score here:**

**Participating team evaluators:**

* *This guideline differs slightly from NAAEE's Guidelines for Excellence.*

## GUIDELINE 5.5 - HEALTH, SAFETY, AND RISK

In order to ensure the safety and health of the children, adequate planning, inspection, and vigilance are practiced.

**Today's Date:**

**Not implemented**                     **Partially implemented**                          **Fully implemented**
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**Write comments or list of evidence for the rating score here:**

**Participating team evaluators:**

## GUIDELINE 5.6 - ENVIRONMENTAL SUSTAINABILITY

The program and its facilities model environmental sustainability and provide positive examples.*

| Today's Date: |
|---|
| **Not implemented**         **Partially implemented**         **Fully implemented** <br> I-------------------------------------------------------------------------------------------------------------------I <br> 1      2      3      4      5      6      7 |
| **Write comments or list of evidence for the rating score here:** |
| **Participating team evaluators:** |

*This guideline differs slightly from NAAEE's Guidelines for Excellence.*

# EDUCATOR PREPARATION

# GUIDELINE 6.1 - FOUNDATIONS OF EARLY CHILDHOOD ENVIRONMENTAL EDUCATION

Educators combine their understanding of child development and developmentally appropriate practice with a basic understanding of the goals, theory, practice, and history of the field of environmental education.  This knowledge provides a solid foundation on which educators can build their own practice.

**Today's Date:**

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**Write comments or list of evidence for the rating score here:**




**Participating team evaluators:**

## GUIDELINE 6.2 - PROFESSIONAL RESPONSIBILITIES OF THE EDUCATOR

High standards for instruction and professional conduct in environmental education are practiced.

**Today's Date:**

| Not implemented | | Partially implemented | | | Fully implemented | |
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**Write comments or list of evidence for the rating score here:**

**Participating team evaluators:**

# GUIDELINE 6.3 - ENVIRONMENTAL LITERACY

Educators possess the understandings, skills, and attitudes associated with environmental literacy and teaching.

**Today's Date:**

**Not implemented**          **Partially implemented**          **Fully implemented**

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**Write comments or list of evidence for the rating score here:**

**Participating team evaluators:**

# GUIDELINE 6.4 - PLANNING AND IMPLEMENTING ENVIRONMENTAL EDUCATION

Educators provide interdisciplinary, investigative learning opportunities that are central to environmental education and developmentally appropriate for young children.

**Today's Date:**

**Not implemented**             **Partially implemented**             **Fully implemented**

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1           2           3           4           5           6           7

**Write comments or list of evidence for the rating score here:**

**Participating team evaluators:**

# GUIDELINE 6.5 - FOSTERING LEARNING

Educators create a climate in which children are motivated to learn about and explore the environment.

**Today's Date:**

**Not implemented**                    **Partially implemented**                              **Fully implemented**
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1                    2                    3                    4                    5                    6                    7

**Write comments or list of evidence for the rating score here:**




**Participating team evaluators:**

# GUIDELINE 6.6 - ASSESSMENT AND EVALUATION

Educators possess the knowledge and skills to assess learner progress and evaluate the effectiveness of their own programs.  Through these assessment activities, educators identify children who may need additional assistance as well as evaluating progress toward meeting goals.

**Today's Date:**

| Not implemented | | Partially implemented | | | Fully implemented | |
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**Write comments or list of evidence for the rating score here:**




**Participating team evaluators:**

# Glossary of Terms*

| | |
|---|---|
| ***Action strategies*** | Use of meaningful methods for learners to take action on behalf of an environmental concern or issue (e.g., making good consumer choices, persuading others, practicing eco-management). |
| ***Child-centered*** | Choices and decisions about activities and learning experiences largely determined by the child; also includes activities and learning experiences determined by providers based upon negotiation with the child; also includes determinations made in the best interest of the child depending on the child's abilities and personality. |
| ***Cultural traditions*** | Activities that reflect one's ethnic and social beliefs, customs, and preferences. |
| ***Developmentally appropriate*** | Activities and experiences designed with the cognitive stages and developmental abilities of the child in mind. |
| ***Environment*** | Natural or built/human-altered locations or surroundings. |
| ***Environmental conditions*** | Variables in the learning environment (e.g., rainy day, different seasons, indoor or outdoor settings). |
| ***Environmental literacy*** | An environmentally literate person is someone who, both individually and together with others, makes informed decisions concerning the environment; is willing to act on these decisions to improve the well-being of other individuals, societies, and the global environment; and participates in civic life. Those who are environmentally literate possess, to varying degrees (a) the knowledge and understanding of a wide range of environmental concepts, problems, and issues; (b) a set of cognitive and affective dispositions; (c) a set of cognitive skills and abilities; and (d) the appropriate behavioral strategies to apply such knowledge and understanding in order to make sound and effective decisions in a range of environmental contexts. |
| ***Environmental sustainability*** | Development that meets the needs of the present generation without compromising the ability of future generations to meet their own needs (United Nations, 1987) |
| ***Inquiry-based*** | Development of questioning and analytical skills through exploration and discovery. |

*Interdisciplinary*               Activities or experiences that relate to multiple content or subject areas such as creative arts, dance, literacy, math, music, science, social studies, etc.

*Learning theory*            Frameworks and perspectives that explain how children learn and develop (e.g., behavioral, cognitive development, language development, psychosocial development, social learning theory).

*Natural components*      Artifacts, manipulatives, or objects from the natural world unaltered by humans (e.g., leaf, rock, twig)

*Natural environment*     Location free of built or human altered environment (e.g., forest, mountain, seaside).

*Natural world*               All components of the natural environment, both living and non-living. There is some overlap of natural world and the built environment (e.g., the ant hill in the crack in the sidewalk, milkweed and other native plants growing the backyard garden).

*Outdoors*                    In the natural or built environment.

*Play*                        Free or facilitated enjoyable activities.

*Providers*                   Adults, both formal and non-formal educators, such parents, teachers, and other caregivers responsible for the child or learner.

*Whole child*                A comprehensive view of the child; also, a child's needs to be a healthy, motivated, and successful learner.

**Program Profile**

**INSTRUCTIONS:**

The program profiles may be completed following the collaborative team's rating of each Key Characteristic (or set of guidelines) or all six Key Characteristics or guidelines.

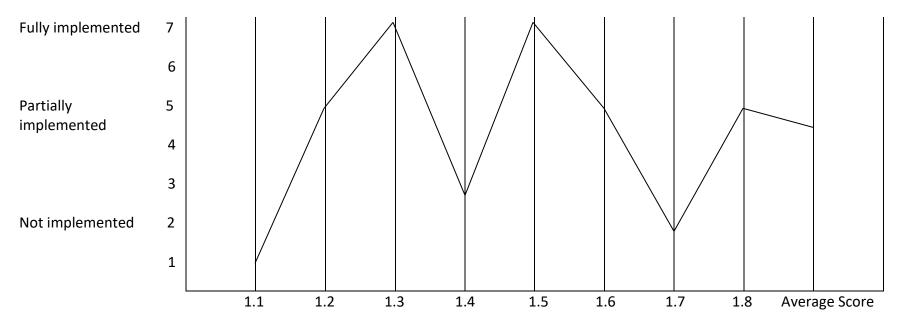An example of a completed program profile for Key Characteristic 1 is provided in the next two pages.

## KEY CHARACTERISTIC 1: PROFILE FOR PROGRAM PHILOSOPHY, PURPOSE, AND DEVELOPMENT
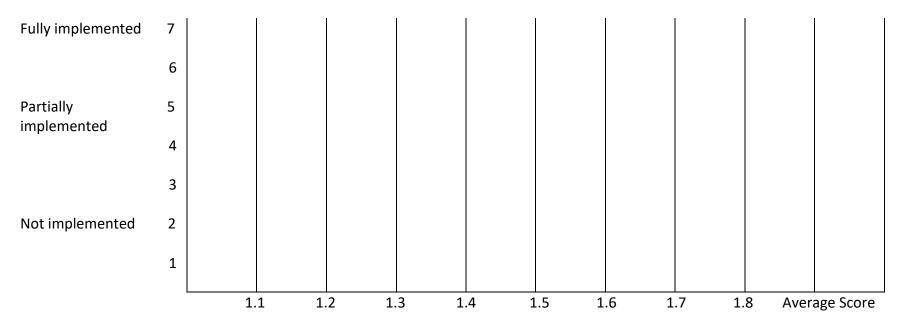
Complete the following table and calculate the percentage as instructed.  This same form may be used over a period of three years:

| Date/year: | Indicate the obtained rating score for the following guidelines: | | | | | | | | Total of all scores: |
| | 1.1 | 1.2 | 1.3 | 1.4 | 1.5 | 1.6 | 1.7 | 1.8 | |
|---|---|---|---|---|---|---|---|---|---|
| June 6, 2011 | 1 | 5 | 7 | 3 | 7 | 5 | 2 | 5 | 35 |
| | | | | | | | | | |
| | | | | | | | | | |

Divide the total of all scores by 8 to obtain the average overall score for this key characteristic:

(35)/8 = 4.4 [This is the average score]

Complete the line graph for each year (use a different color for each different year):

**KEY CHARACTERISTIC 1: PROFILE FOR PROGRAM PHILOSOPHY, PURPOSE, AND DEVELOPMENT**

**Strengths:**

*Cultural sensitivity in our programs; we have a diverse staff, too.*

*Everyone is very aware of our health and safety policies – there is frequent training.*

*We're getting there in raising awareness about our curriculum for children; keep the momentum going.*

*Our parents and teachers get along really well.*

**Areas needing improvement:**

*Need to work on teaching children about our relationship with nature.*

*We all need to learn more.*

*Is there a curriculum about the natural environment?*

*I think we should bring this need to our board members.*

*Think more about how to assess children's learning from nature.*

**Possible priorities:**

*Get support from the board of directors – ask for funds for field trips.*

*We should have outdoor gardens.*

*Get training in nature education.*

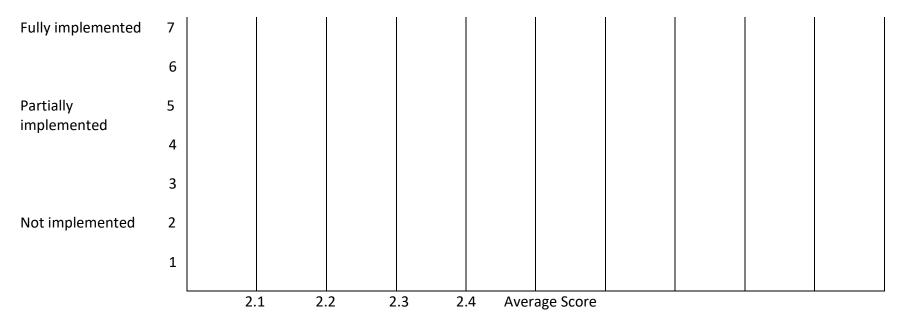## KEY CHARACTERISTIC 1: PROFILE FOR PROGRAM PHILOSOPHY, PURPOSE, AND DEVELOPMENT

Complete the following table and calculate the percentage as instructed.  This same form may be used over a period of three years:

| Date/year: | Indicate the obtained rating score for the following guidelines: | | | | | | | | Total of all scores: |
|---|---|---|---|---|---|---|---|---|---|
| | 1.1 | 1.2 | 1.3 | 1.4 | 1.5 | 1.6 | 1.7 | 1.8 | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |

Divide the total of all scores by 8 to obtain the average overall score for this key characteristic:

(Total of all scores)/8 = _____   [This is the average score]

Complete the line graph for each year (use a different color for each different year):

**KEY CHARACTERISTIC 1: PROFILE FOR PROGRAM PHILOSOPHY, PURPOSE, AND DEVELOPMENT**

**Strengths:**

**Areas needing improvement:**

**Possible priorities:**

## KEY CHARACTERISTIC 2: PROFILE FOR DEVELOPMENTALLY APPROPRIATE PRACTICES
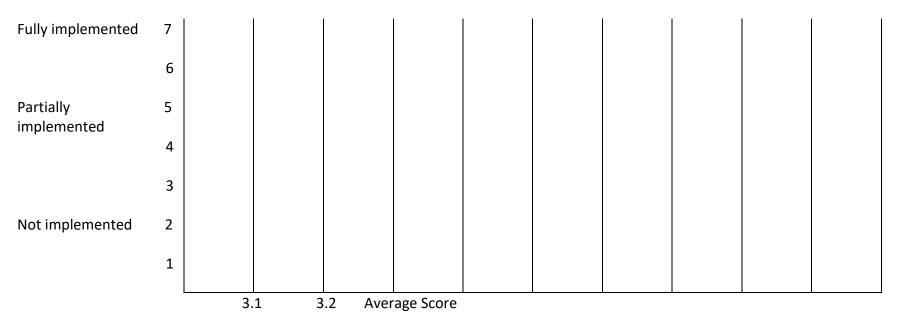
Complete the following table and calculate the percentage as instructed.  This same form may be used over a period of three years:

| Date/year: | Indicate the obtained rating score for the following guidelines: | | | | | | | | Total of all scores: |
|---|---|---|---|---|---|---|---|---|---|
| | 2.1 | 2.2 | 2.3 | 2.4 | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |

Divide the total of all scores by 4 to obtain the average overall score for this key characteristic:

(Total of all scores)/4 = _____  [This is the average score]

Complete a line graph for each year (use a different color for each different year):



Fully implemented — 7

6

Partially implemented — 5

4

3

Not implemented — 2

1

2.1        2.2        2.3        2.4        Average Score

**KEY CHARACTERISTIC 2: PROFILE FOR DEVELOPMENTALLY APPROPRIATE PRACTICES**

**Strengths:**

**Areas needing improvement:**

**Possible priorities:**

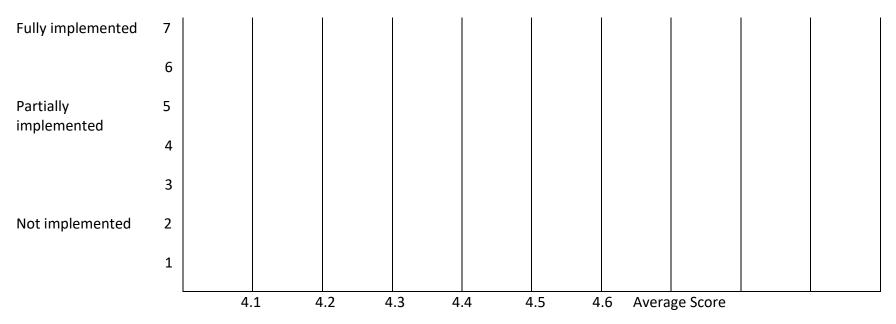## KEY CHARACTERISTIC 3: PROFILE FOR PLAY AND EXPLORATION

Complete the following table and calculate the percentage as instructed.  This same form may be used over a period of three years:

| Date/year: | Indicate the obtained rating score for the following guidelines: | | | | | | | | Total of all scores: |
|---|---|---|---|---|---|---|---|---|---|
| | 3.1 | 3.2 | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |

Divide the total of all scores by 2 to obtain the average overall score for this key characteristic:

(Total of all scores)/2 = _____   [This is the average score]

Complete a line graph for each year (use a different color for each different year):

| Fully implemented | 7 |
| | 6 |
| Partially implemented | 5 |
| | 4 |
| | 3 |
| Not implemented | 2 |
| | 1 |

3.1        3.2       Average Score

**KEY CHARACTERISTIC 3: PROFILE FOR PLAY AND EXPLORATION**

**Strengths:**

**Areas needing improvement:**

**Possible priorities:**

## KEY CHARACTERISTIC 4: PROFILE FOR CURRICULUM FRAMEWORK
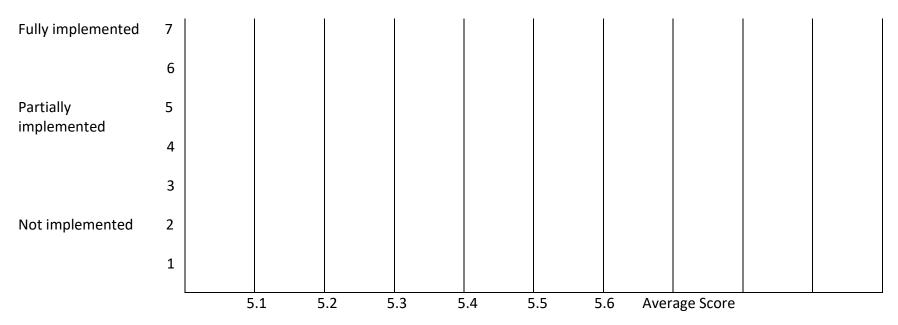
Complete the following table and calculate the percentage as instructed.  This same form may be used over a period of three years:

| Date/year: | Indicate the obtained rating score for the following guidelines: | | | | | | | | Total of all scores: |
|---|---|---|---|---|---|---|---|---|---|
| | 4.1 | 4.2 | 4.3 | 4.4 | 4.5 | 4.6 | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |

Divide the total of all scores by 6 to obtain the average overall score for this key characteristic:

(Total of all scores)/6 = _____   [This is the average score]

Complete a line graph for each year (use a different color for each different year):

# KEY CHARACTERISTIC 4: PROFILE FOR CURRICULUM FRAMEWORK

**Strengths:**

**Areas needing improvement:**

**Possible priorities:**
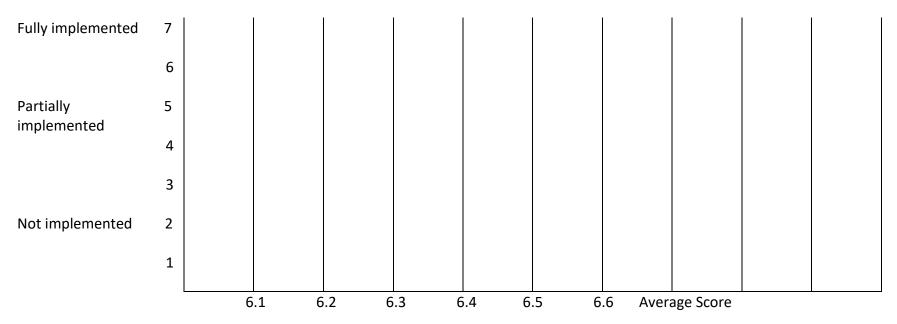
# KEY CHARACTERISTIC 5: PROFILE FOR PLACE AND SPACES

Complete the following table and calculate the percentage as instructed.  This same form may be used over a period of three years:

| Date/year: | Indicate the obtained rating score for the following guidelines: | | | | | | | | Total of all scores: |
|---|---|---|---|---|---|---|---|---|---|
| | 5.1 | 5.2 | 5.3 | 5.4 | 5.5 | 5.6 | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |

Divide the total of all scores by 6 to obtain the average overall score for this key characteristic:

(Total of all scores)/6 = _____   [This is the average score]

Complete the line graph for each year (use a different color for each different year):

## KEY CHARACTERISTIC 5: PROFILE FOR PLACES AND SPACES

**Strengths:**

**Areas needing improvement:**

**Possible priorities:**

# KEY CHARACTERISTIC 6: PROFILE FOR EDUCATOR PREPARATION

Complete the following table and calculate the percentage as instructed.  This same form may be used over a period of three years:

| Date/year: | Indicate the obtained rating score for the following guidelines: | | | | | | | | Total of all scores: |
|---|---|---|---|---|---|---|---|---|---|
| | 6.1 | 6.2 | 6.3 | 6.4 | 6.5 | 6.6 | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |

Divide the total of all scores by 6 to obtain the average overall score for this key characteristic:

(Total of all scores)/6 = _____  [This is the average score]

Complete a line graph for each year (use a different color for each different year):

| Fully implemented | 7 |
| | 6 |
| Partially implemented | 5 |
| | 4 |
| | 3 |
| Not implemented | 2 |
| | 1 |

6.1   6.2   6.3   6.4   6.5   6.6   Average Score

# KEY CHARACTERISTIC 6: PROFILE FOR EDUCATOR PREPARATION

**Strengths:**

**Areas needing improvement:**

**Possible priorities:**

**Suggested Action Plan Format**

**Program name:**                                          **Today's date:**

**Team members:**

**Priority area:**

**Our team's action plan will result in** _____

_____

| Action steps: | Persons responsible: | Resources and supports needed: | Timeline for achieving step: | Documentation that will be needed: |
|---|---|---|---|---|
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |

**Action Plan Example**

**Program name:** *Little Chicks Child Development Center*     **Today's date:** *June 6, 2023*

**Team members:** *Becki R., parent; Tricia P., preschool teacher; Trulia, education coordinator; Kammi, school director; Anu, librarian; and Sheila, secretary.*

**Priority area:** *Planning and implementing environmental education*

**Our team's action plan will result in** <u>*more field trips to natural areas in order to learn about native wildlife and plants.*</u>

| Action steps: | Persons responsible: | Resources and supports needed: | Timeline for achieving step: | Documentation that will be needed: |
|---|---|---|---|---|
| *Bring attention of the need for field trips to the school board* | *Tricia* | *Research natural areas (location, hours, etc.) and send information to Kammi* | *June 30, 2023* | *List of nature areas and pertinent information* |
| | *Kammi* | *Prepare a two-page rationale and funds needed for six field trips per year; Include in board meeting agenda* | *Mid-July 2023* | *Written rationale and budget* |
| | *Kammi* | | *September 2023* | *Feedback from board members* |
| *Plan ahead for field trips* | *Tricia and others* | *Calendars, discuss curriculum, send note to parents, finalize bus service, prepare kids* | *November 2023* | *A plan!* |
| *Start field trips* | *Tricia and Becki* | *Curriculum materials, food and drinks, chaperones* | *January 2024* | *Photos, children's comments* |

APPENDIX D

**Content validity and reliability of the rating scale**

Content validity refers to the appropriateness of the content and format of the data gathering measure (Fraenkel & Wallen, 2009).  The content's relationship with the stated purpose of the evaluation tool is a particularly important consideration, as is its comprehensiveness.  The following describes the validation processes engaged in the development of this rating scale.

<u>Level 1.</u>  The 32 items in the rating scale were derived from the recommended guidelines in the <u>Early Childhood Environmental Education Programs: Guidelines for Excellence</u> (NAAEE, 2010).  Developed by 13 experts representing multiple agencies, centers, foundations, institutes, and universities (see Appendix E for the list of the experts) and supported by funds from The United States Environmental Protection Agency's Environmental Education Division and the University of Oregon, six key program areas (or characteristics) and specific areas of practice (or guidelines) were identified for each program area.  All program areas and the guidelines correspond directly to the sections and items in this rating scale, which are:

   **KEY CHARACTERISTIC 1: PROGRAM PHILOSOPHY, PURPOSE, AND DEVELOPMENT**

      Guideline 1.1—Focus on nature and the environment
      Guideline 1.2—Focus on education of young children
      Guideline 1.3—Culturally appropriate goals, objectives, and practices
      Guideline 1.4—Environmental literacy: board, staff, and providers
      Guideline 1.5—Health and safety
      Guideline 1.6—Ongoing evaluation and assessment
      Guideline 1.7—Partnerships
      Guideline 1.8—Interpersonal and intergenerational relationships

**KEY CHARACTERISTIC 2: DEVELOPMENTALLY APPROPRIATE PRACTICES**

Guideline 2.1—Based on research and theory

Guideline 2.2—Authentic experiences

Guideline 2.3—Child-directed and inquiry-based

Guideline 2.4—The whole child

**KEY CHARACTERISTIC 3: PLAY AND EXPLORATION**

Guideline 3.1—Use of the natural world and natural materials

Guideline 3.2—Play and the role of adults

**KEY CHARACTERISTIC 4: CURRICULUM FRAMEWORK FOR ENVIRONMENTAL LEARNING**

Guideline 4.1—Social and emotional growth

Guideline 4.2—Curiosity and questioning

Guideline 4.3—Development of environmental understandings

Guideline 4.4—Skills for understanding the environment

Guideline 4.5—A personal sense of responsibility and caring

Guideline 4.6—Physical health and development

**KEY CHARACTERISTIC 5: PLACES AND SPACES**

Guideline 5.1—Spaces and places to enhance development

Guideline 5.2—Natural components

Guideline 5.3—Comfortable for both children and adults

Guideline 5.4—Maintenance and usability

Guideline 5.5—Health, safety, and risk

Guideline 5.6—Environmental sustainability

**KEY CHARACTERISTIC 6: EDUCATOR PREPARATION**

>Guideline 6.1—Foundations of early childhood environmental education
>
>Guideline 6.2—Professional responsibilities of the educator
>
>Guideline 6.3—Environmental literacy
>
>Guideline 6.4—Planning and implementing environmental education
>
>Guideline 6.5—Fostering learning
>
>Guideline 6.6—Assessment and evaluation

Bora Simmons, Director of the National Project for Excellence in Environmental Education, was consulted about the focus on the 32 guidelines, as opposed to the 172 specific practices identified in the guidelines for excellence. She concurred with the approach as the rating scale would otherwise be exceedingly long.

**Level 2.** Based on recommended practices in the development of effective numerical rating scales, a Likert-type rating scale consisting of seven points was developed following the identification of the rating scale items in Level 1 (Johnson & Christensen, 2012). And, based on the author's experience as a Curriculum Consultant and Learning Coach on a national professional development project called the Hilton/Early Head Start Training Program, procedures in the administration of a team-based evaluation were delineated next. Procedural ideas, as well as ideas in writing the descriptors for the points in the Likert scale, were used with permission from officials of the training program. Please see *www.specialquest.org* for more information about the Hilton/Early Head Start Training Program.

The author focused on the development of a formative assessment tool, rather than a summative tool, to emphasize the value of continuous improvement. In support of the focus on continuous improvement, the author developed two forms to assist in the evaluation. The *program profile* forms were developed to assist programs in delineating areas of strengths and areas needing attention or improvement, whereas the *action plan* form was constructed to assist programs in delineating steps that can be taken to make improvements in the early childhood environmental education curriculum.

The first draft of the rating scale was produced, after many formatting revisions, by incorporating all Level 1 and 2 components.

**Level 3.** Once the first draft was completed, the author solicited the assistance of seventeen colleagues at universities in the U.S. and Canada to comment upon the format, readability, comprehension level, visual appearance, content appropriateness, and comprehensiveness of the rating scale. The purpose of this level was to include suggestions from researchers representing (a) multiple fields of study, (b) differing point-of-views, and (c) differing research experience. Typically, not required, the author thought the multidisciplinary approach to validation was simply good practice in order to more fully represent the wider community's perspectives. Wider community perspectives ensure greater respect for a diverse set of views relating to children and the caregivers who affect them. Multidisciplinary feedback also entails benefits in collaboration, communication, understanding, and ownership among the members involved. A second draft was developed incorporating all the specific suggestions provided by this multidisciplinary group. Please see Appendix E for the list of this multidisciplinary group of researchers; only individuals providing permission to have their names published have been identified.

**Level 4.** The revised rating scale was then reviewed by thirty-one individuals from five groups of subject matter experts. The groups were (a) members of the guidelines writing team; (b) environmental education faculty; (c) early childhood education faculty; (d) administrators and staff from local environmental education centers (offering programs for young children); and (3) administrators and staff from local early childhood development programs. All subject matter experts reviewed the scale for its appropriateness, or provided comments, in the following areas:

- Format (visual appearance, length of rating scale)
- Ease in understanding the use of rating scale (including procedures)
- Comprehension of questions (misinterpretations that may occur)
- Ease in recording answers (writing examples, circling rating score)

A third draft of the rating scale, incorporating all specific recommendations from the subject matter experts, was produced before reliability assessments were conducted. The subject matter experts providing permission to publish their names are listed in Appendix D.

**Revisions in Second Edition.** Revisions culminating in the development of this second edition were initiated in 2017 and concluded in 2023. The process involved data collection of ratings from additional programs as well as suggestions for improving the formative evaluation process and written guidelines from participating team members. In all, eight minor edits or updates in the explanation of procedures and team evaluation processes were made, in addition to fourteen changes in the descriptions of guidelines that either removed misleading information or provided more fitting contextualized information.

**Rating Scale Reliability**

Reliability refers to the degree different raters (or observers) provide or record consistent or similar estimates of the same phenomenon or situation (Trochim & Donnelly, 2007).  The initial draft of the rating scale developed following Level 4 was field-tested next to establish its internal reliability or consistency (as calculated by the extent individual raters agreed with the consensus score for each item).  Between the original 17 programs involved in establishing inter-rater reliability estimates published in the first revision and five new programs involved in sharing inter-rater reliability scores for each item of the guidelines for this second edition, 17 were early childhood development centers, two were family daycare programs, and three were environmental education centers.  Team membership ranged from 2 to 7 individuals per center or program, with an average group size of 5 individuals per center. Individual rater, as well as group consensus, scores were obtained for each item from each of the participating centers. Individual center and overall average interrater reliability scores were then computed for each item. The final draft of the rating scale was produced after obtaining the additional rating scores and the interrater reliabilities tabulated.   The tables on the following pages identify the "exact" and "within 1" interrater reliability scores (i.e., agreement percentages expressed in terms of its internal consistency or reliability*) obtained for each of the guidelines or quality indicators.  Summaries, highlighting the range of, and overall, interrater scores, are described following the tables.  The study sites providing permission to be identified are listed in Appendix F.

| | | | | | | | | | | | | | Exact Agreements* | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Guideline: | 1.1 | 1.2 | 1.3 | 1.4 | 1.5 | 1.6 | 1.7 | 1.8 | 2.1 | 2.2 | 2.3 | 2.4 | 3.1 | 3.2 | 4.1 | 4.2 | 4.3 | 4.4 | 4.5 | 4.6 | 5.1 | 5.2 | 5.3 | 5.4 | 5.5 | 5.6 | 6.1 | 6.2 | 6.3 | 6.4 | 6.5 | 6.6 |
| EC Center A | 1.0 | .75 | 1.0 | 1.0 | .75 | 1.0 | .50 | .50 | .50 | .75 | .50 | 1.0 | .75 | 1.0 | .75 | 1.0 | .75 | .75 | .75 | 1.0 | 1.0 | .75 | .75 | .50 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | .75 | .75 | .75 |
| EC Center B | 1.0 | .67 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | .67 | 1.0 | .67 | .67 | 1.0 | .67 | .67 | .67 | 1.0 | .67 | 1.0 | .67 | 1.0 | 1.0 | .67 | 1.0 | .67 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | .67 | 1.0 |
| EC Center C | .86 | .57 | .86 | .86 | .57 | .71 | .43 | .43 | .57 | .71 | .57 | .86 | .71 | 1.0 | .71 | .86 | .71 | .71 | .57 | .86 | .86 | .71 | .71 | .86 | .86 | .86 | .86 | .86 | .86 | .57 | .57 | .71 |
| EC Center D | 1.0 | .60 | 1.0 | 1.0 | .60 | .80 | .60 | .60 | .60 | .80 | .40 | 1.0 | .80 | 1.0 | .80 | 1.0 | .80 | .80 | .80 | 1.0 | 1.0 | .80 | .60 | .60 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | .80 | .80 | .80 |
| EC Center E | .80 | 1.0 | .80 | .60 | 1.0 | 1.0 | .80 | 1.0 | 1.0 | .80 | .60 | 1.0 | 1.0 | .80 | 1.0 | .80 | .80 | 1.0 | .80 | .80 | 1.0 | .80 | .80 | 1.0 | 1.0 | 1.0 | 1.0 | .80 | 1.0 | .80 | .80 | .80 |
| EC Center F | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | .75 | 1.0 | .75 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 |
| EC Center G | 1.0 | .75 | .75 | .75 | .50 | .50 | .50 | .50 | .50 | .50 | .50 | 1.0 | .50 | .50 | 1.0 | .75 | .50 | .75 | .50 | 1.0 | .75 | .50 | .75 | .75 | .75 | .50 | 1.0 | .75 | .75 | .75 | 1.0 | .75 |
| EC Center H | .80 | 1.0 | 1.0 | .80 | 1.0 | 1.0 | .80 | 1.0 | 1.0 | .80 | 1.0 | 1.0 | 1.0 | 1.0 | .80 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | .80 | 1.0 | 1.0 | 1.0 | 1.0 | .80 | .80 | 1.0 | 1.0 | .80 | 1.0 |
| EC Center I | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 |
| EC Center J | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 |
| EC Center K | 1.0 | 1.0 | .75 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | .75 | 1.0 | 1.0 | 1.0 | .75 | 1.0 | .50 | 1.0 | 1.0 | .75 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | .75 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | .50 | 1.0 | 1.0 |
| EC Center L | .60 | 1.0 | .80 | .60 | 1.0 | 1.0 | .60 | 1.0 | 1.0 | .60 | 1.0 | 1.0 | .80 | 1.0 | .40 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | .60 | 1.0 | 1.0 | 1.0 | .80 | .60 | .60 | .80 | 1.0 | .60 | 1.0 |
| EC Center M | .83 | 1.0 | 1.0 | 1.0 | 1.0 | .67 | .83 | .67 | .83 | .83 | .83 | 1.0 | 1.0 | .83 | 1.0 | .67 | .83 | .83 | .67 | 1.0 | 1.0 | 1.0 | 1.0 | .83 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | .83 | .67 |
| EC Center N | .80 | .60 | .80 | 1.0 | 1.0 | .80 | .80 | .60 | 1.0 | .80 | .60 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | .80 | .80 | .80 | 1.0 | 1.0 | .80 | .80 | .60 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | .80 | 1.0 | .80 |
| EC Center O | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 |
| EC Center P | 1.0 | .80 | 1.0 | 1.0 | .80 | .80 | .80 | .80 | 1.0 | .80 | .80 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | .80 | 1.0 | 1.0 | 1.0 | .80 | .80 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | .80 | .80 | 1.0 |
| EC Center Q | 1.0 | 1.0 | 1.0 | .80 | 1.0 | 1.0 | .80 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | .80 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 |
| EC Center R | .83 | 1.0 | 1.0 | 1.0 | .83 | 1.0 | .83 | 1.0 | .67 | .83 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | .67 | 0.71 | .50 | 1.0 | .83 | .83 | 1.0 | .83 | 1.0 | .67 | 1.0 | 1.0 | .83 | .67 | .83 | .83 |
| FD Center A | .67 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | .67 | 1.0 | 1.0 | .67 | 1.0 | .67 | 1.0 | 1.0 | .67 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | .67 | 1.0 | .34 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 |
| FD Center B | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 |
| EE Center A | 1.0 | .67 | .67 | n/a | 1.0 | 1.0 | .67 | .67 | 1.0 | 1.0 | 1.0 | .67 | 1.0 | 1.0 | 1.0 | 1.0 | .67 | .67 | 1.0 | 1.0 | .67 | 1.0 | .67 | n/a | 1.0 | .67 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | .67 |
| EE Center B | .80 | .80 | .80 | .40 | 1.0 | .80 | .80 | 1.0 | .80 | .60 | .40 | 1.0 | .80 | .60 | 1.0 | .60 | 1.0 | .60 | .60 | .60 | 1.0 | .60 | .60 | .80 | 1.0 | .80 | .80 | .60 | 1.0 | .80 | .60 | .60 |
| EE Center C | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 |
| Average: | .91 | .88 | .92 | .90 | .92 | .92 | .82 | .83 | .88 | .85 | .81 | .98 | .88 | .93 | .89 | .93 | .88 | .89 | .85 | .97 | .96 | .84 | .89 | .83 | .98 | .93 | .96 | .93 | .97 | .88 | .87 | .89 |

\* An internal consistency of 1.0 is the same as 100% agreement; a score of .90 is equivalent to 90% agreement; etc.

**Summary of Exact Agreements**

For Guideline 1, individual center inter-rater reliability scores ranged from .43 to 1.0, with an overall average inter-rater reliability score of .89.

For Guideline 2, individual center inter-rater reliability scores ranged from .40 to 1.0, with an overall average inter-rater reliability score of .92.

For Guideline 3, individual center inter-rater reliability scores ranged from .50 to 1.0, with an overall average inter-rater reliability score of .87.

For Guideline 4, individual center inter-rater reliability scores ranged from .40 to 1.0, with an overall average inter-rater reliability score of .90.

For Guideline 5, individual center inter-rater reliability scores ranged from .34 to 1.0, with an overall average inter-rater reliability score of .91.

For Guideline 6, individual center inter-rater reliability scores ranged from .57 to 1.0, with an overall average inter-rater reliability score of .92.

Internal consistency scores of .90 or more are considered to be "excellent"; scores between .79 and .90 to be "good"; and scores between .69 and .80 to be "acceptable" (e.g., Krippendorff, 2004). This rating scale's internal consistency for all six set of guidelines is in the "good" to "excellent" range for *exact agreements*.

| Guideline: | 1.1 | 1.2 | 1.3 | 1.4 | 1.5 | 1.6 | 1.7 | 1.8 | 2.1 | 2.2 | 2.3 | 2.4 | 3.1 | 3.2 | 4.1 | 4.2 | 4.3 | 4.4 | 4.5 | 4.6 | 5.1 | 5.2 | 5.3 | 5.4 | 5.5 | 5.6 | 6.1 | 6.2 | 6.3 | 6.4 | 6.5 | 6.6 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| EC Center A | 1.0 | .75 | 1.0 | 1.0 | 1.0 | 1.0 | .75 | .75 | 1.0 | .75 | .75 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | .75 | .75 | .75 | 1.0 | 1.0 | .75 | .75 | .75 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | .75 | .75 | .75 |
| EC Center B | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | .67 | 1.0 | .67 | .67 | 1.0 | 1.0 | .67 | .67 | 1.0 | .67 | 1.0 | .67 | 1.0 | 1.0 | .67 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | .67 | 1.0 |
| EC Center C | .86 | .57 | .86 | .86 | .57 | .71 | .57 | .43 | .71 | 1.0 | 1.0 | 1.0 | .71 | 1.0 | .71 | 1.0 | .86 | .86 | .86 | .86 | 1.0 | .86 | .86 | .86 | .86 | .86 | .86 | .86 | .86 | .86 | .86 | .71 |
| EC Center D | 1.0 | .80 | 1.0 | 1.0 | 1.0 | .80 | .60 | .60 | .60 | .84 | .80 | 1.0 | .80 | 1.0 | .80 | 1.0 | .80 | .80 | .80 | 1.0 | 1.0 | .80 | 1.0 | .80 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | .80 | .80 | .80 |
| EC Center E | 1.0 | 1.0 | 1.0 | .80 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | .80 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 |
| EC Center F | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 |
| EC Center G | 1.0 | 1.0 | .75 | .75 | 1.0 | .75 | .50 | .75 | .50 | .75 | .75 | 1.0 | .75 | 1.0 | 1.0 | .75 | .50 | .75 | .75 | 1.0 | .75 | .75 | .75 | .75 | 1.0 | .50 | 1.0 | .75 | .75 | .75 | 1.0 | .75 |
| EC Center H | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | .80 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | .80 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | .80 | 1.0 | 1.0 | 1.0 | 1.0 |
| EC Center I | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 |
| EC Center J | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 |
| EC Center K | 1.0 | 1.0 | .75 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | .75 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | .75 | 1.0 | 1.0 |
| EC Center L | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | .80 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 |
| EC Center M | .83 | 1.0 | 1.0 | 1.0 | 1.0 | .83 | 1.0 | .83 | .83 | 1.0 | .83 | 1.0 | 1.0 | .83 | 1.0 | .83 | .83 | .83 | .83 | 1.0 | 1.0 | 1.0 | 1.0 | .83 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | .83 | .83 |
| EC Center N | 1.0 | .80 | 1.0 | 1.0 | 1.0 | .80 | 1.0 | .80 | 1.0 | .80 | .80 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | .80 | .80 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 |
| EC Center O | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 |
| EC Center P | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 |
| EC Center Q | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | .80 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 |
| EC Center R | .83 | 1.0 | 1.0 | 1.0 | .83 | 1.0 | .83 | 1.0 | 1.0 | .83 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | .83 | 1.0 | .83 | 1.0 | .83 | 1.0 | 1.0 | .83 | 1.0 | .83 | 1.0 | 1.0 | .83 | .83 | .83 | .83 |
| FD Center A | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | .67 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | .67 | 1.0 | .67 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 |
| FD Center B | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 |
| EE Center A | 1.0 | .67 | 1.0 | n/a | 1.0 | 1.0 | .67 | .67 | 1.0 | 1.0 | 1.0 | .67 | 1.0 | 1.0 | 1.0 | 1.0 | .67 | .67 | 1.0 | 1.0 | .67 | 1.0 | .67 | n/a | 1.0 | .67 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 |
| EE Center B | .80 | .80 | .80 | .60 | 1.0 | 1.0 | .80 | 1.0 | 1.0 | 1.0 | .40 | 1.0 | .80 | 1.0 | 1.0 | .60 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | .80 | .80 | 1.0 | .80 | 1.0 | .60 | 1.0 | 1.0 | 1.0 | 1.0 |
| EE Center C | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 |
| Average: | .97 | .93 | .96 | .96 | .97 | .95 | .89 | .88 | .94 | .93 | .90 | .99 | .95 | .98 | .96 | .96 | .91 | .94 | .93 | .99 | .97 | .92 | .94 | .91 | .99 | .94 | .99 | .96 | .98 | .95 | .95 | .94 |

** A score of 1.0 represents a 100% agreement that the individual rater scores were all within 1 point of the consensus score; a coefficient score of .90 refers to a rate of 90% agreement that the individual scores were within 1 point of the consensus score; etc.

**Summary of Within 1 Agreements**

For Guideline 1, individual center within 1 scores ranged from .43 to 1.0, with an overall average inter-rater reliability score of .94.
For Guideline 2, individual center within 1 scores ranged from .40 to 1.0, with an overall average inter-rater reliability score of .97.
For Guideline 3, individual center within 1 scores ranged from .67 to 1.0, with an overall average inter-rater reliability score of .93.
For Guideline 4, individual center within 1 scores ranged from .60 to 1.0, with an overall average inter-rater reliability score of .95.
For Guideline 5, individual center within 1 scores ranged from .67 to 1.0, with an overall average inter-rater reliability score of .95.
For Guideline 6, individual center within 1 scores ranged from .60 to 1.0, with an overall average inter-rater reliability score of .96.

The internal reliability of *within 1 scores* are "excellent" according to generally accepted convention.

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Appendix F

**List of Reliability Study Sites**

Berean Christian School, West Palm Beach, Florida
Faith Lutheran School, North Palm Beach, Florida
Harvard Academy, Sunrise, Florida
Karen Slattery Educational Research Center for Child Development, Florida Atlantic University, Boca Raton
Pine Jog Environmental Education Center, Florida Atlantic University, West Palm Beach
Puffin Learning Academy, Boca Raton, Florida
Schlitz Audubon Nature Preschool, Milwaukee, Wisconsin
Trinity Christian Academy, West Palm Beach, Florida

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