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## **PILOT TEST OF A QUALITY RATING AND IMPROVEMENT SYSTEM IN EARLY EDUCATION PROGRAMS IN MAGADAN, RU AND IN MINNESOTA, US**

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### **ABSTRACT**

This study examined two questions: (1) What quality rating and improvement scale (QRIS) will be useful for improving early childhood education programs in Magadan Region, RU and in Minnesota, US? and (2) What is the agreement among raters in RU and in the US, using scores on a QRIS for early childhood education programs in Magadan Region, RU and in Minnesota, US? The study included translation of the Association for Childhood Education International (ACEI) Global Guidelines Assessment (GGA) (ACEI, 2008) into Russian. One quality review was completed for one early childhood education program in each country. Completed reviews by 11 reviewers were delivered to Minnesota State University, Mankato for data entry and analysis. The report includes: (1) descriptive data for reviewers and for early education programs and (2) inter-rater agreement (consistency among assessors). This study concluded that there was excellent inter-rater agreement among reviewers in RU and in the US. As a result of this investigation, this study concluded that the ACEI Global Guidelines Assessment may be useful for comparing early childhood education programs in Magadan, RU and in Minnesota, US because the GGA is easy, affordable, and reliable to use for quality improvement of early education throughout the world. Now the GGA may be used in RU as well as other countries around the world. Additional research is recommended.

### **INTRODUCTION**

Pre-service teachers are often concerned about their capacity to create learning environments in classrooms during the child's early education experiences. This project is part of the partnership between two universities on projects to help pre-service teachers become more familiar with assessment of the environment in the child's early learning experiences. Based on participation in this study, teachers and administrators in two cities began to learn more about the quality of early learning environments and about their own cultural influence over those environments.

The topic of this study was to pilot test a quality rating and improvement scale (QRIS) in early education programs in Magadan Region, RU and in Minnesota, US. The purpose of this study

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was to understand the use of a specific instrument to improve the quality of the learning environments in early childhood classrooms in two countries. The hypothesis was that the selected QRIS will be useful for reviewers of programs in the two cultures.

As part of this project, the researchers were the primary translators of the Russian language version of the Association for Childhood Education International (ACEI) Global Guidelines Assessment (GGA). Colleagues in Magadan Region, RU were the reviewers to correct and validate the new translation. After this project, the Russian language version of the GGA will be made available for others to use throughout the world.

In the United States, early education programs are generally programs for children between birth and 8 years old. These programs are called “preschools,” “child care,” “early childhood education,” “Head Start,” “Parent Cooperatives,” and other names, depending on the format, sponsors, curriculum, funding, and community preferences. In Russia, these programs are generally called “kindergartens” and serve children between birth and 6 years old (Bertram and Pascal, 2002).

Even in the process of translation for this project, cultural differences in meaning were discovered. For purposes of this study, classrooms and programs for 3- and 4-year-old children were specifically examined and will be referred to as “early education programs.”

## **IMPORTANCE OF QUALITY IN EARLY EDUCATION**

Quality of early education is an essential aspect of programs that serve young children. Research has documented that high quality early education programs contribute to children’s learning; school readiness; social, emotional, and neurological development; language proficiency; vocabulary; and learning skills that lead to academic success (Jalongo et al., 2004).

Kontos, Burchinal, Howes, Wisseh, and Galinsky (2002) and Buysse, Skinner, and Grant (2001) reported that high quality programs contribute to outcomes related to children’s learning, cognitive and social competence, and language development. Moreover, high-quality programming fosters readiness for learning and for school (Pianta et al., 2005).

Belsky et al. (2007) studied the effects of early education on children’s achievement through grade 6. Quality was assessed by using the Observational Record of the Caregiving Environments (ORCE). Children exposed to higher quality care and education had higher vocabulary and reading scores. The authors also noted that high quality care and education predicts higher levels of pre-academic skills and language proficiency, as well as higher scores on standardized tests of math, memory, and vocabulary skills.

Buysse et al. (2001) provided important information about the influence of high-quality, inclusive programs for children with and without disabilities. The researcher noted that programs that enrolled children with disabilities had to follow quality program standards in order to meet needs of children with disabilities. These programs received higher scores on the Early Childhood Environment Rating Scale (ECERS) (Harms, Clifford, and Cryer, 1998).

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Several studies have shown that early education quality influences children's social, emotional, and neurological development and competence (Buysse et al., 2001; Fontaine, Torre, Grafwallner, and Underhill, 2006; Kontos et al., 2002; Pianta et al., 2005). Researchers have shown that quality has an impact on children's school readiness and learning skills (Ceglowski, 2004; Fontaine et al., 2006; Kontos et al., 2002; Peisner-Feinberg et al., 2001; Pianta et al., 2005; Raver et al., 2008). Several investigators have shown connections between quality and children's language proficiency, vocabulary, and math skills (Belsky et al., 2007; Buysse et al., 2001; Fontaine et al., 2006; Kontos et al., 2002; Peisner-Feinberg et al., 2001; Pianta et al., 2005; Raver et al., 2008). Other studies have shown that quality early education has enhanced children's levels of pre-academic skills: thinking and attention skills (Belsky et al., 2007; Peisner-Feinberg et al., 2001).

## **ELEMENTS OF QUALITY IN EARLY EDUCATION**

Researchers during the past 10 years have identified quality indicators for early education programs based on viewpoints of parents, practitioners, employers, social workers, child care advocates, and government agencies. The researchers identified elements of quality care and education that may be organized into three categories: (1) characteristics of quality early education providers, (2) characteristics of quality early education programs, and (3) characteristics of quality classroom environments.

### ***Characteristics of quality early education providers***

Some researchers have shown that quality early education includes providers who enjoy children. Providers in quality programs are caring, warm, and stable and respond to individual needs of children (Buysse et al., 2001; Ceglowski, 2004; Pianta et al., 2005; Raver et al., 2008). Several studies have shown that quality early education programs employ providers who act in a professional manner and seek training opportunities and experiences (Ceglowski, 2004; Kontos et al., 2002; Pianta et al., 2005; Raver et al., 2008).

Quality providers have professional knowledge, skills, and experience (Buysse et al., 2001; Pianta et al., 2005). Several researchers found relationships between quality early education programs and the ways in which providers influence the classroom climate. Providers have enthusiasm for teaching. They are sensitive and have attitudes and abilities to promote emotionally positive climates in the classroom. Studies have also shown that quality early education programs employ providers who are able to manage behavior in the classrooms, to include children who have behavioral difficulties, and to support children who have self-regulatory challenges (Buysse et al., 2001; Kontos et al., 2002; Pianta et al., 2005; Raver et al., 2008).

### ***Characteristics of quality early education programs***

Researchers have also examined the characteristics of quality early education programs. At the very least, quality programs seek accreditation by nationally-recognized organizations and professional associations. Accreditation documents quality and adequacy of appropriate group

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sizes, numbers of providers to children, safe facilities, safe equipment, and adequate nutrition programs with wholesome meals (Ceglowski, 2004; Kontos et al., 2002).

Several studies reported that caregivers in quality programs provide adult interaction and culturally-responsive care (Buysse et al., 2001; Ceglowski, 2004; Fontaine et al., 2006; Jalongo et al., 2004; Kontos et al., 2002; Pianta et al., 2005). According to Kontos et al. (2002) and Pianta et al. (2005), quality early education programs pay attention to children's attachment to teachers, relationships with peers, and verbal abilities. They also include opportunities for children to select and to plan their own activities, to be creative and interactive with materials and with other children, and to alternate between active and quiet times.

As noted in previous sections, quality programs are parent-friendly, provide parent education and support, and help parents locate needed community resources (Buysse et al., 2001; Ceglowski, 2004; Jalongo et al., 2004). Quality programs also monitor child progress (Buysse et al., 2001).

### *Characteristics of quality early education classroom environments*

Quality programs have quality environments. Many researchers have examined the characteristics of quality classrooms. Quality classrooms have diverse materials available for children's use (Buysse et al., 2001; Ceglowski, 2004; Jalongo et al., 2004). Quality classrooms also have appropriate furniture arrangement and physical accommodations (Jalongo et al., 2004; Kontos et al., 2002). Quality programs have appropriate technologies and adaptive materials to accommodate the needs of children with disabilities (Buysse et al., 2001).

## **METHODS TO ASSESS QUALITY IN EARLY EDUCATION**

A Quality Rating and Improvement Scale (QRIS) is "a voluntary system offering help and rewards to providers to increase the quality of care for children in child care centers, school-age programs, and family child care homes... [and] provides a way to measure the quality of participating programs in order to provide ratings for families looking for child care." (Washington State Child Care Resource and Referral Network, 2008).

The first research question for this study was: (1) What quality rating and improvement scale (QRIS) will be useful for improving early childhood education programs in Magadan Region, RU and in Minnesota, US?

A review of literature resulted in the conclusion that there were five QRIS instruments that were most commonly available and used in early childhood education in North America. These instruments were:

1. NAEYC Early Childhood Program Standards and Accreditation Criteria (NAEYC, 2005).
2. Quality Standards for NAFCC Accreditation (NAFCC, 2005).
3. Classroom Assessment Scoring System (CLASS) (Pianta, LaParo, and Hamre, 2008).
4. Early Childhood Environment Rating Scale (ECERS) (Harms et al., 1998).
5. ACEI Global Guidelines Assessment (ACEI, 2008).

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Each instrument was examined in order to compare: money and time required for the assessment, reliability and validity studies, number of items on the instrument, the review process, and availability in languages other than English.

### ***NAEYC Accreditation***

In 1985, the National Academy of Early Childhood developed the NAEYC Accreditation process for quality improvement of care and education provided for young children in all types of preschools, kindergartens, child care centers, and school-age child care programs. NAEYC Accreditation is a self-study process that helps program staff members create a stronger and more committed team of teachers, administrators, and families who work together in order to improve program quality. Leaders in child care centers, preschools, prekindergarten, kindergarten, Head Start programs, nursery schools, and other center-based programs serving children from birth through kindergarten can seek NAEYC Accreditation (NAEYC, 2005).

NAEYC Accreditation assesses 10 domains: (1) relationships, (2) curriculum, (3) teaching, (4) assessment of child progress, (5) health, (6) teachers, (7) families, (8) community relationships, (9) physical environment, and (10) leadership and management. There are more than 400 related accreditation criteria. The NAEYC Accreditation scoring system uses a three-point scale: (1) non-compliance provides little evidence of the criterion or observes the given behavior seldom happens, (2) partial compliance provides some evidence of the criterion or the behavior happens some of the time, and (3) full compliance provides a great deal of evidence of the program criterion or the behavior happens most of the time (NAEYC, 2005).

NAEYC Accreditation includes four steps: (1) the program enrolls in the self-study, (2) the program personnel and parents conduct a self-study and make needed improvements, (3) the trained validators make an onsite visit to verify compliance, and (4) a three-person commission makes final accreditation decision. The materials available for use during the process include: Emerging Practice Criteria, Required Criteria, Additional Guidance on NAEYC Criteria, Cleaning and Sanitation Frequency Table, Teacher-Child Ratios within Group Size, Teaching Staff Definitions, Timeline for Meeting Teacher Qualifications, Program Administrator Definition and Competencies, Alternative Pathways to Achieve Educational Qualifications of a Program Administrator, and NAEYC-Approved State Director/Administrator Credentials (NAEYC, 2005).

In general, an early education program spends from 9-12 months in the entire NAEYC Accreditation process and spends approximately \$2,800. Since 1988, NAEYC accredited more than 10,000 early childhood education programs that serve families around the nation (NAEYC, 2005).

### ***NAFCC Accreditation***

The National Association for Family Child Care (NAFCC) accredits family child care homes in order to provide professional recognition to family child care providers. Accreditation documents that the program meets the national standards of professional quality and enhances the quality of the provided services. In 1994, the NAFCC started developing a new accreditation system for

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family child care. Within three years, the workgroups (providers, parents, and staff members) developed the Quality Standards for the NAFCC Accreditation process. Since 1999, NAFCC Accreditation has been implemented nationally (NAFCC, 2005).

NAFCC Accreditation consists of five main steps (NAFCC, 2005): (1) providers evaluate themselves and their programs according to the Quality Standards for NAFCC Accreditation and make quality improvements; (2) providers submit an accreditation application; (3) NAFCC-trained observers conduct visits to candidates and their programs; (4) NAFCC determines the provider's accreditation status; and (5) accredited providers update NAFCC about their programs, continue to assess themselves and their programs, and report to NAFCC about completed quality improvements within the accreditation period.

NAFCC Accreditation includes 289 quality standards that address five areas of quality: (1) relationships, (2) environment, (3) developmental learning activities, (4) safety and health, and (5) professional and business practices (NAFCC, 2005). By meeting the designated standards, providers document a high quality and healthy environment for children. The complete accreditation process may take from nine months to three years. The cost of NAFCC Accreditation for active members is \$495. The accreditation is valid for three years. Since 1999, approximately 2,500 providers were accredited by NAFCC. The accreditation documents are available in English and Spanish languages (NAFCC, 2005).

### *Classroom Assessment Scoring System (CLASS)*

The Classroom Assessment Scoring System (CLASS) (Pianta et al., 2008) assesses quality in early education programs for children from ages 3 through 8. The main focus of the CLASS is on high-quality teacher-child interaction. The CLASS rating system allows decision-makers to assess different elements of early education in a variety of programs (Pianta et al., 2008; La Paro, Pianta, and Stuhlman, 2004; Mashburn et al., 2008).

The CLASS was developed by a group of researchers in the National Institute of Child Health and Human Development (NICHD) Study of Early Care and the National Center for Early Development and Learning (NCELD) Multi-State Pre-K Study. The actual use of the CLASS assessment tool depends on the purpose of the research. For example, in order to rate changes across an academic year, the CLASS should be conducted at least three times across the year.

The CLASS assessment tool reviews three major domains: (1) emotional climate, including positive climate, negative climate, teacher sensitivity, and regard for student perspectives; (2) classroom organization (management), including class time management, behavior management, productivity, and instructional learning arrangements; and (3) instructional support, including concept development, instructional learning formats, quality of feedback, and language modeling. There are 10 dimensions in each of the three domains. Each dimension is rated by using a seven-point scale in which low scores (1, 2) represent low quality; middle scores (3, 4, 5) represent middle-range of quality; and high scores (6, 7) represent high quality (La Paro et al., 2004).

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The CLASS requires six 30-minute cycles for observation and scoring. The process involves two steps: (1) 20 minutes for observation and note taking, where researchers have to answer the questions “Who?,” “What?,” and “How?” and (2) 10 minutes for determining a numerical rating for each of the dimensions (Pianta et al., 2008). The CLASS materials include two manuals (Pre-K and K-3) with: (1) classroom observation information that provides system overview, procedures, and scoring; (2) quick scoring information; and (3) observation and scoring forms. The persons involved in the assessment are administrators, supervisors, principals, and program directors. The dimensions included on the CLASS have been shown to contribute to students' academic achievement, social competencies, and performance on standardized tests of literacy skills (Pianta et al., 2008; La Paro et al., 2004).

The instrument has been validated through studies with more than 4,000 classrooms across the United States and is considered to be one of the most widely used observational tools. The CLASS training materials provide clear information about the reliability of the instrument (Pianta et al., 2008). However, the literature reviewed did not reveal any use of the CLASS beyond the United States.

### ***Early Childhood Environment Rating Scale (ECERS)***

The Early Childhood Environment Rating Scale (ECERS) and the subsequent Early Childhood Environmental Rating Scale-Revised Edition (ECERS-R) were designed to assess quality in center-based early education programs for children from 2½ through 5 years old. Use of the ECERS-R is intended to encourage teachers to create developmentally appropriate learning environments for children and to conduct research for program improvement (Harms et al., 2005; Sakai, Whitebook, Wishard, and Howes, 2003).

The ECERS-R measures the emotional and instructional climate of the classroom. It also considers instructional materials, child-teacher interaction, and aspects of child competencies. The revised assessment scale consists of 43 items organized into seven subscales: (1) space and furnishings, (2) personal care routines, (3) language-reasoning, (4) activities, (5) interactions, (6) program structure, and (7) parents and staff. Each item should be scored with indicators for 1 (inadequate), 3 (minimal), 5 (good), and 7 (excellent) (Pianta et al., 2005).

The observation based on ECERS-R should be completed and reported by outside researchers who are not members of the teaching staff of the early childcare providers. The required observation time for assessment is 3 hours. The ECERS-R materials include six main documents: (1) Expanded Score Sheet, (2) Inter-rater Reliability Sheet, (3) Playground List, (4) USDA Meal Guidelines, (5) Profile, and (6) Substantial Portion of the Day – chart (Pianta et al., 2005).

The instrument also has 86.1% of agreement among 470 indicators of the assessment tool that shows the reliability of the instrument (Fontaine et al., 2006).

Elements of the ECERS have been translated into Chinese, Dutch, French, German, Greek, Hungarian, Icelandic, Italian, Norwegian, Portuguese, Spanish, and Swedish languages. It was used in an international study (Harms et al., 1998).

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### ***ACEI Global Guidelines Assessment (GGA)***

The GGA was developed by the ACEI and the World Organization for Preschool Education (OMEP). The goal was to assist policy makers, administrators, teachers, and child care providers in making decisions about improving and developing inclusive early childhood care and education services in various regions of the world (Wortham, 2000).

In 1999, 83 researchers in the early childhood area, representatives of 27 countries, met in Ruschlikon, Switzerland at the International Symposium on Early Childhood Education and Care for the 21<sup>st</sup> Century in order to develop guidelines for assessing the quality of early childhood educational programs that would be useful worldwide. As a result of their work, the GG included universal components of quality education and care (Wortham, 2001).

Between 2003 and 2006, the ACEI Global Guidelines Task Force developed and refined the GGA, created demographic forms, and specified guidelines for translation, reliability, and validity. Protocols to establish and maintain reliability and validity were developed by the ACEI Global Guidelines Task Force (Hardin and Bergen, 2009; Geisinger, 1994).

The current GGA contains 88 items across five early childhood care and education program areas: (1) environment and physical space, (2) curriculum content and pedagogy, (3) early childhood educators and caregivers, (4) partnerships with families and communities, and (5) young children with special needs. Each item is assessed in three ways: (1) a rating ranging from “not available” to “excellent” respectively, (2) space for examples pertaining to the item rating, and (3) space for additional comments. One of the main requirements of GGA is for reviewers to make a comment and provide a classroom example for each of the assessed items in order to support the given ratings (Barbour, Boyer, Hardin, and Wortham, 2004).

Additional documents related to the GGA are posted on the ACEI website to assist early care and education programs in using the GGA. The ACEI provides guidelines for data collection procedures to help ensure reliability and validity, guidelines for translating/adapting the GGA, and a program-school demographic form. The related GGA documents include Program/School Information and GGA Global Guidelines for Early Childhood Education and Care in the 21<sup>st</sup> Century. Copies of the GGA and its related materials may be made without permission (Sandell, Hardin, and Wortham, in press).

The GGA can be conducted within 90 minutes by internal reviewers, such as director and teacher, teacher and teacher assistant, or teacher and trained parent (Wortham, 2003). The GGA might be used in various settings and for a wide variety of programs such as family child care, home schooling, inclusive settings, and teacher education programs (Barbour et al., 2004).

Reliability and validity studies have been conducted throughout the world and have found the GGA reliable and valid. Technical revisions are underway by the ACEI Global Guidelines Task Force (Bergen and Yang, 2006; Hardin, Vardell, and deCastaneda, 2008).

The GGA materials are currently available in English, Spanish, French, Chinese, Greek, and Korean. GGA materials are in the process of being translated into Swahili and German.



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## COMPARISON OF SELECTED QUALITY RATING AND IMPROVEMENT SCALES

Table 1 presents a comparison of five QRIS. For purposes of this study, one star (\*) indicates less useful QRIS (due to high cost and more time). Five stars indicate a very useful QRIS (due to low cost and less time). X indicates that reliability and validity reports are available.

Table 1  
*Comparison of Five QRIS*

Instrument	Cost and time	Reliability and validity	Number of items	Review process	Language availability
NAEYC	*	X	364	Self-study and external review	English and Spanish
NAFCC	**	X	289	Self-study and external review	English and Spanish
CLASS	***	X	30	Self-study and external review	English and Spanish
ECERS	****	X	43	Self-study and optional external review	Chinese, Dutch, French, German, Greek, Hungarian, Icelandic, Italian, Norwegian, Portuguese, Spanish, and Swedish
GGA	*****	X	88	Self-study and optional external review	English, Spanish, French, Chinese, Greek, and Korean

After comparing the five QRIS resources, this study concluded that the GGA would fit this research because:

1. The GGA is available free of cost from ACEI.
2. The GGA has been researched for reliability and validity.
3. The GGA includes 88 items organized into only five sections.
4. The GGA is designed as a self-study process for program staff and administrators.
5. The GGA is designed for use in many cultural settings and for implementation throughout the world.

## RESEARCH DESIGN

### *Locations*

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The specific locations for this research (RU and the US) were selected because of a pedagogical partnership between North-eastern State University in Magadan and Minnesota State University, Mankato. Table 2 presents population information for each country and city.

Table 2  
*Population, Children, and Early Education Enrollment in Magadan, RU and in Mankato, Minnesota*

	Russia	Magadan	United States	Mankato
Population	140,702,100	107,500	283,000,000	42,500
Children aged 0-14 years	21,611,000	14,700	60,420,000	7,200
Early education enrollment (children aged 0 – 6 years)	7,811,000	8,200	7,200,000	4,400

This pedagogical partnership included joint curriculum development for initial teacher licensure programs. Faculty members in both universities wanted to understand early childhood education programs in the other regions so that they can develop sensible joint curriculum.

### ***Programs***

This study used convenience sampling in order to compare two specific early childhood education programs, one each in Magadan, RU and in Mankato, Minnesota, US. The selected programs were designed with similar formats for children aged 3 and 4 years old. Each program was licensed and staff members at each program were accredited by the appropriate governmental agencies. Each program was a selected location for placing university students for field experiences in their teacher education academic programs. Each program had a partnership with the nearby university to prepare teachers for early childhood education.

Table 3 presents information about the characteristics of the two early education programs involved in this investigation. The Golden Key program in RU is sponsored by the government and serves diverse families in a large urban area in Russia’s Far East. The Golden Heart program in the United States is sponsored by a business corporation and serves families of average income in two rural counties in Minnesota. Both programs are supported by tuition from families. In the US, the program is additionally supported by corporate funds. The program in RU is about 1 ½ times the size of the program in the US (189 children compared to 116 children). In the Golden Key program, children between 1 and 7 years old are assigned to multi-age groups that meet year round. In the Golden Heart program, children between 6 weeks and 6 years old are assigned to single-age groups that meet year round.

Table 3  
*Characteristics of Early Education Programs in the Research Sample [Programs (n = 2)]*

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Golden Key (RU)	Golden Heart (US)
Government sponsor Serves urban area Diverse SES Family tuition 189 children enrolled Children meet in multi-age groups Program available for 12 months / year Serves children from 1 – 7 years	Business sponsor Serves two counties Average SES Family tuition and business funds 116 children enrolled Children meet in single-age groups Program available for 12 months / year Serves children from 6 weeks – 6 years

### *Participants*

Research Site Coordinators (one per country) were recruited to implement the study at the local level. Selection criteria for Research Site Coordinators included: a Master’s degree or higher in early childhood education or a related field, experience in early childhood programs, and access to Internet and email services. Two-hour conference calls were held approximately twice each month with the Research Site Coordinators for training and discussion about the assessment instrument, confidentiality requirements, procedures for selecting programs, and data collection procedures.

Once trained, Research Site Coordinators recruited local program administrators and teachers to be reviewers. In each country, there were internal and external reviewers. The internal reviewers included administrators and teachers who were staff members at the specific early childhood education programs that were in the sample. The external reviewers included university faculty members and students who were part of nearby university early childhood education teacher preparation programs.

Table 4 presents a summary of the employment positions of reviewers in the research sample. The reviewers included one director in RU and one director in the US, two teachers in RU and one teacher in the US, one university faculty member in the US, two university students in RU and two university students in the US, and one curriculum specialist in RU.

Table 4  
*Employment Positions of Reviewers in the Research Sample*  
 [Programs (n = 2), Reviewers (n = 11)]

Positions of reviewers	RU Golden Key (n = 6)	US Golden Heart (n = 5)	Total (n = 11)
Directors/assistants	1	1	2
Teachers	2	1	3
University faculty	0	1	1
University students	2	2	4

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Other (curriculum)	1	0	1
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Table 5 presents a summary of the gender and education levels of reviewers in the research sample. The reviewers included six females in RU and four females and one male in the US. Two reviewers in RU and two reviewers in the US were university students with some college education. The other reviewers in both countries had at least a bachelor's degree.

Table 5  
*Gender and Education Levels of Reviewers in the Research Sample*  
[Reviewers (n = 11)]

Characteristic		RU Golden Key (n = 6)	US Golden Heart (n = 5)
Gender	Female	6	4
	Male	0	1
Highest Education Level	Secondary	0	0
	Some College	2	2
	Bachelor's Degree	3	2
	Master's Degree	1	1

## DATA COLLECTION AND ANALYSIS

During January and February 2009, there were at least five reviews completed for each program: one by the Research Site Coordinator, one by the program administrator, one by a teacher in the program, and two undergraduate students. Completed assessments were delivered to Minnesota State University, Mankato for data entry and analysis. Representatives met in Mankato, MN during April 2009 to analyze the data, reach conclusions, and make recommendations. Individual ratings and comments for each item were entered into a database for analysis.

### *Measure*

Authors of this study focused on an assessment resource that may be most useful for reviewing early education programs in many parts of the world. As mentioned earlier, this study selected the ACEI Global Guidelines Assessment because:

1. The GGA is available free of cost from ACEI.
2. The GGA has been researched for reliability and validity.
3. The GGA includes 88 items organized into only five sections.
4. The GGA is designed as a self-study process for program staff and administrators.
5. The GGA is designed for use in many cultural settings and for implementation throughout the world.

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Table 6 provides information about the domains included in the GGA and the number of sub-categories and items, along with the possible scores.

Table 6  
*Organization of the ACEI Global Guidelines Assessment*

Assessment areas		Number of sub-categories	Number of items	Possible score
Area 1	Environment	2	19	95
Area 2	Curriculum content	6	17	85
Area 3	Educators and caregivers	3	13	65
Area 4	Families and communities	8	24	120
Area 5	Special needs	4	15	75
	Total	23	88	440

### ***Translation***

This project translated and piloted the GGA for use in the Russian Federation and for Russian-speaking audiences in other parts of the world.

This study followed the ACEI's established consensus methods for translating and adapting assessment instruments. This was a multi-step process in which translators and reviewers reconciled differences and reached consensus to achieve the best possible translation and adaptation.

Consensus group participants included the project director (the primary investigator in Mankato, Minnesota, USA), the primary translator (the student researcher), a technical editor (the primary investigator in Magadan, Russian Federation), and a review committee (the Departments of Educational Studies and of Foreign Languages in Magadan, Russian Federation). The primary translator had overall responsibility for the translation. The technical editor reviewed the translation for consistency of terms and phrases as well as grammar and spelling. The review committee was composed of native speakers from the Russian Federation with knowledge and/or training in early childhood education or a related field. The review committee examined the translation and submitted written comments as to whether the wording of the translation and adaptation accurately reflected the content and intent of the original instrument.

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This study followed the 12-step process from ACEI. First, these investigators completed the primary translation and submitted it to the technical editor in Magadan, RU. The technical editor finalized the initial translation and submitted it to the reviewer committee in Russia. The reviewer committee included the dean, one faculty member in the Department of Educational Studies, and two faculty members in the Department of Foreign Languages (including English). The reviewer committee provided written comment and the project director, primary translator, and reviewer committee discussed the items and reached consensus.

### **Results**

Numerical data, consisting of the rating scale results, were assigned numeric values of 0 (not available) to 5 (excellent). Once all data were entered into the database, two individuals verified the results for each item against the original protocol, and all errors were reconciled and corrected. The reviewers' ratings were collected and organized for each of the five areas on the GGA. Information that was recorded as "not available" was entered as "0." Area scores, total scores, and group means were calculated. Statistical analyses were generated in SPSS 12.0 (2003) for each component of the study.

The ratings of reviewers in each country were examined for the degree of consistency among their observations. Inter-rater agreement was determined by examining the correlations for each program area and for the total GGA. Inter-rater agreement was examined to understand the extent to which different reviewers found similar results when independently assessing the program of interest.

Table 7 presents the GGA area (with maximum possible subscores) and total scores for each reviewer in each country. For the six Russian reviewers, total scores ranged from 350 to 431 out of a total 440 possible. For the five American reviewers, total scores ranged from 328 to 428 out of a total 440 possible. The mean for the Russian reviewers was 384 compared to a mean of 383.4 for the American reviewers. This investigation was not examining and comparing the mean scores for the programs. However, this result was intriguing to the researchers because it implies that internal and external reviewers reach similar conclusions about excellent early childhood programs, regardless of location.

Table 7  
*Individual Reviewers' Area Scores and Total Scores With Group Means [Reviewers (n = 11)]*

Reviewer	Area 1 (95)	Area 2 (85)	Area 3 (65)	Area 4 (120)	Area 5 (75)	Total (440)	Mean
Russian 1	83	59	57	89	62	350	
Russian 2	86	74	64	98	63	385	
Russian 3	95	84	65	116	71	431	384.0
Russian 4	86	72	60	100	63	381	
Russian 5	90	70	61	93	65	379	
Russian 6	91	71	61	89	66	378	
American 1	88	78	63	115	75	419	
American 2	89	79	65	120	75	428	

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American 3	91	72	46	90	60	359	383.4
American 4	89	65	60	101	68	383	
American 5	72	66	52	88	50	328	

### *Data analysis*

The second question for this study was: What is the agreement among raters in RU and in the US, using scores on a QRIS for early childhood education programs in Magadan Region, RU and in Minnesota, US?

Inter-rater agreement by country was examined to understand the extent to which different reviewers found similar results (i.e., agreement) when independently assessing the program under review. The data analysis used the intraclass correlation coefficient (Cronbach's alpha) to examine the inter-rater reliability for each program area and for the total GGA.

Cronbach's alpha is a way to calculate the reliability of judgments from several reviewers or raters on a single, one-dimensional idea (Cronbach, Gleser, Nanda and Rajaratnam, 1972). Cronbach's alpha measures consistency among individual items in a scale. If the intraclass correlations are high, then there is evidence that the items are measuring the same one-dimensional, underlying idea (in this study, quality). Cronbach's alpha can be written as a function of the number of test items AND the average inter-correlation among the items. This is the formula for the standardized Cronbach's alpha:

$$\alpha = \frac{N \cdot \bar{c}}{\bar{v} + (N - 1) \cdot \bar{c}}$$

Here  $N$  is equal to the number of items,  $c$ -bar is the average inter-item covariance among the items and  $v$ -bar equals the average variance. If a study increases the number of items, Cronbach's alpha will increase. Additionally, if the average inter-item correlation is low, Cronbach's alpha will be low. As the average inter-item correlation increases, Cronbach's alpha increases as well.

Table 8 presents the intraclass correlation coefficients calculated for the reviewer group in RU and for the reviewer group in the US. Correlation coefficients higher than .70 show that the scores are highly consistent. In this study, very high correlations were found: .995 among the Russian reviewers and .987 among the American reviewers.

Table 8

*Inter-rater Reliability (Intraclass Correlation Coefficient) Reviewer Group*

Reviewer group	Inter-rater Reliability (Cronbach's alpha)	95% confidence interval	
		Lower bound	Upper bound
RU ( $n = 6$ )	.995	.983	.999
US ( $n = 5$ )	.987	.958	.988

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Confidence intervals for both groups were generally narrow relative to the underlying size of the intraclass correlation coefficient. In other words, the study results indicate that the researchers may be 95% confident that the actual intraclass correlation coefficient is somewhere between .983 and .999 in RU and .958 and .988 in the US. This suggests that there may be great certainty associated with the results of this study.

## **DISCUSSION**

This study was a pilot study that included only two early education programs, one in each country. Consequently, it would be difficult to generalize the findings beyond the two early education programs involved and the bias in the sample might limit the findings.

One limitation of the study is that reviewers were country-specific. That is, reviewers could not travel to each country to review both program sites. This limitation may form the design of future studies among these universities.

Extraneous independent variables that have not been controlled include: (1) cultural context of early childhood education programs, (2) program standards for early childhood education programs in two different cultures, and (3) teaching standards for early childhood education programs in two different cultures.

The GGA instrument was designed to enable early childhood education and care schools and child care centers to assess and evaluate their programs using basic guidelines for quality. This was a pilot study in only two cities. The study does not include any major metropolitan areas, such as Moscow, RU or Minneapolis, USA.

The data collection process is clearly defined by ACEI guidelines, including two people per program to conduct the assessment, discussing the meaning of statements in the document, making notes and giving examples of judgments, and making the ratings independently. However, it is possible that the reviewers may have an interest in higher ratings than may be justified. Consequently, this study used internal reviewers (from among the programs' administrators and teachers) as well as external reviewers (from area universities).

## **CONCLUSIONS AND RECOMMENDATIONS**

As a result of this investigation, this study concluded that the ACEI Global Guidelines Assessment will be useful for comparing early childhood education programs in Magadan, RU and in Minnesota, US because the GGA is easy and affordable to use for quality improvement of early education throughout the world. The GGA was developed to assist policy makers, administrators, teachers, and child care providers in making decisions about improving and developing inclusive early childhood care and education services in various regions of the world (Wortham, 2003). The GGA has been used in the US and in more than 10 other countries throughout the world. Now the GGA may be used in RU as well.



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This study also concluded that there was very good inter-rater agreement among reviewers in RU and in the US, using scores on a QRIS for early childhood education programs in Magadan, RU and in Minnesota, US.

One of the main contributions of this study is that the GGA and its related materials are now available in the Russian language free of cost through ACEI. However, this contribution would not be meaningful unless the GGA could be used reliably. The second contribution of this study is that the GGA may be used reliably by internal and external reviewers in RU for purposes of improvement of quality of early childhood education programs.

As a result of this study, there are two recommendations. First, continue studying the GGA process for content validity in its Russian version. Second, develop reviewer orientation and training processes for replication of the GGA as a quality rating and improvement scale throughout the world.

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